



Helping hands for your Forklift truck

# RANGE BROCHURE

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# FORKLIFT TRUCK ATTACHMENTS



Headquarters Aschaffenburg · Germany



Production site Xiamen · China



Production site Brisbane · Australia

## KAUP · „Helping hands for your Forklift truck“

### KAUPcompany

„Helping hands for your Forklift truck“ - for more than 60 years that's what KAUP stands for. Since then we have had only one aspiration: to manufacture top quality products ‚Made by KAUP‘! This is what has made KAUP into a worldwide leading manufacturer of attachments for forklift trucks, stationary equipment for material handling and container spreaders for transshipment hubs and harbour terminals. Today KAUP is an owner-managed middle sized family enterprise which has, alone at headquarters in Aschaffenburg, production space of more than 47.000 m<sup>2</sup> spread over 10 production halls. In addition KAUP operates its own plant with 12.000 m<sup>2</sup> in Xiamen, China to serve the Asian market and, for the Australian market, a plant in Brisbane. Worldwide more 900 employees work for KAUP – many of them have done so for several years. We offer these employees, together with a traditionally high number of apprentices, numerous future prospects in a sound, healthy, family run business.

You would like to know more about KAUP? Then visit our web-page under [www.kaup.de](http://www.kaup.de).



### KAUPproducts

Every industrial truck - regardless if forklift truck, reach truck or telescopic loader - becomes a multi-talent and diverse all-rounder when fitted with a KAUP attachment. Numerous pioneering innovations ensure that our attachments, mounted on all kinds of industrial trucks, in all branches with numerous differing applications operate efficiently and with high productivity. Our customers can choose from a comprehensive KAUP portfolio of Fork Positioners, Sideshifters, Multi-pallet Handlers and numerous other product families as series version. This segment has considerable diversity - price and delivery time are calculable. In addition there is a large number of individual, sometimes extra-ordinary, solutions for single customers or industries. The only restrictions our designers have are physics and economics. All our attachments, stationary equipment and container spreaders are designed and manufactured to carry out the relevant material handling tasks simply and efficiently for our customers - highest quality ‚Made by KAUP‘.

### KAUPworld(wide)

A central contact for (nearly) everything regarding KAUP: the KAUP web-page - [www.kaup.de](http://www.kaup.de). Not only does it contain information regarding KAUP-After Sales Service or the Rental and Used Equipment Centre, but also all current contact details of KAUP sales personnel – in the office and in the field -, various customer references and case studies and last but not least an extensive down-load area with all available brochures, application photos and videos. But there's a lot more to discover. Just take a look at the KAUPworld!



Your contact at KAUP

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T141S



T351.2

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Further attachments as well as different widths and larger models can be found on our web-page [www.kaup.de](http://www.kaup.de) under **Attachments**.

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T413



T414B-1



T429C



| Type                   | Name                                                                           | Page           |
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| T 451 W / T451W-180    | Pallet inverter (-180 with additional pair of forks)                           | 93             |
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| T 466 /Z//I/ZH/IZH     | Fork positioner with independent sideshift function                            | 36-39, 44, 105 |
| T 479 / 479.1          | Load backrests for clamps and fork positioners                                 | 126            |



Further attachments as well as different widths and larger models can be found on our web-page [www.kaup.de](http://www.kaup.de) under **Attachments**.



T429B-1-2-3



T458BT



T466BIZA

## General Information



The list of products detailed in the following pages is limited to standard KAUP attachments. Countless modifications are feasible and a large backup programme of less common attachments is available by contacting our specialists or your local distributor. The data listed in the most recent issue apply and any preceding publications should be discarded.



**Contact our specialists or your local distributor if you have a special requirement**



The complete KAUP attachment portfolio can be found on our web-page. Also available: product data sheets, brochures and all other leaflets which can be down loaded as PDF file. Additionally animations, videos, application photos can all be down loaded from the KAUP web-page.



**Visit our web-page under [www.kaup.de](http://www.kaup.de)**



### Quality, environmental and energy management

KAUP introduced a quality management system in 1997 in accordance with DIN EN ISO 9001 and is regularly audited and certified by independent examiners. In addition KAUP has voluntarily established environmental and energy management systems in accordance with ISO 14001 and ISO 50001.



### Welding certificate

Attachments manufactured by KAUP are quality products which require a high degree of welding work. Therefore KAUP processes the highest welding certificate according to DIN EN ISO 3834-2: 2006-03 and the authorisation for welding from Germanischer Lloyd.



### General conditions of sale

Our general conditions of sale apply, these can be viewed and downloaded as PDF-file on [www.kaup.de/en/terms-and-conditions](http://www.kaup.de/en/terms-and-conditions) or will be mailed to you upon request.



### Warranty

Current, valid warranty conditions for KAUP attachments and spare parts can be viewed and downloaded as PDF-file under: [www.kaup.de/en/legal-information](http://www.kaup.de/en/legal-information).



### Prices

The shown prices are gross prices without value added tax. Price subject to change.



### Preferential range

In the table some specific attachments are highlighted in yellow. These versions are the most common sizes, widths and opening ranges. The choice of such a version ensures favourable / short delivery times.



### Terms of delivery

All KAUP attachments up to ISO class 4 mounting with the exception of integrated attachments and sidershifter models T151P2 (see page 19 - 21) are supplied including hoses and couplings if specified. Delivery is EXW Aschaffenburg excluding packing and transport insurance.



### Capacity

The T-classes 1T - 40T are based on the capacity of the forklift truck. Attachment capacity is the max. weight at a given load centre that the attachment can safely support. Please note: the capacity listed for clamps is an indication of the max. weight that the clamp structure can safely support. It is not necessarily the max. weight that can be picked up and held between the arms, as different loads vary in shape and friction. The actual clamping force is often considerable higher than the given values. In case of doubt our project team can provide information on the respective clamping force.

## General Information



### Dimensions, weight and technical data

are non-binding, all are subject to change due to technical progress in design. Errors and printing errors are excepted, too.



### Toe-in

KAUP clamps and fork positioners of the series T401Z, T411Z, T411BZ(l) and T411ZR are designed with a toe-in. This means, that the distance between the arms or forks (e.g. Bale Clamps, Brick Clamps, Fork Clamps) differs, measured on the tips of the arms compared to the rear side of the arms. The opening ranges given in our brochure are always measured at the rear of the arms. With an arm length of 1.000 mm the toe-in of a clamp is approximately 30 mm (15 mm to each side) and the toe-in of a fork clamp is approximately 20 mm (10 mm to each side). This is necessary to compensate the natural deflection of the clamping arms during transport. Without toe-in loads would be clamped at the rear side but would fall through at the tips. For handling sensitive goods such as television sets, Appliance Clamps and Carton Clamps with adjustable toe-in are available.



### Safety

KAUP attachments correspond to the requirements of the valid EC regulations regarding quality, safety and technical documentation. All KAUP attachments with independent sideshift are equipped with components from our sideshift range T151P2. This means that they feature **SOFTSTOP** end-of-stroke slow-down to automatically throttle shifting speed over approximately the last 15 mm of sideshift stroke. This greatly improves truck stability when stacking at high levels. It also incorporates our **SMOOTHROLL** bottom hooks with compact rollers to save energy.



### Operation in explosion hazardous areas

Many attachments from the KAUP range are, after appropriate modifications, suitable for operation in explosion hazardous areas. All these attachments are manufactured according to the ATEX standard 2014/34/EU II 2G c IIB T4.



Due to the complexity of the subject please contact our specialists in each case.



### Attachments in foundry version

The foundry version for rotators features a closed fork carriage plate and a closed base plate as well as hydraulic hoses protected against heat. It is suitable to operate in applications with extreme high temperatures.



Several other attachments are available in foundry version.  
If interested contact our project team

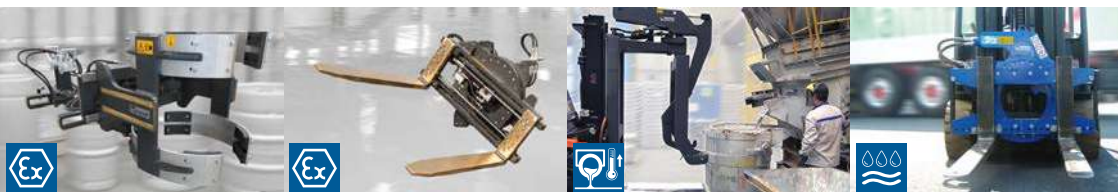


### Attachments in fishing industry version

There are two types of KAUP Fishing Industry Rotators: The version T351.1S has 2 layers of sea water resistant paint (RAL 5005), galvanised screws and drill holes sealed with silicon. The version T351.1.3S has 3 layers of sea water resistant paint (navy gray), galvanised fork carriage and flange, galvanised screws, drill holes sealed with silicon and drainage for water.



Several other attachments are available in fishing industry version. If interested contact our project team



# Hydraulic System

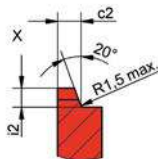
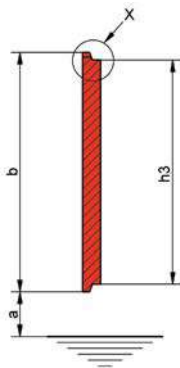
## Working pressures and oil flow rates

 Most of the attachments listed in this booklet are operated hydraulically i.e. the attachments are supplied with oil from the forklift truck's hydraulic system. The number of hydraulic functions required is listed next to each attachment. If an attachment requires more than two hydraulic functions, one of the hydraulic circuits is split by use of a solenoid valve. Generally this is the circuit which, with regards to the functional safety of the attachment, is of less significance. **In these cases the solenoid valve is a part of the attachment.** Upon request, an external solenoid valve may be used. However, assembly depends on the dimensions as well as the installation options on the attachment. Any necessary adjustments to the attachment could result in an add-on price.

-  In order to correctly operate solenoid valves on standard, duplex or triplex masts different adapter kits are available. The corresponding adapter kits for the relevant attachment configurations are shown on page 130 for standard or duplex masts and on page 131 for triplex masts (electric spring cable drum).
-  To ensure correct operation of the solenoid valve KAUP requires exact information regarding the voltage of the forklift truck.
-  In order to ensure the proper function of the attachment KAUP recommends that you take note of the recommended oil flow rates and hydraulic pressures for the different attachment groups.

## Fork carriage versions according to ISO 2328

All KAUP attachments with capacities of up to 10.999 kg/600 mm load centre distance (LCD) are suitable for mounting on fork carriages acc. to ISO 2328. Mountings which differ from the above (e.g. Pin-type, Terminal West or others) are available, please consult us.



| ISO class | Capacity of forklift truck kg | LCD mm | Version | a mm | b mm | c2 -1 mm | i2 -1.5 mm | h3 mm    |
|-----------|-------------------------------|--------|---------|------|------|----------|------------|----------|
| 1         | 0 - 999                       | 400    | A       | 76   | 331  | 16       | 13         | 305 -1   |
|           |                               |        | B       | 114  |      |          |            |          |
| 2         | 1.000 - 2.500                 | 500    | A       | 76   | 407  | 16       | 13         | 381 -1   |
|           |                               |        | B       | 152  |      |          |            |          |
| 3         | 2.501 - 4.999                 | 500    | A       | 76   | 508  | 21,5     | 16         | 476 -1.5 |
|           |                               |        | B       | 203  |      |          |            |          |
| 4         | 5.000 - 8.000                 | 600    | A       | 127  | 635  | 25,5     | 19         | 597 -1.5 |
|           |                               |        | B       | 254  |      |          |            |          |
| 5         | 8.001 - 10.999                | 600    | A       | 127  | 728  | 34       | 25         | 678 -1.5 |
|           |                               |        | B       | 257  |      |          |            |          |

## Attachments with sideshift function

Nearly all KAUP attachments are available with either independent sideshift or valveblock sideshift, as required, at no extra cost.

### Independent sideshift



Sideshift is the most common additional function on a forklift truck. Nearly all KAUP attachments with sideshift function are designed serially with independent sideshift providing enhanced safety and comfort.



#### The advantages of independent sideshift

1. The maximum allowable sideshift stroke (e.g.  $\pm 100$  mm) or any other data given by the forklift truck manufacturer can be adhered to without additional restrictions on the residual capacity.
2. Sideshift function is always available, independent of fork or arm position (clamp or fork positioners).
3. Attachments with P2-sideshifter: End-of-stroke slow-down **-SOFTSTOP-** reduces the speed over the last 15 mm and therefore prevents accidents.
4. The lower roller guides **-SMOOTHROLL-** assure a smooth lateral movement, prevent wear and tear and save energy.
5. **Components of KAUP independent sideshift are designed so that the lost load centre of the attachment does not increase and accordingly the residual capacity of the truck is not reduced.**

### Valveblock sideshift (integrated sideshift)



In addition to the independent sideshift system all KAUP clamps and fork positioners are available with so called integrated or valveblock sideshift function. This version uses the rest-stroke of the cylinder for the function „sideshift“. Therefore the sideshift function is not available in completely opened and/or completely closed position of arms. Sideshift values in the intermediate positions can be considerably above maximum safety values for lateral stability.

The maximum possible lateral stroke of valveblock sideshift can be calculated with the following formula:



#### Calculation of largest possible valveblock sideshift stroke

#### Example

|                                                                                             |                                  |              |
|---------------------------------------------------------------------------------------------|----------------------------------|--------------|
| Largest possible opening range<br>(largest measurement „A“ selected from the table)         | <input type="text"/>             | 1.985 mm     |
| minus smallest possible opening range<br>(smallest measurement „A“ selected from the table) | <input type="text" value="-"/>   | 485 mm       |
| results in                                                                                  | <input type="text" value="="/>   | 1.500 mm     |
| divided by the factor 4                                                                     | <input type="text" value=": 4"/> | 1.500 mm : 4 |
| largest possible sideshift stroke $\pm$                                                     | <input type="text" value="="/>   | 375 mm       |

For example see Bale Clamp 2T413, construction width 1.330 mm, A = 485 - 1.985 mm, page 74.

# KAUP

## rental service and used equipment sales

- An attachment is required for use while your own unit is being repaired?
- Before buying you want to test with which attachment your forklift truck is optimally equipped for your application?
- A used attachment is more economical than a new attachment for your material handling task?

Then make use of the **KAUP rental service** or **used equipment center** - quick, simple and economical.

Choose the most suitable attachment - **renting** or **buying** - from a pool of more than 2.000 attachments in our 3.200 m<sup>2</sup> large service centre in Aschaffenburg.

If you require an attachment for one day, several months or if you want to buy one of our used attachments, contact our rental service and used equipment centre immediately - we are the right partner for you.

Our service team will be pleased to assist you in choosing the right attachment for your requirements.

### Your contact persons are:



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Please also visit the **KAUP rental service** and **used equipment center** online:



Further information and all relevant details regarding KAUP rental service and used equipment sales can be viewed on our web site **www.kaup.de** under **Services**.



# FORK CARRIAGES | SIDESHIFTERS

## KAUP Fork Carriages

The KAUP Fork Carriage can be used to extend the existing fork carriage of the forklift truck and for a quick change between attachments and/or forks. They are also available as adapter carriages for change of connection class.

## KAUP Sideshifters

Sideshifters are the most common attachments encountered on forklift trucks. Depending on the capacity of the truck Sideshifters allow lateral shift of the load from  $\pm 100$  up to  $\pm 160$  mm. This saves time and increases manoeuvrability. With the so called Container Sideshifter even larger lateral sideshift stroke is possible.

KAUP has two different versions of Sideshifters in their product range - hook-on version and integrated version.

KAUP Sideshifters can be combined with numerous other KAUP attachments and thus considerably increase the application possibilities.

## Overview Fork Carriages and Sideshifters

## Page

Fork Carriage



16

Adapter Carriage  
for changing to different ISO class



17

Sideshifter for  
Reach Trucks 2T151P2



19

Sideshifter  
High-Performance Model T151P2



20 - 21

Sideshifter  
with increased sideshift stroke T151P-C



22

Sideshifter, integral mounting T151I



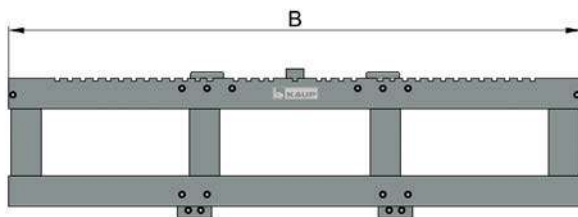
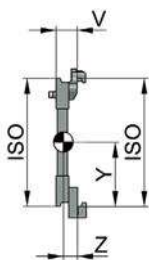
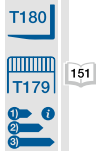
23

Double Sideshifter T252B  
Triple Sideshifter T253B - T253B-3



24 - 25





## Fork Carriage T013

to enlarge the width of the original fork carriage or as false carriage for fork drop-off.

| Model    | Capacity<br>kg | LCD<br>mm | B<br>mm | ISO | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|-----|---------|-----------------|------------------------------|--------------|
| 2T 013   | 2.500          | 600       | 920     | 2   | 65      | 38              | 206                          | 68           |
|          |                |           | 980     | 2   | 65      | 39              | 206                          | 70           |
|          |                |           | 1.020   | 2   | 65      | 39              | 206                          | 72           |
|          |                |           | 1.040   | 2   | 65      | 39              | 206                          | 73           |
|          |                |           | 1.150   | 2   | 65      | 41              | 205                          | 93           |
|          |                |           | 1.600   | 2   | 75      | 49              | 203                          | 143          |
| 3T 013   | 3.000          | 500       | 1.020   | 3   | 75      | 46              | 256                          | 101          |
|          |                |           | 1.070   | 3   | 75      | 46              | 256                          | 105          |
|          |                |           | 1.100   | 3   | 75      | 46              | 256                          | 107          |
|          |                |           | 1.150   | 3   | 75      | 47              | 256                          | 110          |
|          |                |           | 1.300   | 3   | 75      | 48              | 255                          | 127          |
|          |                |           | 1.600   | 3   | 85      | 55              | 254                          | 203          |
| 4,8T 013 | 5.000          | 600       | 1.150   | 3   | 75      | 42              | 278                          | 128          |
|          |                |           | 1.200   | 3   | 75      | 42              | 277                          | 132          |
|          |                |           | 1.300   | 3   | 75      | 43              | 275                          | 145          |
|          |                |           | 1.310   | 3   | 75      | 43              | 275                          | 145          |
|          |                |           | 1.350   | 3   | 75      | 44              | 274                          | 148          |
|          |                |           | 1.410   | 3   | 75      | 44              | 274                          | 152          |
|          |                |           | 1.600   | 3   | 85      | 51              | 267                          | 220          |
|          |                |           | 1.800   | 3   | 85      | 52              | 266                          | 237          |
|          |                |           | 2.000   | 3   | 85      | 53              | 265                          | 255          |
|          |                |           |         |     |         |                 |                              |              |
| 8T 013   | 8.000          | 600       | 1.400   | 4   | 90      | 51              | 352                          | 246          |
|          |                |           | 1.800   | 4   | 100     | 60              | 345                          | 348          |
|          |                |           | 2.180   | 4   | 100     | 61              | 342                          | 397          |
|          |                |           | 2.260   | 4   | 110     | 67              | 338                          | 466          |

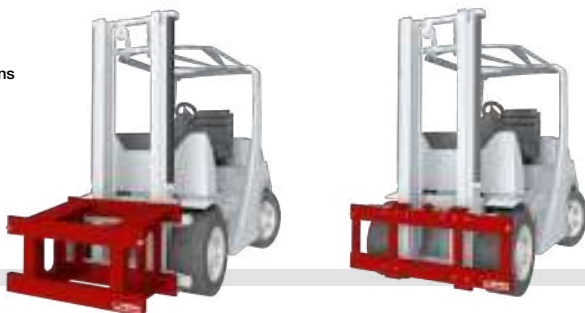
Other construction widths available upon request.

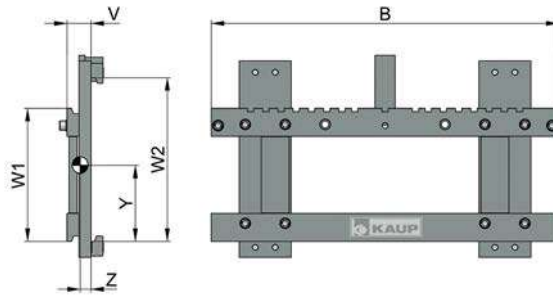


Available in combination with quick release bottom hooks (see page 128) for quick change fork applications to other attachments.



Fork Carriage with artificial lost load center distance available upon request.





## Adapter Carriage T013.1 / T013.2

for changing to different ISO class

| Model     | Capacity<br>kg | LCD<br>mm | B<br>mm | Mounting  |           | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|-----------|----------------|-----------|---------|-----------|-----------|---------|-----------------|------------------------------|--------------|
|           |                |           |         | W1<br>ISO | W2<br>ISO |         |                 |                              |              |
| 2T013.1   | 2.500          | 600       | 920     | 2         | 3         | 68      | 31              | 246                          | 101          |
|           |                |           | 980     | 2         | 3         | 68      | 32              | 245                          | 103          |
|           |                |           | 1.020   | 2         | 3         | 68      | 32              | 244                          | 105          |
|           |                |           | 1.040   | 2         | 3         | 68      | 32              | 244                          | 106          |
|           |                |           | 1.150   | 2         | 3         | 68      | 36              | 237                          | 126          |
|           |                |           | 1.600   | 2         | 3         | 75      | 42              | 227                          | 175          |
| 2T013.2   | 2.500          | 600       | 920     | 3         | 2         | 75      | 40              | 242                          | 126          |
|           |                |           | 980     | 3         | 2         | 75      | 41              | 242                          | 130          |
|           |                |           | 1.020   | 3         | 2         | 75      | 41              | 242                          | 132          |
|           |                |           | 1.040   | 3         | 2         | 75      | 41              | 242                          | 135          |
|           |                |           | 1.150   | 3         | 2         | 75      | 43              | 243                          | 152          |
|           |                |           | 1.600   | 3         | 2         | 85      | 51              | 246                          | 227          |
| 4,8T013.1 | 5.000          | 600       | 1.150   | 3         | 4         | 93      | 45              | 277                          | 185          |
|           |                |           | 1.200   | 3         | 4         | 93      | 46              | 274                          | 189          |
|           |                |           | 1.300   | 3         | 4         | 93      | 48              | 270                          | 202          |
|           |                |           | 1.310   | 3         | 4         | 93      | 48              | 270                          | 203          |
|           |                |           | 1.350   | 3         | 4         | 93      | 48              | 269                          | 205          |
|           |                |           | 1.410   | 3         | 4         | 93      | 49              | 267                          | 210          |
|           |                |           | 1.600   | 3         | 4         | 103     | 58              | 251                          | 277          |
|           |                |           | 1.800   | 3         | 4         | 103     | 59              | 241                          | 302          |
|           |                |           | 2.000   | 3         | 4         | 103     | 60              | 246                          | 312          |
| 4,8T013.2 | 5.000          | 600       | 1.350   | 4         | 3         | 100     | 57              | 351                          | 260          |
|           |                |           | 1.400   | 4         | 3         | 100     | 57              | 351                          | 266          |
|           |                |           | 1.550   | 4         | 3         | 100     | 59              | 352                          | 282          |
|           |                |           | 1.800   | 4         | 3         | 110     | 66              | 356                          | 346          |

Other construction widths available upon request.



Fork Carriage with artificial lost load center distance available upon request.



T013.1 T013.2

## Recommended Oil flow rates, Pressures and Forklift truck capacities

### Sideshifters and Multiple Sideshifters

| Attachment          | Page     | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] | Maximum capacity<br>forklift truck / LCD<br>[kg/mm] |
|---------------------|----------|---------------------------------------|---------|------|----------------------------------------|-----------------------------------------------------|
|                     |          | min.                                  | optimum | max. |                                        |                                                     |
| 1,5T 151 I          | 23       | 4                                     | 8       | 12   | 200                                    | 1.750/500                                           |
| 2T 151 P2 / 151 I   | 19-21/23 | 4                                     | 8       | 12   | 200                                    | 2.500/600                                           |
| 3T 151 P2 / 151 I   | 20/23    | 4                                     | 8       | 12   | 200                                    | 3.000/500                                           |
| 4T 151 P2 / 151 I   | 20/23    | 4                                     | 8       | 12   | 200                                    | 5.000/500                                           |
| 4,8T 151 P2 / 151 I | 20/23    | 4                                     | 8       | 12   | 200                                    | 5.000/600                                           |
| 5T 151 P2 / 151 I   | 21/23    | 6                                     | 12      | 16   | 200                                    | 5.000/600                                           |
| 5,5T 151 P2 / 151 I | 21/23    | 6                                     | 12      | 16   | 200                                    | 7.000/600                                           |
| 6T 151 P2 / 151 I   | 21/23    | 6                                     | 12      | 16   | 200                                    | 8.000/600                                           |
| 10T 151 / 151 I     | 21/23    | 6                                     | 12      | 16   | 200                                    | 8.000/900                                           |
| 2T 151 P4N-C        | 22       | 4                                     | 8       | 12   | 200                                    | 2.500/500                                           |
| 2T 151 P-C          | 22       | 4                                     | 8       | 12   | 200                                    | 2.500/500                                           |
| 4T 151 P-C          | 22       | 4                                     | 8       | 12   | 200                                    | 5.000/500                                           |
| 6T 151 P-C          | 22       | 6                                     | 12      | 16   | 200                                    | 8.000/600                                           |
| 2T 252 B            | 24       | 6                                     | 12      | 20   | 200                                    | 2.500/600                                           |
| 3T 252 B            | 24       | 6                                     | 12      | 20   | 200                                    | 3.500/500                                           |
| 4,5T 252 B          | 24       | 6                                     | 12      | 20   | 200                                    | 4.500/600                                           |
| 5T 252 B            | 24       | 8                                     | 16      | 25   | 200                                    | 6.000/600                                           |
| 6T 252 B            | 24       | 8                                     | 16      | 25   | 200                                    | 8.000/600                                           |
| 2T 253 B            | 25       | 6                                     | 12      | 20   | 200                                    | 2.500/600                                           |
| 3T 253 B            | 25       | 6                                     | 12      | 20   | 200                                    | 3.500/500                                           |
| 4,5T 253 B          | 25       | 6                                     | 12      | 20   | 200                                    | 4.500/600                                           |
| 5T 253 B            | 25       | 8                                     | 16      | 25   | 200                                    | 6.000/600                                           |
| 6T 253 B            | 25       | 8                                     | 16      | 25   | 200                                    | 8.000/600                                           |
| 3T 253 B-3          | 25       | 6                                     | 12      | 20   | 200                                    | 3.500/500                                           |
| 6T 253 B-3          | 25       | 8                                     | 16      | 25   | 200                                    | 6.000/600                                           |



T151P2



T151P-C



T253B

# Sideshifters

are the most common attachment encountered on forklift trucks. The sideshifter allows lateral shift of the load, taking the truck capacity into account, of  $\pm 100$  up to  $\pm 160$  mm.

A special version, the so called container sideshifter (see page 22), features increased sideshift stroke.

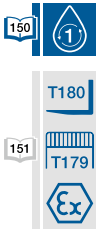
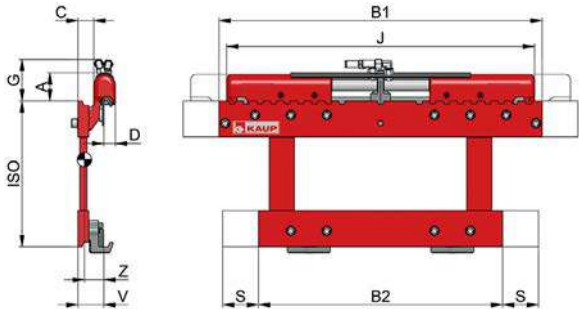
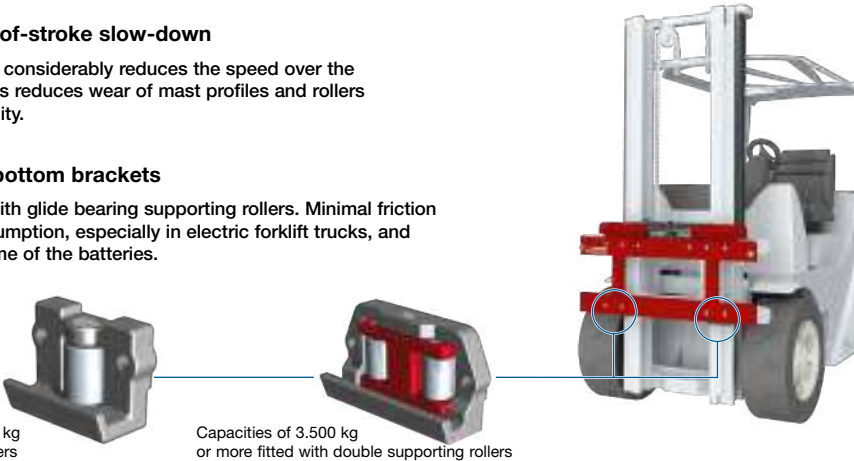
## Sideshifter High-Performance Model T151P2

### SOFTSTOP end-of-stroke slow-down

End-of-stroke slow-down considerably reduces the speed over the last 15 mm of stroke. This reduces wear of mast profiles and rollers and increases load stability.

### SMOOTHROLL bottom brackets

Bottom brackets fitted with glide bearing supporting rollers. Minimal friction loss lowers energy consumption, especially in electric forklift trucks, and extends the operating time of the batteries.



## Sideshifter for Reach Trucks 2T151P2

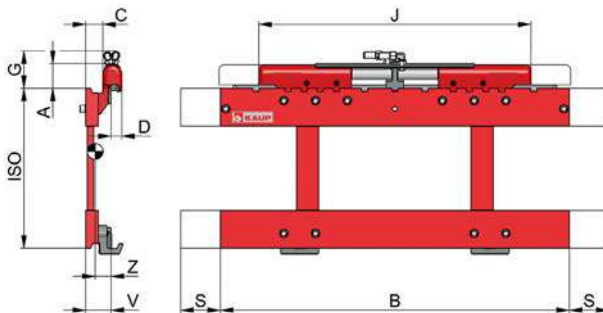
| Model     | Capacity kg | LCD mm | A mm | B1 mm | B2 mm | C mm | D mm | G mm | S mm      | J mm | ISO cl. | V mm | CofG Z mm | Weight kg |  |
|-----------|-------------|--------|------|-------|-------|------|------|------|-----------|------|---------|------|-----------|-----------|--|
| 2T 151 P2 | 2.500       | 600    | 76   | 680   | 680   | 44   | 32   | 116  | $\pm 75$  | 808  | 2       | 72   | 36        | 56        |  |
|           |             |        | 76   | 890   | 680   | 44   | 32   | 116  | $\pm 100$ | 858  | 2       | 72   | 36        | 66        |  |

Other construction widths available upon request.



T180

T179



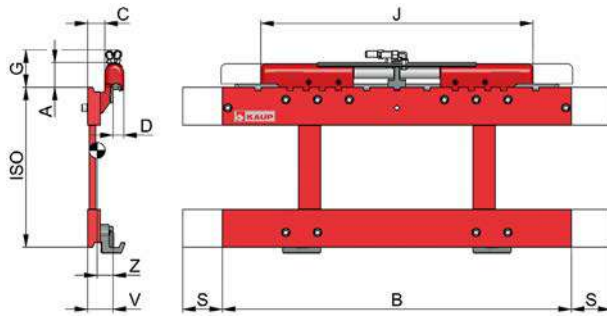
## Sideshifter High-Performance Model T151P2

| Model      | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | C<br>mm | D<br>mm | S<br>mm | G<br>mm | J<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 2T 151P2   | 2.500          | 600       | 76      | 890     | 44      | 32      | ± 100   | 116     | 858     | 2          | 72      | 37              | 70           |
|            |                |           | 76      | 920     | 44      | 32      | ± 100   | 116     | 858     | 2          | 72      | 37              | 72           |
|            |                |           | 76      | 980     | 44      | 32      | ± 100   | 116     | 858     | 2          | 72      | 38              | 74           |
|            |                |           | 76      | 1.020   | 44      | 32      | ± 100   | 116     | 858     | 2          | 72      | 39              | 76           |
|            |                |           | 76      | 1.040   | 44      | 32      | ± 100   | 116     | 858     | 2          | 72      | 39              | 77           |
|            |                |           | 76      | 1.150   | 44      | 32      | ± 100   | 116     | 858     | 2          | 72      | 43              | 97           |
|            |                |           | 76      | 1.600   | 54      | 32      | ± 100   | 116     | 858     | 2          | 82      | 52              | 146          |
| 3T 151P2 * | 3.000          | 500       | 76      | 1.020   | 54      | 34      | ± 100   | 116     | 858     | 3          | 82      | 45              | 106          |
|            |                |           | 76      | 1.070   | 54      | 34      | ± 100   | 116     | 858     | 3          | 82      | 45              | 110          |
|            |                |           | 76      | 1.100   | 54      | 34      | ± 100   | 116     | 858     | 3          | 82      | 46              | 112          |
|            |                |           | 76      | 1.150   | 54      | 34      | ± 100   | 116     | 858     | 3          | 82      | 46              | 115          |
|            |                |           | 76      | 1.300   | 54      | 34      | ± 100   | 116     | 858     | 3          | 82      | 48              | 132          |
|            |                |           | 76      | 1.600   | 64      | 34      | ± 100   | 116     | 858     | 3          | 92      | 57              | 207          |
| 4T 151P2   | 5.000          | 500       | 85      | 1.100   | 50      | 40      | ± 100   | 125     | 1.040   | 3          | 82      | 41              | 136          |
|            |                |           | 85      | 1.150   | 50      | 40      | ± 100   | 125     | 1.040   | 3          | 82      | 41              | 139          |
|            |                |           | 85      | 1.200   | 50      | 40      | ± 100   | 125     | 1.040   | 3          | 82      | 42              | 143          |
|            |                |           | 85      | 1.300   | 50      | 40      | ± 100   | 125     | 1.040   | 3          | 82      | 44              | 156          |
|            |                |           | 85      | 1.350   | 50      | 40      | ± 100   | 125     | 1.040   | 3          | 82      | 44              | 165          |
|            |                |           | 85      | 1.600   | 60      | 40      | ± 100   | 125     | 1.040   | 3          | 92      | 54              | 231          |
|            |                |           | 85      | 1.800   | 60      | 40      | ± 100   | 125     | 1.040   | 3          | 92      | 55              | 248          |
|            |                |           | 85      | 2.000   | 60      | 40      | ± 100   | 125     | 1.040   | 3          | 92      | 56              | 256          |
| 4,8T 151P2 | 5.000          | 600       | 103     | 1.150   | 42      | 44      | ± 100   | 165     | 922     | 3          | 82      | 39              | 149          |
|            |                |           | 103     | 1.200   | 42      | 44      | ± 100   | 165     | 922     | 3          | 82      | 40              | 153          |
|            |                |           | 103     | 1.300   | 42      | 44      | ± 100   | 165     | 922     | 3          | 82      | 42              | 166          |
|            |                |           | 103     | 1.350   | 42      | 44      | ± 100   | 165     | 922     | 3          | 82      | 42              | 175          |
|            |                |           | 103     | 1.410   | 42      | 44      | ± 100   | 165     | 922     | 3          | 82      | 44              | 190          |
|            |                |           | 103     | 1.600   | 52      | 44      | ± 100   | 165     | 922     | 3          | 92      | 52              | 241          |
|            |                |           | 103     | 1.800   | 52      | 44      | ± 100   | 165     | 922     | 3          | 92      | 53              | 258          |
|            |                |           | 103     | 2.000   | 52      | 44      | ± 100   | 165     | 922     | 3          | 92      | 56              | 313          |

**Preferential range** \*Exclusively for FLT's with 3.000 kg. capacity at 500 mm LCD. Other construction widths available upon request.



Designed for extremely tough operations · Protected piston rods · Construction widths available up to 3.500 mm · High visibility  
Equal shifting force and speed to both directions · Quick and easy installation · **SMOOTHROLL** bottom brackets · 5 T - 6 T: **SOFTSTOP**  
end-of-stroke slow-down



## Sideshifter High-Performance Model T151P2

| Model      | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | C<br>mm | D<br>mm | S<br>mm | G<br>mm | J<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 5T 151P2   | 5.000          | 600       | 80      | 1.220   | 60      | 42      | ± 100   | 125     | 1.040   | 4          | 92      | 51              | 212          |
|            |                |           | 80      | 1.400   | 60      | 42      | ± 100   | 125     | 1.040   | 4          | 92      | 53              | 231          |
|            |                |           | 80      | 1.800   | 70      | 42      | ± 100   | 125     | 1.040   | 4          | 102     | 63              | 334          |
|            |                |           | 80      | 2.180   | 70      | 42      | ± 100   | 125     | 1.040   | 4          | 102     | 63              | 383          |
|            |                |           | 80      | 2.260   | 70      | 53      | ± 100   | 125     | 1.040   | 4          | 112     | 65              | 455          |
| 5,5T 151P2 | 7.000          | 600       | 96      | 1.220   | 52      | 44      | ± 100   | 156     | 922     | 4          | 92      | 50              | 230          |
|            |                |           | 96      | 1.400   | 52      | 44      | ± 100   | 156     | 922     | 4          | 92      | 51              | 249          |
|            |                |           | 96      | 1.800   | 62      | 44      | ± 100   | 156     | 922     | 4          | 102     | 61              | 352          |
|            |                |           | 96      | 2.180   | 62      | 44      | ± 100   | 156     | 922     | 4          | 102     | 62              | 401          |
|            |                |           | 96      | 2.260   | 62      | 44      | ± 100   | 156     | 922     | 4          | 102     | 62              | 473          |
| 6T 151P2   | 8.000          | 600       | 112     | 1.400   | 50      | 53      | ± 160   | 212     | 1.392   | 4          | 92      | 42              | 295          |
|            |                |           | 112     | 1.800   | 60      | 53      | ± 160   | 212     | 1.392   | 4          | 102     | 53              | 397          |
|            |                |           | 112     | 2.180   | 60      | 53      | ± 160   | 212     | 1.392   | 4          | 102     | 55              | 446          |
|            |                |           | 112     | 2.260   | 70      | 53      | ± 160   | 212     | 1.392   | 4          | 112     | 61              | 516          |
| 10T 151    | 8.000          | 1.100     | 112     | 1.800   | 54      | 53      | ± 160   | 45      | 1.510   | 4          | 106     | 46              | 455          |
|            |                |           | 112     | 2.000   | 54      | 53      | ± 160   | 45      | 1.510   | 4          | 106     | 46              | 490          |
|            |                |           | 112     | 2.260   | 54      | 53      | ± 160   | 45      | 1.510   | 4          | 106     | 46              | 535          |
|            |                |           | 112     | 2.400   | 54      | 53      | ± 160   | 45      | 1.510   | 4          | 106     | 46              | 560          |

**Preferential range** Other construction widths available upon request.



Designed for extremely tough operations · Protected piston rods · Construction widths available up to 3.500 mm · High visibility  
Equal shifting force and speed to both directions · Quick and easy installation · **SMOOTHROLL** bottom brackets · 5 T - 6 T: **SOFTSTOP**  
end-of-stroke slow-down



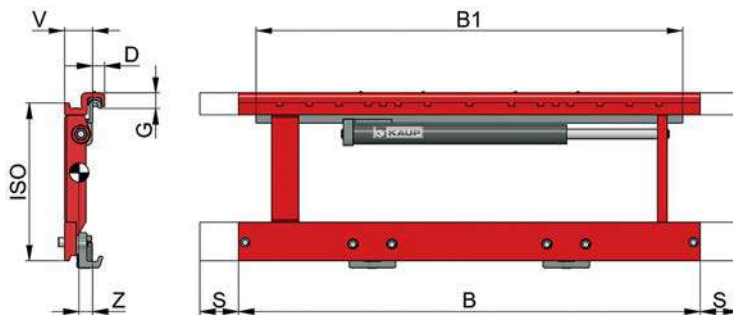
2T151P2 - for Reach Trucks



T151P2 - ISO-2/3



T151P2 - ISO-4



## Sideshifter with increased sideshift stroke T151P-C - for container stuffing applications

| Model        | Capacity kg | LCD mm | B mm  | B1 mm | S mm <sup>1)</sup> | D mm | G mm | ISO cl. | V mm | CofG Z mm | Weight kg |  |
|--------------|-------------|--------|-------|-------|--------------------|------|------|---------|------|-----------|-----------|--|
| 2T 151 P4N-C | 2.500       | 500    | 780   | 800   | ± 160              | 33   | 33   | 2       | 55   | 21        | 55        |  |
| 2T 151 P-C   | 2.500       | 500    | 780   | 1.020 | ± 225              | 33   | 40   | 2       | 72   | 34        | 57        |  |
|              |             |        | 1.060 | 1.020 | ± 225              | 33   | 40   | 2       | 72   | 35        | 68        |  |
|              |             |        | 1.150 | 1.020 | ± 225              | 33   | 40   | 2       | 72   | 35        | 73        |  |
| 4T 151 P-C   | 5.000       | 500    | 780   | 1.100 | ± 250              | 40   | 49   | 3       | 82   | 36        | 90        |  |
|              |             |        | 1.200 | 1.100 | ± 250              | 40   | 49   | 3       | 82   | 38        | 117       |  |
|              |             |        | 1.600 | 1.100 | ± 250              | 40   | 49   | 3       | 82   | 40        | 143       |  |
| 6T 151 P-C   | 8.000       | 600    | 1.800 | 1.100 | ± 250              | 50   | 66   | 4       | 107  | 55        | 301       |  |

### Preferential range

<sup>1)</sup> Differing shift strokes available upon request. Higher capacities and other construction widths available upon request.  
2T151P4N-C with EASYSLIDE greasable sliding pads, all others with bottom brackets with roller guidance (SMOOTHROLL).

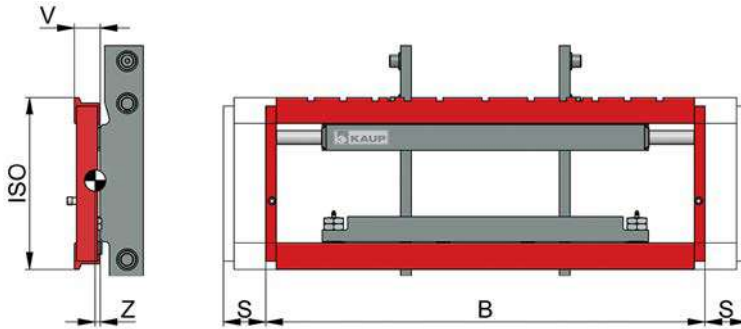


# T151P-C

Hook-on sideshifter for container stuffing







## Sideshifter, integral mounting T151I

| Model                   | Capacity kg | LCD mm | B mm  | S mm  | ISO cl. | V mm | CofG <sup>1)</sup> Z mm | Weight <sup>1)</sup> kg |
|-------------------------|-------------|--------|-------|-------|---------|------|-------------------------|-------------------------|
| 1,5T 151 I              | 1.750       | 500    | 1.040 | ± 100 | 2       | 61   | 36                      | 92                      |
| 2,5T 151 I              | 2.500       | 500    | 1.150 | ± 100 | 2       | 70   | 36                      | 102                     |
| 3T 151 I                | 3.000       | 500    | 1.150 | ± 100 | 3       | 75   | 35                      | 130                     |
| 3,5T 151 I              | 3.500       | 500    | 1.150 | ± 100 | 3       | 85   | 43                      | 135                     |
| 4,5T 151 I              | 4.500       | 500    | 1.350 | ± 100 | 3       | 85   | 44                      | 200                     |
| 4,8T 151 I              | 5.000       | 500    | 1.350 | ± 100 | 3       | 90   | 43                      | 220                     |
| 6T 151 I                | 6.000       | 600    | 1.550 | ± 140 | 4       | 95   | 47                      | 280                     |
|                         |             |        | 1.650 |       |         |      | 47                      | 298                     |
|                         |             |        | 1.800 |       |         |      | 47                      | 310                     |
| 8T 151 I                | 8.000       | 600    | 1.800 | ± 160 | 4       | 166  | 77                      | 395                     |
|                         |             |        | 2.260 |       |         |      | 85                      | 465                     |
| 10T 151 I               | 8.000       | 1.100  | 1.860 | ± 160 | 4       | 210  | 110                     | 622                     |
|                         |             |        | 2.260 |       |         |      | 114                     | 680                     |
|                         |             |        | 2.400 |       |         |      | 115                     | 700                     |
| 12T 151 I <sup>2)</sup> | 12.000      | 600    | 2.600 | ± 150 | --      | 215  | 165                     | 2.650                   |
| 16T 151 I <sup>2)</sup> | 16.000      | 600    | 2.800 | ± 150 | --      | 215  | 175                     | 2.780                   |

Higher capacities and other construction widths available upon request.

<sup>1)</sup> CofG and weight measurements do not take the cheek plates into account.

<sup>2)</sup> Including forks, optional 180 x 80 x 1.200 mm or 180 x 90 x 1.200 mm.

To determine the residual capacity the difference between measurement „V“ and the appropriate clearance of the serial fork carriage should be taken into account.



T151I

integrated sideshifter



T151I

integrated version for reach trucks



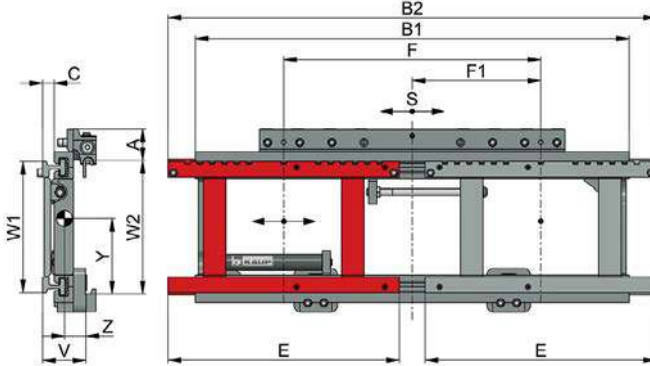
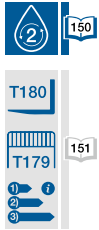
T151IN

integrated tiltable version for reach trucks

## Multi Sideshifters

According to the version they allow pick up of two, three, four or even five pallets which considerably rationalizes the application of the forklift truck. KAUP Multi Sideshifters are equipped with one main sideshifter which allows the entire load to be shifted together. The two, three, four or five additional fork carriages are partly equipped with individual sideshifters. These individual sideshifters allow moving each carriage separately by solenoid valves or simultaneously / synchronized by flow dividers.

Multi Sideshifters should only be used when the exact number of loads will be picked up every time. Please note, if individual loads are picked up off-centre, damage might be caused to the mast or fork carriage.



## Double Sideshifter T252B

| Model      | Capacity per fork carriage |       | Mounting |        | A mm | Const. width |       | C mm | E mm | Adjusting range |       | S mm  | V mm | CofG |      | CofG <sub>y</sub> | Weight kg |
|------------|----------------------------|-------|----------|--------|------|--------------|-------|------|------|-----------------|-------|-------|------|------|------|-------------------|-----------|
|            | kg                         | @mm   | W1 ISO   | W2 ISO |      | B1 mm        | B2 mm |      |      | F mm            | F1 mm |       |      | Z mm | Y mm |                   |           |
| 2T252B-L   | 1.250                      | 600   | 2        | 2      | 98   | 1.350        | 1.520 | 36   | 720  | 800-1.000       | 400   | ± 100 | 138  | 66   | 232  | 187               |           |
| 2T252B-Q   | 1.250                      | 600   | 2        | 2      | 98   | 1.550        | 1.780 | 36   | 800  | 980-1.300       | 580   | ± 100 | 138  | 67   | 230  | 203               |           |
| 3T252B-L   | 1.750                      | 600   | 2        | 3      | 85   | 1.350        | 1.520 | 36   | 720  | 800-1.000       | 400   | ± 100 | 138  | 64   | 255  | 219               |           |
| 3T252B-Q   | 1.750                      | 600   | 2        | 3      | 85   | 1.550        | 1.780 | 36   | 800  | 980-1.300       | 580   | ± 100 | 138  | 66   | 251  | 237               |           |
| 4,5T252B-L | 2.000                      | 600   | 2        | 3      | 85   | 1.350        | 1.520 | 36   | 720  | 800-1.000       | 400   | ± 100 | 148  | 66   | 260  | 274               |           |
| 4,5T252B-Q | 2.000                      | 600   | 2        | 3      | 85   | 1.550        | 1.780 | 36   | 800  | 980-1.300       | 580   | ± 100 | 148  | 67   | 259  | 297               |           |
| 4,5T252B-Q | 2.000                      | 600   | 2        | 3      | 85   | 1.650        | 1.960 | 36   | 980  | 980-1.260       | 490   | ± 100 | 148  | 69   | 256  | 314               |           |
| 5T252B-L   | 2.750                      | 600   | 3        | 4      | 118  | 1.460        | 1.520 | 41   | 720  | 800-1.000       | 400   | ± 100 | 153  | 74   | 315  | 348               |           |
| 5T252B-Q   | 2.750                      | 600   | 3        | 4      | 118  | 1.550        | 1.780 | 41   | 800  | 980-1.300       | 580   | ± 100 | 153  | 75   | 312  | 363               |           |
| 6T252B-L   | 2.000                      | 1.200 | 4        | 4      | 135  | 1.460        | 1.520 | 56   | 720  | 800-1.000       | 400   | ± 160 | 178  | 80   | 363  | 412               |           |
| 6T252B-Q   | 2.000                      | 1.200 | 4        | 4      | 135  | 1.600        | 1.780 | 56   | 800  | 980-1.300       | 580   | ± 160 | 178  | 81   | 360  | 436               |           |

Preferential range

L = Pallet handling lengthwise / Q = Pallet handling crosswise.

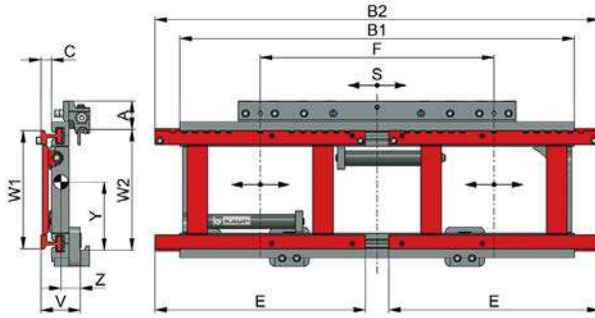
Capacities of 3T upwards with **SOFTSTOP** end-of-stroke slow-down. Higher capacities and other construction widths available upon request.

 Please observe necessary fork shank under-clearance.

## Quadruple Sideshifter T254 and Quintuple Sideshifter T255

available upon request



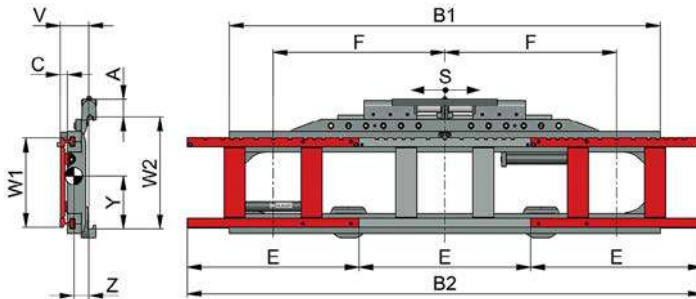


## Triple Sideshifter T253B

| Model        | Capacity per<br>fork carriage<br>kg | @mm   | Mounting<br>W1<br>ISO | W2<br>ISO | A<br>mm | Const. width<br>B1<br>mm | B2<br>mm | C<br>mm | E<br>mm | F<br>mm   | S<br>mm | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|--------------|-------------------------------------|-------|-----------------------|-----------|---------|--------------------------|----------|---------|---------|-----------|---------|---------|-----------------|------------------------------|--------------|
| 2T253B-L     | 1.250                               | 600   | 2                     | 2         | 98      | 1.350                    | 1.520    | 36      | 720     | 800-1.200 | ± 100   | 138     | 66              | 234                          | 191          |
| 2T253B-L/Q   | 1.250                               | 600   | 2                     | 2         | 98      | 1.550                    | 1.600    | 36      | 800     | 800-1.440 | ± 100   | 138     | 67              | 231                          | 207          |
| 3T253B-L     | 1.750                               | 600   | 2                     | 3         | 85      | 1.350                    | 1.520    | 36      | 720     | 800-1.200 | ± 100   | 138     | 64              | 255                          | 223          |
| 3T253B-L/Q   | 1.750                               | 600   | 2                     | 3         | 85      | 1.550                    | 1.600    | 36      | 800     | 800-1.440 | ± 100   | 138     | 66              | 252                          | 241          |
| 4,5T253B-L   | 2.000                               | 600   | 2                     | 3         | 85      | 1.350                    | 1.520    | 36      | 720     | 800-1.200 | ± 100   | 148     | 66              | 262                          | 277          |
| 4,5T253B-L/Q | 2.000                               | 600   | 2                     | 3         | 85      | 1.550                    | 1.600    | 36      | 800     | 800-1.440 | ± 100   | 148     | 67              | 258                          | 299          |
| 4,5T253B-Q   | 2.000                               | 600   | 2                     | 3         | 85      | 1.650                    | 1.960    | 36      | 980     | 980-1.540 | ± 100   | 148     | 69              | 255                          | 317          |
| 5T253B-L     | 2.750                               | 600   | 3                     | 4         | 118     | 1.460                    | 1.520    | 40      | 720     | 800-1.200 | ± 100   | 153     | 74              | 319                          | 352          |
| 5T253B-L/Q   | 2.750                               | 600   | 3                     | 4         | 118     | 1.550                    | 1.600    | 40      | 800     | 800-1.440 | ± 100   | 153     | 75              | 317                          | 368          |
| 6T253B-L     | 2.000                               | 1.200 | 4                     | 4         | 135     | 1.460                    | 1.520    | 56      | 720     | 800-1.200 | ± 160   | 178     | 81              | 366                          | 431          |
| 6T253B-L/Q   | 2.000                               | 1.200 | 4                     | 4         | 135     | 1.600                    | 1.600    | 56      | 800     | 800-1.440 | ± 160   | 178     | 82              | 363                          | 457          |

**Preferential range** L = Pallet handling lengthwise / Q = Pallet handling crosswise / L/Q = Pallet handling lengthwise and crosswise. Alternatively available with solenoid valve for individual adjustment of the fork carriages. Capacities of 3T upwards with **SOFTSTOP** end-of-stroke slow-down. Higher capacities and other construction widths available upon request.

Please observe necessary fork shank under-clearance.



## Triple Sideshifter T253B-3 with 3 fork carriages

| Model        | Capacity per<br>fork carriage<br>kg | @mm | Mounting<br>W1 | W2 | A<br>mm | Const. width<br>B1<br>mm | B2<br>mm | C<br>mm | E<br>mm | F<br>mm   | S<br>mm | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|--------------|-------------------------------------|-----|----------------|----|---------|--------------------------|----------|---------|---------|-----------|---------|---------|-----------------|------------------------------|--------------|
| 3T253B-L-3   | 900                                 | 600 | 2              | 3  | 85      | 2.100                    | 2.160    | 35      | 720     | 720-1.000 | ± 100   | 148     | 73              | 250                          | 375          |
| 3T253B-Q-3   | 900                                 | 600 | 2              | 3  | 85      | 2.700                    | 2.940    | 35      | 980     | 980-1.260 | ± 100   | 158     | 77              | 234                          | 524          |
| 3T253B-L/Q-3 | 900                                 | 600 | 2              | 3  | 85      | 2.950                    | 2.400    | 35      | 800     | 800-1.390 | ± 100   | 158     | 76              | 234                          | 537          |
| 6T253B-L-3   | 1.500                               | 600 | 3              | 4  | 118     | 2.260                    | 2.320    | 41      | 720     | 800-1.050 | ± 160   | 162     | 74              | 307                          | 595          |
| 6T253B-Q-3   | 1.500                               | 600 | 3              | 4  | 118     | 2.460                    | 2.940    | 41      | 980     | 980-1.230 | ± 160   | 162     | 77              | 330                          | 645          |
| 6T253B-L/Q-3 | 1.500                               | 600 | 3              | 4  | 118     | 2.460                    | 2.320    | 41      | 720     | 800-1.200 | ± 160   | 162     | 75              | 333                          | 620          |

L = Pallet handling lengthwise / Q = Pallet handling crosswise / L/Q = Pallet handling lengthwise and crosswise. Alternatively available with solenoid valve for individual adjustment of the fork carriages. Higher capacities and other construction widths available upon request.

Please observe necessary fork shank under-clearance.

## KAUP Fork Positioners

The demands on material handling tasks are increasingly more complex. KAUP Fork Positioners accommodate these requirements, as they increase the flexibility and profitability with more handling capacity of every forklift truck.

Especially when the width of the load changes constantly. For this reason Fork Positioners are the most frequent attachment found on forklift trucks after sideshifters. And KAUP offers a large variety of Fork Positioners - suitable for every transportation and operational task.

KAUP Fork Positioners are also, in some cases, available as integrated version with even better residual capacity.

## Application recommendation for KAUP Fork Positioners

### Light duty

**Series T156:** Starter series of KAUP Fork Positioners offer excellent value for money. The attachment is designed with hydraulic parallel movement with two cylinders and is based on the P5 sideshifter with fork positioning.

**Series T163S:** Fork Positioners specially designed for handling narrow loads to be picked up outside the width of the forklift truck as well as for loading and unloading of containers.

**Series T163SN:** Inexpensive, simple Fork Positioner with independent sideshift and absolutely symmetrical fork adjustment via positive synchronism by a chain. The original forklift truck forks can be used. The construction width and therefore the opening range of the attachment is not dependent on the width of the fork carriage of the forklift truck. Also available without sideshift function (T163N).



### Medium duty

**Series T160:** Very economical Fork Positioner which allows the forklift truck driver excellent view on to the fork tips and the load. Fork Positioners T160 have a very favourable lost load centre. Therefore the achievable residual capacity is very good. Attachments in this range are fitted with „valve block sideshift“ as standard (see explanation on page 11). In addition the original forklift truck forks can be used on models T160 and T160BI. Models T160Z and T160IZ are fitted with weld-on forks.

**Series T466:** Extremely variable concept with independent sideshift and a total of four different versions:

T466 - hook-on design allowing the use of the original truck forks

T466Z - hook-on design with forks welded on

T466BI - integrated design allowing the use of the original truck forks

T466BIZ - integrated design with forks welded on

Special features:

1. Excellent residual capacity - especially the two versions with weld-on forks - T466Z / T66BIZ.
2. The integrated version has a minimum loss of the truck capacity - about 2 % - compared to the residual capacity of version with integrated sideshifter.



### Heavy duty

**Series T411Z, T411BZ, T411BZI and T411ZR** (Fork Positioner with round forks)

Fork Positioners for extremely tough operation. The T411Z range of Fork Positioners is based on the T400 Clamp series. Spreading forces occurring, for example when handling coils, cable drums, rolls or wire coils, can readily be supported due to the large overlap of sectional profiles between fork guide and clamp body. Independent sideshift enables the load to be handled with the forks fully opened or closed together. The BZ and BZI versions function valveblock sideshift. (No sideshift possible when the forks are opened to the widest position). Sideshift strokes are dependent on opening range. This version is standard design concept for large opening ranges - up to 5.600 mm measured over the inner edges of forks. The BZI version is for integration into the mast to achieve even better residual capacities.



## Overview Fork Positioners

Page

### Fork Positioner T156



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### Fork Positioner T163S - T163SN



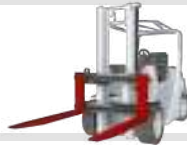
30 - 31

### Fork Positioner T160 - T160BI - T160ITW with valveblock sideshift - without forks



32 - 33

### Fork Positioner T160Z - T160IZ with valveblock sideshift - with forks



34 - 35

### Fork Positioner T466 - T466BI with independent sideshift - without forks



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### Fork Positioner T466Z - T466BIZ with independent sideshift - with forks



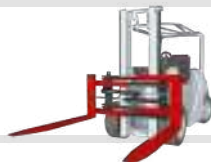
38 - 39

### Fork Positioner T410Z - T411Z with independent sideshift without forks T410Z - with forks T411Z



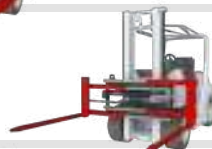
40 - 41

### Fork Positioner T411BZ - T411BZI with valveblock sideshift - with forks



42 - 43

### Fork Positioner with round forks T411ZR with independent sideshift - with round forks



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### Fork Positioners for Reach Trucks T411IZH - T411ZH - T466ZH



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## Recommended Oil flow rates and Pressures

### Fork Positioners

| Attachment      | Page      | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] |
|-----------------|-----------|---------------------------------------|---------|------|----------------------------------------|
|                 |           | min.                                  | optimum | max. |                                        |
| 2T 156 B        | 29        | 12                                    | 25      | 30   | 200                                    |
| 4,5T 156        | 29        | 12                                    | 25      | 30   | 200                                    |
| 2T 163 S        | 30        | 10                                    | 15      | 20   | 200                                    |
| 4,8T 163 S      | 30        | 15                                    | 25      | 30   | 200                                    |
| 2T 163 N / SN   | 31        | 12                                    | 20      | 25   | 180                                    |
| 4T 163 N / SN   | 31        | 12                                    | 20      | 25   | 180                                    |
| 4,5T 163 N / SN | 31        | 12                                    | 20      | 25   | 180                                    |
| 4,8T 163 N / SN | 30-31     | 12                                    | 20      | 25   | 180                                    |
| 5T 163 N / SN   | 30        | 15                                    | 25      | 35   | 180                                    |
| 6T 163 N / SN   | 30        | 15                                    | 25      | 35   | 180                                    |
| 8T 163 N / SN   | 30        | 15                                    | 25      | 35   | 180                                    |
| 1,5T 160 BZ     | 34-35, 44 | 15                                    | 25      | 30   | 180                                    |
| 2T 160 B / Z    | 32-35, 44 | 15                                    | 25      | 30   | 180                                    |
| 2,5T 160 B / Z  | 32-35, 44 | 15                                    | 25      | 30   | 180                                    |
| 3,5T 160 B / Z  | 32-35     | 15                                    | 25      | 30   | 180                                    |
| 4,5T 160 B / Z  | 34-35     | 15                                    | 25      | 30   | 180                                    |
| 4,8T 160 B / Z  | 32-35     | 15                                    | 25      | 30   | 180                                    |
| 6T 160 / Z      | 32-35     | 25                                    | 40      | 50   | 180                                    |
| 8T 160 / Z      | 32-35     | 25                                    | 40      | 50   | 180                                    |
| 10T 160 / Z     | 32-35     | 25                                    | 40      | 50   | 180                                    |
| 1,5T 466 BZ     | 38-39     | 15                                    | 25      | 30   | 180                                    |
| 2T 466 B / BZ   | 36-39     | 15                                    | 25      | 30   | 180                                    |
| 2,5T 466 B / BZ | 36-39     | 15                                    | 25      | 30   | 180                                    |
| 3,5T 466 B / BZ | 36-39     | 15                                    | 25      | 30   | 180                                    |
| 4,5T 466 BZ     | 36-39     | 15                                    | 25      | 30   | 180                                    |
| 4,8T 466 B / BZ | 36-39     | 15                                    | 25      | 30   | 180                                    |
| 6T 466 / Z      | 36-39     | 25                                    | 40      | 50   | 180                                    |
| 8T 466 / Z      | 36-39     | 25                                    | 40      | 50   | 180                                    |
| 10T 466 / Z     | 36-39     | 25                                    | 40      | 50   | 180                                    |
| 1T 411 Z / ZR   | 41, 43    | 15                                    | 25      | 30   | 180                                    |
| 1,5T 411 Z / ZR | 41, 43    | 15                                    | 25      | 30   | 180                                    |
| 1,6T 411 Z      | 41        | 15                                    | 25      | 30   | 180                                    |
| 2T 411 Z / ZR   | 41, 43    | 15                                    | 25      | 30   | 180                                    |
| 2,5T 411 Z      | 41        | 15                                    | 25      | 30   | 180                                    |
| 3T 411 Z        | 41        | 15                                    | 25      | 30   | 180                                    |
| 4T 411 Z        | 41        | 15                                    | 25      | 30   | 180                                    |
| 4,5T 411 Z      | 41        | 15                                    | 25      | 30   | 180                                    |
| 4,5T 411 Z.1    | 41        | 15                                    | 25      | 30   | 180                                    |
| 4,8T 411 Z      | 41        | 15                                    | 25      | 30   | 180                                    |
| 5T 411 Z        | 41        | 15                                    | 25      | 45   | 180                                    |
| 4T 411 BZ (I)   | 42-43     | 12                                    | 20      | 25   | 180                                    |
| 4,8T 411 BZ (I) | 42-43     | 15                                    | 25      | 45   | 180                                    |
| 5T 411 BZ (I)   | 42-43     | 25                                    | 40      | 60   | 180                                    |
| 6T 411 BZ (I)   | 42-43     | 25                                    | 40      | 60   | 180                                    |
| 8T 411 BZ (I)   | 42-43     | 25                                    | 40      | 60   | 180                                    |
| 2T 466 ZH       | 44        | 10                                    | 15      | 20   | 180                                    |



T156B



T163S



T163SN



T160BZ



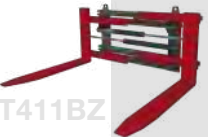
T466BZ



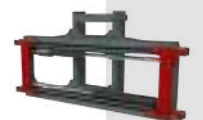
T411ZR



T411Z



T411BZ



T160BI



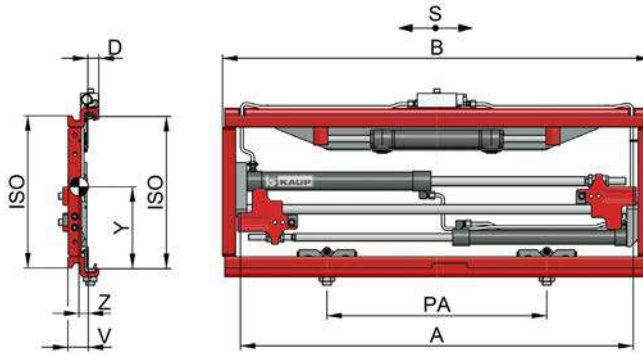
T411ZA



T411IZ



T411BZI



## Fork Positioner T156

| Model    | Capacity<br>kg | LCD<br>mm | S<br>mm | Opening<br>range<br>A<br>mm | B<br>mm | D<br>mm | PA<br>mm | suitable<br>for fork<br>width<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|-----------------------------|---------|---------|----------|-------------------------------------|------------|---------|-----------------|------------------------------|--------------|
| 2T 156B  | 2.500          | 500       | ± 100   | 290 - 795                   | 890     | 28      | 590      | 70 - 125                            | 2          | 55      | 23              | 217                          | 60           |
|          |                |           |         | 290 - 885                   | 980     | 28      | 590      |                                     |            |         |                 |                              |              |
|          |                |           |         | 310 - 945                   | 1.040   | 28      | 590      |                                     |            |         |                 |                              |              |
|          |                |           |         | 295 - 1.055                 | 1.150   | 28      | 590      |                                     |            |         |                 |                              |              |
| 4,5 T156 | 5.000          | 500       | ± 100   | 355 - 1.055                 | 1.150   | 40      | 600      | 100 - 150                           | 3          | 82      | 39              | 265                          | 136          |
|          |                |           |         | 355 - 1.255                 | 1.350   | 40      | 600      |                                     |            |         |                 |                              |              |

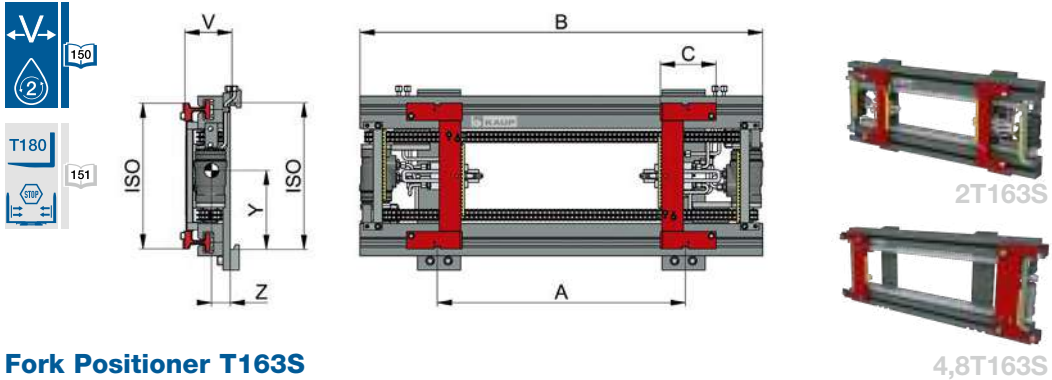
The original forks of the forklift truck, up to length of 1.800 mm, can be used.



2T156B

4.5T156





| Model     | Capacity<br>kg | LCD<br>mm | S <sub>max</sub> <sup>*</sup><br>mm | Opening range |         |         | suitable for<br>fork width<br>mm | ISO<br>cl. | CofG    |         |         | Weight<br>kg |
|-----------|----------------|-----------|-------------------------------------|---------------|---------|---------|----------------------------------|------------|---------|---------|---------|--------------|
|           |                |           |                                     | A<br>mm       | B<br>mm | C<br>mm |                                  |            | V<br>mm | Z<br>mm | Y<br>mm |              |
| 2T 163S   | 2.500          | 600       | ± 385                               | 140 - 910     | 1.040   | 155     | 125                              | 2          | 126     | 50      | 217     | 129          |
| 2T 163S   | 2.500          | 600       | ± 425                               | 140 - 990     | 1.120   | 155     | 125                              | 2          | 126     | 50      | 217     | 134          |
| 4,8T 163S | 5.000          | 600       | ± 505                               | 260 - 1.270   | 1.350   | 240     | 120/130/140/150                  | 3          | 141     | 59      | 253     | 244          |

Higher capacities and other construction widths available upon request.

<sup>\*</sup>Please note that sideshift values can be considerably above maximum safety values for lateral stability.

Fork Positioner T163ST

with telescopic forks

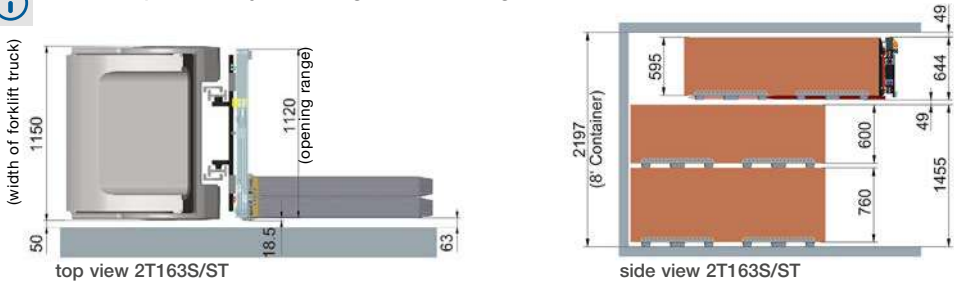
- Ideal attachment for:

  - loading and unloading of containers,
  - handling of narrow loads to be picked up outside the width of the forklift truck,
  - handling of loads with low entry height e.g. sheet metal, chip boards etc.

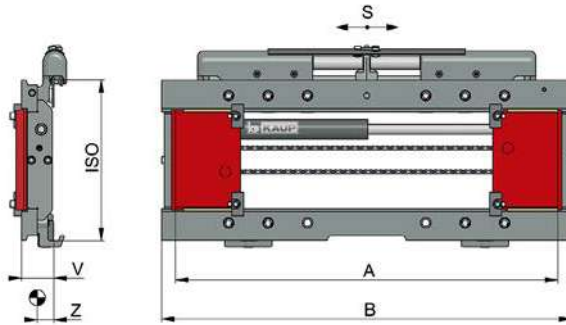
Maximum sideshift available when forks are in their closed position



Maximum productivity in loading and unloading of containers







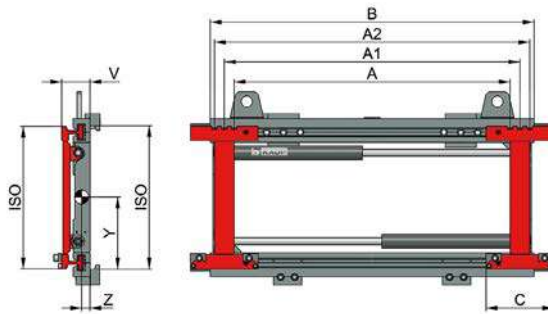
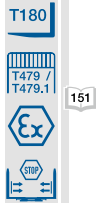
## Fork Positioner T163SN

| Model       | Capacity<br>kg | LCD<br>mm | S<br>mm | Opening range<br>A<br>mm | B<br>mm | suitable for<br>fork width<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|--------------------------|---------|----------------------------------|------------|---------|-----------------|--------------|
| 2T 163 SN   | 2.500          | 600       | ± 100   | 350- 820                 | 830     | 70-120                           | 2          | 82      | 38              | 91           |
|             |                |           |         | 350- 820                 | 830     | 125-140                          |            | 82      | 38              | 92           |
|             |                |           |         | 310-1.030                | 1.040   | 70-120                           |            | 82      | 40              | 104          |
|             |                |           |         | 350-1.030                | 1.040   | 125-140                          |            | 82      | 40              | 104          |
|             |                |           |         | 430-1.150                | 1.160   | 70-120                           |            | 82      | 41              | 109          |
|             |                |           |         | 390-1.350                | 1.360   | 70-120                           |            | 92      | 49              | 134          |
|             |                |           |         | 390-1.490                | 1.500   | 70-120                           |            | 92      | 50              | 143          |
|             |                |           |         | 390-1.690                | 1.710   | 70-120                           |            | 92      | 49              | 171          |
|             |                |           |         | 500-2.120                | 2.130   | 70-120                           |            | 92      | 51              | 209          |
| 4T 163 SN   | 4.000          | 500       | ± 100   | 390-1.030                | 1.040   | 90-160                           | 3          | 82      | 41              | 153          |
|             |                |           |         | 430-1.150                | 1.160   | 90-160                           |            | 82      | 42              | 162          |
|             |                |           |         | 390-1.350                | 1.360   | 90-160                           |            | 82      | 43              | 177          |
|             |                |           |         | 390-1.490                | 1.510   | 90-160                           |            | 92      | 51              | 214          |
|             |                |           |         | 390-1.690                | 1.710   | 90-160                           |            | 92      | 52              | 232          |
| 4,5T 163 SN | 5.000          | 500       | ± 100   | 430-1.150                | 1.160   | 90-160                           | 3          | 92      | 48              | 182          |
|             |                |           |         | 390-1.350                | 1.360   | 90-160                           |            | 92      | 50              | 200          |
|             |                |           |         | 390-1.790                | 1.810   | 90-160                           |            | 112     | 65              | 303          |
|             |                |           |         | 450-1.900                | 1.910   | 90-160                           |            | 112     | 65              | 316          |
| 4,8T 163 SN | 5.000          | 600       | ± 100   | 430-1.150                | 1.160   | 90-160                           | 3          | 92      | 45              | 195          |
|             |                |           |         | 390-1.350                | 1.360   | 90-160                           |            | 92      | 50              | 216          |
| 5T 163 SN   | 5.000          | 600       | ± 100   | 470-1.190                | 1.200   | 150-200                          | 4          | 102     | 57              | 256          |
| 6T 163 SN   | 8.000          | 600       | ± 160   | 470-1.390                | 1.400   | 150-200                          | 4          | 102     | 46              | 345          |
|             |                |           |         | 470-1.470                | 1.510   | 150-200                          |            | 102     | 50              | 353          |
|             |                |           |         | 500-1.680                | 1.690   | 150-200                          |            | 102     | 50              | 385          |
|             |                |           |         | 470-1.870                | 1.880   | 150-200                          |            | 112     | 58              | 451          |
|             |                |           |         | 530-1.980                | 1.990   | 150-200                          |            | 112     | 58              | 463          |
| 8T 163 SN   | 8.000          | 600       | ± 160   | 500-2.120                | 2.130   | 150-200                          | 4          | 132     | 68              | 588          |
|             |                |           |         | 530-2.380                | 2.400   | 150-200                          |            | 132     | 70              | 642          |

### Preferential range

The original forks of the forklift truck, up to length of 1.600 mm, can be used.  
If using longer forks the minimum bracket width to be selected is 240 mm (recommended width).  
Model T163N - without sideshift.

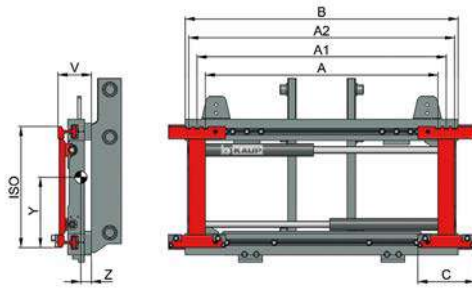




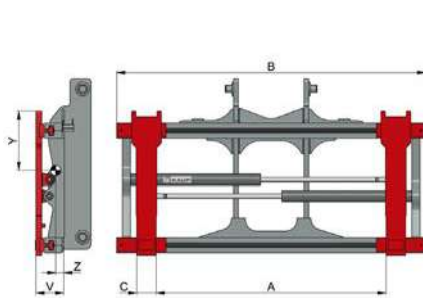
## Fork Positioner T160

| Model      | Capacity<br>kg | LCD<br>mm | Opening range<br>centre to centre fork<br>A mm | A1<br>mm  | A2<br>mm  | B<br>mm | C<br>mm | suitable<br>for max.<br>fork<br>width | VS<br>max<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>y</sub><br>Y<br>mm | Weight<br>kg |
|------------|----------------|-----------|------------------------------------------------|-----------|-----------|---------|---------|---------------------------------------|-----------------|------------|---------|-----------------|------------------------------|--------------|
| 2T 160B    | 2.500          | 500       | 150-790                                        | 250-890   | 320-960   | 980     | 240     | 120                                   | ± 160           | 2          | 96      | 32              | 235                          | 115          |
|            |                |           | 150-850                                        | 250-950   | 320-1.020 | 1.040   |         |                                       | ± 175           |            |         | 32              | 234                          | 119          |
|            |                |           | 150-950                                        | 250-1.050 | 320-1.120 | 1.150   |         |                                       | ± 200           |            |         | 31              | 232                          | 125          |
|            |                |           | 150-1.150                                      | 250-1.250 | 320-1.320 | 1.350   |         |                                       | ± 250           |            |         | 31              | 230                          | 137          |
| 2,5T 160B  | 2.500          | 600       | 150-850                                        | 250-950   | 320-1.020 | 1.040   | 240     | 120                                   | ± 175           | 2          | 96      | 30              | 244                          | 124          |
|            |                |           | 150-950                                        | 250-1.050 | 320-1.120 | 1.150   |         |                                       | ± 200           |            |         | 30              | 242                          | 130          |
| 3,5T 160B  | 3.600          | 500       | 180-880                                        | 250-950   | 320-1.020 | 1.040   | 240     | 130                                   | ± 175           | 3          | 101     | 38              | 258                          | 119          |
|            |                |           | 180-980                                        | 250-1.050 | 320-1.120 | 1.150   |         |                                       | ± 200           |            |         | 37              | 257                          | 125          |
|            |                |           | 180-1.080                                      | 250-1.150 | 320-1.220 | 1.250   |         |                                       | ± 225           |            |         | 37              | 257                          | 131          |
|            |                |           | 180-1.180                                      | 250-1.250 | 320-1.320 | 1.350   |         |                                       | ± 250           |            |         | 37              | 257                          | 137          |
|            |                |           | 180-1.380                                      | 250-1.450 | 320-1.520 | 1.550   |         |                                       | ± 300           |            |         | 35              | 255                          | 149          |
|            |                |           | 180-1.480                                      | 250-1.550 | 320-1.620 | 1.650   |         |                                       | ± 325           |            |         | 34              | 254                          | 155          |
| 4,8T 160B* | 5.000          | 600       | 180-980                                        | 250-1.050 | 320-1.120 | 1.150   | 255     | 150                                   | ± 200           | 3          | 111     | 42              | 252                          | 196          |
|            |                |           | 180-1.180                                      | 250-1.250 | 320-1.320 | 1.350   |         |                                       | ± 250           |            |         | 41              | 253                          | 214          |
|            |                |           | 180-1.280                                      | 250-1.350 | 320-1.420 | 1.460   |         |                                       | ± 275           |            |         | 40              | 253                          | 223          |
|            |                |           | 180-1.360                                      | 250-1.430 | 320-1.500 | 1.550   |         |                                       | ± 295           |            |         | 40              | 254                          | 232          |
|            |                |           | 180-1.580                                      | 250-1.650 | 320-1.720 | 1.750   |         |                                       | ± 350           |            |         | 39              | 255                          | 260          |
|            |                |           | 180-1.680                                      | 250-1.750 | 320-1.820 | 1.850   |         |                                       | ± 375           |            |         | 39              | 255                          | 274          |
| 6T 160     | 6.000          | 600       | 260-1.060                                      | 350-1.150 | 440-1.240 | 1.350   | 330     | 150                                   | ± 200           | 4          | 136     | 54              | 324                          | 256          |
|            |                |           | 260-1.170                                      | 350-1.260 | 440-1.350 | 1.460   |         |                                       | ± 227,5         |            |         | 53              | 323                          | 268          |
|            |                |           | 260-1.360                                      | 350-1.450 | 440-1.540 | 1.650   |         |                                       | ± 275           |            |         | 53              | 323                          | 287          |
|            |                |           | 260-1.560                                      | 350-1.650 | 440-1.740 | 1.860   |         |                                       | ± 325           |            |         | 52              | 323                          | 308          |
| 8T 160     | 8.000          | 600       | 260-1.560                                      | 350-1.650 | 440-1.740 | 1.860   | 330     | 150                                   | ± 325           | 4          | 136     | 52              | 323                          | 308          |
|            |                |           | 260-1.760                                      | 350-1.850 | 440-1.940 | 2.060   |         |                                       | ± 375           |            |         | 52              | 323                          | 328          |
|            |                |           | 260-1.960                                      | 350-2.050 | 440-2.140 | 2.260   |         |                                       | ± 425           |            |         | 51              | 323                          | 348          |
|            |                |           | 260-2.060                                      | 350-2.150 | 440-2.240 | 2.400   |         |                                       | ± 450           |            |         | 51              | 323                          | 359          |
| 10T 160    | 8.000          | 1.100     | 260-1.760                                      | 360-1.860 | 460-1.960 | 2.060   | 370     | 200                                   | ± 375           | 4          | 170     | 68              | 326                          | 542          |
|            |                |           | 260-1.960                                      | 360-2.060 | 460-2.160 | 2.260   |         |                                       | ± 425           |            |         | 67              | 326                          | 571          |
|            |                |           | 260-2.060                                      | 360-2.160 | 460-2.260 | 2.400   |         |                                       | ± 450           |            |         | 67              | 326                          | 590          |

Preferential range \*4,8T with capacity (kg/mm) 2.700/1.200 available upon request. Available without sideshift.



T160BI



T160ITW



## Fork Positioner integrated T160BI

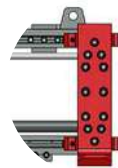
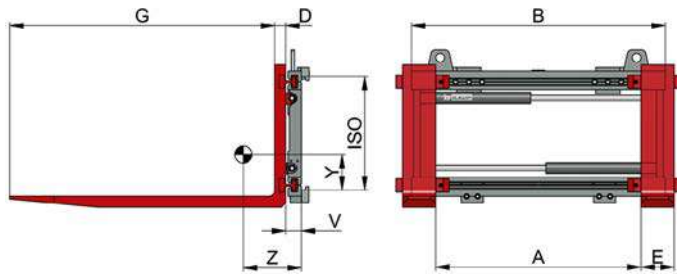
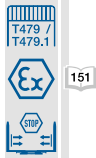
| Model       | Capacity kg | LCD mm | Opening range centre to centre fork<br>A mm | A1 mm     | A2 mm     | B mm  | C mm | suitable for max. fork width | VS max mm | ISO cl. | V mm | CofG Z mm | CofG <sub>V</sub> Y mm | Weight kg |
|-------------|-------------|--------|---------------------------------------------|-----------|-----------|-------|------|------------------------------|-----------|---------|------|-----------|------------------------|-----------|
| 2T 160BI    | 2.500       | 500    | 150-850                                     | 250-950   | 320-1.020 | 1.040 | 240  | 120                          | ± 175     | 2       | 116  | 51        | 210                    | 117       |
|             |             |        | 150-950                                     | 250-1.050 | 320-1.120 | 1.150 |      |                              | ± 200     |         |      | 51        | 210                    | 123       |
| 2,5T 160BI  | 2.500       | 600    | 150-850                                     | 250-950   | 320-1.020 | 1.040 | 240  | 120                          | ± 175     | 2       | 126  | 57        | 211                    | 126       |
|             |             |        | 150-950                                     | 250-1.050 | 320-1.120 | 1.150 |      |                              | ± 200     |         |      | 57        | 210                    | 132       |
| 3,5T 160BI  | 3.600       | 500    | 180-980                                     | 250-1.050 | 320-1.120 | 1.150 | 240  | 130                          | ± 200     | 3       | 141  | 61        | 247                    | 173       |
|             |             |        | 180-1.180                                   | 250-1.250 | 320-1.320 | 1.350 |      |                              | ± 250     |         |      | 61        | 248                    | 188       |
| 4,8T 160BI* | 5.000       | 600    | 180-1.180                                   | 250-1.250 | 320-1.320 | 1.350 | 255  | 150                          | ± 250     | 3       | 141  | 63        | 255                    | 250       |
|             |             |        | 180-1.360                                   | 250-1.430 | 320-1.500 | 1.550 |      |                              | ± 295     |         |      | 63        | 255                    | 269       |
| 6T 160BI    | 6.000       | 600    | 260-1.170                                   | 350-1.260 | 440-1.350 | 1.460 | 330  | 150                          | ± 227,5   | 4       | 166  | 64        | 330                    | 395       |
|             |             |        | 260-1.360                                   | 350-1.450 | 440-1.540 | 1.650 |      |                              | ± 275     |         |      | 63        | 330                    | 411       |
|             |             |        | 260-1.560                                   | 350-1.650 | 440-1.740 | 1.860 |      |                              | ± 325     |         |      | 61        | 328                    | 457       |
| 8T 160BI    | 8.000       | 600    | 260-1.560                                   | 350-1.650 | 440-1.740 | 1.860 | 330  | 150                          | ± 325     | 4       | 166  | 61        | 328                    | 457       |
|             |             |        | 260-1.760                                   | 350-1.850 | 440-1.940 | 2.060 |      |                              | ± 375     |         |      | 61        | 328                    | 474       |
|             |             |        | 260-1.960                                   | 350-2.050 | 440-2.140 | 2.260 |      |                              | ± 425     |         |      | 62        | 328                    | 490       |
|             |             |        | 260-2.060                                   | 350-2.150 | 440-2.240 | 2.400 |      |                              | ± 450     |         |      | 62        | 327                    | 502       |
| 10T 160BI   | 8.000       | 1.100  | 260-1.760                                   | 360-1.860 | 460-1.960 | 2.060 | 370  | 200                          | ± 375     | 4       | 210  | 97        | 328                    | 605       |
|             |             |        | 260-1.960                                   | 360-2.060 | 460-2.160 | 2.260 |      |                              | ± 425     |         |      | 96        | 328                    | 635       |
|             |             |        | 260-2.060                                   | 360-2.160 | 460-2.260 | 2.400 |      |                              | ± 450     |         |      | 94        | 328                    | 654       |

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request. Forks manually adjustable. CofG and weight measurements do not take the cheek plates into account. Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary. Available without sideshift. Higher capacities and other construction widths available upon request.

## Fork Positioner integrated T160ITW for forks with quick release system 'Terminal West'

| Model      | Capacity kg | LCD mm | A mm      | B mm  | C mm | VS max mm | V mm | CofG Z mm | CofG <sub>V</sub> Y mm | Weight kg |
|------------|-------------|--------|-----------|-------|------|-----------|------|-----------|------------------------|-----------|
| 12T 160ITW | 12.000      | 600    | 370-2.000 | 2.400 | 200  | ± 407,5   | 223  | 90        | 482                    | 1.135     |
|            |             |        | 300-2.300 | 2.700 |      | ± 500     |      | 87        | 484                    | 1.235     |
|            |             |        | 500-2.700 | 3.100 |      | ± 550     |      | 87        | 484                    | 1.330     |
| 16T 160ITW | 16.000      | 600    | 370-2.000 | 2.400 | 200  | ± 407,5   | 223  | 90        | 482                    | 1.135     |
|            |             |        | 500-2.700 | 3.100 |      | ± 550     |      | 87        | 484                    | 1.330     |
| 24T 160ITW | 24.000      | 600    | 270-1.900 | 2.400 | 250  | ± 407,5   | 233  | 90        | 483                    | 1.175     |
|            |             |        | 400-2.600 | 3.100 |      | ± 550     |      | 87        | 484                    | 1.340     |
| 32T 160ITW | 32.000      | 600    | 270-2.100 | 2.600 | 250  | ± 457,5   | 233  | 88        | 493                    | 1.470     |
|            |             |        | 260-2.600 | 3.100 |      | ± 585     |      | 86        | 494                    | 1.590     |

CofG and weight measurements do not take the cheek plates into account. Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary. Available without sideshift. Higher capacities and other construction widths available upon request.



**T160ZA**

## Fork Positioner T160Z

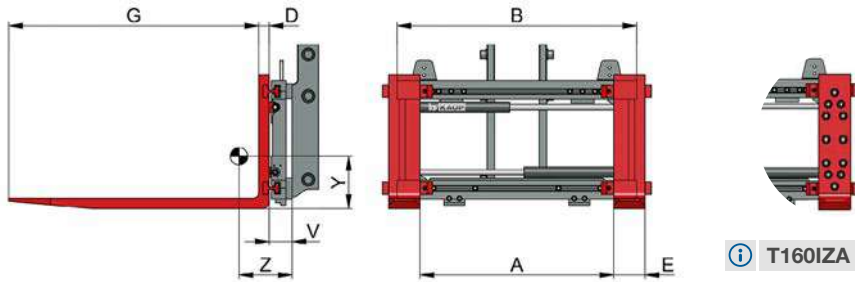
| Model       | Capacity<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | Fork profile |     | G<br>mm | VS<br>max<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>y</sub><br>Y<br>mm | Weight<br>kg |
|-------------|----------------|-----------|-----------|---------|--------------|-----|---------|-----------------|------------|---------|-----------------|------------------------------|--------------|
| 1,5T 160BZ  | 1.600          | 500       | 170-810   | 980     | 40           | 100 | 1.200   | ± 160           | 2          | 71      | 245             | 134                          | 209          |
|             |                |           | 170-870   | 1.040   |              |     |         | ± 175           |            |         | 240             | 135                          | 213          |
|             |                |           | 170-970   | 1.150   |              |     |         | ± 200           |            |         | 234             | 137                          | 219          |
| 2T 160BZ    | 2.500          | 500       | 130-770   | 980     | 45           | 120 | 1.200   | ± 160           | 2          | 71      | 284             | 118                          | 244          |
|             |                |           | 130-830   | 1.040   |              |     |         | ± 175           |            |         | 280             | 120                          | 247          |
|             |                |           | 130-930   | 1.150   |              |     |         | ± 200           |            |         | 273             | 122                          | 253          |
| 2,5T 160BZ  | 2.500          | 600       | 130-1.130 | 1.350   | 50           | 120 | 1.200   | ± 250           | 2          | 71      | 263             | 125                          | 265          |
|             |                |           | 130-830   | 1.040   |              |     |         | ± 175           |            |         | 274             | 126                          | 266          |
|             |                |           | 130-930   | 1.150   |              |     |         | ± 200           |            |         | 269             | 128                          | 272          |
| 3,5T 160BZ  | 3.600          | 500       | 130-830   | 1.040   | 50           | 150 | 1.200   | ± 175           | 3          | 71      | 308             | 126                          | 302          |
|             |                |           | 130-930   | 1.150   |              |     |         | ± 200           |            |         | 303             | 129                          | 307          |
|             |                |           | 130-1.030 | 1.250   |              |     |         | ± 225           |            |         | 300             | 131                          | 312          |
|             |                |           | 130-1.130 | 1.350   |              |     |         | ± 250           |            |         | 292             | 133                          | 317          |
|             |                |           | 130-1.330 | 1.550   |              |     |         | ± 300           |            |         | 292             | 138                          | 327          |
|             |                |           | 130-1.430 | 1.650   |              |     |         | ± 325           |            |         | 290             | 140                          | 332          |
| 4,5T 160BZ  | 5.000          | 500       | 130-930   | 1.150   | 60           | 150 | 1.200   | ± 200           | 3          | 84      | 275             | 144                          | 403          |
|             |                |           | 130-1.130 | 1.350   |              |     |         | ± 250           |            |         | 264             | 149                          | 421          |
|             |                |           | 130-1.230 | 1.460   |              |     |         | ± 275           |            |         | 258             | 152                          | 433          |
|             |                |           | 130-1.310 | 1.550   |              |     |         | ± 295           |            |         | 253             | 154                          | 439          |
|             |                |           | 130-1.530 | 1.750   |              |     |         | ± 350           |            |         | 244             | 160                          | 458          |
|             |                |           | 130-1.630 | 1.850   |              |     |         | ± 375           |            |         | 240             | 162                          | 467          |
| 4,8T 160BZ* | 5.000          | 600       | 130-930   | 1.150   | 60           | 150 | 1.200   | ± 200           | 3          | 84      | 275             | 144                          | 403          |
|             |                |           | 130-1.130 | 1.350   |              |     |         | ± 250           |            |         | 264             | 149                          | 421          |
|             |                |           | 130-1.230 | 1.460   |              |     |         | ± 275           |            |         | 258             | 152                          | 433          |
|             |                |           | 130-1.310 | 1.550   |              |     |         | ± 295           |            |         | 253             | 154                          | 439          |
|             |                |           | 130-1.530 | 1.750   |              |     |         | ± 350           |            |         | 244             | 160                          | 458          |
|             |                |           | 130-1.630 | 1.850   |              |     |         | ± 375           |            |         | 240             | 162                          | 467          |
| 6T 160Z     | 6.000          | 600       | 200-1.110 | 1.350   | 70           | 150 | 1.200   | ± 227,5         | 4          | 111     | 280             | 182                          | 527          |
|             |                |           | 200-1.200 | 1.460   |              |     |         | ± 250           |            |         | 275             | 185                          | 538          |
|             |                |           | 200-1.400 | 1.650   |              |     |         | ± 300           |            |         | 267             | 189                          | 558          |
|             |                |           | 200-1.600 | 1.860   |              |     |         | ± 350           |            |         | 259             | 194                          | 579          |
|             |                |           | 210-2.060 | 2.400   |              |     |         | ± 462,5         |            |         | 241             | 204                          | 632          |
| 8T 160Z     | 8.000          | 600       | 200-1.600 | 1.860   | 70           | 150 | 1.200   | ± 350           | 4          | 111     | 259             | 194                          | 579          |
|             |                |           | 200-1.800 | 2.060   |              |     |         | ± 400           |            |         | 252             | 199                          | 599          |
|             |                |           | 200-2.000 | 2.260   |              |     |         | ± 450           |            |         | 245             | 203                          | 620          |
| 10T 160Z    | 8.000          | 900       | 100-1.730 | 2.060   | 70           | 200 | 1.200   | ± 407,5         | 4          | 138     | 253             | 212                          | 877          |
|             |                |           | 100-1.900 | 2.260   |              |     |         | ± 450           |            |         | 247             | 216                          | 905          |
|             |                |           | 100-2.000 | 2.400   |              |     |         | ± 475           |            |         | 243             | 218                          | 924          |
| 10T 160Z    | 8.000          | 1.100     | 100-1.730 | 2.060   | 80           | 200 | 1.200   | ± 407,5         | 4          | 138     | 242             | 219                          | 900          |
|             |                |           | 100-1.900 | 2.260   |              |     |         | ± 450           |            |         | 236             | 221                          | 928          |
|             |                |           | 100-2.000 | 2.400   |              |     |         | ± 475           |            |         | 232             | 223                          | 947          |

### Preferential range

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request.  
Available without sidishift.

**Model T160ZA** with screw-on  
forks available upon request





**T160IZA**

## Fork Positioner integrated T160IIZ

| Model        | Capacity<br>kg             | LCD<br>mm             | A<br>mm                                          | B<br>mm                          | Fork profile<br>D mm | E<br>mm | G<br>mm                 | VS<br>max<br>mm                    | V<br>mm | CofG<br>Z<br>mm          | CofG <sub>V</sub><br>Y<br>mm | Weight<br>kg             |
|--------------|----------------------------|-----------------------|--------------------------------------------------|----------------------------------|----------------------|---------|-------------------------|------------------------------------|---------|--------------------------|------------------------------|--------------------------|
| 1,5T 160BIZ  | 1.600                      | 500                   | 170-870<br>170-970                               | 1.040<br>1.150                   | 40                   | 100     | 1.200                   | ± 175<br>± 200                     | 91      | 261<br>255               | 197<br>200                   | 210<br>216               |
| 2T 160BIZ    | 2.500                      | 500                   | 130-830<br>130-930                               | 1.040<br>1.150                   | 45                   | 120     | 1.200                   | ± 175<br>± 200                     | 91      | 300<br>293               | 184<br>187                   | 245<br>251               |
| 2,5T 160BIZ  | 2.500                      | 600                   | 130-830<br>130-930                               | 1.040<br>1.150                   | 50                   | 120     | 1.200                   | ± 175<br>± 200                     | 101     | 305<br>300               | 186<br>188                   | 267<br>273               |
| 3,5T 160BIZ  | 3.600                      | 500                   | 130-930<br>130-1.130                             | 1.150<br>1.350                   | 50                   | 150     | 1.200                   | ± 200<br>± 250                     | 111     | 292<br>283               | 221<br>225                   | 355<br>370               |
| 4,5T 160BIZ  | 5.000                      | 500                   | 130-1.130<br>130-1.310                           | 1.350<br>1.550                   | 60                   | 150     | 1.200                   | ± 250<br>± 295                     | 114     | 263<br>255               | 240<br>243                   | 469<br>489               |
| 4,8T 160BIZ* | 5.000                      | 600                   | 130-1.130<br>130-1.310                           | 1.350<br>1.550                   | 60                   | 150     | 1.200                   | ± 250<br>± 295                     | 114     | 263<br>255               | 240<br>243                   | 469<br>489               |
| 6T 160BIZ    | 6.000                      | 600                   | 200-1.200<br>200-1.400<br>200-1.600              | 1.460<br>1.650<br>1.860          | 70                   | 150     | 1.200                   | ± 250<br>± 300<br>± 350            | 141     | 261<br>253<br>239        | 338<br>342<br>349            | 636<br>661<br>709        |
| 8T 160BIZ    | 8.000                      | 600                   | 200-1.600<br>200-1.800<br>200-2.000<br>210-2.060 | 1.860<br>2.060<br>2.260<br>2.400 | 70                   | 150     | 1.200                   | ± 350<br>± 400<br>± 450<br>± 462,5 | 141     | 239<br>234<br>230<br>228 | 349<br>352<br>355<br>356     | 709<br>729<br>749<br>759 |
| 10T 160BIZ   | 8.000                      | 900                   | 100-1.730<br>100-1.900<br>100-2.000              | 2.060<br>2.260<br>2.400          | 70                   | 200     | 1.200                   | ± 407,5<br>± 450<br>± 475          | 178     | 268<br>263<br>258        | 350<br>352<br>357            | 963<br>991<br>1.015      |
| 10T 160BIZ   | 8.000                      | 1.100                 | 100-1.730<br>100-1.900<br>100-2.000              | 2.060<br>2.260<br>2.400          | 80                   | 200     | 1.200                   | ± 407,5<br>± 450<br>± 475          | 178     | 279<br>274<br>268        | 346<br>349<br>353            | 1.012<br>1.040<br>1.064  |
| 12T 160IIZ   | 12.000                     | 600                   | 370-2.000<br>300-2.300<br>500-2.700              | 2.400<br>2.700<br>3.100          | 80                   | 200     | 1.200                   | ± 407,5<br>± 500<br>± 550          | 178     | 225<br>216<br>207        | 585<br>590<br>600            | 1.450<br>1.540<br>1.640  |
| 16T 160IIZ   | 16.000<br>8.000<br>8.000   | 600<br>1.200<br>1.200 | 370-2.000<br>370-2.000<br>500-2.700              | 2.400<br>2.400<br>3.100          | 90                   | 200     | 1.200<br>2.400<br>2.400 | ± 407,5<br>± 407,5<br>± 550        | 178     | 222<br>475<br>438        | 585<br>498<br>517            | 1.600<br>1.905<br>2.090  |
| 24T 160IIZ   | 24.000<br>12.000<br>12.000 | 600<br>1.200<br>1.200 | 270-1.900<br>270-1.900<br>400-2.600              | 2.400<br>2.400<br>3.100          | 90                   | 250     | 1.200<br>2.400<br>2.400 | ± 407,5<br>± 407,5<br>± 550        | 178     | 244<br>521<br>486        | 568<br>474<br>492            | 1.755<br>2.137<br>2.320  |
| 32T 160IIZ   | 32.000<br>16.000<br>16.000 | 600<br>1.200<br>1.200 | 270-2.100<br>270-2.100<br>260-2.600              | 2.600<br>2.600<br>3.100          | 100                  | 250     | 1.200<br>2.400<br>2.400 | ± 457,5<br>± 457,5<br>± 585        | 178     | 230<br>493<br>470        | 585<br>493<br>505            | 2.020<br>2.435<br>2.570  |

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request.

CofG and weight measurements do not take the cheek plates into account.

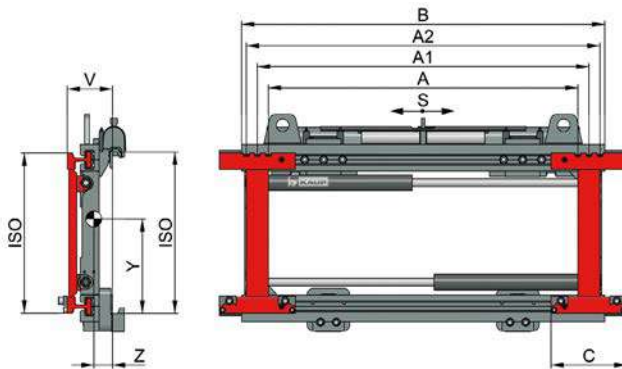
Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary.

Larger models and different widths available upon request.

Available without sideshift.

**Model T160IZA with screw-on forks available upon request**





## Fork Positioner T466

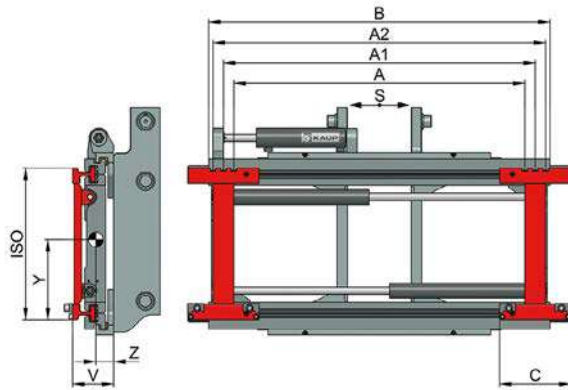
|            | Opening range<br>centre to centre fork |           |           |           |           |         |         |         |     |            | suitable<br>for max.<br>fork width |                 |                 |                      |              |  |
|------------|----------------------------------------|-----------|-----------|-----------|-----------|---------|---------|---------|-----|------------|------------------------------------|-----------------|-----------------|----------------------|--------------|--|
| Model      | Capacity<br>kg                         | LCD<br>mm | A<br>mm   | A1<br>mm  | A2<br>mm  | B<br>mm | C<br>mm | S<br>mm |     | ISO<br>cl. | V<br>mm                            | CofG<br>Z<br>mm | CofG<br>Y<br>mm | V <sub>Y</sub><br>mm | Weight<br>kg |  |
| 2T 466B    | 2.500                                  | 500       | 150-790   | 250-890   | 320-960   | 980     | 240     | ± 100   | 120 | 2          | 138                                | 55              | 244             | 141                  |              |  |
|            |                                        |           | 150-850   | 250-950   | 320-1.020 | 1.040   |         |         |     |            |                                    | 56              | 242             | 145                  |              |  |
|            |                                        |           | 150-950   | 250-1.050 | 320-1.120 | 1.150   |         |         |     |            |                                    | 57              | 240             | 152                  |              |  |
|            |                                        |           | 150-1.150 | 250-1.250 | 320-1.320 | 1.350   |         |         |     |            |                                    | 57              | 238             | 164                  |              |  |
| 2,5T 466B  | 2.500                                  | 600       | 150-850   | 250-950   | 320-1.020 | 1.040   | 240     | ± 100   | 120 | 2          | 153                                | 59              | 227             | 170                  |              |  |
|            |                                        |           | 150-950   | 250-1.050 | 320-1.120 | 1.150   |         |         |     |            |                                    | 62              | 229             | 185                  |              |  |
| 3,5T 466B  | 3.500                                  | 500       | 180-880   | 250-950   | 320-1.020 | 1.040   | 240     | ± 100   | 130 | 3          | 153                                | 62              | 283             | 190                  |              |  |
|            |                                        |           | 180-980   | 250-1.050 | 320-1.120 | 1.150   |         |         |     |            |                                    | 63              | 282             | 198                  |              |  |
|            |                                        |           | 180-1.080 | 250-1.150 | 320-1.220 | 1.250   |         |         |     |            |                                    | 63              | 281             | 206                  |              |  |
|            |                                        |           | 180-1.180 | 250-1.250 | 320-1.320 | 1.350   |         |         |     |            |                                    | 64              | 280             | 213                  |              |  |
|            |                                        |           | 180-1.380 | 250-1.450 | 320-1.520 | 1.550   |         |         |     |            |                                    | 64              | 278             | 228                  |              |  |
|            |                                        |           | 180-1.480 | 250-1.550 | 320-1.620 | 1.650   |         |         |     |            |                                    | 65              | 277             | 236                  |              |  |
| 4,8T 466B* | 5.000                                  | 600       | 180-980   | 250-1.050 | 320-1.120 | 1.150   | 255     | ± 100   | 150 | 3          | 153                                | 68              | 277             | 243                  |              |  |
|            |                                        |           | 180-1.180 | 250-1.250 | 320-1.320 | 1.350   |         |         |     |            |                                    | 69              | 275             | 262                  |              |  |
|            |                                        |           | 180-1.280 | 250-1.350 | 320-1.420 | 1.460   |         |         |     |            |                                    | 69              | 274             | 273                  |              |  |
|            |                                        |           | 180-1.360 | 250-1.430 | 320-1.500 | 1.550   |         |         |     |            |                                    | 69              | 274             | 282                  |              |  |
|            |                                        |           | 180-1.580 | 250-1.650 | 320-1.720 | 1.750   |         |         |     |            | 163                                | 75              | 270             | 337                  |              |  |
|            |                                        |           | 180-1.680 | 250-1.750 | 320-1.820 | 1.850   |         |         |     |            |                                    | 75              | 269             | 350                  |              |  |
| 6T 466     | 6.000                                  | 600       | 260-1.060 | 350-1.150 | 440-1.240 | 1.350   | 330     | ± 100   | 150 | 4          | 176                                | 72              | 367             | 329                  |              |  |
|            |                                        |           | 260-1.170 | 350-1.260 | 440-1.350 | 1.460   |         |         |     |            |                                    | 72              | 366             | 340                  |              |  |
|            |                                        |           | 260-1.360 | 350-1.450 | 440-1.540 | 1.650   |         | ± 160   |     |            |                                    | 73              | 365             | 362                  |              |  |
|            |                                        |           | 260-1.560 | 350-1.650 | 440-1.740 | 1.860   |         |         |     |            |                                    | 73              | 362             | 389                  |              |  |
| 8T 466     | 8.000                                  | 600       | 260-1.560 | 350-1.650 | 440-1.740 | 1.860   | 330     | ± 160   | 150 | 4          | 176                                | 73              | 362             | 389                  |              |  |
|            |                                        |           | 260-1.760 | 350-1.850 | 440-1.940 | 2.060   |         |         |     |            |                                    | 73              | 360             | 409                  |              |  |
|            |                                        |           | 260-1.960 | 350-2.050 | 440-2.140 | 2.260   |         |         |     |            |                                    | 74              | 358             | 429                  |              |  |
|            |                                        |           | 260-2.060 | 350-2.150 | 440-2.240 | 2.400   |         |         |     |            |                                    | 74              | 357             | 440                  |              |  |
| 10T 466    | 8.000                                  | 1.100     | 260-1.760 | 360-1.860 | 460-1.960 | 2.060   | 370     | ± 160   | 200 | 4          | 238                                | 110             | 351             | 700                  |              |  |
|            |                                        |           | 260-1.960 | 360-2.060 | 460-2.160 | 2.260   |         |         |     |            |                                    | 110             | 350             | 725                  |              |  |
|            |                                        |           | 260-2.060 | 360-2.160 | 460-2.260 | 2.400   |         |         |     |            |                                    | 110             | 349             | 745                  |              |  |

### Preferential range

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request.

Widths for reach trucks available upon request.

Model without sideshift available upon request.



## Fork Positioner integrated T466BI

| Model       | Capacity | LCD   | Opening range<br>centre to centre fork | A1        | A2        | B     | C   | S     | suitable<br>for max.<br>fork<br>width | ISO<br>cl. | V   | CofG<br>Z | CofG <sub>v</sub><br>Y | Weight<br>kg |
|-------------|----------|-------|----------------------------------------|-----------|-----------|-------|-----|-------|---------------------------------------|------------|-----|-----------|------------------------|--------------|
| 2T 466 BI   | 2.500    | 500   | 150-850                                | 250-950   | 320-1.020 | 1.040 | 240 | ± 100 | 120                                   | 2          | 133 | 58        | 218                    | 156          |
|             |          |       | 150-950                                | 250-1.050 | 320-1.120 | 1.150 |     |       |                                       |            |     | 58        | 217                    | 163          |
| 2,5T 466BI  | 2.500    | 600   | 150-850                                | 250-950   | 320-1.020 | 1.040 | 240 | ± 100 | 120                                   | 2          | 133 | 60        | 218                    | 158          |
|             |          |       | 150-950                                | 250-1.050 | 320-1.120 | 1.150 |     |       |                                       |            |     | 60        | 217                    | 165          |
| 3,5T 466BI  | 3.500    | 500   | 180-980                                | 250-1.050 | 320-1.120 | 1.150 | 240 | ±100  | 130                                   | 3          | 138 | 61        | 267                    | 173          |
|             |          |       | 180-1.180                              | 250-1.250 | 320-1.320 | 1.350 |     |       |                                       |            |     | 59        | 265                    | 197          |
| 4,8T 466BI* | 5.000    | 600   | 180-1.180                              | 250-1.250 | 320-1.320 | 1.350 | 255 | ± 100 | 150                                   | 3          | 148 | 65        | 268                    | 279          |
|             |          |       | 180-1.360                              | 250-1.430 | 320-1.500 | 1.550 |     |       |                                       |            |     | 62        | 266                    | 319          |
| 6T 466BI    | 6.000    | 600   | 260-1.170                              | 350-1.260 | 440-1.350 | 1.460 | 330 | ± 100 | 150                                   | 4          | 170 | 70        | 330                    | 375          |
|             |          |       | 260-1.360                              | 350-1.450 | 440-1.540 | 1.650 |     | ± 160 |                                       |            |     | 65        | 352                    | 435          |
|             |          |       | 260-1.560                              | 350-1.650 | 440-1.740 | 1.860 |     |       |                                       |            |     | 64        | 348                    | 473          |
| 8T 466BI    | 8.000    | 600   | 260-1.560                              | 350-1.650 | 440-1.740 | 1.860 | 330 | ± 160 | 150                                   | 4          | 170 | 64        | 348                    | 473          |
|             |          |       | 260-1.760                              | 350-1.850 | 440-1.940 | 2.060 |     |       |                                       |            |     | 63        | 345                    | 517          |
|             |          |       | 260-1.960                              | 350-2.050 | 440-2.140 | 2.260 |     |       |                                       |            |     | 63        | 345                    | 547          |
|             |          |       | 260-2.060                              | 350-2.150 | 440-2.240 | 2.400 |     |       |                                       |            |     | 62        | 344                    | 579          |
| 10T 466BI   | 8.000    | 1.100 | 260-1.760                              | 360-1.860 | 460-1.960 | 2.060 | 370 | ± 160 | 200                                   | 4          | 244 | 104       | 323                    | 909          |
|             |          |       | 260-1.960                              | 360-2.060 | 460-2.160 | 2.260 |     |       |                                       |            |     | 102       | 322                    | 979          |
|             |          |       | 260-2.060                              | 360-2.160 | 460-2.260 | 2.400 |     |       |                                       |            |     | 102       | 322                    | 1.014        |

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request. CofG and weight measurements do not take the cheek plates into account. Forks manually adjustable. Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary. Model without sideshift available upon request.



T466



T466Z

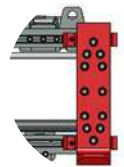
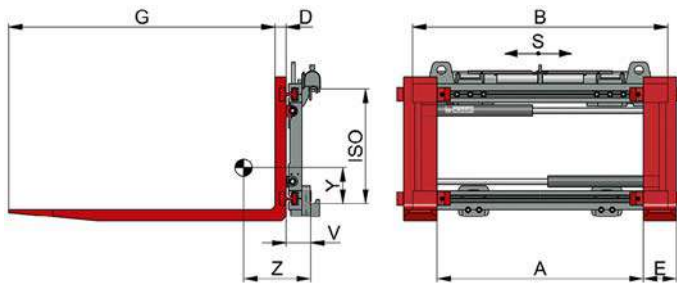
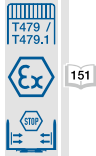


T466BI



T466BIZ





**T466ZA**

## Fork Positioner T466Z

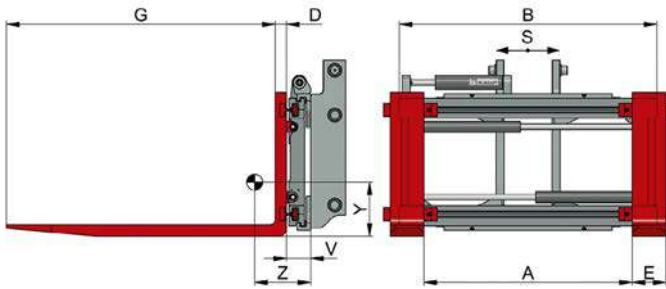
|             |                |           |           |         | Fork profile |         |         |         |            |         |                 |                              |              |     |     |     |
|-------------|----------------|-----------|-----------|---------|--------------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|-----|-----|-----|
| Model       | Capacity<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | D<br>mm      | E<br>mm | G<br>mm | S<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>y</sub><br>Y<br>mm | Weight<br>kg |     |     |     |
| 1,5T 466BZ  | 1.600          | 500       | 170-810   | 980     | 40           | 100     | 1.200   | ± 100   | 2          | 113     | 251             | 151                          | 237          |     |     |     |
|             |                |           | 170-870   | 1.040   |              |         |         |         |            |         | 248             | 152                          | 240          |     |     |     |
|             |                |           | 170-970   | 1.150   |              |         |         |         |            |         | 243             | 153                          | 246          |     |     |     |
| 2T 466BZ    | 2.500          | 500       | 130-770   | 980     | 45           | 120     | 1.200   | ± 100   | 2          | 113     | 292             | 135                          | 271          |     |     |     |
|             |                |           | 130-830   | 1.040   |              |         |         |         |            |         | 287             | 136                          | 274          |     |     |     |
|             |                |           | 130-930   | 1.150   |              |         |         |         |            |         | 282             | 138                          | 280          |     |     |     |
|             |                |           | 130-1.130 | 1.350   |              |         |         |         |            |         | 274             | 140                          | 292          |     |     |     |
| 2,5T 466BZ  | 2.500          | 600       | 130-830   | 1.040   | 50           | 120     | 1.200   | ± 100   | 2          | 128     | 279             | 138                          | 320          |     |     |     |
|             |                |           | 130-930   | 1.150   |              |         |         |         |            |         | 274             | 139                          | 328          |     |     |     |
| 3,5T 466BZ  | 3.500          | 500       | 130-830   | 1.040   | 50           | 150     | 1.200   | ± 100   | 3          | 123     | 293             | 166                          | 372          |     |     |     |
|             |                |           | 130-930   | 1.150   |              |         |         |         |            |         | 288             | 168                          | 380          |     |     |     |
|             |                |           | 130-1.030 | 1.250   |              |         |         |         |            |         | 284             | 170                          | 388          |     |     |     |
|             |                |           | 130-1.130 | 1.350   |              |         |         |         |            |         | 280             | 171                          | 395          |     |     |     |
|             |                |           | 130-1.330 | 1.550   |              |         |         |         |            |         | 272             | 174                          | 409          |     |     |     |
|             |                |           | 130-1.430 | 1.650   |              |         |         |         |            |         | 268             | 176                          | 416          |     |     |     |
| 4,5T 466BZ  | 5.000          | 500       | 130-930   | 1.150   | 60           | 150     | 1.200   | ± 100   | 3          | 126     | 285             | 170                          | 450          |     |     |     |
|             |                |           | 130-1.130 | 1.350   |              |         |         |         |            |         | 275             | 173                          | 468          |     |     |     |
|             |                |           | 130-1.230 | 1.460   |              |         |         |         |            |         | 270             | 175                          | 479          |     |     |     |
|             |                |           | 130-1.310 | 1.550   |              |         |         |         |            |         | 267             | 176                          | 488          |     |     |     |
|             |                |           | 130-1.530 | 1.750   |              |         |         |         |            |         | 136             | 243                          | 536          |     |     |     |
|             |                |           | 130-1.630 | 1.850   |              |         |         |         |            |         | 238             | 190                          | 549          |     |     |     |
| 4,8T 466BZ* | 5.000          | 600       | 130-930   | 1.150   | 60           | 150     | 1.200   | ± 100   | 3          | 126     | 285             | 170                          | 450          |     |     |     |
|             |                |           | 130-1.130 | 1.350   |              |         |         |         |            |         | 275             | 173                          | 468          |     |     |     |
|             |                |           | 130-1.230 | 1.460   |              |         |         |         |            |         | 270             | 175                          | 479          |     |     |     |
|             |                |           | 130-1.310 | 1.550   |              |         |         |         |            |         | 267             | 176                          | 488          |     |     |     |
|             |                |           | 130-1.530 | 1.750   |              |         |         |         |            |         | 136             | 243                          | 536          |     |     |     |
|             |                |           | 130-1.630 | 1.850   |              |         |         |         |            |         | 238             | 190                          | 549          |     |     |     |
| 6T 466Z     | 6.000          | 600       | 200-1.110 | 1.350   | 70           | 150     | 1.200   | ± 100   | 4          | 153     | 284             | 220                          | 597          |     |     |     |
|             |                |           | 200-1.200 | 1.460   |              |         |         |         |            |         | 280             | 222                          | 610          |     |     |     |
|             |                |           | 200-1.400 | 1.650   |              |         |         |         |            |         | ± 160           |                              |              | 269 | 231 | 635 |
|             |                |           | 200-1.600 | 1.860   |              |         |         |         |            |         |                 |                              |              | 261 | 234 | 662 |
| 8T 466Z     | 8.000          | 600       | 200-1.600 | 1.860   | 70           | 150     | 1.200   | ± 160   | 4          | 153     | 261             | 234                          | 662          |     |     |     |
|             |                |           | 200-1.800 | 2.060   |              |         |         |         |            |         | 256             | 237                          | 682          |     |     |     |
|             |                |           | 200-2.000 | 2.260   |              |         |         |         |            |         | 250             | 239                          | 702          |     |     |     |
|             |                |           | 210-2.060 | 2.400   |              |         |         |         |            |         | 248             | 240                          | 713          |     |     |     |
| 10T 466Z    | 8.000          | 900       | 160-1.790 | 2.060   | 70           | 200     | 1.200   | ± 160   | 4          | 205     | 276             | 245                          | 1.025        |     |     |     |
|             |                |           | 160-1.960 | 2.260   |              |         |         |         |            |         | 272             | 247                          | 1.050        |     |     |     |
|             |                |           | 160-2.060 | 2.400   |              |         |         |         |            |         | 269             | 248                          | 1.070        |     |     |     |
| 10T 466Z    | 8.000          | 1.100     | 160-1.790 | 2.060   | 80           | 200     | 1.200   | ± 160   | 4          | 205     | 286             | 240                          | 1.075        |     |     |     |
|             |                |           | 160-1.960 | 2.260   |              |         |         |         |            |         | 283             | 242                          | 1.100        |     |     |     |
|             |                |           | 160-2.060 | 2.400   |              |         |         |         |            |         | 280             | 243                          | 1.120        |     |     |     |

### Preferential range

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request.  
Model without sideshift available upon request.

**Model 466ZA with screw-on forks available upon request**





T466BIZA



## Fork Positioner integrated T466BIZ

| Model        | Capacity<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | Fork profile<br>D mm | E<br>mm | G<br>mm | S<br>mm | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|--------------|----------------|-----------|-----------|---------|----------------------|---------|---------|---------|---------|-----------------|------------------------------|--------------|
| 1,5T 466BIZ  | 1.600          | 500       | 170-870   | 1.040   | 40                   | 100     | 1.200   | ± 100   | 108     | 236             | 218                          | 249          |
|              |                |           | 170-970   | 1.150   |                      |         |         |         |         | 231             | 220                          | 256          |
| 2T 466BIZ    | 2.500          | 500       | 130-830   | 1.040   | 45                   | 120     | 1.200   | ± 100   | 108     | 275             | 204                          | 284          |
|              |                |           | 130-930   | 1.150   |                      |         |         |         |         | 269             | 206                          | 291          |
| 2,5T 466BIZ  | 2.500          | 600       | 130-830   | 1.040   | 50                   | 120     | 1.200   | ± 100   | 108     | 282             | 202                          | 298          |
|              |                |           | 130-930   | 1.150   |                      |         |         |         |         | 277             | 203                          | 305          |
| 3,5T 466BIZ  | 3.500          | 500       | 130-930   | 1.150   | 50                   | 150     | 1.200   | ± 100   | 108     | 295             | 228                          | 353          |
|              |                |           | 130-1.130 | 1.350   |                      |         |         |         |         | 279             | 234                          | 377          |
| 4,5T 466BIZ  | 5.000          | 500       | 130-1.130 | 1.350   | 60                   | 150     | 1.200   | ± 100   | 121     | 262             | 249                          | 485          |
|              |                |           | 130-1.310 | 1.550   |                      |         |         |         |         | 246             | 255                          | 525          |
| 4,8T 466BIZ* | 5.000          | 600       | 130-1.130 | 1.350   | 60                   | 150     | 1.200   | ± 100   | 121     | 262             | 249                          | 485          |
|              |                |           | 130-1.310 | 1.550   |                      |         |         |         |         | 246             | 255                          | 525          |
| 6T 466BIZ    | 6.000          | 600       | 200-1.200 | 1.460   | 70                   | 150     | 1.200   | ± 100   | 145     | 263             | 341                          | 649          |
|              |                |           | 200-1.400 | 1.650   |                      |         |         |         |         | 244             | 365                          | 709          |
|              |                |           | 200-1.600 | 1.860   |                      |         |         |         |         | 234             | 368                          | 747          |
| 8T 466BIZ    | 8.000          | 600       | 200-1.600 | 1.860   | 70                   | 150     | 1.200   | ± 160   | 145     | 234             | 368                          | 747          |
|              |                |           | 200-1.800 | 2.060   |                      |         |         |         |         | 224             | 373                          | 791          |
|              |                |           | 200-2.000 | 2.260   |                      |         |         |         |         | 218             | 376                          | 821          |
|              |                |           | 210-2.060 | 2.400   |                      |         |         |         |         | 212             | 379                          | 852          |
| 10T 466BIZ   | 8.000          | 900       | 160-1.790 | 2.060   | 70                   | 200     | 1.200   | ± 160   | 211     | 244             | 374                          | 1.230        |
|              |                |           | 160-1.960 | 2.260   |                      |         |         |         |         | 235             | 377                          | 1.298        |
|              |                |           | 160-2.060 | 2.400   |                      |         |         |         |         | 231             | 379                          | 1.335        |
| 10T 466BIZ   | 8.000          | 1.100     | 160-1.790 | 2.060   | 80                   | 200     | 1.200   | ± 160   | 211     | 254             | 370                          | 1.280        |
|              |                |           | 160-1.960 | 2.260   |                      |         |         |         |         | 245             | 373                          | 1.347        |
|              |                |           | 160-2.060 | 2.400   |                      |         |         |         |         | 241             | 375                          | 1.385        |

\*4,8T with capacity (kg/mm) 2.700/1.200 available upon request.

CofG and weight measurements do not take the cheek plates into account.

Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary.

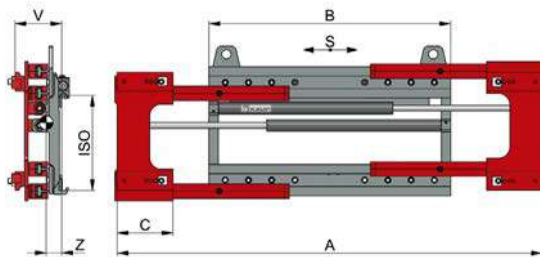
Larger models and different widths available upon request.

Model without sideshift available upon request.



**Model T466BIZA** with screw-on forks available upon request





## Fork Positioner T410Z

| Model    | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm                 | B<br>mm | C<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|-------------------------|---------|---------|------------|---------|-----------------|--------------|
| 1T410Z   | 1.500          | 500       | ± 100   | 540-1.500               | 750     | 240     | 2          | 183     | 88              | 173          |
|          |                |           |         | 540-1.720               | 970     |         |            |         | 87              | 196          |
|          |                |           |         | 550-1.900               | 1.130   |         |            |         | 87              | 206          |
|          |                |           |         | 530-1.930               | 1.200   |         |            |         | 86              | 211          |
| 1,6T410Z | 2.300          | 500       | ± 100   | 530-1.710               | 1.040   | 240     | 2          | 188     | 84              | 225          |
|          |                |           |         | 560-1.860               | 1.130   |         |            |         | 84              | 231          |
|          |                |           |         | 560-2.060               | 1.330   |         |            |         | 84              | 244          |
| 1,6T400Z | 2.300          | 500       | without | 540-1540                | 850     | 240     | 2          | 181     | 82              | 209          |
| 2,5T410Z | 2.800          | 500       | ± 100   | 530-1.710               | 1.040   | 240     | 2          | 198     | 90              | 240          |
|          |                |           |         | 560-1.860               | 1.130   |         |            |         | 89              | 246          |
|          |                |           |         | 560-2.060               | 1.330   |         |            |         | 88              | 259          |
| 2,5T400Z | 2.800          | 500       | without | 540-1540                | 850     | 240     | 2          | 191     | 87              | 222          |
| 2,5T410Z | 3.000          | 500       | ± 100   | 560-1.860               | 1.130   | 240     | 3          | 203     | 90              | 248          |
|          |                |           |         | 560-2.060               | 1.330   |         |            |         | 89              | 261          |
| 3T410Z   | 3.600          | 500       | ± 100   | 560-1.860               | 1.130   | 240     | 2/3        | 223     | 95              | 374          |
|          |                |           |         | 560-2.060               | 1.330   |         |            |         | 94              | 392          |
|          |                |           |         | 550-2.170               | 1.460   |         |            |         | 94              | 403          |
| 4T410Z   | 4.150          | 500       | ± 100   | 560-1.860               | 1.130   | 240     | 3          | 233     | 100             | 420          |
|          |                |           |         | 560-2.060               | 1.330   |         |            |         | 99              | 440          |
|          |                |           |         | 550-2.170               | 1.460   |         |            |         | 99              | 452          |
| 4,5T410Z | 5.000          | 500       | ± 100   | 580-1.930               | 1.200   | 240     | 3          | 258     | 114             | 483          |
|          |                |           |         | 540-1.980               | 1.330   |         |            |         | 113             | 499          |
|          |                |           |         | 570-2.170               | 1.460   |         |            |         | 112             | 515          |
| 4,8T410Z | 5.000          | 600       | ± 100   | 580-2.280               | 1.550   | 240     | 3          | 253     | 112             | 526          |
|          |                |           |         | 580-1.930               | 1.200   |         |            |         | 113             | 487          |
|          |                |           |         | 540-1.980               | 1.330   |         |            |         | 112             | 501          |
| 5T410Z   | 6.200          | 600       | ± 160   | 570-2.170               | 1.460   | 260     | 4          | 260     | 111             | 517          |
|          |                |           |         | 580-2.280               | 1.550   |         |            |         | 111             | 527          |
|          |                |           |         | 530-2.160               | 1.550   |         |            |         | 99              | 610          |
|          |                |           |         | 800-2.700 <sup>1)</sup> | 1.550   |         |            |         | 102             | 670          |
|          |                |           |         | 530-2.430               | 1.820   |         |            |         | 99              | 643          |

### Preferential range

<sup>1)</sup> Transport of europallets lengthwise not possible.

Fork Positioner with cylinder- and sideshift protection upon request.

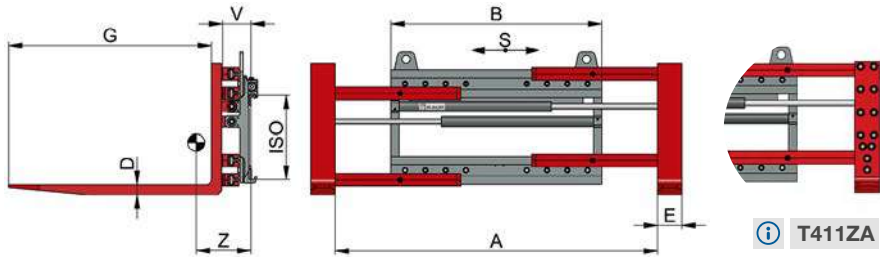
Fork Positioner without sideshift model T400Z.



1.6-2.5T410Z



T410Z



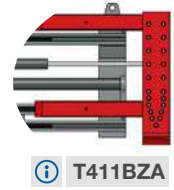
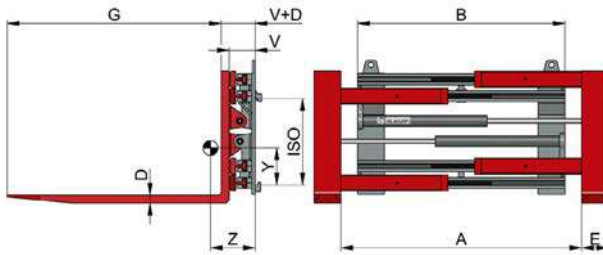
## Fork Positioner T411Z

| Model      | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm                 | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|-------------------------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T411Z     | 1.500          | 500       | ± 100   | 340-1.300               | 750     | 40      | 100     | 1.200   | 2          | 133     | 268             | 237          |
|            |                |           |         | 340-1.520               | 970     |         |         |         |            |         | 251             | 259          |
|            |                |           |         | 350-1.700               | 1.130   |         |         |         |            |         | 244             | 270          |
|            |                |           |         | 330-1.730               | 1.200   |         |         |         |            |         | 241             | 274          |
| 1,6T411Z   | 2.300          | 500       | ± 100   | 290-1.470               | 1.040   | 45      | 120     | 1.200   | 2          | 133     | 266             | 324          |
|            |                |           |         | 320-1.620               | 1.130   |         |         |         |            |         | 262             | 330          |
|            |                |           |         | 320-1.820               | 1.330   |         |         |         |            |         | 255             | 343          |
| 1,6T401Z   | 2.300          | 500       | without | 300-1.300               | 850     | 45      | 120     | 1.200   | 2          | 126     | 269             | 313          |
| 2,5T411Z   | 2.800          | 500       | ± 100   | 290-1.470               | 1.040   | 50      | 120     | 1.200   | 2          | 143     | 272             | 352          |
|            |                |           |         | 320-1.620               | 1.130   |         |         |         |            |         | 269             | 358          |
|            |                |           |         | 320-1.820               | 1.330   |         |         |         |            |         | 262             | 371          |
| 2,5T401Z   | 2.800          | 500       | without | 300-1.300               | 850     | 50      | 120     | 1.200   | 2          | 136     | 275             | 342          |
| 2,5T411Z   | 3.000          | 500       | ± 100   | 320-1.620               | 1.130   | 50      | 120     | 1.200   | 3          | 143     | 268             | 360          |
|            |                |           |         | 320-1.820               | 1.330   |         |         |         |            |         | 261             | 373          |
| 3T411Z     | 3.600          | 500       | ± 100   | 260-1.560               | 1.130   | 50      | 150     | 1.200   | 2/3        | 152     | 259             | 495          |
|            |                |           |         | 260-1.760               | 1.330   |         |         |         |            |         | 253             | 513          |
|            |                |           |         | 130-1.630               | 1.460   |         |         |         |            |         | 250             | 522          |
|            |                |           |         | 250-1.870               | 1.460   |         |         |         |            |         | 249             | 524          |
| 4T411Z     | 4.150          | 500       | ± 100   | 260-1.560               | 1.130   | 50      | 150     | 1.200   | 3          | 162     | 248             | 559          |
|            |                |           |         | 260-1.760               | 1.330   |         |         |         |            |         | 243             | 578          |
|            |                |           |         | 130-1.630               | 1.460   |         |         |         |            |         | 240             | 589          |
|            |                |           |         | 250-1.870               | 1.460   |         |         |         |            |         | 239             | 591          |
| 4,5T411Z   | 5.000          | 500       | ± 100   | 280-1.630               | 1.200   | 60      | 150     | 1.200   | 3          | 188     | 258             | 652          |
|            |                |           |         | 240-1.680               | 1.330   |         |         |         |            |         | 254             | 667          |
|            |                |           |         | 270-1.870               | 1.460   |         |         |         |            |         | 250             | 682          |
|            |                |           |         | 280-1.980               | 1.550   |         |         |         |            |         | 248             | 695          |
| 4,5T411Z.1 | 5.000          | 500       | ± 100   | 280-1.630               | 1.200   | 60      | 150     | 1.200   | 3          | 178     | 256             | 650          |
|            |                |           |         | 240-1.680               | 1.330   |         |         |         |            |         | 252             | 664          |
|            |                |           |         | 270-1.870               | 1.460   |         |         |         |            |         | 249             | 679          |
|            |                |           |         | 280-1.980               | 1.550   |         |         |         |            |         | 246             | 690          |
| 4,8T411Z   | 5.000          | 600       | ± 100   | 280-1.630               | 1.200   | 60      | 150     | 1.200   | 3          | 178     | 256             | 650          |
|            |                |           |         | 240-1.680               | 1.330   |         |         |         |            |         | 252             | 664          |
|            |                |           |         | 270-1.870               | 1.460   |         |         |         |            |         | 249             | 679          |
|            |                |           |         | 280-1.980               | 1.550   |         |         |         |            |         | 246             | 690          |
| 5T411Z     | 6.200          | 600       | ± 160   | 190-1.690               | 1.460   | 70      | 150     | 1.200   | 4          | 176     | 250             | 807          |
|            |                |           |         | 230-1.860               | 1.550   |         |         |         |            |         | 247             | 819          |
|            |                |           |         | 500-2.400 <sup>1)</sup> | 1.550   |         |         |         |            |         | 239             | 879          |
|            |                |           |         | 230-2.130               | 1.820   |         |         |         |            |         | 241             | 850          |

Preferential range <sup>1)</sup> Transport of europallets lengthwise not possible.  
Also available without sideshift, model T401Z.

 **Model T411ZA** with screw-on forks  
available upon request





## Fork Positioner, wide version T411BZ

| Model                  | Capacity<br>kg | LCD<br>mm | A<br>mm                   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | VS<br>max<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|------------------------|----------------|-----------|---------------------------|---------|---------|---------|---------|-----------------|------------|---------|-----------------|------------------------------|--------------|
| 4T 411BZ               | 4.500          | 500       | 330-2.530                 | 2.030   | 60      | 120     | 1.200   | ± 550           | 3          | 168     | 184             | 264                          | 805          |
| 4,8T 411BZ             | 6.000          | 500       | 220-1.850                 | 1.550   | 60      | 150     | 1.200   | ± 407,5         | 3          | 184     | 209             | 275                          | 885          |
| 5T 411BZ               | 6.300          | 600       | 220-1.850                 | 1.550   | 60      | 150     | 1.200   | ± 407,5         | 4          | 184     | 203             | 321                          | 925          |
|                        |                |           | 180-2.080                 | 1.860   |         |         |         | ± 475           |            |         | 195             | 325                          | 1.010        |
|                        |                |           | 380-2.480 <sup>1)</sup>   | 1.860   |         |         |         | ± 525           |            |         | 195             | 326                          | 1.014        |
|                        |                |           | 310-2.510 <sup>1)</sup>   | 2.030   |         |         |         | ± 550           |            |         | 191             | 328                          | 1.046        |
| 6T 411BZ               | 8.000          | 600       | 170-1.800                 | 1.550   | 60      | 200     | 1.200   | ± 407,5         | 4          | 194     | 233             | 314                          | 1.165        |
|                        |                |           | 130-2.030                 | 1.860   |         |         |         | ± 475           |            |         | 226             | 318                          | 1.225        |
|                        |                |           | 330-2.430 <sup>1)</sup>   | 1.860   |         |         |         | ± 525           |            |         | 225             | 319                          | 1.229        |
| 6T 411BZ               | 8.000          | 600       | 200-3.800 <sup>1)</sup>   | 3.390   | 50      | 300     | 1.200   | ± 900           | 4          | 194     | 218             | 315                          | 1.545        |
| 8T 411BZ               | 8.000          | 900       | 210-1.840 <sup>1)</sup>   | 1.550   | 70      | 200     | 1.200   | ± 407,5         | 4          | 230     | 230             | 333                          | 1.435        |
|                        |                |           | 330-2.530 <sup>1)</sup>   | 2.000   |         |         |         | ± 550           |            |         | 219             | 339                          | 1.564        |
|                        |                |           | 400-2.900 <sup>1)</sup>   | 2.400   |         |         |         | ± 625           |            |         | 211             | 344                          | 1.672        |
| 8T 411BZ <sup>2)</sup> | 5.000          | 1.200     | 2.600-5.600 <sup>1)</sup> | 4.500   | 70      | 200     | 1.200   | ± 750           | 4          | 230     | 135             | 380                          | 2.515        |

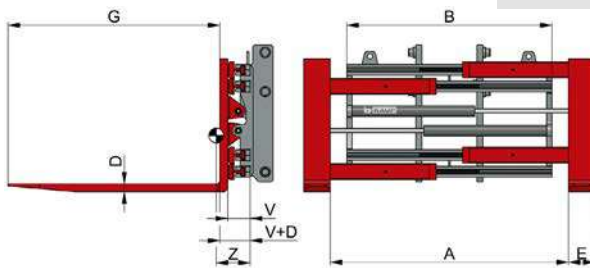
<sup>1)</sup> Transport of europallets lengthwise not possible.

<sup>2)</sup> Alternatively available with third fork in the centre.

Also available without sideshift, model T401BZ.

**Models T411BZA / BZIA with screw-on forks available upon request**  
**Model T411ZRA with screw-on round forks available upon request**





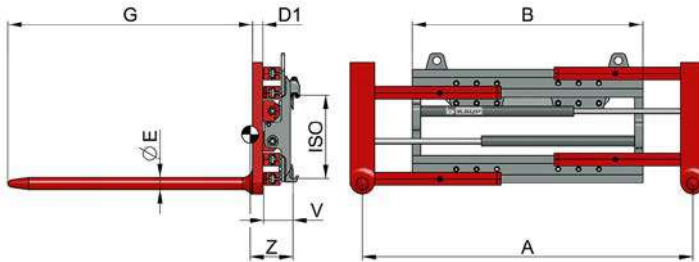
42 ⓘ T411BZIA



## Fork Positioner, wide version, integrated T411BZI

| Model     | Capacity kg | LCD mm | A mm                    | B mm  | D mm | E mm | G mm  | VS max mm | V mm | CofG Z mm | Weight kg |
|-----------|-------------|--------|-------------------------|-------|------|------|-------|-----------|------|-----------|-----------|
| 4T 411BZI | 4.500       | 500    | 330-2.530               | 2.030 | 60   | 120  | 1.200 | ± 550     | 139  | 138       | 848       |
| 5T 411BZI | 6.300       | 600    | 220-1.850               | 1.550 | 60   | 150  | 1.200 | ± 407,5   | 159  | 193       | 840       |
|           |             |        | 180-2.080               | 1.860 |      |      |       | ± 475     |      |           | 902       |
|           |             |        | 380-2.480 <sup>1)</sup> | 1.860 |      |      |       | ± 525     |      |           | 906       |
|           |             |        | 310-2.510 <sup>1)</sup> | 2.030 |      |      |       | ± 550     |      |           | 936       |
| 6T 411BZI | 8.000       | 600    | 170-1.800               | 1.550 | 60   | 200  | 1.200 | ± 407,5   | 169  | 223       | 1.057     |
|           |             |        | 130-2.030               | 1.860 |      |      |       | ± 475     |      |           | 1.117     |
|           |             |        | 330-2.430 <sup>1)</sup> | 1.860 |      |      |       | ± 525     |      |           | 1.121     |
| 6T 411BZI | 8.000       | 600    | 200-3.800 <sup>1)</sup> | 3.390 | 50   | 300  | 1.200 | ± 900     | 169  | 208       | 1.437     |
| 8T 411BZI | 8.000       | 900    | 330-2.530 <sup>1)</sup> | 2.000 | 70   | 200  | 1.200 | ± 550     | 188  | 199       | 1.424     |
|           |             |        | 400-2.900 <sup>1)</sup> | 2.400 |      |      |       | ± 625     |      |           | 1.532     |

CofG and weight measurements do not take the cheek plates into account. <sup>1)</sup> Transport of europallets lengthwise not possible. Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary. Also available without sideshift, model T401BZI.



42 ⓘ T411ZRA



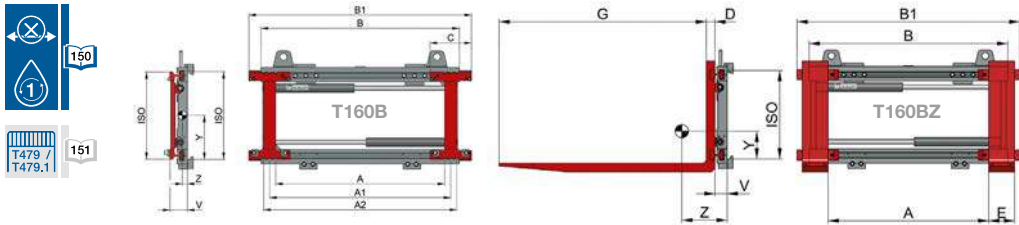
## Fork Positioner with round forks T411ZR

| Model       | Capacity kg | LCD mm | S mm  | A mm      | B mm  | D1 mm | E mm | G mm  | ISO cl. | V mm | CofG Z mm | Weight kg |
|-------------|-------------|--------|-------|-----------|-------|-------|------|-------|---------|------|-----------|-----------|
| 1T 411 ZR   | 1.500       | 500    | ± 100 | 420-1.380 | 750   | 50    | 60   | 1.200 | 2       | 133  | 245       | 235       |
|             |             |        |       | 420-1.600 | 970   |       |      |       |         |      | 230       | 258       |
|             |             |        |       | 430-1.780 | 1.130 |       |      |       |         |      | 224       | 268       |
|             |             |        |       | 410-1.810 | 1.200 |       |      |       |         |      | 221       | 273       |
| 1,5T 411 ZR | 2.300       | 500    | ± 100 | 440-1.620 | 970   | 50    | 60   | 1.200 | 2       | 133  | 211       | 295       |
|             |             |        |       | 160-1.060 | 970   |       |      |       |         |      | 215       | 285       |
|             |             |        |       | 450-1.800 | 1.130 |       |      |       |         |      | 207       | 305       |
|             |             |        |       | 210-1.390 | 1.200 |       |      |       |         |      | 205       | 308       |
|             |             |        |       | 430-1.830 | 1.200 |       |      |       |         |      | 205       | 310       |
| 2T 411 ZR   | 2.800       | 500    | ± 100 | 400-1.500 | 970   | 50    | 70   | 1.200 | 2/3     | 143  | 210       | 316       |
|             |             |        |       | 440-1.740 | 1.130 |       |      |       |         |      | 205       | 326       |
|             |             |        |       | 190-1.240 | 1.130 |       |      |       |         |      | 209       | 315       |
|             |             |        |       | 240-1.540 | 1.330 |       |      |       |         |      | 201       | 337       |
|             |             |        |       | 440-1.940 | 1.330 |       |      |       |         |      | 200       | 339       |

Can be supplied without sideshift Model T401ZR.

## Fork Positioners for Reach Trucks

As the leading manufacturer of industrial truck attachments, **KAUP** supplies a complete range of attachments specially designed for reach trucks. Due to the complexity of the scope (details regarding the wheel arms, ground clearance, width of the attachment etc.) it is advisable to contact our specialists directly for an individual quotation.

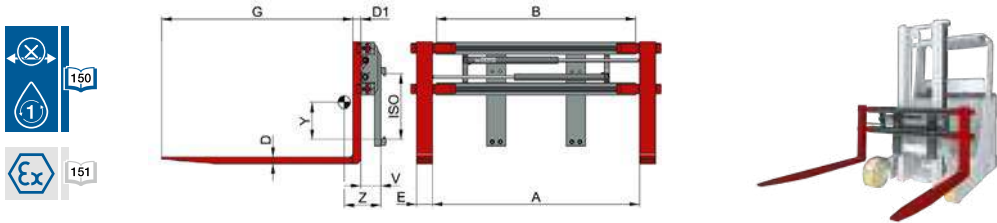


### Fork Positioner T160B for reach trucks

|           | Opening range<br>centre to centre fork |           |         |          |          |         |          |         |               | suitable<br>for max. |         |                 |                              |              |
|-----------|----------------------------------------|-----------|---------|----------|----------|---------|----------|---------|---------------|----------------------|---------|-----------------|------------------------------|--------------|
| Model     | Capacity<br>kg                         | LCD<br>mm | A<br>mm | A1<br>mm | A2<br>mm | B<br>mm | B1<br>mm | C<br>mm | fork<br>width | ISO<br>cl.           | V<br>mm | CofG<br>Z<br>mm | CofG <sub>V</sub><br>Y<br>mm | Weight<br>kg |
| 2T 160B   | 2.080                                  | 600       | 150-410 | 250-510  | 320-580  | 750     | 750      | 240     | 120           | 2                    | 96      | 33              | 234                          | 100          |
|           |                                        |           | 180-440 | 250-510  | 350-610  | 750     | 750      |         |               |                      | 33      | 234             | 100                          |              |
|           |                                        |           | 150-550 | 250-650  | 320-720  | 750     | 890      |         |               |                      | 33      | 234             | 100                          |              |
| 2,5T 160B | 2.500                                  | 600       | 150-410 | 250-510  | 320-580  | 750     | 750      | 240     | 120           | 2                    | 96      | 30              | 246                          | 105          |
|           |                                        |           | 180-440 | 250-510  | 350-610  | 750     | 750      |         |               |                      | 30      | 246             | 105                          |              |
|           |                                        |           | 150-550 | 250-650  | 320-720  | 750     | 890      |         |               |                      | 30      | 245             | 105                          |              |

### Fork Positioner T160BZ for reach trucks

| Model      | Capacity kg | LCD mm | A mm      | B mm | B1 mm | D mm | E mm | G mm  | ISO Kl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|------------|-------------|--------|-----------|------|-------|------|------|-------|---------|------|-----------|------------------------|-----------|
| 1,5T 160BZ | 1.330       | 600    | 150 - 510 | 750  | 750   | 40   | 100  | 1.200 | 2       | 71   | 265       | 124                    | 187       |
|            |             |        | 150 - 610 | 750  | 850   |      |      |       |         |      | 265       | 124                    | 187       |
| 2T 160BZ   | 2.080       | 600    | 110 - 470 | 750  | 750   | 45   | 120  | 1.200 | 2       | 71   | 304       | 109                    | 222       |
|            |             |        | 110 - 570 | 750  | 850   |      |      |       |         |      | 304       | 109                    | 223       |
| 2,5 T160BZ | 2.500       | 600    | 110 - 470 | 750  | 750   | 50   | 120  | 1.200 | 2       | 71   | 303       | 114                    | 240       |
|            |             |        | 110 - 570 | 750  | 850   |      |      |       |         |      | 302       | 115                    | 241       |



### Fork Positioner T466ZH for reach trucks

| Model     | Capacity kg | LCD mm | A mm      | B mm  | D mm | D1 mm | E mm | G mm  | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|-----------|-------------|--------|-----------|-------|------|-------|------|-------|---------|------|-----------|------------------------|-----------|
| 2T 466 ZH | 1.900       | 600    | 325-1.285 | 1.250 | 40   | 50    | 120  | 1.200 | 2       | 126  | 258       | 191                    | 270       |
|           |             |        | 320-1.780 | 1.720 |      |       |      |       |         | 135  | 222       | 318                    | 380       |
|           |             |        | 320-1.900 | 1.860 |      |       |      |       |         | 135  | 219       | 324                    | 390       |

Also available with sideshift.

 **T466ZIN** Integrated tiltable fork positioner for reach trucks - available upon request

 **T411IZH / T411ZH** Integrated / hook-on fork positioners based on clamp body - long-drop version - especially for four-way trucks. Available upon request



# MULTI PALLET HANDLERS

## Multi Pallet Handlers

are, like multi sideshifters specific for transporting several pallets simultaneously. Contrary to multi sideshifters the forks of the multi pallet handlers can be moved together or spread apart as required. Therefore a centre pick up of the load is guaranteed. Multi Pallet Handlers are indispensable for rational intra-company transport where uniform palletized goods have to be moved. They are in worldwide use in different branches of industries for efficient and economical logistics.

How to select the ideal Multi Pallet Handler for your application can be seen in the scheme on page 47.

### Overview Multi Pallet Handlers

### Page

Double Pallet Handler T429C  
Four Pallet Handler T429C-4



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Triple Pallet Handler T429B-1-2-3



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Double / Triple Pallet Handler  
on a Pantograph T429 / T149Z



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Six Pallet Handler T429-4-6



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Four Pallet Handler / Eight Pallet Handler  
T419-2-4 / T419-4-8L



51

Multi Pallet Handlers  
Customised options for specific handling tasks



52



Recommended Oil flow rates,

Pressures and Forklift truck capacities

Multi Pallet Handlers

| Attachment              | Page | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] | Maximum capacity<br>forklift truck / LCD<br>[kg/mm] |
|-------------------------|------|---------------------------------------|---------|------|----------------------------------------|-----------------------------------------------------|
|                         |      | min.                                  | optimum | max. |                                        |                                                     |
| 1,5 429C                | 48   | 15                                    | 25      | 30   | 200                                    | 2.000/500                                           |
| 2T 429C                 | 48   | 15                                    | 25      | 30   | 200                                    | 3.500/500                                           |
| 2T 429C-4               | 48   | 15                                    | 25      | 30   | 200                                    | 3.000/500                                           |
| 2,5T 429C-4             | 48   | 15                                    | 25      | 30   | 200                                    | 3.500/500                                           |
| 3T 429C                 | 48   | 15                                    | 25      | 30   | 200                                    | 4.500/500                                           |
| 3T 429C-2               | 48   | 25                                    | 40      | 50   | 200                                    | 6.000/600                                           |
| 3T 429C-4               | 48   | 25                                    | 40      | 50   | 200                                    | 5.000/600                                           |
| 3,5T 429C-4             | 48   | 25                                    | 40      | 50   | 200                                    | 5.000/600                                           |
| 4T 429C-4               | 48   | 25                                    | 40      | 50   | 200                                    | 8.000/600                                           |
| 6T 429-4                | 48   | 25                                    | 40      | 50   | 200                                    | 8.000/900                                           |
| 2T 429C / T 149 Z       | 50   | 15                                    | 25      | 30   | 200                                    | 5.000/500                                           |
| 3T 429B-1-2-3 / T 149 Z | 50   | 15                                    | 25      | 30   | 200                                    | 5.000/600                                           |
| 3T 429B-1-2-3           | 49   | 15                                    | 25      | 30   | 200                                    | 4.000/500                                           |
| 4T 429B-1-2-3           | 49   | 15                                    | 25      | 30   | 200                                    | 5.000/500                                           |
| 5T 429B-1-2-3           | 49   | 15                                    | 25      | 30   | 200                                    | 6.000/600                                           |
| 4T 429-4-6              | 51   | 25                                    | 40      | 50   | 180                                    | 5.000/600                                           |
| 6T 429-4-6              | 51   | 50                                    | 65      | 80   | 180                                    | 8.000/600                                           |
| 10T 429-4-6             | 51   | 50                                    | 65      | 80   | 180                                    | 8.000/900                                           |
| 4T 419-4-8              | 51   | 25                                    | 40      | 50   | 180                                    | 8.000/600                                           |
| 12T 419-4-8             | 51   | 50                                    | 65      | 80   | 180                                    | 15.000/600                                          |
| 6T 419-2-4              | 51   | 50                                    | 65      | 80   | 180                                    | 8.000/600                                           |

Multi pallet transportation with maximum cost-effectiveness



## For every configuration a solution which fits

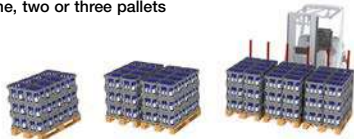
Criteria to choose the right KAUP attachment, the right truck capacity and the residual capacity  
**Q** = Nominal Capacity of FLT, **LCD** = Load centre distance, **R** = Residual capacity

### Handling task

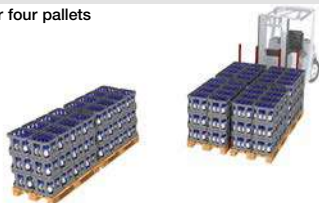
One or two pallets



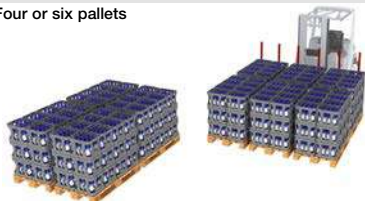
One, two or three pallets



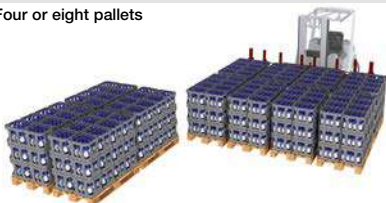
Two or four pallets



Four or six pallets



Four or eight pallets

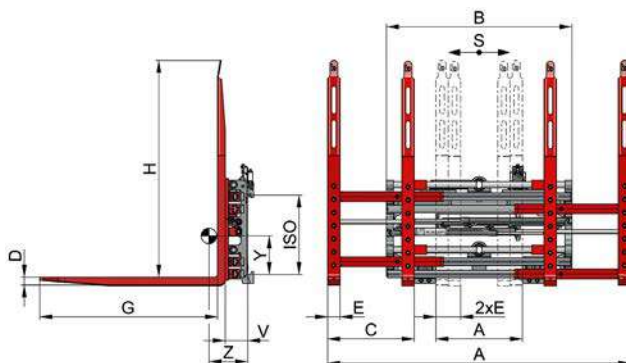


One or two pallets to the opposite side of a trailer  
 One, two or three pallets to the opposite side of a trailer

| Q<br>[kg/mm] | KAUP<br>Attachment  | LCD<br>[mm] | R<br>[kg] |
|--------------|---------------------|-------------|-----------|
| 1.600 / 500  | 1.5T 429C           | 600         | 1.060     |
| 1.800        |                     |             | 1.300     |
| 2.000        |                     |             | 1.390     |
| 2.000 / 500  | 2T 429C (2.200/600) | 600         | 1.380     |
| 2.500        |                     |             | 1.790     |
| 2.000 / 500  | 2T 429C (2.500/600) | 600         | 1.325     |
| 2.500        |                     |             | 1.740     |
| 3.000        |                     |             | 2.165     |
| 3.500        |                     |             | 2.500     |
| 3.500 / 500  | 3T 429C             | 600         | 2.520     |
| 4.000        |                     |             | 2.955     |
| 4.500        |                     |             | 3.200     |
| 5.000 / 500  | 3T 429C-2           | 600         | 3.595     |
| 5.000 / 600  |                     |             | 4.125     |
| 6.000 / 600  |                     |             | 5.000     |
| 2.500 / 500  | 3T 429B-1-2-3       | 600         | 1.600     |
| 3.000        |                     |             | 2.000     |
| 3.500        |                     |             | 2.425     |
| 4.000        |                     |             | 2.875     |
| 4.500 / 500  | 4T 429B-1-2-3       | 600         | 3.175     |
| 5.000        |                     |             | 3.650     |
| 5.000 / 600  | 5T 429B-1-2-3       | 600         | 4.000     |
| 2.500 / 500  | 2T 429C-4           | 1.200       | 1.000     |
| 3.000        |                     |             | 1.250     |
| 3.500 / 500  | 2.5T 429C-4         | 1.200       | 1.500     |
| 4.000 / 500  | 3T 429C-4           | 1.200       | 1.695     |
| 4.500        |                     |             | 1.975     |
| 5.000        |                     |             | 2.240     |
| 5.000 / 600  |                     |             | 2.500     |
| 4.500 / 500  | 3.5T 429C-4         | 1.200       | 1.960     |
| 5.000        |                     |             | 2.230     |
| 5.000 / 600  |                     |             | 2.585     |
| 5.000 / 600  | 4T 429C-4           | 1.200       | 2.475     |
| 6.000        |                     |             | 3.195     |
| 7.000        |                     |             | 3.825     |
| 8.000        |                     |             | 4.470     |
| 8.000 / 900  | 6T 429-4            | 1.200       | 5.500     |
| 3.500 / 500  | 4T 429-4-6          | 1.200       | 1.225     |
| 4.000 / 500  |                     |             | 1.425     |
| 4.500 / 500  |                     |             | 1.775     |
| 4.500 / 600  |                     |             | 2.000     |
| 5.000 / 500  |                     |             | 2.025     |
| 5.000 / 600  |                     |             | 2.375     |
| 6.000 / 600  | 6T 429-4-6          | 1.200       | 2.900     |
| 7.000        |                     |             | 3.575     |
| 8.000        |                     |             | 4.000     |
| 8.000 / 900  | 10T 429-4-6         | 1.200       | 5.300     |
| 7.000 / 600  | 4T 419-4-8L         | 1.200       | 3.375     |
| 12.000 / 600 | 12T 419-4-8         | 1.200       | 6.040     |
| 14.000 / 600 |                     |             | 7.460     |
| 15.000 / 600 |                     |             | 8.000     |
| 4.000 / 500  | 2T429C/2T149Z       | 600+1.200   | 1.245     |
| 4.500        |                     |             | 1.500     |
| 5.000        |                     |             | 1.700     |
| 5.000 / 600  |                     |             | 1.950     |
| 5.000 / 500  | 2T429C/3T149Z       | 600+1.300   | 1.510     |
| 5.000 / 600  |                     |             | 1.750     |
| 5.000 / 500  | 3T429B-1-2-3/3T149Z | 600+1.300   | 1.335     |
| 5.000 / 600  |                     |             | 1.575     |
| 5.000 / 600  | 3T429B-1-2-3/3T149Z | 600+1.300   | 1.650     |
| 6.000        |                     |             | 2.150     |

ISO 3  
ISO 4

Please consider that the residual capacities will only show you an estimated capacity. Contact your forklift truck supplier for exact values. An online calculation can be made on our website [www.kaup.de](http://www.kaup.de)



## Double Pallet Handler T429C with bolt-on forks

For 1 pallet or 2 pallets side by side - model 429-4 for 2 or 4 pallets

| Model                     | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm          | E<br>mm | H<br>mm | G<br>mm             | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofGv<br>Y<br>mm | Weight<br>kg |
|---------------------------|----------------|-----------|---------|-----------|---------|------------------|---------|---------|---------------------|------------|---------|-----------------|------------------|--------------|
| 1,5T 429C                 | 1.600          | 600       | ± 100   | 560-1.720 | 930     | 40               | 80      | 1.400   | 1.150               | 2          | 145     | 228             | 241              | 438          |
| 2T 429C                   | 2.200          | 600       | ± 100   | 560-1.960 | 1.200   | 40               | 80      | 1.400   | 1.150 <sup>2)</sup> | 2          | 145     | 216             | 245              | 470          |
| 2T 429C                   | 2.500          | 600       | ± 100   | 560-1.960 | 1.200   | 50 <sup>1)</sup> | 80      | 1.400   | 1.150 <sup>2)</sup> | 2          | 145     | 242             | 239              | 518          |
| 2T 429C                   | 2.500          | 600       | ± 100   | 560-1.960 | 1.200   | 50 <sup>1)</sup> | 80      | 1.400   | 1.150 <sup>2)</sup> | 3          | 145     | 238             | 246              | 527          |
| 2T 429C                   | 2.500          | 600       | ± 100   | 560-2.160 | 1.400   | 50 <sup>1)</sup> | 80      | 1.400   | 1.150 <sup>2)</sup> | 2          | 145     | 236             | 240              | 536          |
| 2T 429C                   | 2.500          | 600       | ± 100   | 560-2.160 | 1.400   | 50 <sup>1)</sup> | 80      | 1.400   | 1.150 <sup>2)</sup> | 3          | 145     | 232             | 247              | 545          |
| 2T 429C-4                 | 1.250          | 1.200     | ± 100   | 560-1.960 | 1.200   | 50               | 80      | 1.400   | 2.400               | 2          | 145     | 550             | 181              | 650          |
| 2T 429C-4                 | 1.250          | 1.200     | ± 100   | 560-1.960 | 1.200   | 50               | 80      | 1.400   | 2.400               | 3          | 145     | 543             | 188              | 660          |
| 2,5T 429C-4               | 1.600          | 1.200     | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 2.400               | 3          | 145     | 577             | 181              | 730          |
| 3T 429C                   | 3.200          | 600       | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 1.150 <sup>2)</sup> | 3          | 145     | 256             | 241              | 572          |
| 3T 429C                   | 3.200          | 600       | ± 100   | 560-2.160 | 1.400   | 60               | 80      | 1.400   | 1.150 <sup>2)</sup> | 3          | 145     | 250             | 243              | 590          |
| 3T 429C-2 <sup>3)</sup>   | 5.000          | 600       | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 1.150 <sup>2)</sup> | 3          | 180     | 246             | 287              | 720          |
| 3T 429C-2 <sup>3)</sup>   | 5.000          | 600       | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 1.150 <sup>2)</sup> | 4          | 183     | 238             | 288              | 749          |
| 3T 429C-2                 | 5.000          | 600       | ± 100   | 560-1.960 | 1.400   | 60               | 80      | 1.400   | 1.150 <sup>2)</sup> | 3          | 180     | 240             | 289              | 748          |
| 3T 429C-2                 | 5.000          | 600       | ± 100   | 560-1.960 | 1.400   | 60               | 80      | 1.400   | 1.150 <sup>2)</sup> | 4          | 183     | 233             | 290              | 777          |
| 3T 429C-4 <sup>3)</sup>   | 2.500          | 1.200     | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 2.400               | 3          | 180     | 578             | 220              | 910          |
| 3T 429C-4 <sup>3)</sup>   | 2.500          | 1.200     | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 2.400               | 4          | 183     | 561             | 212              | 940          |
| 3T 429C-4                 | 2.500          | 1.200     | ± 100   | 560-1.960 | 1.400   | 60               | 80      | 1.400   | 2.400               | 3          | 180     | 563             | 223              | 933          |
| 3T 429C-4                 | 2.500          | 1.200     | ± 100   | 560-1.960 | 1.400   | 60               | 80      | 1.400   | 2.400               | 4          | 183     | 550             | 215              | 963          |
| 3,5T 429C-4 <sup>3)</sup> | 2.800          | 1.200     | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 2.400               | 3          | 180     | 568             | 221              | 941          |
| 3,5T 429C-4 <sup>3)</sup> | 2.800          | 1.200     | ± 100   | 560-1.960 | 1.200   | 60               | 80      | 1.400   | 2.400               | 4          | 183     | 561             | 212              | 941          |
| 3,5T 429C-4               | 2.800          | 1.200     | ± 100   | 560-1.960 | 1.400   | 60               | 80      | 1.400   | 2.400               | 3          | 180     | 556             | 224              | 964          |
| 3,5T 429C-4               | 2.800          | 1.200     | ± 100   | 560-1.960 | 1.400   | 60               | 80      | 1.400   | 2.400               | 4          | 183     | 550             | 215              | 964          |
| 4T 429C-4 <sup>4)</sup>   | 3.200          | 1.200     | ± 160   | 560-1.960 | 1.460   | 60               | 80      | 1.400   | 2.400               | 4          | 183     | 512             | 237              | 1.038        |
| 4T 429C-4 <sup>4)</sup>   | 4.600          | 1.200     | ± 160   | 560-1.960 | 1.460   | 70               | 80      | 1.400   | 2.400               | 4          | 183     | 536             | 228              | 1.111        |
| 6T 429-4 <sup>4)</sup>    | 6.000          | 1.200     | ± 160   | 560-1.960 | 1.860   | 75               | 90      | 1.400   | 2.400               | 4          | 218     | 530             | 205              | 1.390        |
| 6T 429-4 <sup>4)</sup>    | 6.000          | 1.200     | ± 250   | 560-1.960 | 1.920   | 75               | 90      | 1.400   | 2.400               | 4          | 218     | 530             | 205              | 1.410        |

### Preferential range

**i** Measurement „C“ = alternatively 560 / 650 / 700 mm mechanically or hydraulically adjustable (solenoid valve required). Measurement „H“ = standard height 1.400 mm, other lengths and forms upon request. Pallet retainer lip available upon request. Double solenoid valve for additional individual adjustment for each pair of forks available upon request.

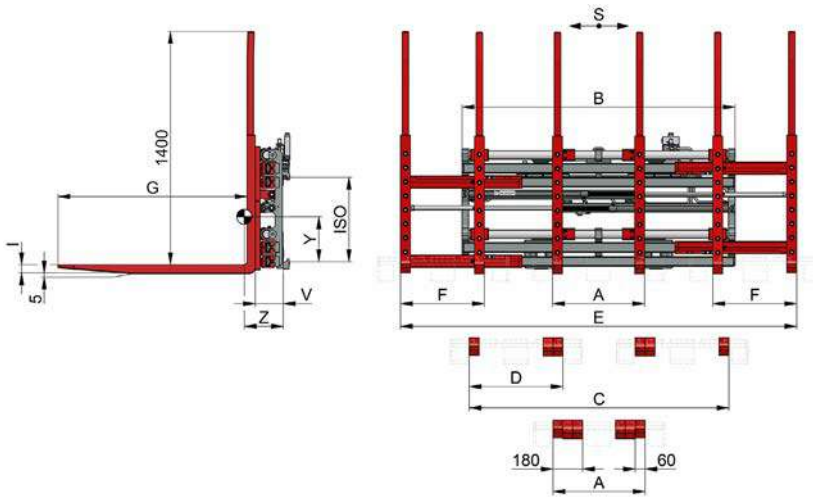
1) Optional with fork thickness 40 mm.

2) Fork length optional 1.000 mm, 1.150 mm or 1.200 mm.

3) For pallet width 1.200 mm we recommend the 1.400 mm wide body version.

4) Standard with wider fork shanks.





## Triple Pallet Handler T429B-1-2-3

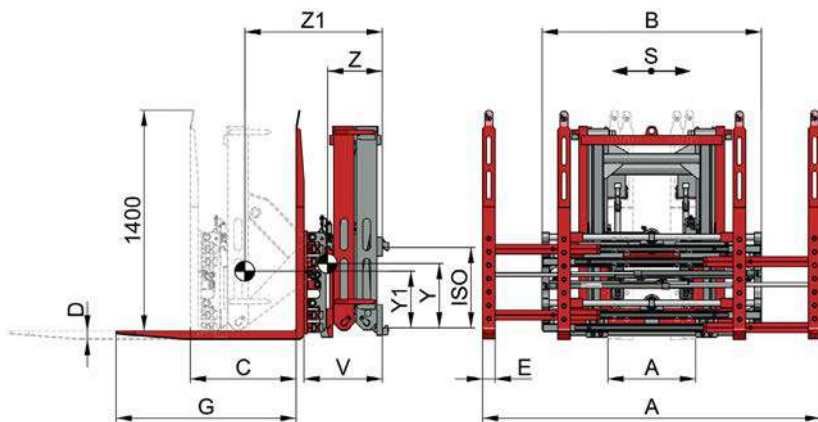
with bolt-on forks - for 1, 2 or 3 pallets side by side

| Model         | Pallet width x length | Capacity kg | LCD mm | for FLT max. | S mm  | B mm  | Opening range A mm C mm E mm | fork distance D mm F mm G mm I mm ISO cl. | CofG <sub>v</sub> V mm Z mm Y mm Weight kg |
|---------------|-----------------------|-------------|--------|--------------|-------|-------|------------------------------|-------------------------------------------|--------------------------------------------|
| 3T 429B-1-2-3 | 800x1200              | 3.000       | 600    | 4,0/500      | ± 100 | 1.460 | 560 1.580 2.210              | 570 510 1.150 50 2/3                      | 170 227 275 712                            |
|               | 800x1200              |             |        |              | ± 100 | 1.660 | 560 1.580 2.410              | 570 510 1.150 50 2/3                      | 170 221 277 739                            |
|               | 800x1200              |             |        |              | ± 100 | 1.760 | 560 1.580 2.510              | 570 510 1.150 50 2/3                      | 170 219 278 752                            |
|               | 1000x1200             |             |        |              | ± 100 | 1.960 | 660 1.900 2.910              | 680 620 1.150 50 2/3                      | 170 213 273 781                            |
| 4T 429B-1-2-3 | 800x1200              | 3.800       | 600    | 5,0/500      | ± 100 | 1.460 | 560 1.580 2.210              | 570 510 1.150 60 3                        | 170 244 268 761                            |
|               | 800x1200              |             |        |              | ± 100 | 1.660 | 560 1.580 2.410              | 570 510 1.150 60 3                        | 170 238 270 787                            |
|               | 800x1200              |             |        |              | ± 100 | 1.760 | 560 1.580 2.510              | 570 510 1.150 60 3                        | 170 236 271 800                            |
|               | 1000x1200             |             |        |              | ± 100 | 1.960 | 660 1.900 2.910              | 680 620 1.150 60 3                        | 170 230 273 829                            |
|               | 1200x1000             |             |        |              | ± 100 | 2.150 | 670 1.910 3.120              | 680 620 1.000 60 3                        | 170 193 283 851                            |
| 5T 429B-1-2-3 | 800x1200              | 4.500       | 600    | 6,0/600      | ± 160 | 1.460 | 560 1.580 2.210              | 570 510 1.150 60 4                        | 190 243 321 861                            |
|               | 800x1200              |             |        |              | ± 160 | 1.660 | 560 1.580 2.410              | 570 510 1.150 60 4                        | 190 238 323 890                            |
|               | 1000x1200             |             |        |              | ± 160 | 1.960 | 660 1.900 2.910              | 680 620 1.150 60 4                        | 190 231 327 935                            |
|               | 1200x1000             |             |        |              | ± 160 | 2.150 | 670 1.910 3.120              | 680 620 1.000 60 4                        | 190 199 341 954                            |

### Preferential range

- Pallet retainer lip available upon request. Wider fork shanks available upon request.
- Fork length optional 1.000, 1.150 or 1.200 mm.
- Solenoid valve for individual control of pallets left and right.





## Double / Triple Pallet Handler on a Pantograph T429 / T149Z

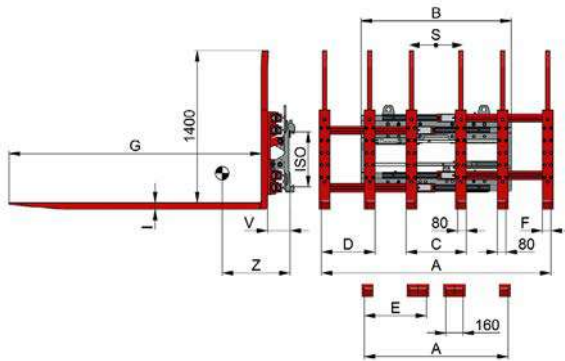
with bolt-on forks - for double deep loading and unloading of 1 or 2 pallets or e.g. of 1, 2 or 3 pallets.

|                         | Opening range |     |       |           |       |    |    |       |     |     |     |      |       |                   |                   |        |
|-------------------------|---------------|-----|-------|-----------|-------|----|----|-------|-----|-----|-----|------|-------|-------------------|-------------------|--------|
|                         | Capacity      | LCD | S     | A         | Width | D  | E  | G     | C   | ISO | V   | CofG | CofG  | CofG <sub>v</sub> | CofG <sub>v</sub> | Weight |
| Model                   | kg            | mm  | mm    | mm        | B mm  | mm | mm | mm    | mm  | cl. | mm  | Z mm | Z1 mm | Y mm              | Y1 mm             | kg     |
| 2T 429C / 2T 149Z       | 1.950         | 600 | ± 100 | 560-1.960 | 1.200 | 50 | 80 | 1.150 | 620 | 3   | 575 | 435  | 902   | 363               | 330               | 980    |
| 2T 429C / 3T 149Z       | 2.500         | 600 | ± 100 | 560-1.960 | 1.200 | 50 | 80 | 1.150 | 750 | 3   | 500 | 348  | 873   | 412               | 363               | 1.220  |
| 3T 429B-1-2-3 / 3T 149Z | 2.650         | 600 | ± 100 | 560-2.410 | 1.660 | 50 | 60 | 1.150 | 750 | 3   | 525 | 375  | 933   | 404               | 363               | 1.442  |
| 3T 429B-1-2-3 / 3T 149Z | 2.650         | 600 | ± 100 | 560-2.410 | 1.660 | 50 | 60 | 1.150 | 750 | 4   | 525 | 377  | 938   | 365               | 324               | 1.435  |

**i** Pallet retainer lip available upon request. Wider fork shanks available upon request.  
Fork length optional 1.000 mm, 1.150 mm or 1.200 mm.



# T429B-1-2-3 / T149Z

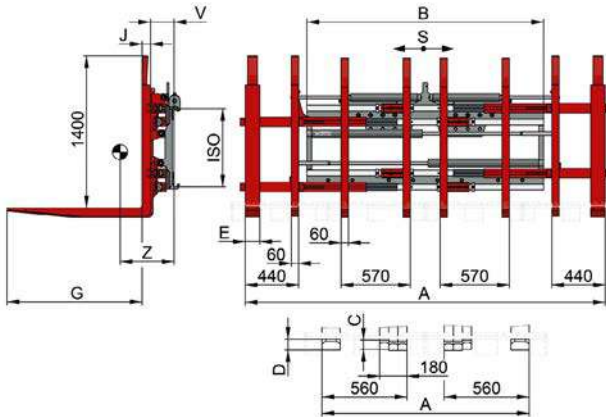


## Six Pallet Handler T429-4-6

with bolt-on forks - Pallet handling lengthwise 800 x 1.200 mm for 4 or 6 pallets

| Model       | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm     | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | I<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|-------------|---------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 4T 429-4-6  | 2.500          | 1.200     | ± 125   | 1.340-2.140 | 1.400   | 560     | 500     | 580     | 80      | 60      | 2.350   | 3/4        | 212     | 635             | 1.250        |
| 6T 429-4-6  | 4.000          | 1.200     | ± 160   | 1.340-2.290 | 1.790   | 560     | 500     | 580     | 90      | 70      | 2.350   | 4          | 192     | 615             | 1.435        |
| 6T 429-4-6  | 4.000          | 1.200     | ± 160   | 1.340-2.740 | 2.260   | 560     | 500     | 580     | 90      | 70      | 2.350   | 4          | 192     | 605             | 1.470        |
| 10T 429-4-6 | 6.000          | 1.200     | ± 160   | 1.340-2.290 | 1.790   | 560     | 500     | 580     | 110     | 70      | 2.350   | 4          | 207     | 600             | 1.680        |
| 10T 429-4-6 | 6.000          | 1.200     | ± 160   | 1.340-2.740 | 2.260   | 560     | 500     | 580     | 110     | 70      | 2.350   | 4          | 207     | 585             | 1.720        |
| 10T 429-4-6 | 6.000          | 1.200     | ± 160   | 1.360-2.840 | 2.260   | 560     | 480     | 560     | 110     | 70      | 2.350   | 4          | 207     | 585             | 1.720        |

 6T and 10T available with ± 250 mm extended sideshift.  
Six Pallet Handler with Load Stabilizer available upon request. **Six Pallet Handler in integrated version available upon request.**



## Four Pallet Handler / Eight Pallet Handler T419-2-4 / T419-4-8L

for 2 or 4 pallets side by side or 4 or 8 pallets

| Model         | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm     | B<br>mm | C<br>mm | D<br>mm | E<br>mm | J<br>mm | G<br>mm | ISO<br>KL. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|---------------|----------------|-----------|---------|-------------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 4T 419-4-8 L  | 3.600          | 1.200     | ± 160   | 1.365-2.965 | 1.950   | 60      | 70      | 120     | 70      | 2.350   | 4          | 194     | 612             | 1.655        |
| 12T 419-4-8 L | 8.000          | 1.200     | ± 160   | 1.365-2.965 | 2.500   | 80      | 70      | 150     | 80      | 2.400   | Pin-Type   | 305     | 554             | 3.110        |
| 6T 419-2-4    | 4.800          | 600       | ± 160   | 1.365-2.965 | 1.950   | 45      | 50      | 120     | 70      | 1.150   | 4          | 192     | 257             | 1.320        |
| 6T 419-2-4    | 4.800          | 600       | ± 250   | 1.365-2.965 | 1.950   | 45      | 50      | 120     | 70      | 1.150   | 4          | 192     | 256             | 1.325        |



# Multi Pallet Handlers

## Customised options for specific handling tasks

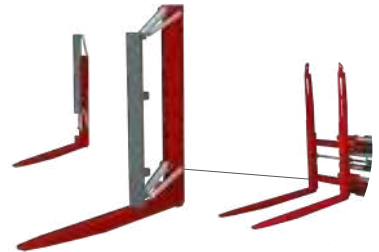
### Forks and Load Backrests

Fork length and cross section as well as height and design of load backrests can be individually optimised and fitted for every application. The fork tips can be fitted with a pallet retainer lip upon request.



### Load end stop

Multi Pallet Handlers can be fitted with a mechanical or hydraulic hinged load stop to conveniently adapt fork length to different lengths of pallets.



### Load Stabilizers

All **KAUP** Multi Pallet Handlers can be fitted/combined with different load stabilizers as required, exactly specified to the load where palletized goods have to be secured during transportation with a forklift truck to prevent the load from slipping when going around corners or driving over uneven ground. A multitude of KAUP Multi Pallet Handlers fitted with Load Stabilizers are used, for example, in the beverage industry for loading crates stacked on a pallet. KAUP Load Stabilizers can be designed to meet every customer's requirement. Following are only a few examples.



#### Double Pallet Handler T429C-129 with interlocking Load Stabilizers on the outer forks

Opening range over outer edges of forks 560 to 1.960 mm  
Opening range of load stabilizer approx. 1.200 to 2.010 mm  
Load Stabilizer contact pad frame approx. 800 x 800 mm with rubber tubing



#### Double Pallet Handler T429C-124 with body-installed telescopic Load Stabilizer

Opening range over outer edges of forks 560 to 1.960 mm  
Opening range of load stabilizer approx. 1.170 to 2.970 mm  
Load Stabilizer contact pad frame approx. 800 x 800 mm with rubber tubing

# ROTATORS / LADLE TIPPERS

**Rotators.** The standard version of the Rotator is equipped with a fork carriage. It can be rotated 360° endless. Containers with a slip-in underlay can be turned for emptying. Standard forks with normal widths can be fixed by means of square stops, included in the delivery, which are bolted onto the lower carriage bar. Bolt holes in the stops offset to all four sides for safe fixing. This is the point of the highest load strain during rotation. Forks see page 57.

## Rotators

form basic modules of the KAUP Modular Built System for all combinations of rotating attachments.

### Overview Rotators

### Page

Rotator without sideshift T351



55

Rotator without sideshift  
foundry version T351G  
fishing industry version T351.1S



56

Rotator with independent sideshift T391



57

Rotator with independent sideshift  
foundry version T391G  
fishing industry version T391S



58

Rotator without sideshift 10 - 30T351



59

Ladle Tipper T360



60

Casting Device for Foundry Ladles T360G  
Charging Device T355 / T395



60



## Recommended Oil flow rates, Pressures and Forklift truck capacities

### Rotators - Ladle Tippers

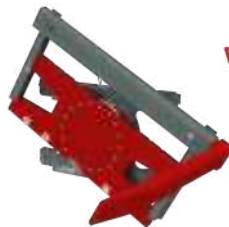
| Attachment             | Page  | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] | Maximum capacity<br>forklift truck / LCD<br>[kg/mm]                                 |
|------------------------|-------|---------------------------------------|---------|------|----------------------------------------|-------------------------------------------------------------------------------------|
|                        |       | min.                                  | optimum | max. |                                        |                                                                                     |
| 0,8 T 351              | 55    | 15                                    | 20      | 25   | 200                                    | 1.200/500                                                                           |
| 1T 351 / T 391 (G)     | 55-58 | 15                                    | 20      | 25   | 200                                    | 2.000/500                                                                           |
| 2T 351 / T 391 (G/S)   | 55-58 | 15                                    | 20      | 25   | 200                                    | 2.500/500                                                                           |
| 2,5T 351 / T 391 (G/S) | 55-58 | 15                                    | 20      | 25   | 200                                    | 3.500/500                                                                           |
| 3,5T 351 / T 391 (G)   | 55-58 | 25                                    | 40      | 50   | 200                                    | 4.500/500                                                                           |
| 4T 351 / T 391 (G)     | 55-58 | 25                                    | 40      | 50   | 200                                    | 5.000/600                                                                           |
| 4,5T 351 / T 391 (G)   | 55-58 | 30                                    | 50      | 70   | 200                                    | 5.000/600                                                                           |
| 5T 351 / T 391 (G)     | 55-58 | 30                                    | 50      | 70   | 200                                    | 7.000/600                                                                           |
| 6T 351 / T 391 (G)     | 55-58 | 40                                    | 60      | 75   | 200                                    | 8.000/600                                                                           |
| 8T 351 / T 391 (G)     | 55-58 | 40                                    | 60      | 75   | 200                                    | 10.000/600                                                                          |
| 10T 351                | 59    | 40                                    | 80      | 120  | 200                                    | 12.000/900                                                                          |
| 2T 360                 | 60    | 30                                    | 40      | 50   | 160                                    | 2.500/500                                                                           |
| 3T 360                 | 60    | 30                                    | 40      | 50   | 160                                    | 4.000/500                                                                           |
| 5T 360                 | 60    | 40                                    | 60      | 75   | 160                                    | 6.000/600                                                                           |
| 7T 360                 | 60    | 50                                    | 70      | 90   | 160                                    | 8.000/600                                                                           |
| 10T 360                | 60    | 50                                    | 70      | 90   | 160                                    | 12.000/600                                                                          |
| 12T 360                | 60    | 50                                    | 70      | 90   | 160                                    | 15.000/600                                                                          |
| 1,5T 360 G             | 60    | 10                                    | 15      | 20   | 160                                    |  |
| 2T 360 G               | 60    | 15                                    | 25      | 30   | 160                                    |                                                                                     |
| 4T 360 G               | 60    | 25                                    | 40      | 50   | 160                                    |                                                                                     |
| 6T 360 G               | 60    | 40                                    | 50      | 60   | 160                                    |                                                                                     |
| 8T 360 G               | 60    | 40                                    | 50      | 60   | 160                                    |                                                                                     |



T351.1



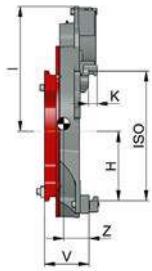
T351.2



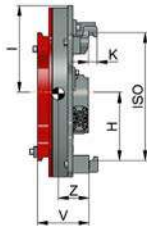
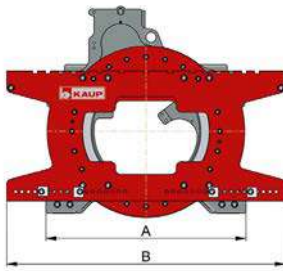
0.8T351.2-SG



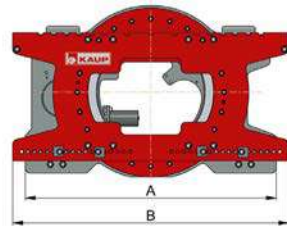
T360



T351.1



T351.2



## Rotator T351 - 360° endless

| Model                    | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | H<br>mm | I<br>mm | K<br>mm | ISO<br>cl. | Torque<br>Md Δp=<br>125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|--------------------------|----------------|-----------|---------|---------|---------|---------|---------|------------|-----------------------------------|--------------------------------------------|---------|-----------------|--------------|
| 0,8T 351.2 <sup>1)</sup> | 1.200          | 500       | 860     | 890     | 203     | 278     | 33      | 2          | 4.226                             | 5,3                                        | 156     | 94              | 165          |
|                          |                |           |         | 1.040   |         |         |         |            |                                   |                                            |         | 97              | 175          |
| 1T 351.1                 | 1.800          | 500       | 560     | 780     | 213     | 478     | 33      | 2          | 6.013                             | 7,6                                        | 155     | 78              | 166          |
|                          |                |           |         | 890     |         |         |         |            |                                   |                                            |         | 80              | 171          |
| 1T 351.2                 | 1.800          | 500       | 780     | 780     | 211     | 287     | 31      | 2          | 6.013                             | 7,6                                        | 190     | 108             | 172          |
|                          |                |           |         | 890     |         |         |         |            |                                   |                                            |         | 110             | 177          |
| 2T 351.1                 | 2.500          | 500       | 790     | 1.040   | 269     | 457     | 33      | 2          | 7.700                             | 9,7                                        | 166     | 90              | 225          |
| 2T 351.2                 | 2.500          | 500       | 1.000   | 1.040   | 270     | 345     | 29      | 2          | 7.700                             | 9,7                                        | 200     | 113             | 255          |
| 2,5T 351.1               | 3.200          | 500       | 790     | 1.100   | 269     | 492     | 33      | 3          | 7.700                             | 9,7                                        | 176     | 98              | 290          |
| 2,5T 351.2               | 3.200          | 500       | 1.000   | 1.100   | 270     | 345     | 33      | 3          | 7.700                             | 9,7                                        | 205     | 122             | 305          |
| 4T 351.2                 | 5.000          | 500       | 1.010   | 1.100   | 338     | 395     | 40      | 3          | 8.950                             | 11,3                                       | 208     | 113             | 409          |
| 4,5T 351.1               | 5.000          | 500       | 870     | 1.350   | 328     | 675     | 36      | 4          | 14.823                            | 17,4                                       | 221     | 124             | 524          |
| 5T 351.2                 | 6.000          | 600       | 1.080   | 1.350   | 351     | 455     | 40      | 4          | 13.434                            | 15,7                                       | 264     | 160             | 588          |
| 6T 351.2                 | 6.500          | 600       | 1.260   | 1.350   | 351     | 455     | 40      | 4          | 17.157                            | 20,7                                       | 264     | 150             | 684          |
| 8T 351.2                 | 8.000          | 900       | 1.300   | 1.600   | 396     | 485     | 40      | 4          | 21.679                            | 18,8                                       | 304     | 172             | 1.045        |

### Preferential range

<sup>1)</sup> Fork carriage plate closed. Rotator 0,8T351.2-SG (see picture on page 54) available upon request.  
Rotators with higher rotating speeds available upon request. Other fork carriage widths available upon request.

## Optional

Forks for KAUP Rotators - lower brackets strengthened - see page 57

Downhold with gripping claw T167 - see page 57

Lateral supporting fork for containers - 800 mm long

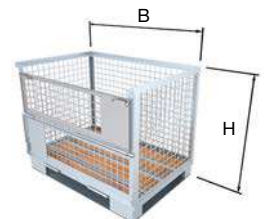


Removable

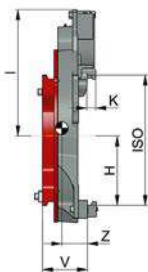


Removable and foldable

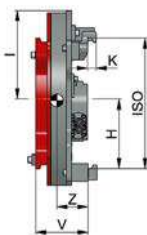
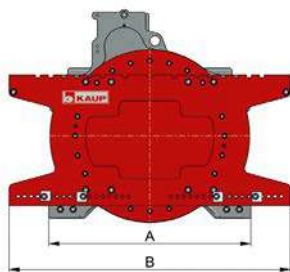
Container dimensions



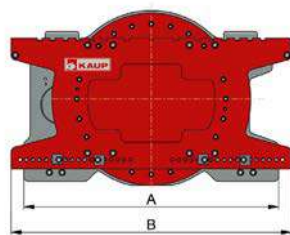
Width B min-max 800 - 1.600 mm  
Height H min-max 800 - 1.200 mm  
Lateral supporting fork for other dimensions available upon request



T351.1G



T351.2G

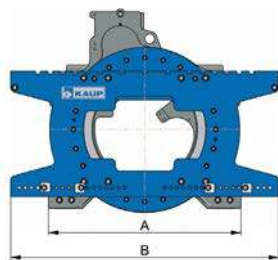
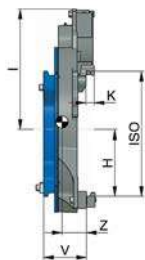


## Rotator T351G - 360° endless - foundry version

| Model       | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | H<br>mm | I<br>mm | K<br>mm | ISO<br>cl. | Torque<br>Md Δp=125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|---------|---------|---------|---------|------------|-------------------------------|--------------------------------------------|---------|-----------------|--------------|
| 1T 351.2G   | 1.800          | 500       | 817     | 890     | 203     | 288     | 33      | 2          | 6.013                         | 7,6                                        | 207     | 124             | 250          |
| 2T 351.1G   | 2.500          | 500       | 790     | 1.040   | 269     | 515     | 29      | 2          | 7.700                         | 9,7                                        | 174     | 93              | 302          |
| 2T 351.1G   | 2.500          | 500       | 790     | 1.150   | 269     | 515     | 29      | 2          | 7.700                         | 9,7                                        | 174     | 95              | 310          |
| 2,5T 351.1G | 3.200          | 500       | 790     | 1.100   | 269     | 515     | 33      | 3          | 7.700                         | 9,7                                        | 179     | 106             | 387          |
| 3,5T 351.1G | 4.000          | 500       | 880     | 1.100   | 381     | 539     | 36      | 3          | 11.815                        | 13,8                                       | 202     | 113             | 525          |
| 4T 351.1G   | 5.000          | 500       | 900     | 1.100   | 378     | 595     | 36      | 3          | 14.823                        | 17,4                                       | 221     | 120             | 575          |
| 4,5T 351.1G | 5.000          | 500       | 900     | 1.350   | 328     | 695     | 40      | 4          | 14.823                        | 17,4                                       | 231     | 129             | 670          |
| 5T 351.2G   | 6.000          | 600       | 1.080   | 1.350   | 351     | 460     | 40      | 4          | 13.434                        | 15,7                                       | 275     | 167             | 725          |
| 6T 351.2G   | 6.500          | 600       | 1.260   | 1.350   | 351     | 460     | 40      | 4          | 17.157                        | 20,7                                       | 275     | 155             | 842          |
| 8T 351.2G   | 8.000          | 900       | 1.300   | 1.600   | 396     | 480     | 40      | 4          | 21.679                        | 18,8                                       | 304     | 175             | 1.080        |

### Preferential range

Dust proof versions and foundry rotators up to 40 T upon request. Other fork carriage widths available upon request. Rotators with higher rotating speeds available upon request.

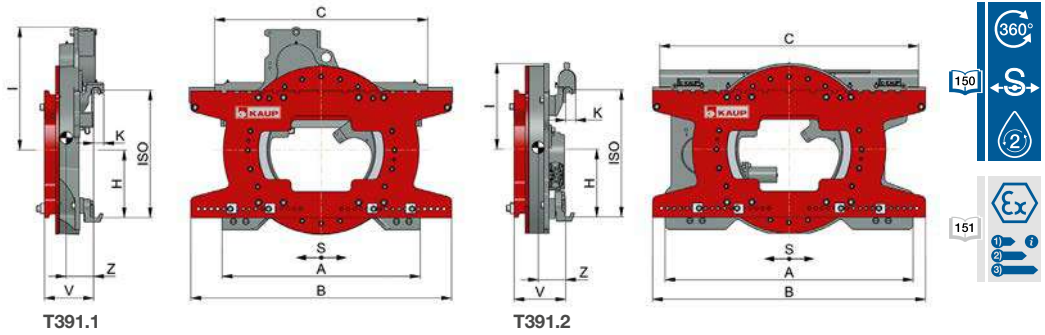


## Rotator T351.1S / T351.1.3S - 360° endless - fishing version

| Model         | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | H<br>mm | I<br>mm | K<br>mm | ISO<br>cl. | Torque<br>Md Δp=125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|---------------|----------------|-----------|---------|---------|---------|---------|---------|------------|-------------------------------|--------------------------------------------|---------|-----------------|--------------|
| 1T 351.1S     | 1.800          | 500       | 560     | 890     | 213     | 478     | 33      | 2          | 6.013                         | 7,6                                        | 155     | 83              | 180          |
| 2T 351.1S     | 2.500          | 500       | 790     | 1.040   | 269     | 515     | 29      | 2          | 7.700                         | 9,7                                        | 166     | 90              | 225          |
| 2,5T 351.1S   | 3.200          | 500       | 790     | 1.100   | 269     | 515     | 33      | 3          | 7.700                         | 9,7                                        | 177     | 98              | 290          |
| 1T 351.1.3S   | 1.800          | 500       | 560     | 890     | 213     | 478     | 33      | 2          | 6.013                         | 7,6                                        | 155     | 83              | 180          |
| 2T 351.1.3S   | 2.500          | 500       | 790     | 1.040   | 269     | 515     | 29      | 2          | 7.700                         | 9,7                                        | 166     | 90              | 225          |
| 2,5T 351.1.3S | 3.200          | 500       | 790     | 1.100   | 269     | 515     | 33      | 3          | 7.700                         | 9,7                                        | 177     | 98              | 290          |

### Preferential range

Rotators with higher rotating speeds available upon request.



## Rotator T391 - 360° endless

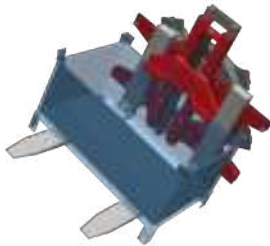
| Model      | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm | B<br>mm | C<br>mm | H<br>mm | I<br>mm | K<br>mm | ISO<br>cl. | Torque<br>Md Δp=<br>125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|------------|-----------------------------------|--------------------------------------------|---------|-----------------|--------------|
| 1T 391.2   | 1.800          | 500       | ± 100   | 780     | 780     | 858     | 213     | 294     | 32      | 2          | 6.013                             | 7,6                                        | 192     | 99              | 199          |
|            |                |           |         |         | 890     |         |         |         |         |            |                                   |                                            |         | 101             | 205          |
| 2T 391.1   | 2.500          | 500       | ± 100   | 790     | 1.040   | 858     | 269     | 492     | 32      | 2          | 7.700                             | 9,7                                        | 172     | 90              | 255          |
| 2T 391.2   | 2.500          | 500       | ± 100   | 1.000   | 1.040   | 950     | 270     | 345     | 32      | 2          | 7.700                             | 9,7                                        | 208     | 104             | 283          |
| 2,5T 391.1 | 3.200          | 500       | ± 100   | 790     | 1.100   | 850     | 269     | 492     | 40      | 3          | 7.700                             | 9,7                                        | 198     | 113             | 310          |
| 2,5T 391.2 | 3.200          | 500       | ± 100   | 1.000   | 1.100   | 1.043   | 270     | 345     | 40      | 3          | 7.700                             | 9,7                                        | 208     | 110             | 350          |
| 4T 391.2   | 5.000          | 500       | ± 100   | 1.010   | 1.100   | 1.010   | 339     | 395     | 40      | 3          | 8.950                             | 11,3                                       | 210     | 109             | 432          |
| 4,5T 391.1 | 5.000          | 500       | ± 160   | 1.110   | 1.350   | 940     | 378     | 675     | 49      | 4          | 14.823                            | 17,4                                       | 229     | 123             | 595          |
| 5T 391.2   | 6.000          | 600       | ± 160   | 1.240   | 1.350   | 1.260   | 345     | 455     | 50      | 4          | 13.434                            | 15,7                                       | 264     | 144             | 688          |
| 6T 391.2   | 6.500          | 600       | ± 160   | 1.260   | 1.350   | 1.260   | 345     | 455     | 50      | 4          | 17.157                            | 20,7                                       | 264     | 138             | 790          |
| 8T 391.2   | 8.000          | 900       | ± 160   | 1.300   | 1.600   | 1.700   | 396     | 480     | 54      | 4          | 21.679                            | 18,8                                       | 304     | 164             | 1.110        |

### Preferential range

 Rotators with higher rotating speeds available upon request. Other fork carriage widths available upon request.

## Optional

Lateral supporting fork - see page 55

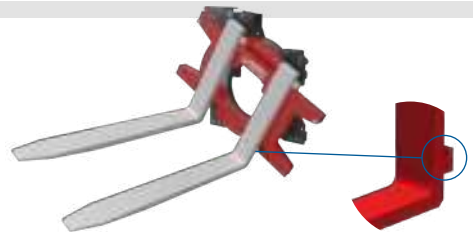


### Downhold with gripping claw 1T - 3T167

Downhold to empty metal grid boxes etc.  
Opening range (over fork) 700-1.290 mm.

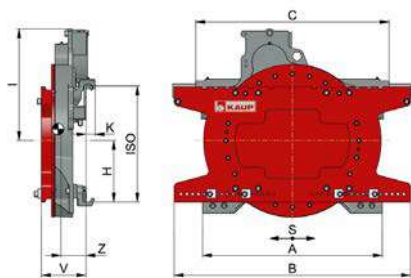
T351: incl. rotary conduit.

T391: incl. rotary conduit and solenoid valve.

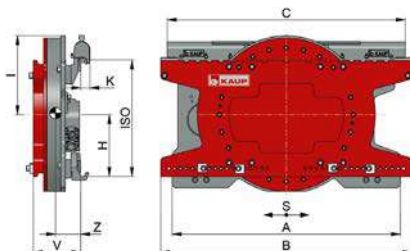


### Forks for KAUP Rotators - lower brackets strengthened

When forks are used in combination with a Rotator extremely high strain is applied to the lower fork angle when rotating a load which in turn strains the lower brackets. For this type of operation KAUP recommends forks with strengthened lower brackets. Strengthened lower brackets can be ordered for all ISO forks on pages 120 and 121.



T391.1G

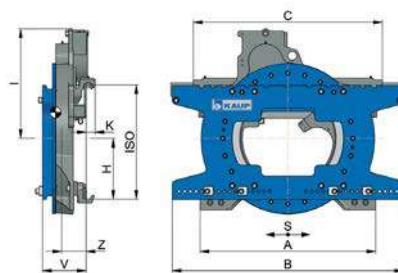


T391.2G

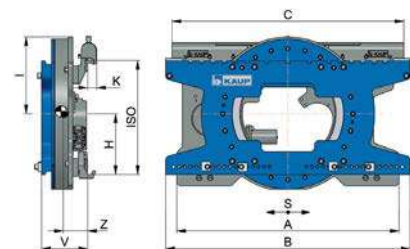
## Rotator T391G - 360° endless - foundry version

| Model       | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm | B<br>mm | C<br>mm | H<br>mm | I<br>mm | K<br>mm | ISO<br>cl. | Torque<br>Md Δp=125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|------------|-------------------------------|--------------------------------------------|---------|-----------------|--------------|
| 1T 391.2G   | 1.800          | 500       | ± 100   | 800     | 890     | 858     | 203     | 410     | 32      | 2          | 6.013                         | 7,6                                        | 206     | 114             | 276          |
| 2T 391.1G   | 2.500          | 500       | ± 100   | 800     | 1.040   | 880     | 269     | 492     | 32      | 2          | 7.700                         | 9,7                                        | 204     | 115             | 327          |
| 2T 391.1G   | 2.500          | 500       | ± 100   | 800     | 1.150   | 880     | 269     | 492     | 32      | 2          | 7.700                         | 9,7                                        | 204     | 116             | 335          |
| 2,5T 391.1G | 3.200          | 500       | ± 100   | 800     | 1.100   | 850     | 269     | 492     | 40      | 3          | 7.700                         | 9,7                                        | 205     | 121             | 420          |
| 3,5T 391.1G | 4.000          | 500       | ± 100   | 1.060   | 1.100   | 1.060   | 381     | 539     | 43      | 3          | 11.815                        | 13,8                                       | 210     | 117             | 544          |
| 4T 391.1G   | 5.000          | 500       | ± 100   | 1.110   | 1.100   | 940     | 378     | 595     | 43      | 3          | 14.823                        | 17,4                                       | 218     | 113             | 610          |
| 4,5T 391.1G | 5.000          | 500       | ± 160   | 1.110   | 1.350   | 940     | 378     | 695     | 49      | 4          | 14.823                        | 17,4                                       | 238     | 128             | 723          |
| 5T 391.2G   | 6.000          | 600       | ± 160   | 1.240   | 1.350   | 1.260   | 345     | 455     | 50      | 4          | 13.434                        | 15,7                                       | 275     | 156             | 804          |
| 6T 391.2G   | 6.500          | 600       | ± 160   | 1.260   | 1.350   | 1.260   | 345     | 455     | 50      | 4          | 17.157                        | 20,7                                       | 275     | 147             | 925          |
| 8T 391.2G   | 8.000          | 900       | ± 160   | 1.300   | 1.600   | 1.700   | 396     | 480     | 54      | 4          | 21.679                        | 18,8                                       | 304     | 165             | 1.145        |

Dust proof versions and foundry rotators up to 40T upon request. Other fork carriage widths available upon request. Rotators with higher rotating speeds available upon request.



T391.1S

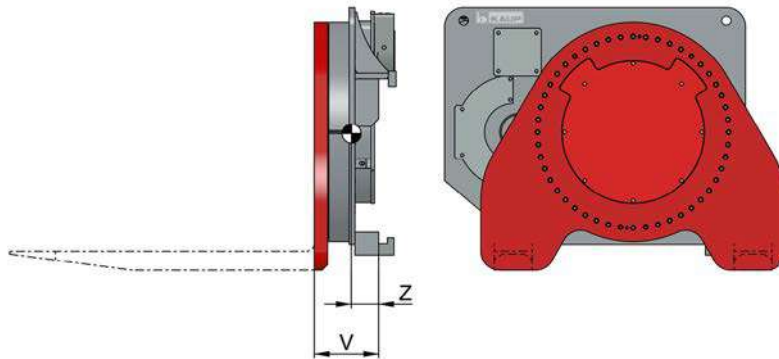


T391.2S

## Rotator T391S - T391.3S 360° endless - fishing version

| Model         | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm | B<br>mm | C<br>mm | H<br>mm | I<br>mm | K<br>mm | ISO<br>cl. | Torque<br>Md Δp=125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|---------------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|------------|-------------------------------|--------------------------------------------|---------|-----------------|--------------|
| 1T 391.2S     | 1.800          | 500       | ± 100   | 780     | 890     | 858     | 213     | 294     | 32      | 2          | 6.013                         | 7,6                                        | 192     | 99              | 198          |
| 2T 391.1S     | 2.500          | 500       | ± 100   | 790     | 1.040   | 858     | 269     | 492     | 32      | 2          | 7.700                         | 9,7                                        | 172     | 90              | 255          |
| 2,5T 391.1S   | 3.200          | 500       | ± 100   | 790     | 1.100   | 850     | 269     | 492     | 40      | 3          | 7.700                         | 9,7                                        | 197     | 108             | 318          |
| 1T 391.2.3S   | 1.800          | 500       | ± 100   | 780     | 890     | 858     | 213     | 294     | 32      | 2          | 6.013                         | 7,6                                        | 192     | 99              | 198          |
| 2T 391.1.3S   | 2.500          | 500       | ± 100   | 790     | 1.040   | 858     | 269     | 492     | 32      | 2          | 7.700                         | 9,7                                        | 172     | 90              | 255          |
| 2,5T 391.1.3S | 3.200          | 500       | ± 100   | 790     | 1.100   | 850     | 269     | 492     | 40      | 3          | 7.700                         | 9,7                                        | 197     | 108             | 318          |

Rotators with higher rotating speeds available upon request.



## Rotator from 10T351 - 360° endless

| Model  | Capacity<br>kg | LCD<br>mm | Torque<br>Md Δp=<br>125 bar<br>Nm | Oil volume<br>required<br>per revolution<br>litr. | V<br>mm | CofG <sup>1)</sup><br>Z<br>mm | Weight <sup>1)</sup><br>kg |
|--------|----------------|-----------|-----------------------------------|---------------------------------------------------|---------|-------------------------------|----------------------------|
| 10T351 | 12.000         | 900       | 28.000                            | 15                                                | 440     | 250                           | 1.910                      |
| 15T351 | 15.000         | 900       | 56.000                            | 30                                                | 450     | 460                           | 2.335                      |
| 20T351 | 22.000         | 900       | 60.000                            | 60                                                | 465     | 350                           | 3.650                      |
| 25T351 | 24.000         | 1.200     | 60.000                            | 60                                                | 465     | 270                           | 4.850                      |
| 30T351 | 28.000         | 1.200     | 90.000                            | 120                                               | 465     | 270                           | 4.940                      |
| 35T351 | 25.000         | 1.600     | 90.000                            | 120                                               | 495     | 305                           | 5.490                      |
| 42T351 | 30.000         | 1.600     | 90.000                            | 120                                               | 505     | 325                           | 5.840                      |
| 52T351 | 36.000         | 1.600     | 120.000                           | 240                                               | 525     | 500                           | 7.040                      |

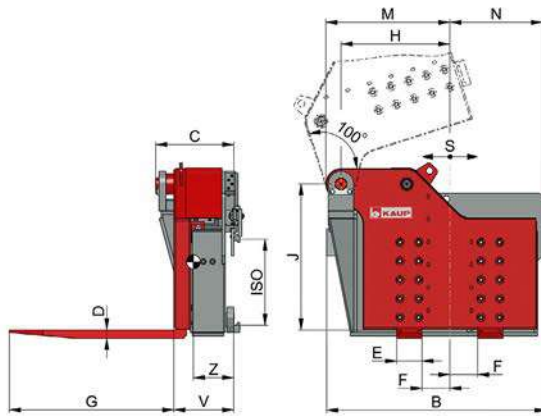
With sideshift function model T391 available upon request. Other capacities available upon request.

<sup>1)</sup> CofG and weight measurements do not take the forks into account.

 In order to draw up an exact quotation for a large rotator to meet your requirements we require detailed information. Therefore it is advisable to contact our project team directly for a quotation.







## Ladle Tipper T360 - tilt angle $\alpha = 100^\circ$ to the right side in driving direction

| Modell  | Capacity<br>kg | LCD<br>mm | S<br>mm | B<br>mm | D<br>mm | E<br>mm | G<br>mm | F<br>mm | C<br>mm | H<br>mm | J<br>mm | M<br>mm | N<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|---------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T 360  | 800            | 500       | ± 100   | 820     | 40      | 100     | 1.000   | 150     | 297     | 320     | 465     | 150     | 365     | 2          | 250     | 220             | 295          |
| 2T 360  | 1.500          | 500       | ± 100   | 1.040   | 50      | 150     | 1.000   | 210     | 390     | 545     | 760     | 635     | 400     | 2          | 314     | 263             | 675          |
| 3T 360  | 2.500          | 500       | ± 160   | 1.285   | 50      | 150     | 1.000   | 330     | 460     | 645     | 900     | 735     | 550     | 3          | 356     | 239             | 1.085        |
| 5T 360  | 4.000          | 600       | ± 200   | 1.890   | 60      | 160     | 1.000   | 175     | 630     | 880     | 890     | 990     | 525     | 4          | 460     | 282             | 1.430        |
| 7T 360  | 6.000          | 600       | ± 200   | 1.890   | 70      | 200     | 1.000   | 195     | 630     | 880     | 890     | 990     | 525     | 4          | 470     | 315             | 1.780        |
| 10T 360 | 7.500          | 600       | ± 200   | 1.775   | 80      | 200     | 1.000   | 480     | 670     | 910     | 1.035   | 1.045   | 730     | 4          | 565     | 385             | 2.600        |
| 12T 360 | 9.000          | 700       | ± 275   | 1.975   | 90      | 200     | 1.400   | 350     | 748     | 895     | 950     | 1.015   | 870     | -          | 620     | 415             | 3.300        |

Optional available for tilting to the left side in driving direction. Terminal West / Pin-Type mounting available upon request.



## Casting Device for Foundry Ladles T360G

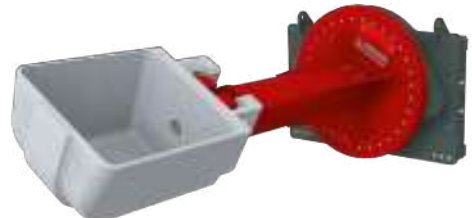
To empty ladles to both sides and forwards

| Model      | Capacity<br>kg | LCD<br>mm | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|-----------------|--------------|
| 1,5T 360 G | 750            | 850       | 120     | 510             | 400          |
| 2T 360 G   | 1.300          | 850       | 120     | 505             | 590          |
| 4T 360 G   | 2.000          | 1.150     | 160     | 850             | 1.060        |
| 6T 360 G   | 5.000          | 815       | 180     | 610             | 1.960        |
| 8T 360 G   | 5.000          | 1.500     | 200     | 1.240           | 2.800        |

Further Casting Devices for Foundry Ladles in various sizes, versions as well as with different rotation or tilt angles available upon request.

## Charging Device T355 / T395

For charging furnaces with additives - available with hydraulic locking of bucket (upon request).



Charging Devices T355 and T395 (with sideshift) in various capacities and versions (upon request).

# CLAMPS

## KAUP Clamps

Due to the KAUP Modular Build System, all clamps can be combined with rotators (models T451 - T458) and/or with additional sideshift function (models T491 - T498). They feature independent sideshift function as standard (see page 13).

All clamps feature lifting lugs which also serve as fixing points for load backrests. KAUP Clamps are always fitted with manometer gauge and clamp valve. This valve incorporates an adjustable pressure relief valve for the function "clamping" and a preset pressure reducer for the function "clamp open" to prevent arm damage which could occur if the pressure in the cylinder is too high when activating the function "open clamp".

### Overview Clamps

### Page

Fork Clamps, Harbour Clamps,  
Fork Clamps with turnable Forks



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Slip-on Arms



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Block & Brick Clamps



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Bale Clamps,  
Recycling Bale Clamps,  
Foam Rubber Clamps



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Appliance- / Carton Clamps



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Drum Clamps,  
Drum Tipping Clamps



84 - 87

Cask Handler



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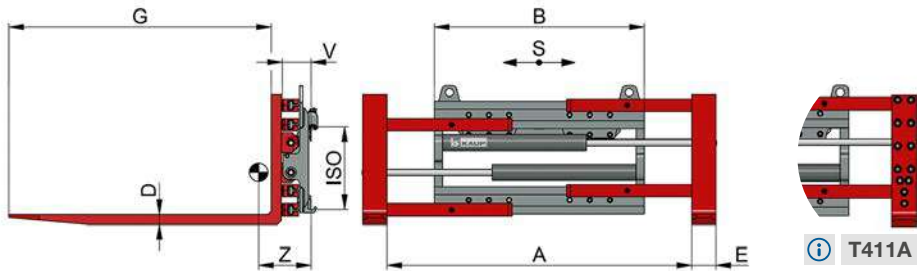


## Recommended Oil flow rates and Pressures

### Clamps

| Attachment              | Page   | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] |
|-------------------------|--------|---------------------------------------|---------|------|----------------------------------------|
|                         |        | min.                                  | optimum | max. |                                        |
| 1T 411 / D              | 63/65  | 20                                    | 30      | 45   | 180                                    |
| 1,5T 411 / D            | 63/65  | 20                                    | 30      | 45   | 180                                    |
| 2T 411 / D              | 63/65  | 20                                    | 30      | 45   | 180                                    |
| 2,5T 411 AH             | 64     | 20                                    | 30      | 45   | 200                                    |
| 3T 411 / D              | 63/65  | 25                                    | 40      | 60   | 180                                    |
| 4T 411                  | 63     | 25                                    | 40      | 60   | 180                                    |
| 4,5T 411                | 63     | 25                                    | 40      | 60   | 180                                    |
| 4,5T 411.1              | 63     | 25                                    | 40      | 60   | 180                                    |
| 4,8T 411                | 63     | 25                                    | 40      | 60   | 180                                    |
| 5T 411                  | 63     | 45                                    | 60      | 70   | 180                                    |
| 6T 411 B                | 63     | 45                                    | 60      | 70   | 180                                    |
| 8T 411 B                | 63     | 45                                    | 60      | 70   | 180                                    |
| 2T 106 AH-90° / -180°   | 67     | 10                                    | 15      | 20   | 180                                    |
| 4T 106 AH-90° / -180°   | 67     | 15                                    | 20      | 25   | 180                                    |
| 1,5T 412                | 68-71  | 20                                    | 30      | 45   | 180                                    |
| 2T 412                  | 68-71  | 20                                    | 30      | 45   | 180                                    |
| 3T 412                  | 68-71  | 25                                    | 40      | 60   | 180                                    |
| 4,5T 412                | 68-71  | 25                                    | 40      | 60   | 180                                    |
| 5T 412                  | 68-71  | 45                                    | 60      | 70   | 180                                    |
| 1T 413 xx               | 78, 80 | 20                                    | 30      | 45   | 180                                    |
| 1,5T 413 xx             | 72-80  | 20                                    | 30      | 45   | 180                                    |
| 2T 413 xx               | 72-80  | 20                                    | 30      | 45   | 180                                    |
| 3T 413 xx               | 72-80  | 25                                    | 40      | 60   | 180                                    |
| 4T 413 xx               | 73-77  | 25                                    | 40      | 60   | 180                                    |
| 4,5T 413 xx             | 73-77  | 25                                    | 40      | 60   | 180                                    |
| 4,8T 413 xx             | 73-77  | 25                                    | 40      | 60   | 180                                    |
| 5T 413 xx               | 73-75  | 45                                    | 60      | 70   | 180                                    |
| 5,5T 413 xx             | 75-77  | 45                                    | 60      | 70   | 180                                    |
| 6T 413 xx               | 75-77  | 45                                    | 60      | 70   | 180                                    |
| 6,5T 413 xx             | 75-77  | 45                                    | 60      | 70   | 180                                    |
| 8T 413 xx               | 75-77  | 45                                    | 60      | 70   | 180                                    |
| 1T 413 GT               | 80     | 15                                    | 20      | 25   | 180                                    |
| 1,5T 413 GT             | 80     | 15                                    | 20      | 25   | 180                                    |
| 2T 413 GT / 414 GT      | 80-81  | 15                                    | 20      | 25   | 180                                    |
| 3T 413 GT / 414 GT      | 80-81  | 15                                    | 20      | 25   | 180                                    |
| 2T 413 G-2H             | 81     | 15                                    | 20      | 25   | 180                                    |
| 1,5T 414                | 82-83  | 20                                    | 30      | 45   | 180                                    |
| 2T 414                  | 82-83  | 20                                    | 30      | 45   | 180                                    |
| 0,3T 405 / 0,3T 405/130 | 86-87  | 15                                    | 20      | 25   | 180                                    |
| 1,5T 406                | 85     | 20                                    | 30      | 45   | 160                                    |
| 2T 406                  | 85     | 20                                    | 30      | 45   | 160                                    |
| 1T 415                  | 84     | 20                                    | 30      | 45   | 180                                    |
| 1,5T 415                | 84     | 20                                    | 30      | 45   | 180                                    |
| 2T 415                  | 84/87  | 20                                    | 30      | 45   | 180                                    |
| 0,3T 445 F              | 86     | 10                                    | 15      | 20   | 180                                    |
| 0,8T 445 F              | 86     | 10                                    | 15      | 20   | 180                                    |
| 0,3T 415 W/WD           | 88     | 10                                    | 15      | 20   | 180                                    |
| 0,6T 415 W              | 88     | 10                                    | 15      | 20   | 180                                    |





## Fork Clamp T411

The Fork Clamp can be used for the transportation of palletised goods as well as for clamping purposes. Slip-on arms in different versions easily turn the Fork Clamp into a special clamp.

| Model      | Capacity of forks kg | Capacity as clamp kg | LCD mm | S mm    | A mm      | B mm  | D mm | E mm | G mm  | ISO cl. | V mm | CofG Z mm | Weight kg |
|------------|----------------------|----------------------|--------|---------|-----------|-------|------|------|-------|---------|------|-----------|-----------|
| 1T 411     | 1.500                | 700                  | 500    | ± 100   | 340-1.300 | 750   | 40   | 100  | 1.200 | 2       | 133  | 268       | 236       |
|            |                      |                      |        |         | 340-1.520 | 970   |      |      |       |         |      | 251       | 258       |
|            |                      |                      |        |         | 350-1.700 | 1.130 |      |      |       |         |      | 244       | 269       |
|            |                      |                      |        |         | 330-1.730 | 1.200 |      |      |       |         |      | 241       | 273       |
| 1,5T 411   | 2.300                | 1.250                | 500    | ± 100   | 320-1.500 | 970   | 45   | 120  | 1.200 | 2       | 133  | 266       | 323       |
|            |                      |                      |        |         | 40- 940   | 970   |      |      |       |         |      | 254       | 312       |
|            |                      |                      |        |         | 330-1.680 | 1.130 |      |      |       |         |      | 253       | 335       |
|            |                      |                      |        |         | 90-1.270  | 1.200 |      |      |       |         |      | 252       | 336       |
| 1,5T 401   | 2.300                | 1.250                | 500    | without | 310-1.710 | 1.200 | 45   | 120  | 1.200 | 2       | 126  | 270       | 339       |
|            |                      |                      |        |         | 260-1.260 | 850   |      |      |       |         |      | 260       | 300       |
|            |                      |                      |        |         | 280-1.380 | 970   |      |      |       |         |      | 262       | 384       |
|            |                      |                      |        |         | 320-1.820 | 1.330 |      |      |       |         |      | 250       | 412       |
| 2T 411     | 2.800                | 2.000                | 500    | ± 100   | 320-1.620 | 1.130 | 50   | 120  | 1.200 | 2/3     | 143  | 257       | 396       |
|            |                      |                      |        |         | 70-1.120  | 1.130 |      |      |       |         |      | 259       | 391       |
|            |                      |                      |        |         | 120-1.420 | 1.330 |      |      |       |         |      | 252       | 408       |
|            |                      |                      |        |         | 320-1.820 | 1.330 |      |      |       |         |      | 250       | 412       |
| 2T 401     | 2.800                | 2.000                | 500    | without | 300-1.300 | 850   | 50   | 120  | 1.200 | 2/3     | 136  | 282       | 339       |
|            |                      |                      |        |         | 260-1.560 | 1.130 |      |      |       |         |      | 245       | 510       |
|            |                      |                      |        |         | 260-1.760 | 1.330 |      |      |       |         |      | 249       | 529       |
|            |                      |                      |        |         | 130-1.630 | 1.460 |      |      |       |         |      | 245       | 539       |
| 3T 411     | 3.600                | 2.500                | 500    | ± 100   | 260-1.890 | 1.460 | 50   | 150  | 1.200 | 3       | 152  | 245       | 541       |
|            |                      |                      |        |         | 260-1.560 | 1.130 |      |      |       |         |      | 245       | 572       |
|            |                      |                      |        |         | 260-1.760 | 1.330 |      |      |       |         |      | 240       | 591       |
|            |                      |                      |        |         | 130-1.630 | 1.460 |      |      |       |         |      | 237       | 603       |
| 4T 411     | 4.150                | 2.900                | 500    | ± 100   | 260-1.890 | 1.460 | 50   | 150  | 1.200 | 3       | 162  | 236       | 606       |
|            |                      |                      |        |         | 230-1.480 | 1.200 |      |      |       |         |      | 253       | 689       |
|            |                      |                      |        |         | 250-1.650 | 1.330 |      |      |       |         |      | 248       | 709       |
|            |                      |                      |        |         | 120-1.520 | 1.460 |      |      |       |         |      | 245       | 725       |
| 4,5T 411   | 5.000                | 3.500                | 500    | ± 100   | 220-1.720 | 1.460 | 60   | 150  | 1.200 | 3       | 188  | 244       | 728       |
|            |                      |                      |        |         | 260-1.890 | 1.550 |      |      |       |         |      | 241       | 744       |
|            |                      |                      |        |         | 230-1.480 | 1.200 |      |      |       |         |      | 249       | 677       |
|            |                      |                      |        |         | 250-1.650 | 1.330 |      |      |       |         |      | 245       | 695       |
| 4,5T 411.1 | 5.000                | 3.500                | 500    | ± 100   | 220-1.720 | 1.460 | 60   | 150  | 1.200 | 3       | 178  | 242       | 711       |
|            |                      |                      |        |         | 260-1.890 | 1.550 |      |      |       |         |      | 239       | 724       |
|            |                      |                      |        |         | 230-1.480 | 1.200 |      |      |       |         |      | 249       | 677       |
|            |                      |                      |        |         | 250-1.650 | 1.330 |      |      |       |         |      | 245       | 695       |
| 4,8T411    | 5.000                | 3.200                | 600    | ± 100   | 220-1.720 | 1.460 | 60   | 150  | 1.200 | 3       | 178  | 242       | 711       |
|            |                      |                      |        |         | 260-1.890 | 1.550 |      |      |       |         |      | 239       | 724       |
|            |                      |                      |        |         | 230-1.480 | 1.200 |      |      |       |         |      | 249       | 677       |
|            |                      |                      |        |         | 250-1.650 | 1.330 |      |      |       |         |      | 245       | 695       |
| 5T 411     | 6.200                | 3.500                | 600    | ± 160   | 240-1.740 | 1.460 | 70   | 150  | 1.200 | 4       | 176  | 244       | 855       |
|            |                      |                      |        |         | 280-1.910 | 1.550 |      |      |       |         |      | 242       | 868       |
|            |                      |                      |        |         | 550-2.450 | 1.550 |      |      |       |         |      | 234       | 933       |
|            |                      |                      |        |         | 280-2.180 | 1.820 |      |      |       |         |      | 236       | 905       |
| 6T 411B    | 8.000                | 4.800                | 600    | ± 160   | 180-1.810 | 1.550 | 60   | 200  | 1.200 | 4       | 219  | 238       | 1.410     |
|            |                      |                      |        |         | 140-2.040 | 1.860 |      |      |       |         |      | 229       | 1.499     |
|            |                      |                      |        |         | 340-2.440 | 1.860 |      |      |       |         |      | 229       | 1.506     |
|            |                      |                      |        |         | 310-2.510 | 2.200 |      |      |       |         |      | 232       | 1.820     |
| 8T 411B    | 8.000/900*           | 6.500                | 600    | VSS     | 310-2.510 | 2.200 | 70   | 200  | 1.200 | 4       | 258  | 232       | 1.820     |

### Preferential range

\*Capacity of forks 8.000 kg at LCD 900 mm.  
Available without sideshift - model T401.

 **Model T411A with screw-on forks**  
available upon request

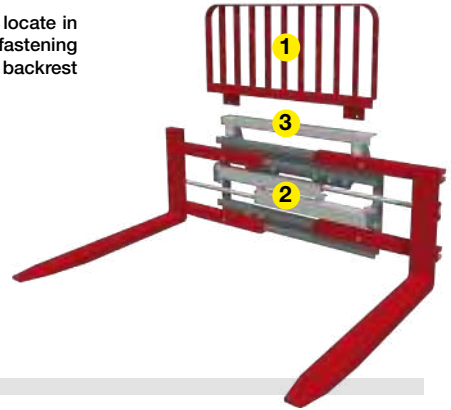


## Accessories for Clamps

### Options for retrofitting or upgrading for every transportation task

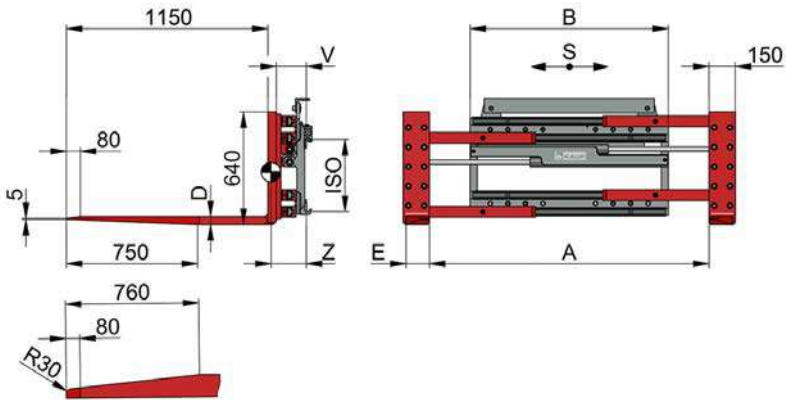
#### Load Backrest T479

Load backrests (1) can be easily retrofitted on existing clamps. They locate in the top mounting rings provided on the clamp body as standard. The fastening and spacer elements are inserted through the mounting ring and the backrest is secured with the two M16 bolts provided.



#### Heavy Duty

KAUP Clamps can be individually fitted for the most demanding tasks. A cylinder protection (2), cylinder and piston rod protection (3), depending on the application of the clamp can be fitted to all models in order to reduce damages and to maximise the availability of the attachment.



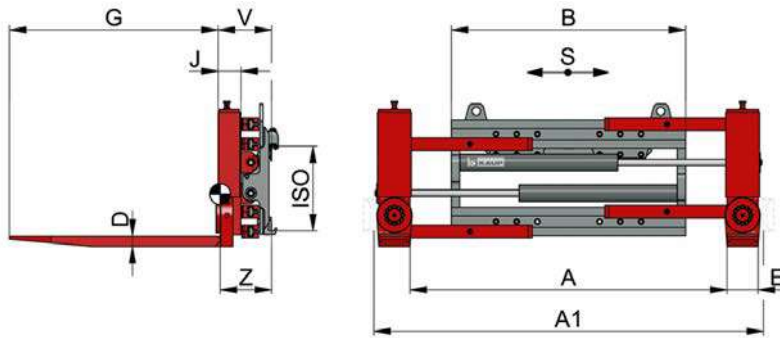
#### Harbour Clamp T411AH - with bolt-on forks - fork length 1.150 mm

The Harbour Clamp is a special version of the Fork Clamp. The carrying part of the fork, in addition to the normal tapering to about 2/3 of the fork length, it is also tapered in the fork width. This makes it possible to also pick up transport goods stored tightly next to each other.

| Model      | Capacity of forks kg | Capacity as clamp kg | LCD mm | S* mm | A mm      | B mm  | D mm | E mm | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|------------|----------------------|----------------------|--------|-------|-----------|-------|------|------|---------|------|-----------|------------------------|-----------|
| 2,5T 411AH | 3.000                | 1.600                | 500    | ± 100 | 200-1.380 | 1.130 | 45   | 125  | 2/3     | 176  | 191       | 224                    | 416       |
| 2,5T 411AH | 3.000                | 1.600                | 500    | ± 100 | 320-1.620 | 1.130 | 45   | 125  | 2/3     | 176  | 191       | 224                    | 417       |

#### Preferential range

\*Also available with valveblock sideshift dependent on opening range.  
Also available without sideshift, model T401AH.



## Fork Clamp with Turnable Forks T411D - fork length max. 1.300 mm

The Fork Clamp with Turnable Forks is a very versatile attachment, as the carrying part of the forks is turnable by  $\pm 90^\circ$ . The forks can be swivelled manually or hydraulically (only available in ISO class 2). Therefore the Fork Clamp with Turnable Forks is suitable for fork operation (transport of palletised goods, grate boxes etc.) as well as for clamping bales, boxes and cartons. If the carrying parts are turned only  $45^\circ$  a prism is formed which allows easy transportation of drums or other cylindrical objects.

| Model     | Capacity of forks kg | Capacity as clamp kg | LCD mm | S mm      | A mm      | B mm  | D mm | E mm | G mm  | A1 mm     | J mm | ISO cl. | V mm | CofG Z mm | Weight kg |
|-----------|----------------------|----------------------|--------|-----------|-----------|-------|------|------|-------|-----------|------|---------|------|-----------|-----------|
| 1T 411D   | 1.500                | 700                  | 500    | $\pm 100$ | 310-1.490 | 970   | 40   | 100  | 1.200 | 580-1.760 | 110  | 2       | 248  | 245       | 331       |
| 1,5T 411D | 2.000                | 1.250                | 500    | $\pm 100$ | 110-1.110 | 970   | 40   | 120  | 1.200 | 400-1.400 | 110  | 2       | 248  | 267       | 343       |
|           |                      |                      |        |           | 290-1.470 | 970   |      |      |       | 580-1.760 |      |         |      | 263       | 353       |
|           |                      |                      |        |           | 300-1.650 | 1.130 |      |      |       | 590-1.940 |      |         |      | 257       | 364       |
|           |                      |                      |        |           | 280-1.680 | 1.200 |      |      |       | 570-1.970 |      |         |      | 254       | 369       |
| 2T 411D   | 2.800                | 2.000                | 500    | $\pm 100$ | 220-1.420 | 1.040 | 50   | 150  | 1.200 | 570-1.770 | 110  | 2/3     | 258  | 305       | 450       |
|           |                      |                      |        |           | 130-1.330 | 1.130 |      |      |       | 480-1.680 |      |         |      | 302       | 456       |
|           |                      |                      |        |           | 230-1.530 | 1.130 |      |      |       | 580-1.880 |      |         |      | 301       | 458       |
|           |                      |                      |        |           | 230-1.730 | 1.330 |      |      |       | 580-2.080 |      |         |      | 294       | 473       |
| 3T 411D   | 3.600                | 2.500                | 500    | $\pm 100$ | 225-1.525 | 1.130 | 60   | 150  | 1.200 | 605-1.905 | 130  | 3       | 288  | 287       | 573       |
|           |                      |                      |        |           | 225-1.855 | 1.460 |      |      |       | 605-2.235 |      |         |      | 276       | 604       |

### Preferential range

Hydraulically turnable forks available upon request. Slip-on arms for the forks see page 66 and 67. Also available without sideshift, model T401D.

### Handling goods on pallets

In the basic position the forks of this clamp are similar to other fork clamps and fork positioners with forks and can be used for handling palletized goods, grate boxes and other loads that can be taken up by forks.

### Handling cylindrical goods

When the carrying parts of the forks are swivelled by  $45^\circ$  a prism is formed which allows easy handling of drums or other cylindrical goods.

### Handling non-palletized goods

When the carrying parts of the forks are swivelled by  $90^\circ$ , the attachment can be used to clamp bales, boxes, cartons, etc.



## Slip-on Arms

KAUP can supply suitable slip-on arms for nearly every KAUP Fork Clamp and nearly every material handling task regardless if for transportation of pallets or drums or for clamping different kinds of loads.

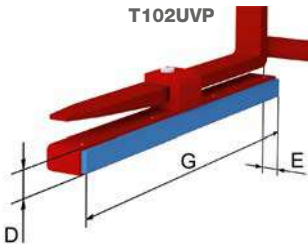
As slip-on arms are customised to your requirements and applications the following examples only show part of the extensive KAUP product range for slip-on arms.

### Block Arms T102UVP

underslung version with vulcollan lining

| Model      | Length<br>G<br>mm | Reduction of opening |                           | Weight<br>per pair<br>kg |  |
|------------|-------------------|----------------------|---------------------------|--------------------------|--|
|            |                   | Height<br>D<br>mm    | range<br>per side E<br>mm |                          |  |
| 2T 102 UVP | 1.200             | 70                   | 70                        | 124                      |  |

Preferential range



### Block & Brick Arms T102UH

underslung version with mechano-hydraulic equilibration

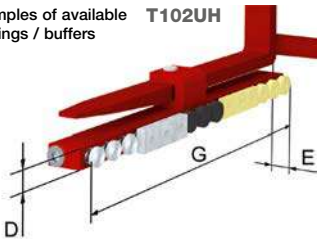
| Model     | Length<br>G*<br>mm | Reduction of opening |                           | Weight<br>per pair<br>kg |  |
|-----------|--------------------|----------------------|---------------------------|--------------------------|--|
|           |                    | Height<br>D*<br>mm   | range<br>per side E<br>mm |                          |  |
| 2T 102 UH | 1.265              | 60/75/80             | 50                        | 170                      |  |

\*Height D depends on coating / buffers: HG = Rubber coating Ø 75 mm, HV = Polyurethane coating Ø 75 mm, HV-Q = Square Polyurethane buffers 75 x 75 mm, HS = Steel disc Ø 65 mm, HS-Q = Square steel buffers 80 x 80 mm.

\*Length G depends on the number of pistons ( ):

available arm length 937 (11), 1.019 (12), 1.101 (13), 1.183 (14), 1.265 (15)

Examples of available coatings / buffers



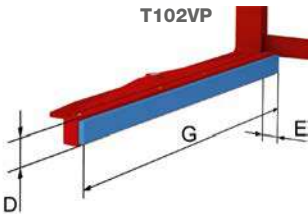
### Block Arms T102VP

slip-on version with vulcollan linings

| Model                   | Length<br>G<br>mm | Reduction of opening |                           | Weight<br>per pair<br>kg |  |
|-------------------------|-------------------|----------------------|---------------------------|--------------------------|--|
|                         |                   | Height<br>D<br>mm    | range<br>per side E<br>mm |                          |  |
| 1T 102 VP               | 1.200             | 70                   | 105                       | 80                       |  |
| 2T 102 VP               | 1.200             | 70                   | 110                       | 80                       |  |
| 3T 102 VP               | 1.200             | 70                   | 110                       | 80                       |  |
| 1T 102 VP <sup>1)</sup> | 1.200             | 150                  | 105                       | 108                      |  |
| 2T 102 VP <sup>1)</sup> | 1.200             | 150                  | 110                       | 108                      |  |
| 3T 102 VP <sup>1)</sup> | 1.200             | 150                  | 110                       | 108                      |  |

Preferential range

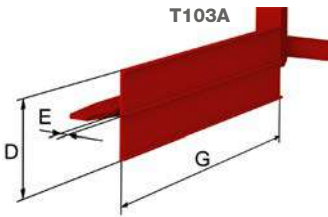
<sup>1)</sup> Double high arms



### Bale Arms T103A

slip-on version

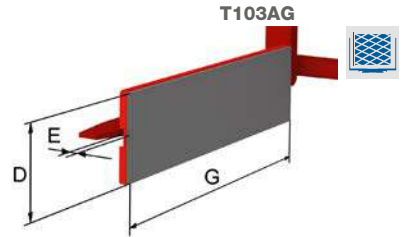
| Model    | Length<br>G<br>mm | Reduction of opening |                           | Weight<br>per pair<br>kg |  |
|----------|-------------------|----------------------|---------------------------|--------------------------|--|
|          |                   | Height<br>D<br>mm    | range<br>per side E<br>mm |                          |  |
| 1T 103 A | 700               | 200                  | 25                        | 36                       |  |
| 2T 103 A | 800               | 400                  | 25                        | 62                       |  |
| 3T 103 A | 800               | 400                  | 25                        | 64                       |  |



## Bale Arms T103AG

gripping nap strap coated, slip-on version

| Model     | Length<br>G<br>mm | Height<br>D<br>mm | Reduction of opening<br>range<br>per side E<br>mm | Weight<br>per pair<br>kg |
|-----------|-------------------|-------------------|---------------------------------------------------|--------------------------|
| 1T 103 AG | 700               | 200               | 25                                                | 38                       |
| 2T 103 AG | 800               | 400               | 25                                                | 64                       |
| 3T 103 AG | 800               | 400               | 25                                                | 66                       |



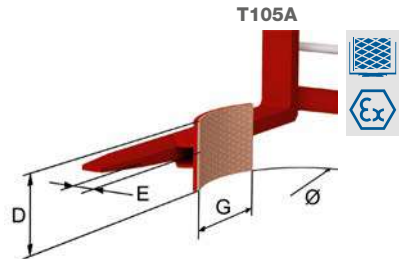
## Drum Arms T105A

slip-on version, for handling of cylindrical steel drums\* - rubber coated

| Model      | Number<br>of<br>drums | for<br>Ø<br>mm | Length<br>G<br>mm | Height<br>D<br>mm | Arm-<br>overhang<br>per side E<br>mm | Weight<br>per pair<br>kg |
|------------|-----------------------|----------------|-------------------|-------------------|--------------------------------------|--------------------------|
| 1T 105-1 A | 1                     | 560-630        | 300               | 200               | 80                                   | 26                       |
| 2T 105-1 A | 1                     | 560-630        | 300               | 200               | 75                                   | 26                       |

Preferential range

\*special designs available for transportation of plastic drums (upon request).  
Drum arms for other diameters available upon request.

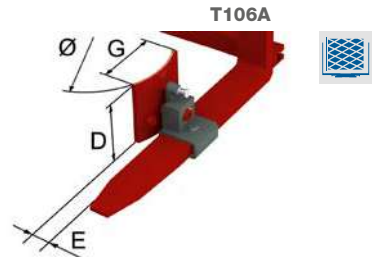


## Rotating Drum / Roll Arms T106A

slip-on version - mechanically tiltable

| Model    | for<br>Ø<br>mm | Length<br>G<br>mm | Height<br>D<br>mm | Arm-<br>overhang<br>per side E<br>mm | Weight<br>per pair<br>kg |
|----------|----------------|-------------------|-------------------|--------------------------------------|--------------------------|
| 2T 106-A | 560 - 630      | 400               | 210               | 120                                  | 44                       |
| 4T 106-A | 560 - 630      | 400               | 210               | 120                                  | 48                       |

Rotating roll arms for other diameters available upon request.

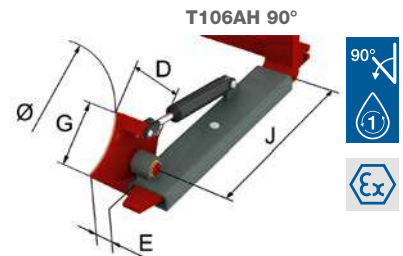


## Rotating Drum / Roll Arms T106AH 90°

slip-on version - hydraulically tiltable up to 90°

| Model       | No. of<br>hydr.<br>arms | for<br>Ø<br>mm | Length<br>G<br>mm | Height<br>D<br>mm | E <sup>1)</sup><br>mm | J <sup>2)</sup><br>mm | Weight<br>per pair<br>kg |
|-------------|-------------------------|----------------|-------------------|-------------------|-----------------------|-----------------------|--------------------------|
| 2T106AH90   | 1                       | 560-630        | 400               | 250               | 120                   | 700                   | 102                      |
| 2T106A-2H90 | 2                       | 560-630        | 400               | 250               | 120                   | 700                   | 132                      |
| 4T106A-2H90 | 2                       | 560-630        | 400               | 250               | 120                   | 700                   | 140                      |

<sup>1)</sup> Arm-overhang per side. <sup>2)</sup> Minimum distance to fork shank.

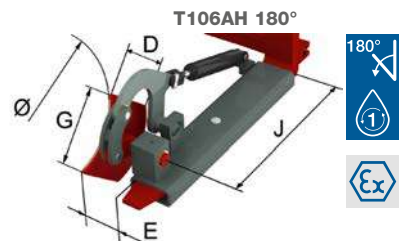


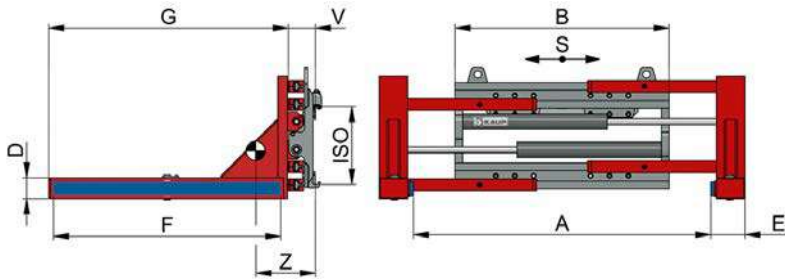
## Rotating Drum / Roll Arms T106AH 180°

slip-on version - hydraulically tiltable up to 180°

| Model        | No. of<br>hydr.<br>arms | for<br>Ø<br>mm | Length<br>G<br>mm | Height<br>D<br>mm | E <sup>1)</sup><br>mm | J <sup>2)</sup><br>mm | Weight<br>per pair<br>kg |
|--------------|-------------------------|----------------|-------------------|-------------------|-----------------------|-----------------------|--------------------------|
| 2T106AH180   | 1                       | 560-630        | 400               | 250               | 180                   | 800                   | 120                      |
| 2T106A-2H180 | 2                       | 560-630        | 400               | 250               | 180                   | 800                   | 148                      |
| 4T106A-2H180 | 2                       | 560-630        | 400               | 250               | 180                   | 800                   | 158                      |

<sup>1)</sup> Arm-overhang per side. <sup>2)</sup> Minimum distance to fork shank.



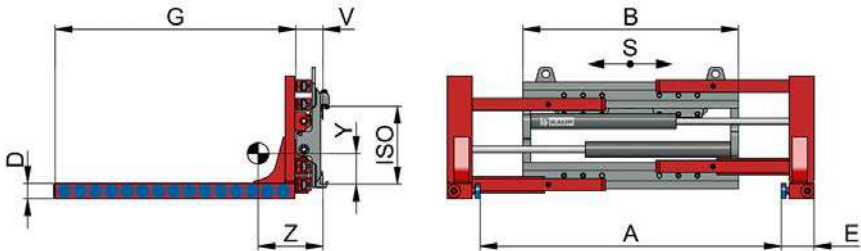


## Block Clamp T412V - with polyurethane lining and parallel compensation

Block stacks are clamped from the sides. In order to reduce pressure to the load as well as spot load on the blocks, which often have not completely dried, the arms of this type are provided with an easy-to-replace vulkollan bar suspended swivelling in the centre to compensate for dimensional variations of the load.

| Model      | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | F<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|-----------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1,5T 412 V | 1.250          | 500       | ± 100   | 220-1.400 | 970     | 110     | 180     | 1.200   | 1.265   | 2          | 133     | 335             | 420          |
| 2T 412 V   | 2.000          | 500       | ± 100   | 270-1.570 | 1.130   | 110     | 180     | 1.200   | 1.265   | 2/3        | 143     | 314             | 475          |
| 3T 412 V   | 2.500          | 500       | ± 100   | 270-1.570 | 1.130   | 110     | 180     | 1.200   | 1.265   | 3          | 152     | 289             | 546          |
|            |                |           |         | 270-1.900 | 1.460   |         |         |         |         |            |         | 277             | 577          |
| 4,5T 412 V | 3.200          | 600       | ± 100   | 290-1.790 | 1.330   | 110     | 180     | 1.200   | 1.265   | 3          | 188     | 266             | 702          |
|            |                |           |         | 290-1.920 | 1.460   |         |         |         |         |            |         | 262             | 722          |
| 5T 412 V   | 3.500          | 600       | ± 160   | 230-1.860 | 1.550   | 110     | 180     | 1.200   | 1.265   | 4          | 176     | 219             | 825          |

**Preferential range** Also available without sideshift, model T402V.  
Variations in arm dimensions upon request.



## Block & Brick Clamp T412H - with mechano-hydraulic equilibration pistons

The arm is formed as a chamber filled with grease. Small pistons, being spring-loaded for retaining in zero position, plunge into these chambers. Any dimensional variations of the load are compensated among one another by the opposite motions of the pistons. Both material and geometrical shape of the buffers can easily be adapted to the particular load and readily be replaced.

| Model      | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G <sup>1)</sup><br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|-----------|---------|---------|---------|-----------------------|------------|---------|-----------------|------------------------------|--------------|
| 1,5T 412 H | 1.250          | 500       | ± 100   | 260-1.440 | 970     | 80      | 175     | 1.024                 | 2          | 133     | 287             | 161                          | 422          |
| 2T 412 H   | 2.000          | 500       | ± 100   | 270-1.570 | 1.130   | 80      | 175     | 1.188                 | 2/3        | 143     | 310             | 160                          | 481          |
|            |                |           |         |           |         |         |         | 1.270                 |            |         | 334             | 156                          | 492          |
| 3T 412 H   | 2.500          | 500       | ± 100   | 230-1.530 | 1.130   | 80      | 195     | 1.270                 | 3          | 152     | 333             | 170                          | 609          |
|            |                |           |         | 230-1.860 | 1.460   |         |         |                       |            |         | 323             | 173                          | 636          |
| 4,5T 412 H | 3.200          | 600       | ± 100   | 240-1.740 | 1.330   | 80      | 195     | 1.270                 | 3          | 188     | 297             | 187                          | 770          |
|            |                |           |         | 240-1.870 | 1.460   |         |         |                       |            |         | 291             | 190                          | 795          |
| 5T 412 H   | 3.500          | 600       | ± 160   | 220-1.850 | 1.550   | 80      | 205     | 1.270                 | 4          | 176     | 230             | 276                          | 920          |

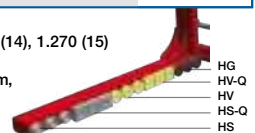
**Preferential range** Also available without sideshift, model T402H.

<sup>1)</sup> Fig. G<sup>1)</sup> depends on the number of pistons ( ), available arm length 942 (11), 1.024 (12), 1.106 (13), 1.188 (14), 1.270 (15)

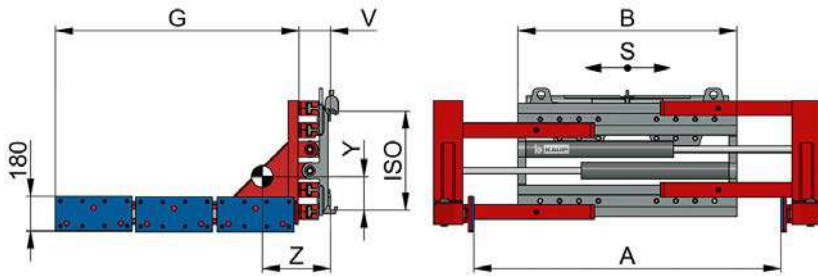
Available with cylinder- and sideshift protection upon request.

HG = Rubber coating Ø 75, HV = Polyurethane coating Ø 75, HV-Q = Square Polyurethane buffers 75 x 75 mm,

HS = steel disc Ø 65, HS-Q = Square steel buffers 80 x 80 mm



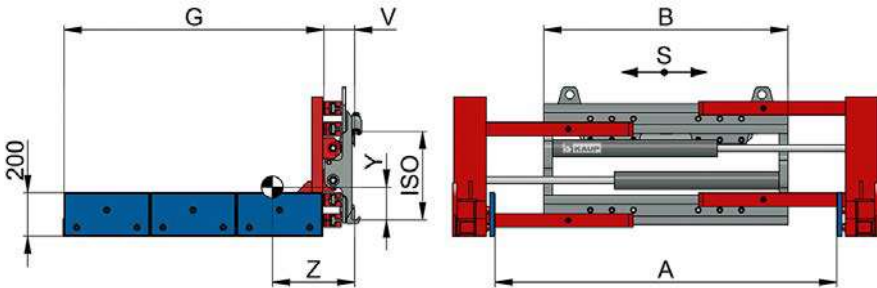




### Block Clamp T412V-3 - with mechanical equilibration plates with Vulcollan coating

| Model      | Capacity kg | LCD mm | S mm  | A mm        | B mm  | G mm  | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|------------|-------------|--------|-------|-------------|-------|-------|---------|------|-----------|------------------------|-----------|
| 2T 412 V-3 | 2.000       | 500    | ± 100 | 275 - 1.575 | 1.130 | 1.260 | 2/3     | 143  | 365       | 160                    | 560       |
| 3T 412 V-3 | 2.500       | 500    | ± 100 | 295 - 1.595 | 1.130 | 1.260 | 3       | 152  | 338       | 176                    | 630       |

Variations in arm dimensions upon request.  
Also available without sideshift, model T402V-3.



### Block Clamp T412HP - with mechano-hydraulic equilibration plates

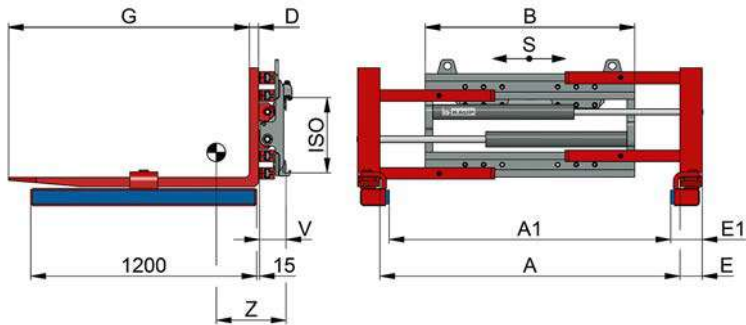
Each of the arms consists of three mechano-hydraulic equilibration plates (400 x 200 mm). Typically they are manufactured from bulb plate, thus the clamp is excellently suited for handling 400 x 200 x 200 mm blocks. Depending on the particular application, polyurethane coated contact surfaces are available.

| Model       | Capacity kg | LCD mm | S mm              | A mm      | B mm  | G mm  | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|-------------|-------------|--------|-------------------|-----------|-------|-------|---------|------|-----------|------------------------|-----------|
| 2T 412 HP   | 2.000       | 500    | ± 100             | 260-1.560 | 1.130 | 1.200 | 2/3     | 143  | 394       | 145                    | 585       |
| 3T 412 HP   | 2.500       | 500    | ± 100             | 280-1.580 | 1.130 | 1.200 | 3       | 152  | 373       | 152                    | 633       |
| 4,5T 412 HP | 3.200       | 600    | ± 100             | 310-1.710 | 1.330 | 1.200 | 3       | 189  | 322       | 189                    | 914       |
| 5T 412 HP   | 3.500       | 600    | ± 160             | 200-1.800 | 1.460 | 1.200 | 4       | 178  | 287       | 248                    | 1.009     |
| 5T 412 BHP  | 3.900       | 600    | VSS <sup>1)</sup> | 300-1.600 | 1.300 | 1.200 | 4       | 211  | 285       | 293                    | 1.212     |

Preferential range

Also available without sideshift - model T402HP.

<sup>1)</sup> VSS = Valveblock sideshift dependent on opening range (see page 13).



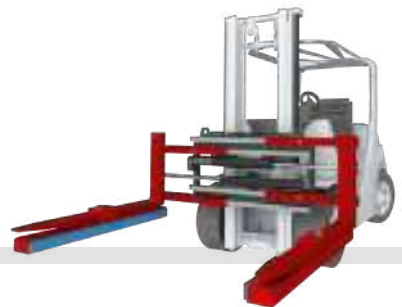
## Block Clamp T412UVP - with slip-on underslung arms - to handle building material

This clamp is primarily intended to be used in the construction industry, where picking up pallets and handling block stacks frequently alternate. Underslung Block & Brick Clamp arms are mounted to the fork by means of bolts in a way that they can swivel. The arms can readily be dismounted by pulling out the bolts so that the clamp is ready for handling pallets.

| Model       | Capacity of forks kg | Capacity as clamp kg | LCD mm | S mm  | A1 mm     | A mm      | B mm  | D mm | E mm | E1 mm | G mm  | ISO cl. | V mm | CofG Z mm | Weight kg |
|-------------|----------------------|----------------------|--------|-------|-----------|-----------|-------|------|------|-------|-------|---------|------|-----------|-----------|
| 1,5T 412UVP | 2.300                | 1.250                | 500    | ± 100 | 180-1.360 | 320-1.500 | 970   | 45   | 120  | 190   | 1.200 | 2       | 133  | 400       | 451       |
| 2T 412UVP   | 2.800                | 2.000                | 500    | ± 100 | 180-1.480 | 320-1.620 | 1.130 | 50   | 120  | 190   | 1.200 | 2/3     | 143  | 376       | 522       |
| 3T 412UVP   | 3.600                | 2.500                | 500    | ± 100 | 120-1.420 | 260-1.560 | 1.130 | 50   | 150  | 220   | 1.200 | 3       | 152  | 354       | 625       |
| 3T 412UVP   | 3.600                | 2.500                | 500    | ± 100 | 120-1.620 | 260-1.760 | 1.330 | 50   | 150  | 220   | 1.200 | 3       | 152  | 350       | 644       |
| 3T 412UVP   | 3.600                | 2.500                | 500    | ± 100 | 120-1.750 | 260-1.890 | 1.460 | 50   | 150  | 220   | 1.200 | 3       | 152  | 348       | 656       |
| 4,5T 412UVP | 5.000/500*           | 3.200                | 600    | ± 100 | 70-1.570  | 220-1.720 | 1.460 | 60   | 150  | 225   | 1.200 | 3       | 188  | 351       | 895       |
| 5T 412UVP   | 6.200                | 3.500                | 600    | ± 160 | 130-1.760 | 280-1.910 | 1.550 | 70   | 150  | 225   | 1.200 | 4       | 176  | 327       | 1.055     |

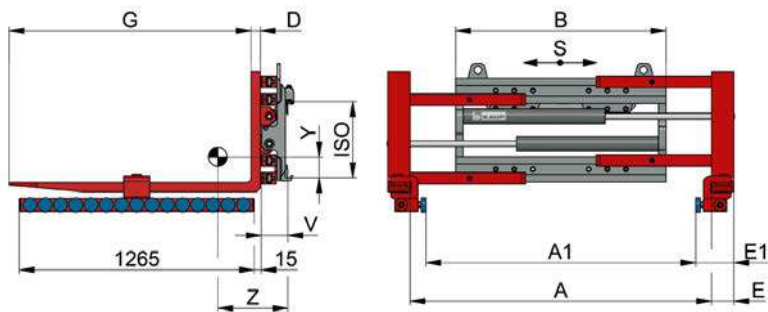
### Preferential range

\*Capacity of forks 5.000 kg at LCD 500 mm.  
Also available without sideshift, model T402UVP.



# T412 UVP





## Block & Brick Clamp T412UH

with slip-on underslung Block & Brick Arms with mechano-hydraulic equilibration

This clamp is primarily intended to be used in the construction industry, where picking up pallets and handling block stacks frequently alternate. The underslung Block & Brick Arms with mechano-hydraulic equilibration are suited for handling small format blocks and arms are mounted to the fork by means of bolts in a way that they can swivel. The arms can readily be dismantled by pulling out the bolts so that the clamp is ready for handling pallets.

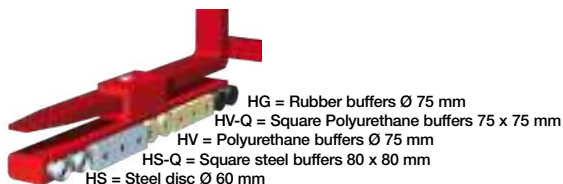
| Model      | Capacity of forks kg | Capacity as clamp kg | LCD mm | S mm  | A1 mm     | A mm      | B mm  | D mm | E mm | E1 mm | G mm  | ISO cl. | V mm | CofG Z mm | CofG Y mm | Weight kg |
|------------|----------------------|----------------------|--------|-------|-----------|-----------|-------|------|------|-------|-------|---------|------|-----------|-----------|-----------|
| 1,5T 412UH | 2.300                | 1.250                | 500    | ± 100 | 140-1.320 | 320-1.500 | 970   | 45   | 120  | 210   | 1.200 | 2       | 133  | 456       | 74        | 500       |
| 2T 412UH   | 2.800                | 2.000                | 500    | ± 100 | 140-1.440 | 320-1.620 | 1.130 | 50   | 120  | 210   | 1.200 | 2/3     | 143  | 432       | 89        | 564       |
| 3T 412UH   | 3.600                | 2.500                | 500    | ± 100 | 80-1.380  | 260-1.560 | 1.130 | 50   | 150  | 235   | 1.200 | 3       | 152  | 406       | 113       | 679       |
| 3T 412UH   | 3.600                | 2.500                | 500    | ± 100 | 80-1.580  | 260-1.760 | 1.330 | 50   | 150  | 235   | 1.200 | 3       | 152  | 397       | 117       | 698       |
| 3T 412UH   | 3.600                | 2.500                | 500    | ± 100 | 80-1.710  | 260-1.890 | 1.460 | 50   | 150  | 235   | 1.200 | 3       | 152  | 391       | 120       | 710       |
| 4,5T 412UH | 5.000/500*           | 3.200                | 600    | ± 100 | 40-1.540  | 220-1.720 | 1.460 | 60   | 150  | 240   | 1.200 | 3       | 188  | 370       | 142       | 895       |
| 5T 412UH   | 6.200                | 3.500                | 600    | ± 160 | 100-1.730 | 280-1.910 | 1.550 | 70   | 150  | 240   | 1.200 | 4       | 176  | 343       | 201       | 1.060     |

### Preferential range

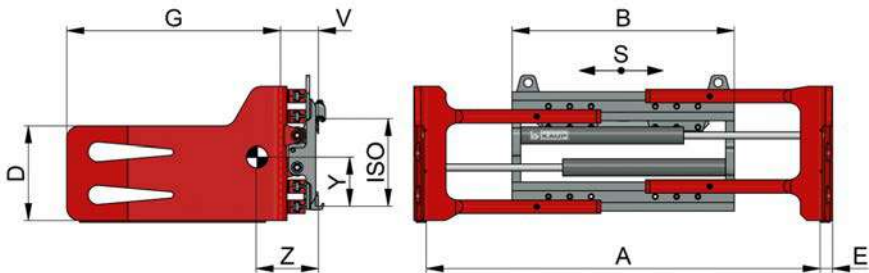
\*Capacity of forks 5.000 kg at LCD 500 mm.  
Also available without sideshift, model T402UH.



Examples of available coatings / buffers - the armlength depends on the number of pistons (see model T102UH on page 66):



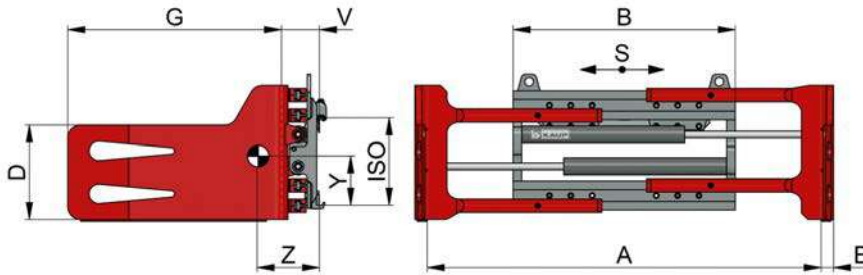
Clamping scheme for mechano-hydraulic equilibration



## Bale Clamp, Pulp Bale Clamp T413

Bale Clamps allow palletless handling of bales, e.g. pulp, paper, recycled paper or bales of tobacco. The inner sides of the arms are designed to meet the exact transportation requirements. As a rule, both arms of the Bale Clamp are fixed, whereby at least one arm of the larger Pulp Bale Clamps is swivelling.

| Model    | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|
| 1,5T 413 | 1.400          | 500       | ± 100   | 495-1.675 | 970     | 440     | 37      | 800     | 2          | 163     | 227             | 236                          | 354          |
|          |                |           |         |           |         |         |         | 1.000   |            |         | 289             | 228                          | 390          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 359             | 227                          | 436          |
| 1,5T 413 | 1.400          | 500       | ± 100   | 425-1.605 | 1.040   | 440     | 37      | 800     | 2          | 163     | 227             | 235                          | 358          |
|          |                |           |         |           |         |         |         | 1.000   |            |         | 289             | 227                          | 394          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 358             | 226                          | 440          |
| 1,5T 413 | 1.400          | 500       | ± 100   | 495-1.745 | 1.040   | 440     | 37      | 800     | 2          | 163     | 226             | 235                          | 359          |
|          |                |           |         |           |         |         |         | 1.000   |            |         | 288             | 227                          | 395          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 358             | 226                          | 441          |
| 1,5T 413 | 1.400          | 500       | ± 100   | 480-1.880 | 1.200   | 440     | 37      | 800     | 2          | 163     | 222             | 235                          | 377          |
|          |                |           |         |           |         |         |         | 1.000   |            |         | 283             | 227                          | 413          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 351             | 226                          | 459          |
| 2T 413   | 2.100          | 500       | ± 100   | 575-1.875 | 1.040   | 440     | 42      | 1.000   | 2/3        | 178     | 292             | 228                          | 462          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 363             | 228                          | 520          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 360             | 228                          | 525          |
| 2T 413   | 2.100          | 500       | ± 100   | 485-1.785 | 1.130   | 440     | 42      | 1.000   | 2/3        | 178     | 290             | 228                          | 467          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 360             | 228                          | 525          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 352             | 229                          | 540          |
| 2T 413   | 2.100          | 500       | ± 100   | 485-1.985 | 1.330   | 440     | 42      | 1.000   | 2/3        | 178     | 283             | 229                          | 482          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 352             | 229                          | 540          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 333             | 231                          | 578          |
| 3T 413   | 2.500          | 500       | ± 100   | 575-1.975 | 1.130   | 470     | 47      | 1.000   | 2/3        | 182     | 271             | 248                          | 582          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 336             | 241                          | 636          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 469             | 233                          | 728          |
| 3T 413   | 2.500          | 500       | ± 100   | 605-2.235 | 1.330   | 470     | 47      | 1.000   | 2/3        | 182     | 265             | 248                          | 602          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 328             | 241                          | 655          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 460             | 234                          | 746          |
| 3T 413   | 2.500          | 500       | ± 100   | 645-2.445 | 1.460   | 470     | 47      | 1.000   | 2/3        | 182     | 257             | 249                          | 631          |
|          |                |           |         |           |         |         |         | 1.200   |            |         | 318             | 242                          | 685          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 446             | 235                          | 775          |
| 4T 413   | 3.000          | 500       | ± 100   | 575-1.975 | 1.130   | 470     | 47      | 1.200   | 3          | 192     | 325             | 283                          | 709          |
|          |                |           |         |           |         |         |         | 1.400   |            |         | 392             | 277                          | 773          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 449             | 271                          | 802          |
| 4T 413   | 3.000          | 500       | ± 100   | 475-1.975 | 1.330   | 470     | 47      | 1.200   | 3          | 192     | 319             | 283                          | 728          |
|          |                |           |         |           |         |         |         | 1.400   |            |         | 385             | 278                          | 792          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 441             | 272                          | 820          |
| 4T 413   | 3.000          | 500       | ± 100   | 605-2.235 | 1.330   | 470     | 47      | 1.200   | 3          | 192     | 318             | 283                          | 731          |
|          |                |           |         |           |         |         |         | 1.400   |            |         | 384             | 278                          | 795          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 440             | 272                          | 822          |
| 4T 413   | 3.000          | 500       | ± 100   | 635-2.435 | 1.460   | 470     | 47      | 1.200   | 3          | 192     | 311             | 285                          | 756          |
|          |                |           |         |           |         |         |         | 1.400   |            |         | 375             | 279                          | 820          |
|          |                |           |         |           |         |         |         | 1.600   |            |         | 430             | 273                          | 847          |



## Bale Clamp, Pulp Bale Clamp T413

| Model    | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|
| 4,5T 413 | 3.200          | 600       | ± 100   | 595-1.995 | 1.200   | 470     | 52      | 1.200   | 3          | 223     | 325             | 242                          | 829          |
|          | 2.740          | 700       |         |           |         |         |         | 1.400   |            |         | 389             | 237                          | 890          |
|          | 2.400          | 800       |         |           |         |         |         | 1.600   |            |         | 444             | 236                          | 946          |
| 4,5T 413 | 3.200          | 600       | ± 100   | 465-1.865 | 1.330   | 470     | 52      | 1.200   | 3          | 223     | 321             | 241                          | 841          |
|          | 2.740          | 700       |         |           |         |         |         | 1.400   |            |         | 385             | 236                          | 902          |
|          | 2.400          | 800       |         |           |         |         |         | 1.600   |            |         | 440             | 235                          | 958          |
| 4,5T 413 | 3.200          | 600       | ± 100   | 695-2.325 | 1.330   | 470     | 52      | 1.200   | 3          | 223     | 313             | 242                          | 878          |
|          | 2.740          | 700       |         |           |         |         |         | 1.400   |            |         | 375             | 237                          | 940          |
|          | 2.400          | 800       |         |           |         |         |         | 1.600   |            |         | 428             | 236                          | 995          |
| 4,5T 413 | 3.200          | 600       | ± 100   | 565-2.195 | 1.460   | 470     | 52      | 1.200   | 3          | 223     | 316             | 241                          | 861          |
|          | 2.740          | 700       |         |           |         |         |         | 1.400   |            |         | 379             | 236                          | 922          |
|          | 2.400          | 800       |         |           |         |         |         | 1.600   |            |         | 433             | 235                          | 978          |
| 4,5T 413 | 3.200          | 600       | ± 100   | 765-2.595 | 1.460   | 470     | 52      | 1.200   | 3          | 223     | 309             | 242                          | 897          |
|          | 2.740          | 700       |         |           |         |         |         | 1.400   |            |         | 370             | 237                          | 958          |
|          | 2.400          | 800       |         |           |         |         |         | 1.600   |            |         | 422             | 236                          | 1.014        |
| 4,8T 413 | 2.630          | 800       | ± 100   | 695-2.325 | 1.330   | 470     | 52      | 1.600   | 3          | 213     | 424             | 276                          | 1.013        |
|          | 2.330          | 900       |         |           |         |         |         | 1.800   |            |         | 493             | 274                          | 1.092        |
| 4,8T 413 | 2.630          | 800       | ± 100   | 565-2.195 | 1.460   | 470     | 52      | 1.600   | 3          | 213     | 428             | 276                          | 996          |
|          | 2.330          | 900       |         |           |         |         |         | 1.800   |            |         | 499             | 273                          | 1.075        |
| 5T 413   | 3.300          | 700       | ± 160   | 545-2.175 | 1.550   | 470     | 52      | 1.400   | 4          | 213     | 349             | 296                          | 1.046        |
|          | 2.900          | 800       |         |           |         |         |         | 1.600   |            |         | 402             | 293                          | 1.115        |
| 5T 413   | 3.300          | 700       | ± 160   | 545-2.445 | 1.820   | 470     | 52      | 1.400   | 4          | 213     | 341             | 297                          | 1.081        |
|          | 2.900          | 800       |         |           |         |         |         | 1.600   |            |         | 392             | 294                          | 1.150        |

### Preferential range

Also available without sideshift, model T403.

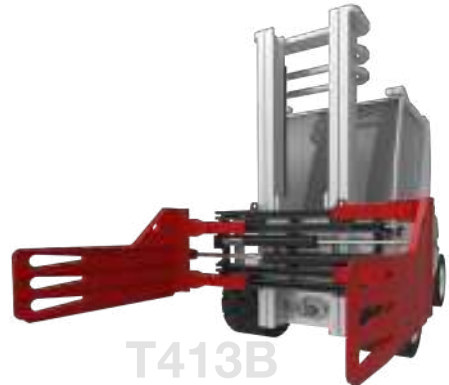
Bale clamps with higher capacities available upon request (see page 75).

Variations in width, opening ranges and arm dimensions available upon request.

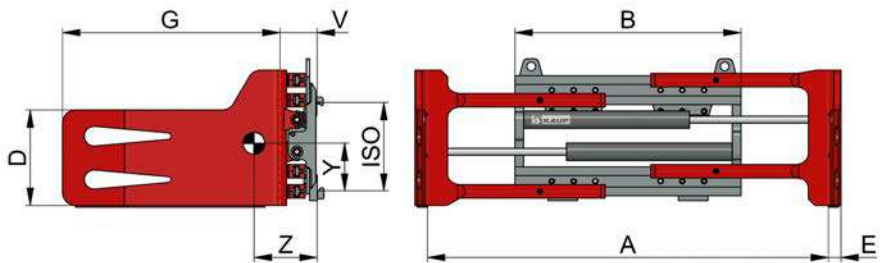
Special version for Big Bags, based on the KAUP Bale Clamp, are also available.



T413

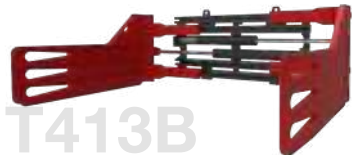


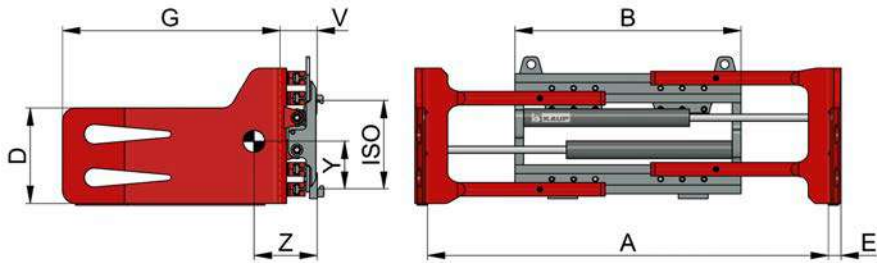
T413B



## Bale Clamp, Pulp Bale Clamp T413

| Model    | Capacity<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | VS<br>max<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|----------|----------------|-----------|-----------|---------|---------|---------|---------|-----------------|------------|---------|-----------------|------------------------------|--------------|
| 1,5 T413 | 1.400          | 500       | 495-1.675 | 970     | 440     | 37      | 800     | ± 295           | 2          | 156     | 225             | 229                          | 352          |
|          |                |           | 495-1.675 |         |         |         | 1.000   |                 |            |         | 288             | 221                          | 388          |
|          |                |           | 495-1.675 |         |         |         | 1.200   |                 |            |         | 359             | 220                          | 433          |
| 1,5 T413 | 1.400          | 500       | 425-1.605 | 1.040   | 440     | 37      | 800     | ± 295           | 2          | 156     | 224             | 228                          | 356          |
|          |                |           | 425-1.605 |         |         |         | 1.000   |                 |            |         | 286             | 220                          | 392          |
|          |                |           | 425-1.605 |         |         |         | 1.200   |                 |            |         | 356             | 219                          | 437          |
| 1,5 T413 | 1.400          | 500       | 495-1.745 | 1.040   | 440     | 37      | 800     | ± 312,5         | 2          | 156     | 223             | 228                          | 357          |
|          |                |           | 495-1.745 |         |         |         | 1.000   |                 |            |         | 285             | 220                          | 393          |
|          |                |           | 495-1.745 |         |         |         | 1.200   |                 |            |         | 355             | 219                          | 438          |
| 1,5 T413 | 1.400          | 500       | 480-1.880 | 1.200   | 440     | 37      | 800     | ± 350           | 2          | 156     | 218             | 228                          | 368          |
|          |                |           | 480-1.880 |         |         |         | 1.000   |                 |            |         | 280             | 220                          | 404          |
|          |                |           | 480-1.880 |         |         |         | 1.200   |                 |            |         | 348             | 219                          | 449          |
| 2T 413   | 2.100          | 500       | 575-1.875 | 1.040   | 440     | 42      | 1.000   | ± 325           | 2/3        | 171     | 288             | 220                          | 458          |
|          |                |           | 575-1.875 |         |         |         | 1.200   |                 |            |         | 359             | 222                          | 516          |
| 2T 413   | 2.100          | 500       | 485-1.785 | 1.130   | 440     | 42      | 1.000   | ± 325           | 2/3        | 171     | 286             | 221                          | 463          |
|          |                |           | 485-1.785 |         |         |         | 1.200   |                 |            |         | 356             | 222                          | 521          |
| 2T 413   | 2.100          | 500       | 485-1.985 | 1.330   | 440     | 42      | 1.000   | ± 375           | 2/3        | 171     | 279             | 222                          | 477          |
|          |                |           | 485-1.985 |         |         |         | 1.200   |                 |            |         | 349             | 223                          | 536          |
| 2T 413   | 2.100          | 500       | 595-2.395 | 1.520   | 440     | 42      | 1.000   | ± 450           | 2/3        | 171     | 263             | 225                          | 516          |
|          |                |           | 595-2.395 |         |         |         | 1.200   |                 |            |         | 329             | 226                          | 574          |
| 3T 413   | 2.500          | 500       | 575-1.975 | 1.130   | 470     | 47      | 1.000   | ± 350           | 2/3        | 175     | 282             | 235                          | 545          |
|          |                |           | 575-1.975 |         |         |         | 1.200   |                 |            |         | 349             | 228                          | 598          |
|          |                |           | 575-1.975 |         |         |         | 1.600   |                 |            |         | 487             | 222                          | 690          |
| 3T 413   | 2.500          | 500       | 605-2.235 | 1.330   | 470     | 47      | 1.000   | ± 407,5         | 2/3        | 175     | 275             | 236                          | 564          |
|          |                |           | 605-2.235 |         |         |         | 1.200   |                 |            |         | 341             | 229                          | 618          |
|          |                |           | 605-2.235 |         |         |         | 1.600   |                 |            |         | 476             | 223                          | 709          |
| 3T 413   | 2.500          | 500       | 645-2.445 | 1.460   | 470     | 47      | 1.000   | ± 450           | 2/3        | 175     | 266             | 237                          | 593          |
|          |                |           | 645-2.445 |         |         |         | 1.200   |                 |            |         | 329             | 231                          | 647          |
|          |                |           | 645-2.445 |         |         |         | 1.600   |                 |            |         | 462             | 224                          | 737          |
| 4T 413   | 3.000          | 500       | 575-1.975 | 1.130   | 470     | 47      | 1.200   | ± 350           | 3          | 185     | 332             | 279                          | 697          |
|          |                |           | 575-1.975 |         |         |         | 1.400   |                 |            |         | 399             | 274                          | 761          |
|          |                |           | 575-1.975 |         |         |         | 1.600   |                 |            |         | 457             | 267                          | 789          |
| 4T 413   | 3.000          | 500       | 475-1.975 | 1.330   | 470     | 47      | 1.200   | ± 375           | 3          | 185     | 325             | 280                          | 715          |
|          |                |           | 475-1.975 |         |         |         | 1.400   |                 |            |         | 392             | 275                          | 779          |
|          |                |           | 475-1.975 |         |         |         | 1.600   |                 |            |         | 449             | 268                          | 808          |
| 4T 413   | 3.000          | 500       | 605-2.235 | 1.330   | 470     | 47      | 1.200   | ± 407,5         | 3          | 185     | 324             | 280                          | 718          |
|          |                |           | 605-2.235 |         |         |         | 1.400   |                 |            |         | 391             | 275                          | 782          |
|          |                |           | 605-2.235 |         |         |         | 1.600   |                 |            |         | 448             | 268                          | 810          |
| 4T 413   | 3.000          | 500       | 635-2.435 | 1.460   | 470     | 47      | 1.200   | ± 450           | 3          | 185     | 317             | 281                          | 743          |
|          |                |           | 635-2.435 |         |         |         | 1.400   |                 |            |         | 382             | 276                          | 807          |
|          |                |           | 635-2.435 |         |         |         | 1.600   |                 |            |         | 437             | 270                          | 834          |





## Bale Clamp, Pulp Bale Clamp T413

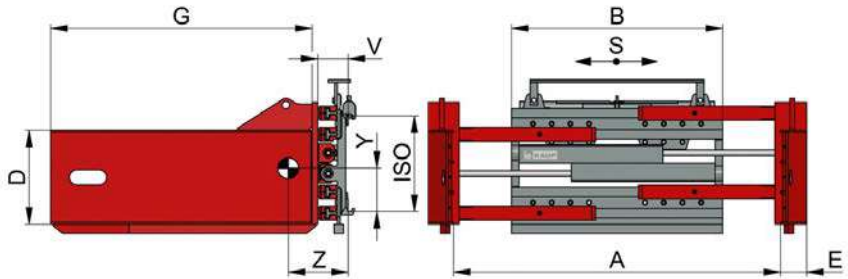
| Model     | Capacity<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | VS<br>max<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|-----------|----------------|-----------|-----------|---------|---------|---------|---------|-----------------|------------|---------|-----------------|------------------------------|--------------|
| 4,5T 413  | 3.200          | 600       | 595-1.995 | 1.200   | 470     | 52      | 1.200   | ± 350           | 3          | 216     | 323             | 241                          | 816          |
|           | 2.740          | 700       | 595-1.995 |         |         |         | 1.400   |                 |            |         | 388             | 236                          | 877          |
|           | 2.400          | 800       | 595-1.995 |         |         |         | 1.600   |                 |            |         | 443             | 235                          | 933          |
| 4,5T 413  | 3.200          | 600       | 465-1.865 | 1.330   | 470     | 52      | 1.200   | ± 350           | 3          | 216     | 319             | 240                          | 828          |
|           | 2.740          | 700       | 465-1.865 |         |         |         | 1.400   |                 |            |         | 384             | 235                          | 889          |
|           | 2.400          | 800       | 465-1.865 |         |         |         | 1.600   |                 |            |         | 439             | 235                          | 945          |
| 4,5T 413  | 3.200          | 600       | 695-2.325 | 1.330   | 470     | 52      | 1.200   | ± 407,5         | 3          | 216     | 311             | 241                          | 865          |
|           | 2.740          | 700       | 695-2.325 |         |         |         | 1.400   |                 |            |         | 373             | 236                          | 926          |
|           | 2.400          | 800       | 695-2.325 |         |         |         | 1.600   |                 |            |         | 427             | 236                          | 982          |
| 4,5T 413  | 3.200          | 600       | 565-2.195 | 1.460   | 470     | 52      | 1.200   | ± 407,5         | 3          | 216     | 314             | 240                          | 848          |
|           | 2.740          | 700       | 565-2.195 |         |         |         | 1.400   |                 |            |         | 377             | 235                          | 909          |
|           | 2.400          | 800       | 565-2.195 |         |         |         | 1.600   |                 |            |         | 432             | 234                          | 964          |
| 4,5T 413  | 3.200          | 600       | 765-2.595 | 1.460   | 470     | 52      | 1.200   | ± 457,5         | 3          | 216     | 307             | 241                          | 884          |
|           | 2.740          | 700       | 765-2.595 |         |         |         | 1.400   |                 |            |         | 368             | 236                          | 945          |
|           | 2.400          | 800       | 765-2.595 |         |         |         | 1.600   |                 |            |         | 421             | 235                          | 1.001        |
| 4,8T 413  | 2.630          | 800       | 695-2.325 | 1.330   | 470     | 52      | 1.600   | ± 407,5         | 3          | 211     | 421             | 277                          | 1.002        |
|           | 2.330          | 900       | 695-2.325 |         |         |         | 1.800   |                 |            |         | 491             | 275                          | 1.082        |
| 4,8T 413  | 2.630          | 800       | 565-2.195 | 1.460   | 470     | 52      | 1.600   | ± 407,5         | 3          | 211     | 425             | 277                          | 985          |
|           | 2.330          | 900       | 565-2.195 |         |         |         | 1.800   |                 |            |         | 496             | 274                          | 1.065        |
| 5T 413    | 2.900          | 800       | 555-2.175 | 1.550   | 470     | 52      | 1.600   | ± 405           | 4          | 211     | 419             | 269                          | 1.066        |
|           | 2.600          | 900       | 555-2.175 |         |         |         | 1.800   |                 |            |         | 484             | 261                          | 1.133        |
| 5T 413    | 2.900          | 800       | 545-2.445 | 1.820   | 470     | 52      | 1.600   | ± 475           | 4          | 211     | 409             | 270                          | 1.101        |
|           | 2.600          | 900       | 545-2.445 |         |         |         | 1.800   |                 |            |         | 472             | 263                          | 1.169        |
| 5,5T 413B | 3.300          | 800       | 625-2.525 | 1.740   | 470     | 47      | 1.600   | ± 475           | 4          | 249     | 370             | 291                          | 1.320        |
|           | 2.200          | 1.000     | 625-2.525 |         |         |         | 1.800   |                 |            |         | 420             | 281                          | 1.360        |
| 6T 413B   | 4.000          | 800       | 685-2.585 | 1.740   | 470     | 57      | 1.600   | ± 475           | 4          | 259     | 399             | 284                          | 1.453        |
|           | 3.300          | 1.000     | 685-2.585 |         |         |         | 1.800   |                 |            |         | 464             | 281                          | 1.545        |
| 6T 413B   | 4.000          | 800       | 565-2.465 | 1.860   | 470     | 57      | 1.600   | ± 475           | 4          | 259     | 394             | 285                          | 1.474        |
|           | 3.300          | 1.000     | 565-2.465 |         |         |         | 1.800   |                 |            |         | 459             | 282                          | 1.566        |
| 6T 413B   | 4.000          | 800       | 595-2.695 | 2.030   | 470     | 57      | 1.600   | ± 525           | 4          | 259     | 387             | 286                          | 1.511        |
|           | 3.300          | 1.000     | 595-2.695 |         |         |         | 1.800   |                 |            |         | 451             | 284                          | 1.602        |
| 6,5T 413B | 6.000          | 800       | 685-2.585 | 1.740   | 470     | 57      | 1.600   | ± 475           | 4          | 269     | 392             | 286                          | 1.510        |
|           | 4.000          | 1.000     | 685-2.585 |         |         |         | 1.800   |                 |            |         | 458             | 282                          | 1.561        |
| 6,5T 413B | 6.000          | 800       | 565-2.465 | 1.860   | 470     | 57      | 1.600   | ± 475           | 4          | 269     | 388             | 286                          | 1.531        |
|           | 4.000          | 1.000     | 565-2.465 |         |         |         | 1.800   |                 |            |         | 453             | 282                          | 1.582        |
| 6,5T 413B | 6.000          | 800       | 595-2.695 | 2.030   | 470     | 57      | 1.600   | ± 525           | 4          | 269     | 380             | 288                          | 1.571        |
|           | 4.000          | 1.000     | 595-2.695 |         |         |         | 1.800   |                 |            |         | 445             | 284                          | 1.619        |
| 6,5T 413B | 6.000          | 800       | 725-3.125 | 2.200   | 470     | 57      | 1.600   | ± 600           | 4          | 269     | 373             | 290                          | 1.616        |
|           | 4.000          | 1.000     | 725-3.125 |         |         |         | 1.800   |                 |            |         | 437             | 285                          | 1.659        |
| 8T 413B   | 6.500          | 1.000     | 700-3.100 | 2.200   | 560     | 82      | 1.700   | ± 600           | 4          | 340     | 481             | 337                          | 2.858        |
|           | 6.500          | 1.000     | 700-3.100 |         |         |         | 2.000   |                 |            |         | 577             | 329                          | 3.043        |

### Preferential range

Also available without sideshift, model T403.

Also available with 1 arm oscillating, model T413B-1. Bale Clamps with higher capacities available upon request. Variations in width, opening ranges and arm dimensions available upon request. Special version for Big Bags, based on the KAUP Bale Clamp, are also available.

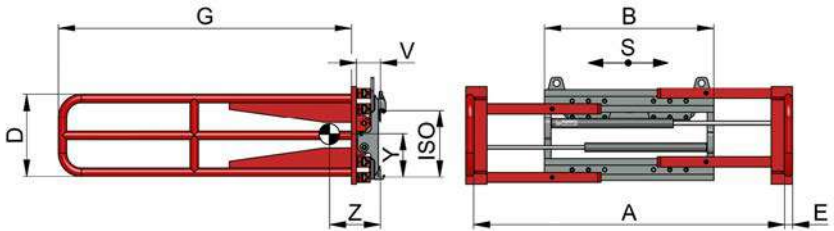




## Recycling Bale Clamp T413RC

| Model      | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|
| 2T 413RC   | 2.100          | 500       | ± 100   | 575-1.875 | 1.040   | 440     | 42      | 1.000   | 2/3        | 143     | 280             | 210                          | 573          |
|            |                |           |         |           |         |         |         | 1.200   |            |         | 346             | 212                          | 628          |
| 2T 413RC   | 2.100          | 500       | ± 100   | 485-1.785 | 1.130   | 440     | 42      | 1.000   | 2/3        | 143     | 277             | 209                          | 580          |
|            |                |           |         |           |         |         |         | 1.200   |            |         | 343             | 211                          | 635          |
| 2T 413RC   | 2.100          | 500       | ± 100   | 595-2.395 | 1.520   | 440     | 42      | 1.000   | 2/3        | 143     | 258             | 214                          | 641          |
|            |                |           |         |           |         |         |         | 1.200   |            |         | 319             | 215                          | 696          |
| 3T 413RC   | 1.790          | 700       | ± 100   | 465-1.765 | 1.130   | 500     | 130     | 1.400   | 2/3        | 153     | 371             | 221                          | 811          |
|            |                |           |         |           |         |         |         | 1.600   |            |         | 422             | 217                          | 847          |
| 3T 413RC   | 1.790          | 700       | ± 100   | 605-2.235 | 1.330   | 500     | 130     | 1.400   | 2/3        | 153     | 361             | 221                          | 840          |
|            |                |           |         |           |         |         |         | 1.600   |            |         | 410             | 217                          | 875          |
| 4T 413RC   | 2.140          | 700       | ± 100   | 565-1.965 | 1.130   | 500     | 130     | 1.400   | 3          | 163     | 370             | 257                          | 919          |
|            |                |           |         |           |         |         |         | 1.600   |            |         | 419             | 252                          | 955          |
| 4T 413RC   | 2.140          | 700       | ± 100   | 595-2.225 | 1.330   | 500     | 130     | 1.400   | 3          | 163     | 354             | 260                          | 975          |
|            |                |           |         |           |         |         |         | 1.600   |            |         | 401             | 255                          | 1.011        |
| 4,5T 413RC | 2.400          | 800       | ± 100   | 550-1.950 | 1.200   | 500     | 130     | 1.600   | 3          | 188     | 391             | 220                          | 1.025        |
|            |                |           |         |           |         |         |         | 2.000   |            |         | 489             | 214                          | 1.095        |
| 4,5T 413RC | 2.400          | 800       | ± 100   | 650-2.280 | 1.330   | 500     | 130     | 1.600   | 3          | 188     | 383             | 220                          | 1.051        |
|            |                |           |         |           |         |         |         | 2.000   |            |         | 479             | 214                          | 1.122        |
| 4,5T 413RC | 2.400          | 800       | ± 100   | 590-2.290 | 1.460   | 500     | 130     | 1.600   | 3          | 188     | 377             | 220                          | 1.072        |
|            |                |           |         |           |         |         |         | 2.000   |            |         | 471             | 214                          | 1.142        |
| 4,5T 413RC | 2.400          | 800       | ± 100   | 630-2.460 | 1.550   | 500     | 130     | 1.600   | 3          | 188     | 372             | 220                          | 1.092        |
|            |                |           |         |           |         |         |         | 2.000   |            |         | 465             | 214                          | 1.162        |

Also available without sideshift, model T403RC.

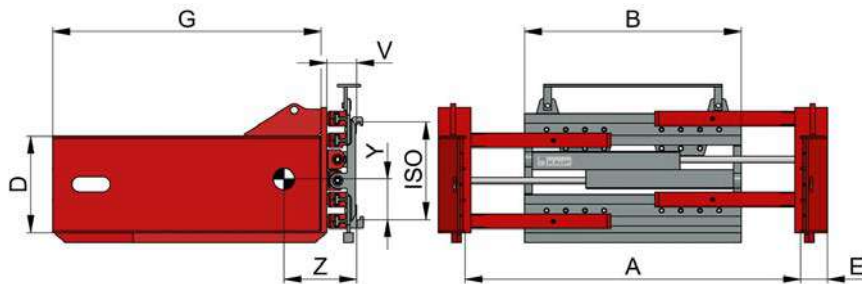


## Foam Rubber Clamp T413R

| Model     | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|-----------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|
| 1,5T 413R | 500            | 1.000     | ± 100   | 760-2.260 | 1.130   | 500     | 50      | 1.500   | 2          | 133     | 266             | 263                          | 348          |
|           |                |           |         | 840-2.460 | 1.330   | 500     | 50      | 1.500   | 2          | 133     | 259             | 262                          | 362          |
|           |                |           |         | 840-2.460 | 1.330   | 500     | 50      | 1.800   | 2          | 133     | 304             | 262                          | 372          |
| 2T 413R   | 800            | 1.000     | ± 100   | 600-1.900 | 1.040   | 500     | 50      | 1.800   | 2          | 143     | 313             | 263                          | 377          |
|           |                |           |         | 600-2.450 | 1.600   | 500     | 50      | 1.800   | 2          | 143     | 279             | 263                          | 438          |

Also available without sideshift, model T403R.

Variations in width, opening ranges and arm dimensions available upon request.



## Recycling Bale Clamp T413RC

| Model       | Capacity<br>kg | LCD<br>mm    | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm        | VS<br>max<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg   |
|-------------|----------------|--------------|-----------|---------|---------|---------|----------------|-----------------|------------|---------|-----------------|------------------------------|----------------|
| 2T 413RC    | 2.100          | 500          | 575-1.875 | 1.040   | 440     | 42      | 1.000<br>1.200 | ± 325           | 2/3        | 136     | 277<br>344      | 216<br>218                   | 566<br>620     |
| 2T 413RC    | 2.100          | 500          | 485-1.785 | 1.130   | 440     | 42      | 1.000<br>1.200 | ± 325           | 2/3        | 136     | 274<br>340      | 215<br>217                   | 573<br>628     |
| 2T 413RC    | 2.100          | 500          | 595-2.395 | 1.520   | 440     | 42      | 1.000<br>1.200 | ± 450           | 2/3        | 136     | 255<br>316      | 220<br>221                   | 634<br>689     |
| 3T 413RC    | 1.790<br>1.560 | 700<br>800   | 465-1.765 | 1.130   | 500     | 130     | 1.400<br>1.600 | ± 325           | 2/3        | 145     | 379<br>432      | 227<br>223                   | 778<br>804     |
| 3T 413RC    | 1.790<br>1.560 | 700<br>800   | 605-2.235 | 1.330   | 500     | 130     | 1.400<br>1.600 | ± 407,5         | 2/3        | 145     | 368<br>419      | 227<br>223                   | 807<br>843     |
| 4T 413RC    | 2.140<br>1.880 | 700<br>800   | 565-1.965 | 1.130   | 500     | 130     | 1.400<br>1.600 | ± 350           | 3          | 155     | 348<br>395      | 251<br>246                   | 876<br>912     |
| 4T 413RC    | 2.140<br>1.880 | 700<br>800   | 595-2.225 | 1.330   | 500     | 130     | 1.400<br>1.600 | ± 407,5         | 3          | 155     | 333<br>377      | 254<br>249                   | 931<br>967     |
| 4,5T 413RC  | 2.400<br>1.920 | 800<br>1.000 | 550-1.950 | 1.200   | 500     | 130     | 1.600<br>2.000 | ± 350           | 3          | 181     | 410<br>486      | 226<br>209                   | 1.006<br>1.050 |
| 4,5T 413RC  | 2.400<br>1.920 | 800<br>1.000 | 650-2.280 | 1.330   | 500     | 130     | 1.600<br>2.000 | ± 407,5         | 3          | 181     | 401<br>476      | 226<br>209                   | 1.032<br>1.076 |
| 4,5T 413RC  | 2.400<br>1.920 | 800<br>1.000 | 590-2.290 | 1.460   | 500     | 130     | 1.600<br>2.000 | ± 425           | 3          | 181     | 395<br>468      | 225<br>208                   | 1.054<br>1.098 |
| 4,5T 413RC  | 2.400<br>1.920 | 800<br>1.000 | 630-2.460 | 1.550   | 500     | 130     | 1.600<br>2.000 | ± 457,5         | 3          | 181     | 389<br>462      | 225<br>208                   | 1.073<br>1.117 |
| 4,8T 413BRC | 3.300<br>2.200 | 800<br>1.000 | 585-2.085 | 1.330   | 500     | 130     | 1.600<br>2.000 | ± 375           | 3          | 211     | 398<br>495      | 299<br>280                   | 1.298<br>1.385 |
| 5,5T 413BRC | 3.300<br>2.200 | 800<br>1.000 | 625-2.525 | 1.740   | 500     | 130     | 1.600<br>2.000 | ± 475           | 4          | 211     | 375<br>465      | 290<br>281                   | 1.412<br>1.499 |
| 6T 413BRC   | 4.000<br>3.300 | 800<br>1.000 | 685-2.585 | 1.740   | 600     | 160     | 1.600<br>2.000 | ± 475           | 4          | 211     | 383<br>479      | 291<br>282                   | 1.433<br>1.521 |
| 6T 413BRC   | 4.000<br>3.300 | 800<br>1.000 | 565-2.465 | 1.860   | 600     | 160     | 1.600<br>2.000 | ± 475           | 4          | 211     | 378<br>474      | 292<br>283                   | 1.455<br>1.543 |
| 6T 413BRC   | 4.000<br>3.300 | 800<br>1.000 | 595-2.695 | 2.030   | 600     | 160     | 1.600<br>2.000 | ± 525           | 4          | 211     | 371<br>465      | 293<br>284                   | 1.493<br>1.581 |
| 6,5T 413BRC | 6.000<br>4.000 | 800<br>1.000 | 685-2.585 | 1.740   | 600     | 160     | 1.600<br>2.000 | ± 475           | 4          | 221     | 374<br>477      | 293<br>284                   | 1.509<br>1.576 |
| 6,5T 413BRC | 6.000<br>4.000 | 800<br>1.000 | 565-2.465 | 1.860   | 600     | 160     | 1.600<br>2.000 | ± 475           | 4          | 221     | 370<br>472      | 293<br>284                   | 1.531<br>1.598 |
| 6,5T 413BRC | 6.000<br>4.000 | 800<br>1.000 | 595-2.695 | 2.030   | 600     | 160     | 1.600<br>2.000 | ± 525           | 4          | 221     | 363<br>463      | 295<br>286                   | 1.572<br>1.639 |
| 8T 413BRC   | 8.000<br>6.500 | 800<br>1.000 | 585-2.985 | 2.200   | 600     | 160     | 1.600<br>2.000 | ± 600           | 4          | 258     | 339<br>423      | 348<br>339                   | 2.294<br>2.418 |

Also available without sideshift, model T403RC.



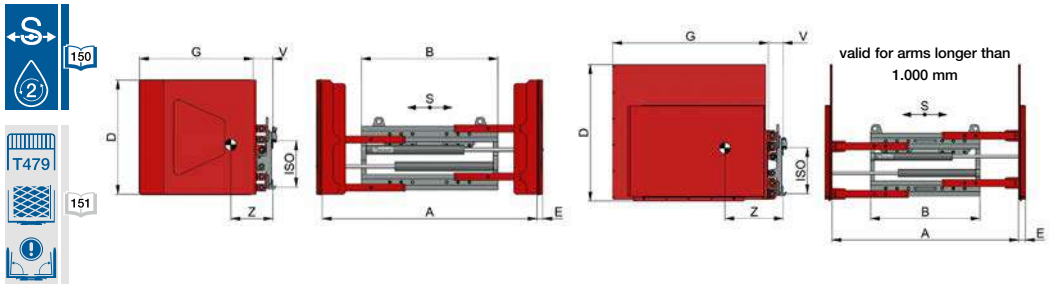
T413R



T413RC



T413BRC

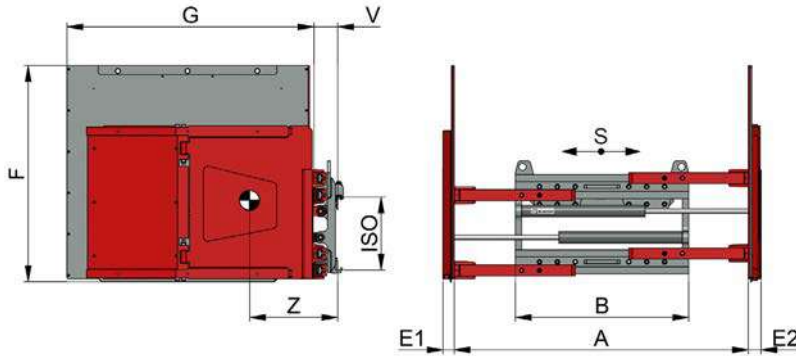


## Appliance Clamp T413G - rubber coated arms - both arms fix

| Model     | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-----------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T 413G   | 700            | 500       | ± 100   | 500-1.680 | 970     | 700     | 23      | 690     | 2          | 153     | 207             | 275          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            |         | 248             | 332          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 250             | 353          |
| 1T 413G   | 700            | 500       | ± 100   | 350-1.450 | 1.040   | 700     | 23      | 690     | 2          | 153     | 206             | 270          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            |         | 249             | 323          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 253             | 342          |
| 1T 413G   | 700            | 500       | ± 100   | 550-1.850 | 1.040   | 700     | 23      | 690     | 2          | 153     | 203             | 280          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            |         | 245             | 337          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 247             | 359          |
| 1T 413G   | 700            | 500       | ± 100   | 460-1.760 | 1.130   | 700     | 23      | 690     | 2          | 153     | 201             | 285          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            |         | 242             | 342          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 245             | 364          |
| 1T 413G   | 700            | 500       | ± 100   | 490-1.890 | 1.200   | 700     | 23      | 690     | 2          | 153     | 199             | 290          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            |         | 240             | 347          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 243             | 368          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 515-1.695 | 970     | 700     | 28      | 690     | 2          | 158     | 221             | 351          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            | 153     | 220             | 362          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 241             | 395          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 475-1.655 | 970     | 1.000   | 63      | 1.000   | 2          | 133     | 365             | 440          |
|           |                |           |         |           |         | 1.000   | 63      | 1.200   |            |         | 421             | 453          |
|           |                |           |         |           |         | 1.200   | 63      | 1.200   |            |         | 491             | 508          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 365-1.465 | 1.040   | 700     | 28      | 690     | 2          | 158     | 221             | 346          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            | 153     | 221             | 353          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 240             | 398          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 325-1.425 | 1.040   | 1.000   | 63      | 1.000   | 2          | 133     | 364             | 442          |
|           |                |           |         |           |         | 1.000   | 63      | 1.200   |            |         | 420             | 455          |
|           |                |           |         |           |         | 1.200   | 63      | 1.200   |            |         | 491             | 510          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 445-1.625 | 1.040   | 700     | 28      | 690     | 2          | 158     | 221             | 347          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            | 153     | 221             | 354          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 243             | 384          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 405-1.585 | 1.040   | 1.000   | 63      | 1.000   | 2          | 133     | 364             | 442          |
|           |                |           |         |           |         | 1.000   | 63      | 1.200   |            |         | 420             | 455          |
|           |                |           |         |           |         | 1.200   | 63      | 1.200   |            |         | 491             | 510          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 475-1.775 | 1.130   | 700     | 28      | 690     | 2          | 158     | 216             | 361          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            | 153     | 216             | 373          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 237             | 406          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 485-1.835 | 1.130   | 1.000   | 63      | 1.000   | 2          | 133     | 361             | 452          |
|           |                |           |         |           |         | 1.000   | 63      | 1.200   |            |         | 417             | 465          |
|           |                |           |         |           |         | 1.200   | 63      | 1.200   |            |         | 487             | 520          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 505-1.905 | 1.200   | 700     | 28      | 690     | 2          | 158     | 214             | 367          |
|           |                |           |         |           |         | 1.000   | 23      | 690     |            | 153     | 214             | 378          |
|           |                |           |         |           |         | 1.200   | 23      | 690     |            |         | 235             | 411          |
| 1,5T 413G | 1.250          | 500       | ± 100   | 465-1.865 | 1.200   | 1.000   | 63      | 1.000   | 2          | 133     | 360             | 461          |
|           |                |           |         |           |         | 1.000   | 63      | 1.200   |            |         | 415             | 474          |
|           |                |           |         |           |         | 1.200   | 63      | 1.200   |            |         | 485             | 529          |

**Preferential range** Also available without sideshift, model T403G.  
Possible with automatic pressure selection (upon request).

**SLC** Clamp available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force.  
Available without sideshift model T403G/099H and with sideshift, model T413G/099H.



## Carton Clamp T413G-1L - rubber coated arms - one arm fix, one arm swivelling

| Model        | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | E1<br>mm | E2<br>mm | F<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|--------------|----------------|-----------|---------|-----------|---------|----------|----------|---------|---------|------------|---------|-----------------|--------------|
| 1,5T 413G-1L | 1.250          | 500       | ± 100   | 475-1.655 | 970     | 63       | 55       | 1.000   | 1.000   | 2          | 133     | 340             | 423          |
|              |                |           |         |           |         | 63       | 55       | 1.000   | 1.200   |            |         | 396             | 463          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.200   |            |         | 467             | 527          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.380   |            |         | 487             | 575          |
| 1,5T 413G-1L | 1.250          | 500       | ± 100   | 325-1.425 | 1.040   | 63       | 55       | 1.000   | 1.000   | 2          | 133     | 339             | 425          |
|              |                |           |         |           |         | 63       | 55       | 1.000   | 1.200   |            |         | 395             | 465          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.200   |            |         | 466             | 529          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.380   |            |         | 486             | 577          |
| 1,5T 413G-1L | 1.250          | 500       | ± 100   | 405-1.585 | 1.040   | 63       | 55       | 1.000   | 1.000   | 2          | 133     | 339             | 425          |
|              |                |           |         |           |         | 63       | 55       | 1.000   | 1.200   |            |         | 395             | 465          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.200   |            |         | 466             | 529          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.380   |            |         | 486             | 577          |
| 1,5T 413G-1L | 1.250          | 500       | ± 100   | 485-1.835 | 1.130   | 63       | 55       | 1.000   | 1.000   | 2          | 133     | 336             | 435          |
|              |                |           |         |           |         | 63       | 55       | 1.000   | 1.200   |            |         | 392             | 475          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.200   |            |         | 462             | 539          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.380   |            |         | 481             | 587          |
| 1,5T 413G-1L | 1.250          | 500       | ± 100   | 465-1.865 | 1.200   | 63       | 55       | 1.000   | 1.000   | 2          | 133     | 335             | 444          |
|              |                |           |         |           |         | 63       | 55       | 1.000   | 1.200   |            |         | 390             | 484          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.200   |            |         | 460             | 548          |
|              |                |           |         |           |         | 63       | 55       | 1.200   | 1.380   |            |         | 479             | 596          |
| 2T 413G-1L   | 2.000          | 500       | ± 100   | 520-1.720 | 970     | 63       | 60       | 1.000   | 1.000   | 2/3        | 143     | 332             | 493          |
|              |                |           |         |           |         | 63       | 60       | 1.000   | 1.200   |            |         | 392             | 538          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.200   |            |         | 423             | 602          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.380   |            |         | 476             | 659          |
| 2T 413G-1L   | 2.000          | 500       | ± 100   | 550-1.850 | 1.040   | 63       | 60       | 1.000   | 1.000   | 2/3        | 143     | 330             | 498          |
|              |                |           |         |           |         | 63       | 60       | 1.000   | 1.200   |            |         | 390             | 543          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.200   |            |         | 421             | 607          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.380   |            |         | 474             | 664          |
| 2T 413G-1L   | 2.000          | 500       | ± 100   | 460-1.760 | 1.130   | 63       | 60       | 1.000   | 1.000   | 2/3        | 143     | 328             | 503          |
|              |                |           |         |           |         | 63       | 60       | 1.000   | 1.200   |            |         | 387             | 548          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.200   |            |         | 418             | 612          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.380   |            |         | 471             | 669          |
| 2T 413G-1L   | 2.000          | 500       | ± 100   | 460-1.960 | 1.330   | 63       | 60       | 1.000   | 1.000   | 2/3        | 143     | 314             | 527          |
|              |                |           |         |           |         | 63       | 60       | 1.000   | 1.200   |            |         | 373             | 572          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.200   |            |         | 404             | 636          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.380   |            |         | 457             | 693          |
| 2T 413G-1L   | 2.000          | 500       | ± 100   | 570-2.370 | 1.520   | 63       | 60       | 1.000   | 1.000   | 2/3        | 143     | 307             | 551          |
|              |                |           |         |           |         | 63       | 60       | 1.000   | 1.200   |            |         | 366             | 596          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.200   |            |         | 397             | 660          |
|              |                |           |         |           |         | 63       | 60       | 1.200   | 1.380   |            |         | 450             | 717          |

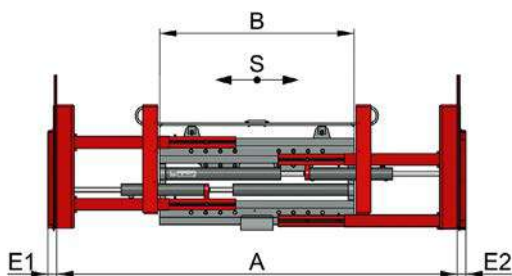
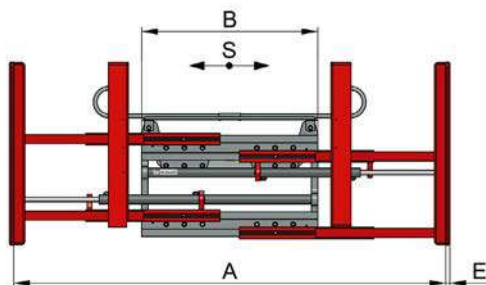
### Preferential range

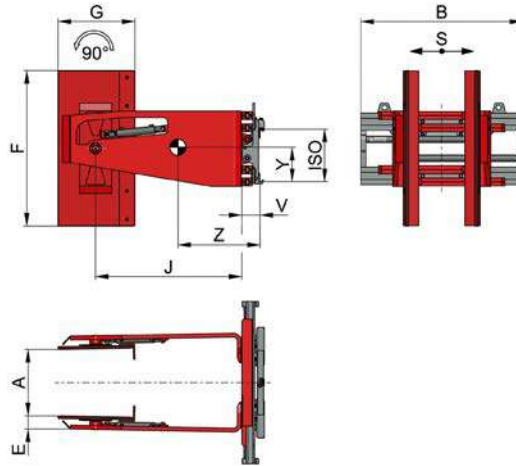
Also available without sideshift, model T403G-1L.

Also available with 2 contact pads on the swivelling arm - model T413G-2L / T403G-2L.



Clamp available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force (Models 2T after design adaptation). Available without sideshift model T403G-1L/099H and with sideshift, model T413G-1L/099H.



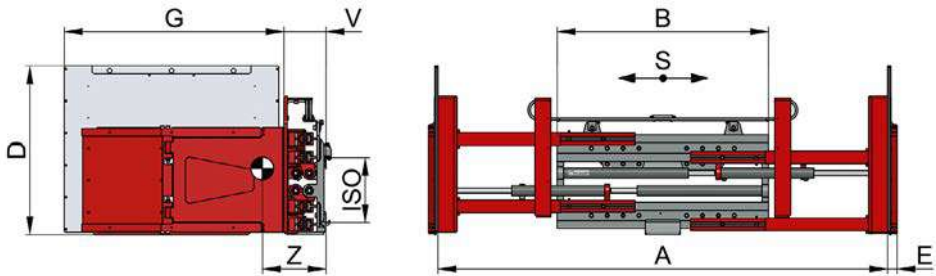


## Appliance Clamp tiltable 2T413G-2H - rubber coated arms

| Model       | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | F<br>mm | E<br>mm | G<br>mm | J<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|-----------|---------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|
| 2T 413 G-2H | 300            | 1.000     | ± 100   | 540-2.160 | 1.260   | 1.200   | 102     | 580     | 1.000   | 2/3        | 143     | 670             | 265                          | 790          |

Also available without sideshift, model 2T403G-2H.

**Incl. solenoid valve and accessory kit. For triplex mast a mast cable routing or an electric spring cable drum is necessary (see page 130 - 131).**



## Telescopic Appliance- / Carton Clamp T414GT-1L - rubber coated arms - both arms swivelling

| Model        | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm     | B<br>mm | D<br>mm | E<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|--------------|----------------|-----------|---------|-------------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 2T 414 GT-1L | 1.250          | 700       | ± 100   | 480 - 2.740 | 1.330   | 1.050   | 60      | 1.380   | 2          | 276     | 401             | 930          |
| 3T 414 GT-1L | 1.800          | 700       | ± 100   | 480 - 2.740 | 1.330   | 1.050   | 60      | 1.380   | 3          | 276     | 395             | 955          |

Also available without sideshift, model T404GT-1L.

**SLC READY** 2T414GT-1L: Clamp after design adaptation available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force. Available without sideshift model 2T404GT-1L/099H and with sideshift, model 2T414GT-1L/099H.

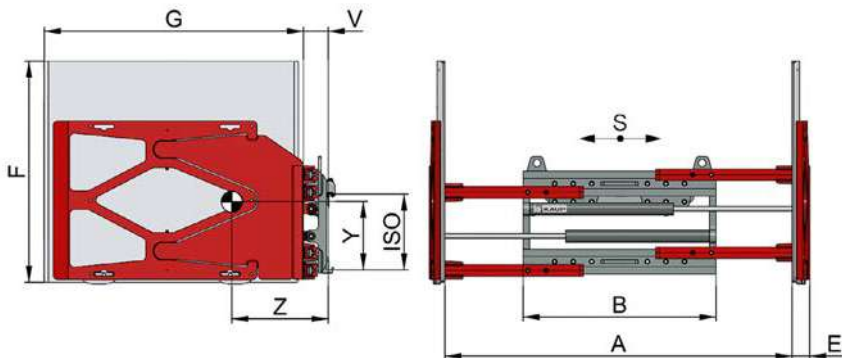


150

T479



151



## Appliance - / Carton Clamp T414B-1 - grooved profile rubber (RPG) coated arms - both arms swivelling

| Model       | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | E<br>mm | F<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|--------------|
| 1,5T 414B-1 | 1.250          | 500       | ± 100   | 480-1.660 | 970     | 55      | 1.000   | 1.000   | 2          | 133     | 392             | 333                          | 534          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 467             | 338                          | 592          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 476             | 360                          | 611          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 530             | 362                          | 654          |
| 1,5T 414B-1 | 1.250          | 500       | ± 100   | 330-1.430 | 1.040   | 55      | 1.000   | 1.000   | 2          | 133     | 390             | 332                          | 537          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 465             | 338                          | 595          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 474             | 359                          | 614          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 528             | 362                          | 657          |
| 1,5T 414B-1 | 1.250          | 500       | ± 100   | 410-1.590 | 1.040   | 55      | 1.000   | 1.000   | 2          | 133     | 390             | 332                          | 538          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 465             | 338                          | 596          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 473             | 359                          | 615          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 527             | 361                          | 658          |
| 1,5T 414B-1 | 1.250          | 500       | ± 100   | 490-1.840 | 1.130   | 55      | 1.000   | 1.000   | 2          | 133     | 385             | 331                          | 545          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 460             | 337                          | 604          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 469             | 358                          | 623          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 523             | 360                          | 665          |
| 1,5T 414B-1 | 1.250          | 500       | ± 100   | 470-1.870 | 1.200   | 55      | 1.000   | 1.000   | 2          | 133     | 383             | 330                          | 550          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 457             | 336                          | 608          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 466             | 357                          | 627          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 519             | 359                          | 670          |
| 2T 414B-1   | 2.000          | 500       | ± 100   | 525-1.725 | 970     | 60      | 1.000   | 1.000   | 2/3        | 143     | 389             | 329                          | 603          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 463             | 335                          | 670          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 471             | 354                          | 689          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 495             | 358                          | 706          |
| 2T 414B-1   | 2.000          | 500       | ± 100   | 555-1.855 | 1.040   | 60      | 1.000   | 1.000   | 2/3        | 143     | 386             | 328                          | 609          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 460             | 334                          | 675          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 468             | 353                          | 694          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 492             | 357                          | 712          |
| 2T 414B-1   | 2.000          | 500       | ± 100   | 465-1.765 | 1.130   | 60      | 1.000   | 1.000   | 2/3        | 143     | 384             | 329                          | 614          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 457             | 334                          | 680          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 465             | 352                          | 699          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 489             | 357                          | 717          |
| 2T 414B-1   | 2.000          | 500       | ± 100   | 465-1.965 | 1.330   | 60      | 1.000   | 1.000   | 2/3        | 143     | 377             | 326                          | 628          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 449             | 332                          | 695          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 457             | 350                          | 714          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 481             | 355                          | 732          |
| 2T 414B-1   | 2.000          | 500       | ± 100   | 575-2.375 | 1.520   | 60      | 1.000   | 1.000   | 2/3        | 143     | 359             | 322                          | 666          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 429             | 328                          | 733          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 437             | 346                          | 752          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 460             | 350                          | 770          |

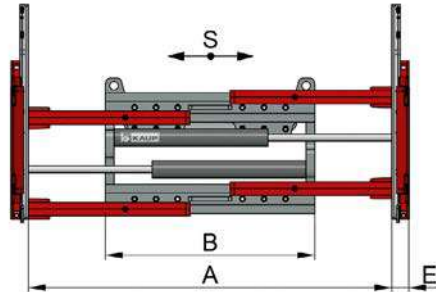
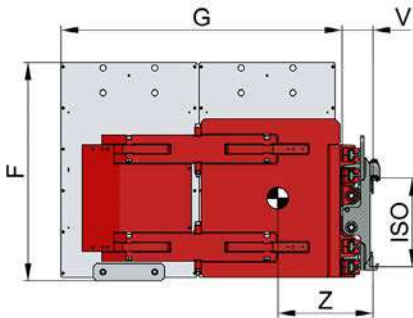
### Preferential range

Also available without sideshift, model T404B-1.



Clamp available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force (Models 2T after design adaptation). Available without sideshift model T404B-1/099H and with sideshift, model T414B-1/099H.





## Appliance- / Carton Clamp T414-2L - rubber coated arms - two contact pads per swivelling arm

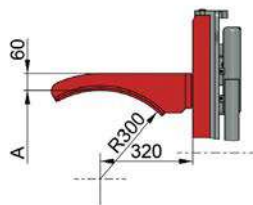
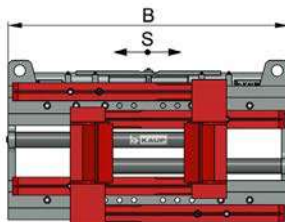
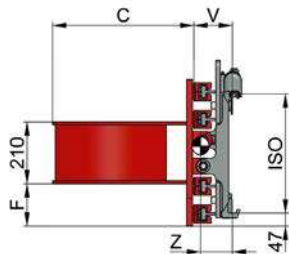
| Model       | Capacity<br>kg | LCD<br>mm | S<br>mm | A<br>mm   | B<br>mm | E<br>mm | F<br>mm | G<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|-----------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1,5T 414-2L | 1.250          | 500       | ± 100   | 480-1.660 | 970     | 60      | 1.000   | 1.000   | 2          | 133     | 345             | 495          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 401             | 535          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 472             | 599          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 492             | 647          |
| 1,5T 414-2L | 1.250          | 500       | ± 100   | 330-1.430 | 1.040   | 60      | 1.000   | 1.000   | 2          | 133     | 344             | 497          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 400             | 538          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 470             | 602          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 490             | 649          |
| 1,5T 414-2L | 1.250          | 500       | ± 100   | 410-1.590 | 1.040   | 60      | 1.000   | 1.000   | 2          | 133     | 344             | 497          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 400             | 538          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 470             | 602          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 490             | 649          |
| 1,5T 414-2L | 1.250          | 500       | ± 100   | 490-1.840 | 1.130   | 60      | 1.000   | 1.000   | 2          | 133     | 341             | 507          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 397             | 547          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 467             | 611          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 486             | 659          |
| 1,5T 414-2L | 1.250          | 500       | ± 100   | 470-1.870 | 1.200   | 60      | 1.000   | 1.000   | 2          | 133     | 340             | 516          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 395             | 556          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 465             | 620          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 484             | 668          |
| 2T 414-2L   | 2.000          | 500       | ± 100   | 525-1.725 | 970     | 60      | 1.000   | 1.000   | 2/3        | 143     | 337             | 565          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 397             | 610          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 428             | 674          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 481             | 731          |
| 2T 414-2L   | 2.000          | 500       | ± 100   | 555-1.855 | 1.040   | 60      | 1.000   | 1.000   | 2/3        | 143     | 335             | 570          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 395             | 615          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 426             | 679          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 479             | 736          |
| 2T 414-2L   | 2.000          | 500       | ± 100   | 465-1.765 | 1.130   | 60      | 1.000   | 1.000   | 2/3        | 143     | 333             | 575          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 392             | 620          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 423             | 684          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 476             | 741          |
| 2T 414-2L   | 2.000          | 500       | ± 100   | 465-1.965 | 1.330   | 60      | 1.000   | 1.000   | 2/3        | 143     | 319             | 599          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 378             | 644          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 409             | 708          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 462             | 765          |
| 2T 414-2L   | 2.000          | 500       | ± 100   | 575-2.375 | 1.520   | 60      | 1.000   | 1.000   | 2/3        | 143     | 312             | 623          |
|             |                |           |         |           |         |         | 1.000   | 1.200   |            |         | 371             | 668          |
|             |                |           |         |           |         |         | 1.200   | 1.200   |            |         | 402             | 732          |
|             |                |           |         |           |         |         | 1.200   | 1.380   |            |         | 455             | 789          |

Preferential range

Also available without sideshift, model T404-2L.



Clamp available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force (Models 2T after design adaptation). Available without sideshift model T404-2L/099H and with sideshift, model T414-2L/099H.



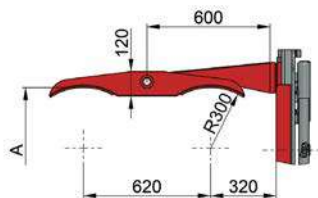
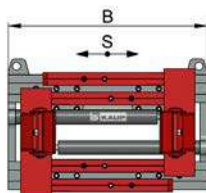
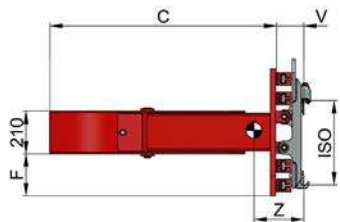
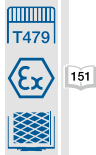
## Drum Clamp T415-1 - for cylindrical steel drums

This Drum Clamp can transport 1 or 2 drums palletless and safely. The arms are coated with Remagrip. Fitted with pressure reduction valve and manometer gauge.

| Model      | Number of drums | Capacity kg | LCD mm | S mm  | A mm      | B mm | C mm | F mm | ISO cl. | V mm | CofG Z mm | Weight kg |
|------------|-----------------|-------------|--------|-------|-----------|------|------|------|---------|------|-----------|-----------|
| 1T 415-1   | 1-2             | 700         | 320    | ± 100 | 420-1.600 | 970  | 485  | 146  | 2       | 133  | 113       | 196       |
| 1,5T 415-1 | 1-2             | 1.250       | 320    | ± 100 | 440-1.620 | 970  | 485  | 195  | 2/3     | 133  | 108       | 228       |

Also available without sideshift, model T405-1.

Available with arms for plastic drums.



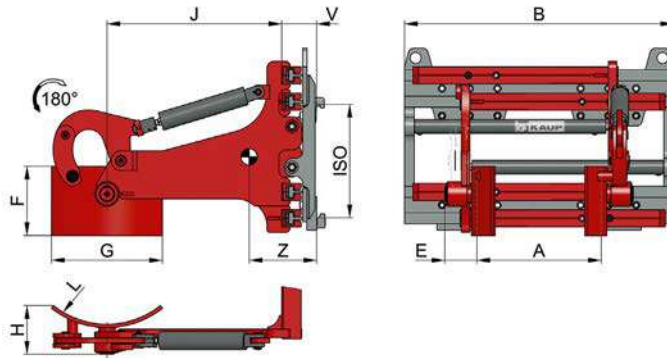
## Drum Clamp T415-2 - for cylindrical steel drums

This Drum Clamp can transport 2 or 4 drums palletless and safely. The arms are coated with Remagrip. Fitted with pressure reduction valve and manometer gauge.

| Model      | Number of drums | Capacity kg | LCD mm | S mm  | A mm      | B mm  | C mm  | F mm | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|------------|-----------------|-------------|--------|-------|-----------|-------|-------|------|---------|------|-----------|------------------------|-----------|
| 1,5T 415-2 | 2-4             | 1.250       | 630    | ± 100 | 370-1.550 | 970   | 1.105 | 195  | 2/3     | 133  | 255       | 266                    | 310       |
| 2T 415-2   | 2-4             | 2.000       | 630    | ± 100 | 370-1.670 | 1.130 | 1.105 | 195  | 2/3     | 143  | 245       | 264                    | 350       |

Also available without sideshift, model T405-2.

Available with arms for plastic drums.



## Drum Tipping Clamp T406H/-2H - with hydraulically tiltable clamp arms 180° forward

The Drum Tipping Clamp is used for emptying cylindrical steel drums (with special arms also other containers) by tilting in forward direction. Drums lying in a horizontal position can be picked up with this clamp and put upright. However this is only possible when both arms feature a hydraulic cylinder (-2H). The arms are coated with Remagrip. Drum Tipping arms are also available as slip-on version for KAUP Fork Clamps (see page 67).

| Model       | Capacity kg | LCD mm | A mm        | B mm  | E mm | F mm | G mm | J mm | H mm | L mm | ISO cl. | V mm | CofG Z mm | Weight kg |
|-------------|-------------|--------|-------------|-------|------|------|------|------|------|------|---------|------|-----------|-----------|
| 1,5T 406 H  | 300         | 630    | 430 - 1.610 | 970   | 113  | 250  | 400  | 630  | 181  | 300  | 2       | 126  | 247       | 290       |
| 1,5T 406-2H | 300         | 630    | 430 - 1.610 | 970   | 113  | 250  | 400  | 630  | 181  | 300  | 2       | 126  | 268       | 312       |
| 2T 406 H    | 1.250       | 630    | 180 - 1.480 | 1.130 | 113  | 250  | 400  | 630  | 181  | 300  | 2       | 136  | 217       | 366       |
| 2T 406-2H   | 1.250       | 630    | 180 - 1.480 | 1.130 | 113  | 250  | 400  | 630  | 181  | 300  | 2       | 136  | 240       | 386       |

Single arm drive = H, Dual arm drive = 2H.

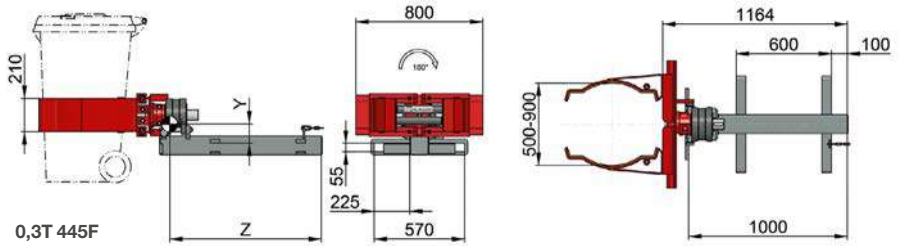
With one tilt cylinder drums can only be handled in vertical position.  
With two cylinders drums can be handled in vertical or horizontal position.

Also available with sideshift function, model T416H (-2H).

Tipping Clamps for specific purpose (garbage bins, containers) and higher capacities available upon request.

Available with arms for plastic drums.



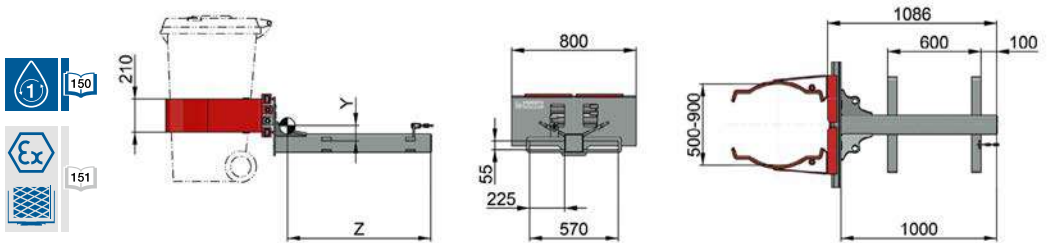


## Mini Drum Clamp T445F - slip-on version - for cylindrical steel drums and garbage bins

Quick easy mounting of the Mini Drum Clamp onto the forklift truck is the trade mark of this attachment. It is simply slipped on the forks, tightened, connected hydraulically to the truck and is then operational. As it is easy to mount, it is usually used when drums or garbage bins are transported only occasionally. The clamping arms are designed to fit cylindrical drums and garbage bins with up to 240 l capacity. The arms are coated with Remagrip.

| Model     | Capacity kg | LCD mm | Opening range mm | Rotation angle ° | Md $\Delta p=125\text{bar}$ Nm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|-----------|-------------|--------|------------------|------------------|--------------------------------|-----------|------------------------|-----------|
| 0,3T 445F | 300         | 320    | 520 - 920        | 180°             | 1.625                          | 955       | 121                    | 218       |
| 0,8T 445F | 700         | 320    | 530 - 930        | 360°             | 2.570                          | 1.010     | 122                    | 247       |

Available with arms for plastic drums.



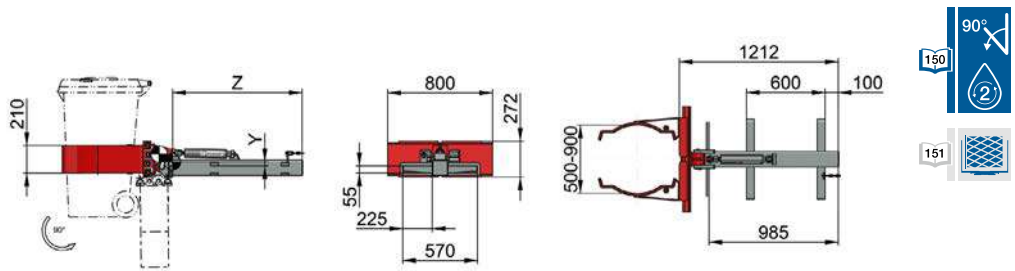
## Mini Drum Clamp T405

slip-on version - arms coated with Remagrip - for cylindrical steel drums and garbage bins - without rotation

| Model    | Capacity kg | LCD mm | Opening range mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|----------|-------------|--------|------------------|-----------|------------------------|-----------|
| 0,3T 405 | 300         | 320    | 520 - 920        | 921       | 95                     | 155       |

Available with arms for plastic drums.



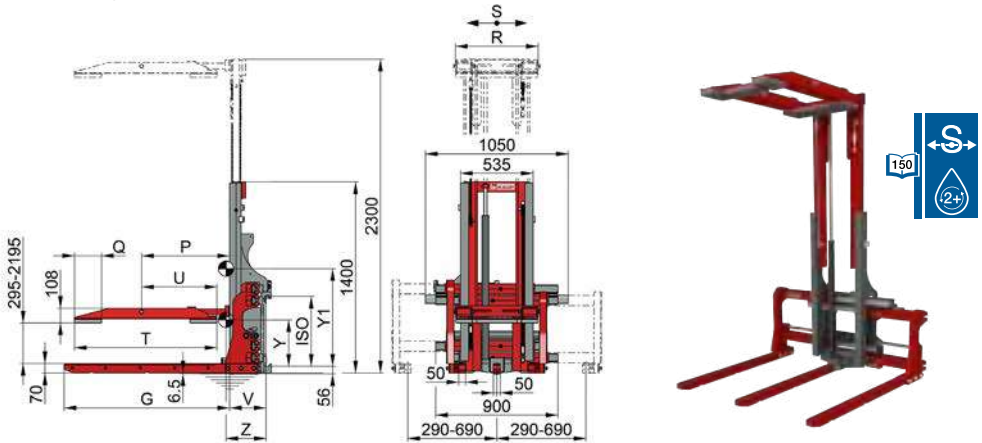


# Mini Drum Tipping Clamp T405/130

slip-on version - arms coated with Remagrip - for cylindrical steel drums - without rotation

| Model        | Capacity<br>kg | LCD<br>mm | Opening range<br>mm | Tipping-<br>angle° | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|--------------|----------------|-----------|---------------------|--------------------|-----------------|------------------------------|--------------|
| 0,3T 405/130 | 300            | 320       | 520 - 920           | 90°                | 987             | 30                           | 181          |

Available with arms for plastic drums.



# Beer Keg Clamp T415B - to handle beer kegs

| Model      | Capacity<br>kg | LCD<br>mm | S<br>mm | G<br>mm | T<br>mm | P<br>mm | R<br>mm | Q<br>mm | U<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | CofG <sub>v</sub><br>Y1<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|-------------------------------|--------------|
| 2T 415 BTB | 1.680          | 635       | ±100    | 1.220   | 1.050   | 650     | 610     | 200     | 555     | 3          | 270     | 313             | 337                          | 761                           | 725          |
| 2T 415 BCT | 1.680          | 635       | ±100    | 1.350   | 1.110   | 650     | 555     | 200     | 555     | 3          | 270     | 321             | 336                          | 723                           | 720          |
| 2T 415 BKN | 1.680          | 635       | ±100    | 1.220   | 985     | 570     | 600     | 300     | 490     | 3          | 270     | 295             | 340                          | 716                           | 702          |

Model without sideshift T405B.



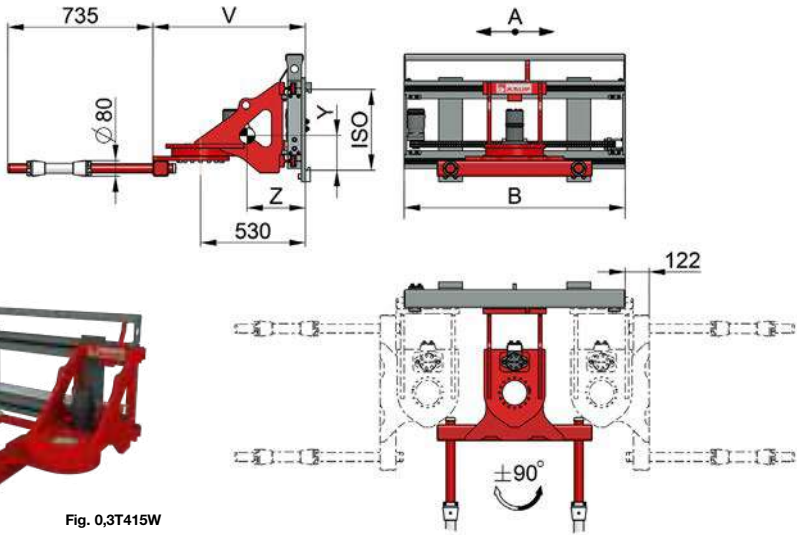


Fig. 0,3T415W

## Cask Handler T415W / WD

| Model       | Capacity<br>kg | LCD<br>mm | Adjusting<br>range<br>A<br>mm | Construction<br>width<br>B<br>mm | ISO<br>class | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>kg |
|-------------|----------------|-----------|-------------------------------|----------------------------------|--------------|---------|-----------------|------------------------------|--------------|
| 0,3T 415W   | 300            | 475       | ± 440                         | 1.120                            | 2            | 773     | 296             | 176                          | 250          |
| 0,3T 415WD* | 300            | 475       | ± 440                         | 1.120                            | 2            | 853     | 333             | 171                          | 265          |
| 0,6T 415W   | 600            | 400       | ± 400                         | 1.120                            | 2            | 1.230   | 530             | 153                          | 285          |

\* One of the rams is fitted with hydraulically rotating rollers.

Differing lengths of rams and versions for various shaped drums upon request. Optionally available with rubber buffers instead of rollers.

## Cask Handler 0,3T415W / WD

The KAUP Cask Handler 0,3T415W opens up new dimensions in internal transport logistics.

Fitted with the 0,3T415W every forklift truck can take over all transportation requirements in warehouses and cellars quickly, securely and efficiently which, to date, was done manually and therefore very time consuming.

Designed for working in confined spaces the 0,3T415W can handle stacked casks (empty or filled with wine, whisky etc.) as well as stack and retrieve them even in narrow passages – and this to the left or right in driving direction.

The carrying rams of the attachment are fitted with adjustable rubber rollers which allow handling of nearly all sizes and versions of wine and spirit casks.





# ROTATING CLAMPS

## Applications for rotary fork clamps and other rotary attachments

Loads frequently need rotating during production operations and while being conveyed or on- and offloaded. Rotary clamps are produced by KAUP in a large number of designs for these purposes. The different types and their overall variety are dictated by the job requirements. Generally speaking, almost any type of forklift truck clamp can be upgraded to a rotary attachment.

Another typical rotating function required on forklifts is when they are used to transport and empty crates, box pallets and similar containers.

### Overview Rotating Clamps

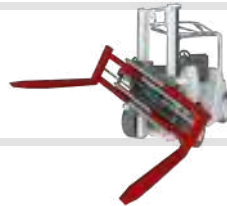
### Page

Rotating Fork Positioners



91

Rotating Fork Clamps  
Rotating Fork Clamps with Turnable Forks



92

Pallet Turnover Clamps



93, 95

Rotating Bale Clamps



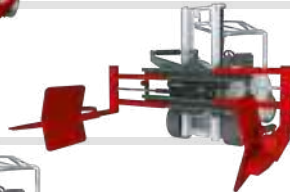
94

Rotating Drum Clamps



95

Tyre Handlers



96

Rotating Roll Clamps



97 - 100



## Recommended Oil flow rates and Pressures

### Rotating Clamps - Rotating Roll Clamps

| Attachment       | Page   | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] |
|------------------|--------|---------------------------------------|---------|------|----------------------------------------|
|                  |        | min.                                  | optimum | max. |                                        |
| 2T 456 BZ / ZG   | 91     | 15                                    | 20      | 25   | 180                                    |
| 3,5T 456 BZ / ZG | 91     | 25                                    | 40      | 50   | 180                                    |
| 4,5T 456 BZ / ZG | 91     | 25                                    | 40      | 50   | 180                                    |
| 5T 456 BZ / ZG   | 91     | 30                                    | 50      | 70   | 180                                    |
| 8T 456 ZG        | 91     | 40                                    | 60      | 75   | 180                                    |
| 1,5T 451 / 451 D | 92     | 15                                    | 20      | 25   | 180                                    |
| 2T 451 / 451 D   | 92     | 15                                    | 20      | 25   | 180                                    |
| 3T 451           | 92     | 25                                    | 40      | 50   | 180                                    |
| 4T 451           | 92     | 25                                    | 40      | 50   | 180                                    |
| 4,8T 451         | 92     | 25                                    | 40      | 50   | 180                                    |
| 5T 451           | 92     | 30                                    | 50      | 70   | 180                                    |
| 6T 451           | 92     | 30                                    | 50      | 70   | 180                                    |
| 1,5T 451 W / 180 | 93     | 15                                    | 20      | 25   | 180                                    |
| 2T 451 W / 180   | 93     | 15                                    | 20      | 25   | 180                                    |
| 3T 451 W / 180   | 93     | 25                                    | 40      | 50   | 180                                    |
| 4T 451 W         | 93     | 25                                    | 40      | 50   | 180                                    |
| 4,5T 451 W       | 93     | 25                                    | 40      | 50   | 180                                    |
| 5T 451 W         | 93     | 30                                    | 50      | 70   | 180                                    |
| 1,5T 453 / 180   | 94     | 15                                    | 20      | 25   | 180                                    |
| 2T 453 / 180     | 94     | 15                                    | 20      | 25   | 180                                    |
| 2,5T 453         | 94     | 15                                    | 20      | 25   | 180                                    |
| 3T 453 / 180     | 94     | 25                                    | 40      | 50   | 180                                    |
| 4T 453           | 94     | 25                                    | 40      | 50   | 180                                    |
| 4,8T 453         | 94     | 25                                    | 40      | 50   | 180                                    |
| 2T 451 WA        | 95     | 15                                    | 20      | 25   | 160                                    |
| 3T 451 WA        | 95     | 25                                    | 40      | 50   | 160                                    |
| 4T 451 WA        | 95     | 25                                    | 40      | 50   | 160                                    |
| 1T 455-1         | 95     | 15                                    | 20      | 25   | 180                                    |
| 1T 458 xx        | 97-100 | 15                                    | 20      | 25   | 180                                    |
| 1,5T 458 xx      | 97-100 | 15                                    | 20      | 25   | 180                                    |
| 2T 458 xx        | 97-100 | 15                                    | 20      | 25   | 180                                    |
| 3T 458 xx        | 97-100 | 25                                    | 40      | 50   | 180                                    |
| 4T 458 xx        | 97-100 | 40                                    | 60      | 75   | 180                                    |
| 5T 458 xx        | 97-100 | 40                                    | 60      | 75   | 180                                    |
| 6T 458 xx        | 97-100 | 40                                    | 60      | 75   | 180                                    |



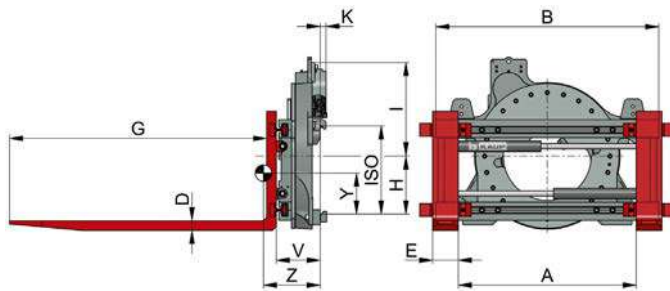
### Rotating Clamps

Due to the KAUP Modular System all Clamps shown on pages 63 to 85 can be combined with a Rotator. The best known Rotating Clamps are Roll Clamps, Fork Clamps, Bale Clamps and Pallet Turnover Clamps. If required for the operation all Rotating Clamps can be upgraded with sideshift function.



#### Fitting a Rotating Clamp with sideshift

In order to equip a Rotating Clamp with sideshift function, a solenoid valve with matching assembly kit is necessary. Lifting heights of more than 3.750 mm require a mast cable routing or an electric spring cable drum (see page 130 - 131). Model code for each respective Clamp changes to T491...T498.



**T456BZA**

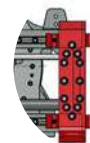
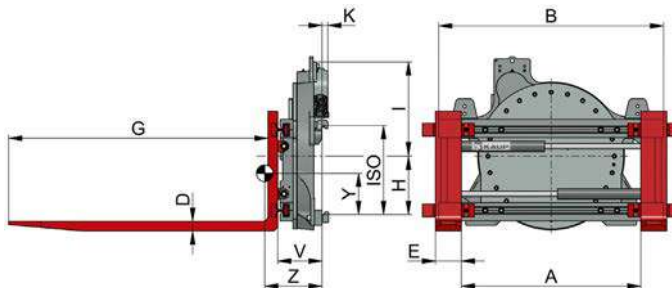


## Rotating Fork Positioner T456BZ - Rotation 360° continuous

| Model       | Capa-<br>city<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | H<br>mm | I<br>mm | K<br>mm | Md <sup>1)</sup><br>Nm | Vol <sup>2)</sup><br>ltr. | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>y</sub><br>Y<br>mm | Weight<br>kg |
|-------------|---------------------|-----------|-----------|---------|---------|---------|---------|---------|---------|---------|------------------------|---------------------------|------------|---------|-----------------|------------------------------|--------------|
| 2T 456 BZ   | 2.500               | 500       | 130-930   | 1.150   | 45      | 120     | 1.200   | 269     | 457     | 33      | 7.700                  | 9,7                       | 2/3        | 210     | 261             | 198                          | 455          |
| 3,5T 456 BZ | 3.600               | 500       | 130-930   | 1.150   | 50      | 150     | 1.200   | 338     | 395     | 40      | 8.950                  | 11,3                      | 3          | 258     | 271             | 241                          | 703          |
| 4,5T 456 BZ | 4.500               | 500       | 130-1.130 | 1.350   | 60      | 150     | 1.200   | 338     | 395     | 40      | 8.950                  | 11,3                      | 3          | 261     | 279             | 236                          | 788          |
| 5T 456 BZ   | 5.000               | 600       | 260-1.260 | 1.700   | 60      | 150     | 1.200   | 351     | 445     | 40      | 13.434                 | 15,7                      | 4          | 334     | 309             | 277                          | 980          |

<sup>1)</sup> Md: Torque  $\Delta P = 125$  bar. <sup>2)</sup> Oil volume required per rev

Also available with sideshift, model T496BZ, see page 90. Also available with bolt-on forks.  
Larger models and different widths available upon request.



**T456ZGA**



## Rotating Fork Positioner T456ZG - Rotation 360° continuous - foundry version

| Model        | Capa-<br>city<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | D<br>mm | E<br>mm | G<br>mm | H<br>mm | I<br>mm | K<br>mm | Md <sup>1)</sup><br>Nm | Vol <sup>2)</sup><br>ltr. | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>y</sub><br>Y<br>mm | Weight<br>kg |
|--------------|---------------------|-----------|-----------|---------|---------|---------|---------|---------|---------|---------|------------------------|---------------------------|------------|---------|-----------------|------------------------------|--------------|
| 2T 456 BZG   | 2.500               | 500       | 130-930   | 1.150   | 45      | 120     | 1.200   | 269     | 457     | 33      | 7.700                  | 9,7                       | 2/3        | 230     | 247             | 216                          | 542          |
| 3,5T 456 BZG | 3.600               | 500       | 130-930   | 1.150   | 50      | 150     | 1.200   | 338     | 395     | 40      | 8.950                  | 11,3                      | 3          | 258     | 273             | 235                          | 712          |
| 4,5T 456 BZG | 4.500               | 500       | 130-1.130 | 1.350   | 60      | 150     | 1.200   | 338     | 395     | 40      | 8.950                  | 11,3                      | 3          | 261     | 282             | 231                          | 795          |
| 5T 456 ZG    | 5.000               | 600       | 260-1.260 | 1.700   | 60      | 150     | 1.200   | 345     | 445     | 40      | 13.434                 | 15,7                      | 4          | 345     | 313             | 281                          | 1.014        |
| 8T 456 ZG    | 5.500               | 810       | 240-1.240 | 1.700   | 70      | 160     | 1.200   | 396     | 480     | 40      | 21.679                 | 18,8                      | 4          | 402     | 318             | 334                          | 1.705        |

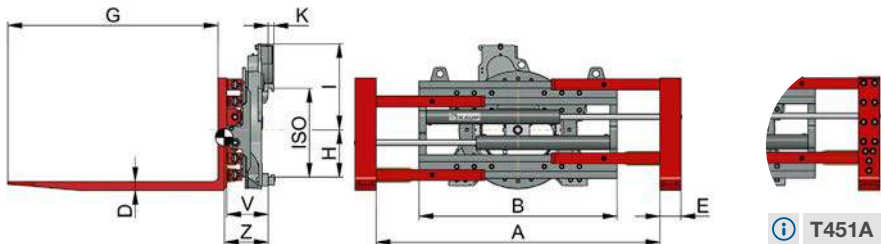
<sup>1)</sup> Md: Torque  $\Delta P = 125$  bar. <sup>2)</sup> Oil volume required per rev

Also available with sideshift, model T496ZG, see page 90.

Larger models and different widths available upon request.

**Model T456BZA / T456ZGA with screw-on forks available upon request**



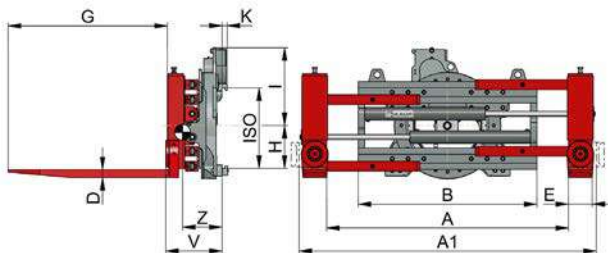
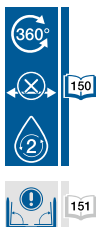


## Rotating Fork Clamp T451 - Rotation 360° continuous

| Model    | Capacity of forks kg | Capacity as clamp kg | LCD mm | A mm                    | B mm  | D mm | E mm | H mm | I mm | K mm | Md <sup>2)</sup> Nm | Vol <sup>3)</sup> ltr. | ISO cl. | V mm | CofG Z mm | Weight kg |
|----------|----------------------|----------------------|--------|-------------------------|-------|------|------|------|------|------|---------------------|------------------------|---------|------|-----------|-----------|
| 1,5T 451 | 1.900                | 1.250                | 500    | 300-1.480               | 970   | 45   | 120  | 213  | 478  | 33   | 6.013               | 7,6                    | 2       | 216  | 284       | 425       |
|          |                      |                      |        | 20- 920                 | 970   |      |      |      |      |      |                     |                        |         |      | 286       | 413       |
|          |                      |                      |        | 310-1.660               | 1.130 |      |      |      |      |      |                     |                        |         |      | 280       | 436       |
|          |                      |                      |        | 70-1.250                | 1.200 |      |      |      |      |      |                     |                        |         |      | 280       | 438       |
|          |                      |                      |        | 290-1.690               | 1.200 |      |      |      |      |      |                     |                        |         |      | 279       | 441       |
| 2T 451   | 2.600                | 2.000                | 500    | 310-1.510               | 1.040 | 50   | 120  | 269  | 457  | 33   | 7.700               | 9,7                    | 2/3     | 232  | 273       | 529       |
|          |                      |                      |        | 320-1.620               | 1.130 |      |      |      |      |      |                     |                        |         |      | 271       | 536       |
|          |                      |                      |        | 70-1.120                | 1.130 |      |      |      |      |      |                     |                        |         |      | 272       | 531       |
|          |                      |                      |        | 120-1.420               | 1.330 |      |      |      |      |      |                     |                        |         |      | 269       | 547       |
|          |                      |                      |        | 320-1.820               | 1.330 |      |      |      |      |      |                     |                        |         |      | 268       | 551       |
| 3T 451   | 3.000                | 2.500                | 500    | 260-1.560               | 1.130 | 50   | 150  | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 279  | 290       | 750       |
|          |                      |                      |        | 260-1.760               | 1.330 |      |      |      |      |      |                     |                        |         |      | 288       | 770       |
| 4T 451   | 3.600                | 2.900                | 500    | 260-1.760               | 1.330 | 50   | 150  | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 289  | 279       | 820       |
|          |                      |                      |        | 130-1.630               | 1.460 |      |      |      |      |      |                     |                        |         |      | 278       | 830       |
|          |                      |                      |        | 260-1.890               | 1.460 |      |      |      |      |      |                     |                        |         |      | 278       | 835       |
| 4,8T 451 | 4.500                | 3.500                | 500    | 250-1.650               | 1.330 | 60   | 150  | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 314  | 294       | 990       |
|          |                      |                      |        | 120-1.520               | 1.460 |      |      |      |      |      |                     |                        |         |      | 293       | 995       |
|          |                      |                      |        | 220-1.720               | 1.460 |      |      |      |      |      |                     |                        |         |      | 293       | 1.000     |
| 5T 451   | 4.500                | 3.500                | 600    | 270-1.670               | 1.330 | 70   | 150  | 351  | 445  | 40   | 13.434              | 15,7                   | 4       | 360  | 332       | 1.191     |
|          |                      |                      |        | 280-1.910               | 1.550 |      |      |      |      |      |                     |                        |         |      | 329       | 1.237     |
|          |                      |                      |        | 550-2.450 <sup>1)</sup> | 1.550 |      |      |      |      |      |                     |                        |         |      | 328       | 1.301     |
|          |                      |                      |        | 280-2.180               | 1.820 |      |      |      |      |      |                     |                        |         |      | 326       | 1.279     |
| 6T 451 B | 6.000                | 4.200                | 600    | 490-2.390 <sup>1)</sup> | 1.550 | 60   | 180  | 351  | 510  | 40   | 17.157              | 20,7                   | 4       | 392  | 318       | 1.700     |

**Preferential range** Fork length 'G' = 1.200 mm. Also available with sideshift, model T491, see page 90.  
<sup>1)</sup> Handling of europallets lengthwise not possible. <sup>2)</sup> Md: Torque  $\Delta P = 125$  bar. <sup>3)</sup> Oil volume required per rev.

**T451A - Version with screw-on forks**

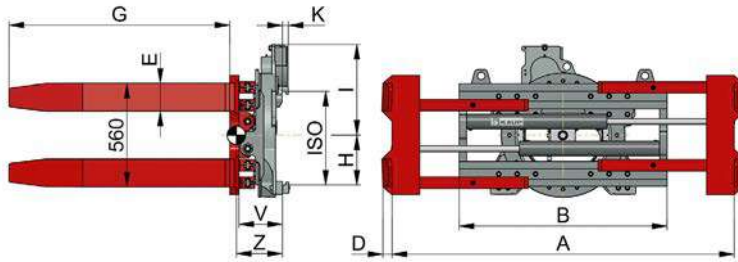


## Rotating Fork Clamp with Turnable Forks T451D

Rotation 360° continuous - fork length max. 1.300 mm

| Model    | Capacity of forks kg | Capacity as clamp kg | LCD mm | A mm      | B mm  | D mm | E mm | A1 mm     | I mm | K mm | H mm | Md <sup>1)</sup> Nm | Vol <sup>2)</sup> ltr. | ISO cl. | V mm | CofG Z mm | Weight kg |
|----------|----------------------|----------------------|--------|-----------|-------|------|------|-----------|------|------|------|---------------------|------------------------|---------|------|-----------|-----------|
| 1,5T451D | 1.900                | 1.250                | 500    | 90-1.090  | 970   | 40   | 120  | 380-1.380 | 478  | 33   | 213  | 6.013               | 7,6                    | 2       | 331  | 286       | 433       |
|          |                      |                      |        | 270-1.450 | 970   |      |      | 560-1.740 |      |      |      |                     |                        |         |      | 285       | 436       |
|          |                      |                      |        | 260-1.660 | 1.200 |      |      | 550-1.950 |      |      |      |                     |                        |         |      | 281       | 452       |
|          |                      |                      |        | 130-1.330 | 1.130 |      |      | 510-1.710 |      |      |      |                     |                        |         |      | 312       | 602       |
| 2T 451 D | 2.300                | 2.000                | 500    | 230-1.530 | 1.130 | 50   | 150  | 610-1.910 | 457  | 32   | 269  | 7.700               | 9,7                    | 2/3     | 356  | 312       | 605       |
|          |                      |                      |        | 230-1.730 | 1.330 |      |      | 610-2.110 |      |      |      |                     |                        |         |      | 308       | 620       |
|          |                      |                      |        |           |       |      |      |           |      |      |      |                     |                        |         |      |           |           |

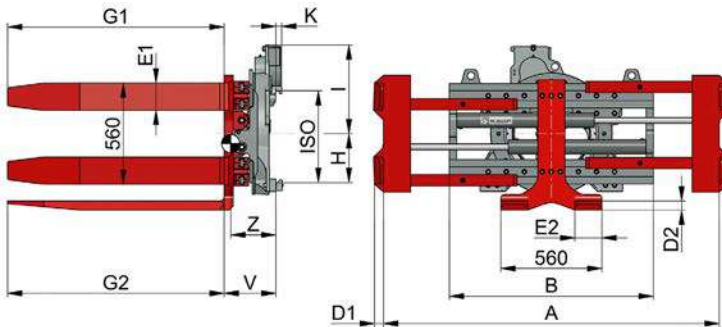
**Preferential range** <sup>1)</sup> Md: Torque  $\Delta P = 125$  bar. <sup>2)</sup> Oil volume required per rev. Fork length 'G' = 1.200 mm. Also available with sideshift, model T491D, see page 90.



## Pallet Turnover Clamp T451W - Rotation 360° continuous - with two movable fork pairs

| Model     | Capacity as clamp kg | LCD mm | A mm                   | B mm           | D mm | E mm | G mm  | H mm | I mm | K mm | Md <sup>1)</sup> Nm | Vol <sup>2)</sup> ltr. | ISO cl. | V mm | CofG Z mm  | Weight kg      |
|-----------|----------------------|--------|------------------------|----------------|------|------|-------|------|------|------|---------------------|------------------------|---------|------|------------|----------------|
| 1,5T451W  | 1.250                | 500    | 540-1.720<br>530-1.930 | 970<br>1.200   | 45   | 125  | 1.200 | 213  | 478  | 33   | 6.013               | 7,6                    | 2       | 216  | 383<br>376 | 531<br>547     |
| 2T 451W   | 2.000                | 500    | 560-1.860<br>560-2.060 | 1.130<br>1.330 | 50   | 150  | 1.200 | 269  | 457  | 33   | 7.700               | 9,7                    | 2/3     | 232  | 385<br>381 | 725<br>740     |
| 3T 451W   | 2.500                | 500    | 560-1.860<br>560-2.060 | 1.130<br>1.330 | 50   | 150  | 1.200 | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 279  | 373<br>369 | 869<br>888     |
| 4T 451W   | 2.900                | 500    | 560-2.060<br>560-2.190 | 1.330<br>1.460 | 60   | 160  | 1.200 | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 289  | 380<br>378 | 1.029<br>1.041 |
| 4,5T 451W | 2.900                | 500    | 560-2.060<br>560-2.180 | 1.330<br>1.460 | 60   | 160  | 1.200 | 328  | 675  | 36   | 14.823              | 17,4                   | 4       | 291  | 364<br>362 | 1.155<br>1.169 |
| 5T 451W   | 3.500                | 600    | 580-2.210<br>850-2.750 | 1.550<br>1.550 | 60   | 200  | 1.200 | 345  | 455  | 40   | 13.434              | 15,7                   | 4       | 360  | 412<br>407 | 1.442<br>1.505 |

1) Md: Torque  $\Delta P = 125$  bar. 2) Oil volume required per rev. Also available with sideshift, model T491W, see page 90.

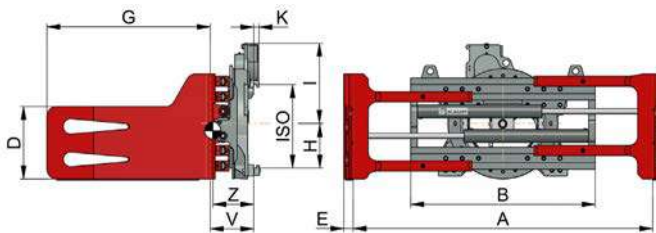


## Pallet Turnover Clamp T451W/180

Rotation 360° continuous - with additional pair of forks to empty various boxes

| Model         | Capacity as clamp kg | LCD mm | A mm                   | B mm           | Fork dimensions E1 mm D1 mm G1 mm | Add forks E2 mm D2 mm G2 mm | Md <sup>1)</sup> Nm | Vol <sup>2)</sup> ltr. | ISO cl. | V mm | CofG Z mm  | Weight kg      |
|---------------|----------------------|--------|------------------------|----------------|-----------------------------------|-----------------------------|---------------------|------------------------|---------|------|------------|----------------|
| 1,5T 451W/180 | 1.250                | 500    | 540-1.720<br>530-1.930 | 970<br>1.200   | 125 45 1.200                      | 125 45 1.200                | 6.013               | 7,6                    | 2B      | 267  | 431<br>425 | 678<br>694     |
| 2T 451W/180   | 2.000                | 500    | 560-1.860<br>560-2.060 | 1.130<br>1.330 | 150 50 1.200                      | 150 50 1.200                | 7.700               | 9,7                    | 2/3B    | 285  | 437<br>432 | 905<br>920     |
| 3T 451W/180   | 2.500                | 500    | 560-1.860<br>560-2.060 | 1.130<br>1.330 | 150 50 1.200                      | 150 50 1.200                | 8.950               | 11,3                   | 3B      | 333  | 423<br>419 | 1.083<br>1.102 |

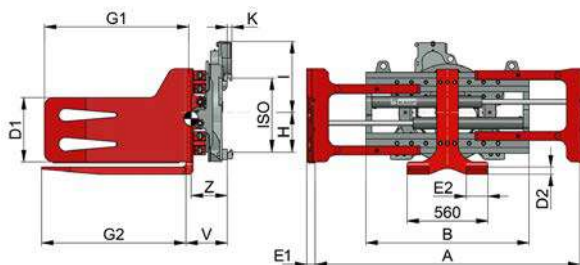
**Attention:** Additional forks exclusively possible with underclearance according to ISO class »B« version. 1) Md: Torque  $\Delta P = 125$  bar. 2) Oil volume required per rev. Also available with sideshift, model T491W/180, see page 90. **Note:** Container must have suitable insertion slots.



## Rotating Bale Clamp T453 - 360° rotation continuous

| Model    | Capacity kg | LCD mm | A mm                                                                       | B mm                                               | D mm | E mm | G mm  | H mm | I mm | K mm | Md <sup>1)</sup> Nm | Vol <sup>2)</sup> ltr. | ISO cl. | V mm | CofG Z mm                              | Weight kg                              |
|----------|-------------|--------|----------------------------------------------------------------------------|----------------------------------------------------|------|------|-------|------|------|------|---------------------|------------------------|---------|------|----------------------------------------|----------------------------------------|
| 1,5T 453 | 1.250       | 500    | 475-1.655<br>475-1.725<br>465-1.865                                        | 970<br>1.040<br>1.200                              | 440  | 37   | 1.000 | 213  | 478  | 33   | 6.013               | 7,6                    | 2       | 246  | 312<br>308<br>305                      | 462<br>475<br>485                      |
| 2T 453   | 2.000       | 500    | 575-1.875<br>675-2.075<br>485-1.785<br>585-1.985<br>485-1.985<br>595-2.395 | 1.040<br>1.040<br>1.130<br>1.130<br>1.330<br>1.520 | 440  | 42   | 1.000 | 269  | 457  | 32   | 7.700               | 9,7                    | 2/3     | 266  | 304<br>303<br>303<br>302<br>300<br>291 | 606<br>609<br>611<br>614<br>627<br>667 |
| 2,5T 453 | 2.300       | 500    | 475-1.775<br>475-1.975                                                     | 1.130<br>1.330                                     | 470  | 47   | 1.000 | 269  | 457  | 32   | 7.700               | 9,7 2° / 3             |         | 271  | 305<br>301                             | 703<br>722                             |
| 3T 453   | 2.500       | 500    | 475-1.775<br>475-1.975<br>475-2.105                                        | 1.130<br>1.330<br>1.460                            | 470  | 47   | 1.000 | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 304  | 305<br>303<br>301                      | 814<br>834<br>845                      |
| 4T 453   | 2.900       | 500    | 375-1.775<br>475-1.975<br>605-2.235<br>475-2.105<br>415-2045               | 1.330<br>1.330<br>1.330<br>1.460<br>1.520          | 470  | 47   | 1.000 | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 314  | 299<br>299<br>299<br>297<br>287        | 870<br>872<br>875<br>885<br>929        |
| 4,8T 453 | 3.500       | 500    | 465-1.865<br>695-2.325<br>565-2.195                                        | 1.330<br>1.330<br>1.460                            | 470  | 52   | 1.000 | 338  | 395  | 40   | 8.950               | 11,3                   | 3       | 344  | 309<br>308<br>307                      | 1.044<br>1.051<br>1.067                |

**Preferential range** <sup>1)</sup> Md: Torque  $\Delta P=125$  bar. <sup>2)</sup> Oil volume required per rev. Also available with sideshift, model T493, see page 90. Variations in width, opening ranges and arm dimensions available upon request.

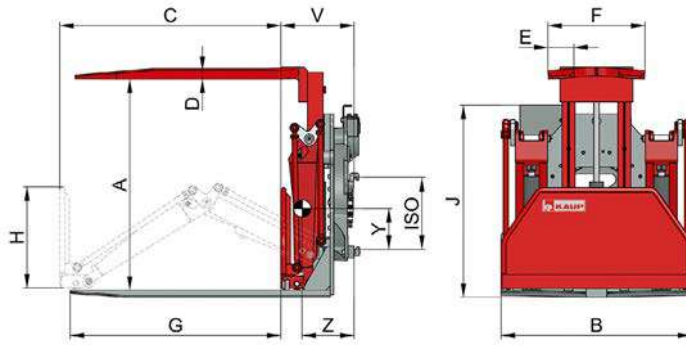


## Rotating Bale Clamp T453/180

Rotation 360° continuous - with additional pair of forks to empty various boxes

| Model       | Capacity as clamp kg | LCD mm | A mm                                | B mm                    | Arm dimensions D1 mm | E1 mm | G1 mm | E2 mm | Add forks D2 mm | G2 mm | Md <sup>1)</sup> Nm | Vol <sup>2)</sup> ltr. | ISO cl. | V mm | CofG Z mm         | Weight kg         |
|-------------|----------------------|--------|-------------------------------------|-------------------------|----------------------|-------|-------|-------|-----------------|-------|---------------------|------------------------|---------|------|-------------------|-------------------|
| 1,5T453/180 | 1.250                | 500    | 655-1.755<br>655-2.005              | 970<br>1.200            | 440                  | 37    | 1.200 | 125   | 45              | 1.200 | 6.013               | 7,6                    | 2B      | 267  | 427<br>420        | 652<br>668        |
| 2T453/180   | 2.000                | 500    | 575-1.875<br>585-1.985<br>585-2.185 | 1.040<br>1.130<br>1.330 | 440                  | 42    | 1.200 | 150   | 50              | 1.200 | 7.700               | 9,7                    | 2/3B    | 285  | 411<br>409<br>405 | 863<br>871<br>886 |
| 3T453/180   | 2.500                | 500    | 695-2.095<br>675-2.175              | 1.130<br>1.330          | 470                  | 47    | 1.200 | 150   | 50              | 1.200 | 8.950               | 11,3                   | 3B      | 304  | 409<br>406        | 1.084<br>1.102    |

**Attention:** Additional forks exclusively possible with underclearance according to ISO class »B« version. <sup>1)</sup> Md: Torque  $\Delta P = 125$  bar. <sup>2)</sup> Oil volume required per rev. Also available with sideshift, model T493/180, see page 90. **Note:** Container must have suitable insertion slots.

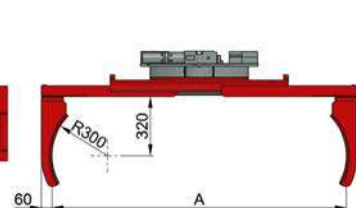
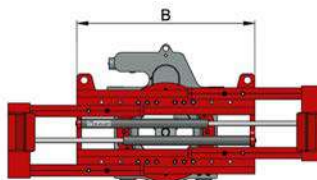
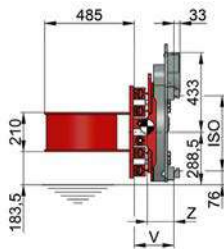


## Pallet Turnover Clamp with Pusher T451WA 360° rotation continuous

Pallet Turnover Clamps with Pusher are put into operation when loads have to be transferred from a production pallet to a cheaper transport pallet (one way pallet) or directly loaded into containers, onto lorries or railway wagons. The palletized goods are picked up with the forks, clamped and turned 180°. When the clamp is opened, the load rests on both carrying plates and then can be pushed off onto the transport pallet into the container or directly onto the lorry or railway wagon.

| Model     | Capacity<br>on forks<br>kg | mm  | A<br>mm     | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | G<br>mm | H<br>mm | J<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-----------|----------------------------|-----|-------------|---------|---------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 2T 451 WA | 1.400                      | 600 | 700-1.200   | 1.100   | 1.250   | 50      | 150     | 650     | 1.200   | 565     | 1.045   | 2/3        | 422     | 455             | 1.082        |
| 3T 451 WA | 2.000                      | 600 | 1.050-1.675 | 1.300   | 1.250   | 60      | 160     | 650     | 1.200   | 735     | 1.135   | 3          | 509     | 405             | 1.550        |
| 3T 451 WA | 2.000                      | 600 | 1.050-1.675 | 1.300   | 1.250   | 60      | 160     | 650     | 1.200   | 735     | 1.135   | 4          | 481     | 380             | 1.620        |
| 4T 451 WA | 2.500                      | 600 | 1.050-1.675 | 1.300   | 1.250   | 60      | 160     | 650     | 1.200   | 735     | 1.135   | 4          | 490     | 395             | 1.755        |

Also available with sideshift, model T491WA, solenoid valve required, see page 90. Increased sideshift for container stuffing upon request. Lateral supporting plate upon request.



## Rotating Drum Clamp T455-1

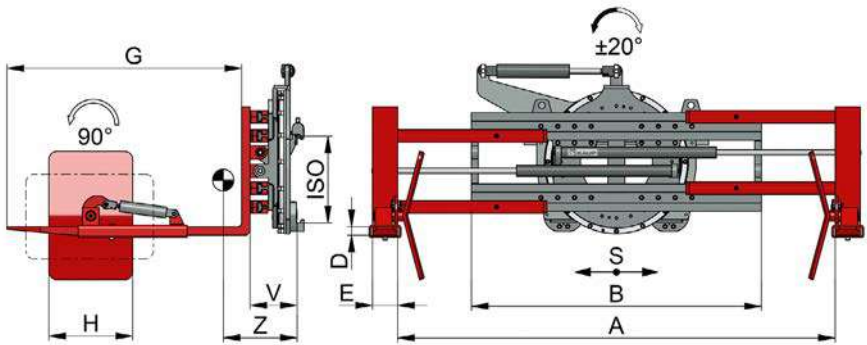
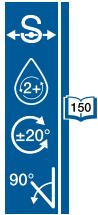
360° rotation continuous - to transport cylindrical steel drums - arms covered with Remagrip

| Model    | Capacity<br>kg | LCD<br>mm | A<br>mm   | B<br>mm | Torque $\Delta p =$<br>125 bar<br>Nm | ISO<br>class | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|-----------|-----------|---------|--------------------------------------|--------------|---------|-----------------|--------------|
| 1T 455-1 | 700            | 320       | 420-1.600 | 970     | 6.013                                | 2            | 216     | 146             | 305          |

Available with sideshift model T495-1, see page 90.







## Tyre Handler T421SV - 2 hydraulic functions + 2 solenoid valves

Tyre handling arms in slip-on design. When removed, the attachment can be used for multiple handling purposes.

|            | Capacity<br>on forks |     | Capacity<br>as clamp |       | S     | A           | Tyre-<br>diameter | B     | D  | E   | G     | H    | ISO | V   | CofG    | Weight |
|------------|----------------------|-----|----------------------|-------|-------|-------------|-------------------|-------|----|-----|-------|------|-----|-----|---------|--------|
| Model      | kg                   | mm  | kg                   | mm    | mm    | mm          | mm                | mm    | mm | mm  | mm    | mm   | cl. | mm  | Z<br>mm | kg     |
| 2T 421SV   | 2.300                | 500 | 1.050                | 1.120 | ± 100 | 1.170-2.570 | 1.050-2.175       | 1.720 | 50 | 150 | 1.300 | 500  | 2/3 | 241 | 450     | 910    |
| 3T 421SV   | 3.000                | 500 | 1.400                | 1.100 | ± 100 | 980-2.610   | 1.000-2.100       | 1.730 | 50 | 150 | 1.400 | 500  | 2/3 | 276 | 471     | 1.225  |
| 4T 421SV   | 3.600                | 500 | 1.600                | 1.200 | ± 100 | 1.180-2.810 | 1.200-2.300       | 1.750 | 60 | 150 | 1.400 | 500  | 3/4 | 291 | 486     | 1.350  |
| 5T 421SV   | 4.500                | 600 | 2.000                | 1.450 | ± 160 | 1.300-3.200 | 1.200-2.700       | 2.600 | 60 | 200 | 1.700 | 500  | 4   | 375 | 590     | 2.060  |
| 6T 421BSV  | 6.600                | 600 | 2.700                | 1.550 | ± 160 | 1.300-3.500 | 1.200-2.900       | 2.900 | 70 | 200 | 1.800 | 600  | 4   | 445 | 630     | 2.645  |
| 6,5T421BSV | 7.600                | 600 | 3.000                | 1.525 | ± 160 | 1.440-3.640 | 1.340-3.040       | 2.800 | 70 | 200 | 2.000 | 600  | 4   | 465 | 658     | 2.875  |
| 8T 421BSV  | 10.000               | 600 | 4.000                | 1.600 | ± 160 | 1.400-3.600 | 1.300-3.050       | 2.800 | 80 | 200 | 2.000 | 600  | 4   | 520 | 658     | 3.600  |
| 8T 421BSV  | 10.000               | 600 | 3.800                | 1.750 | ± 160 | 1.400-3.900 | 1.300-3.300       | 3.200 | 80 | 200 | 2.000 | 600  | 4   | 520 | 640     | 3.795  |
| 10T421BSV* | 15.000               | 600 | 4.100                | 1.800 | ± 200 | 1.470-4.270 | 1.400-3.600       | 3.300 | 90 | 250 | 2.100 | 600  | -   | 590 | 705     | 4.500  |
| 12T421BSV* | 15.000               | 600 | 5.100                | 1.800 | ± 200 | 1.470-4.270 | 1.400-3.600       | 3.300 | 90 | 250 | 2.100 | 600  | -   | 600 | 700     | 4.700  |
| 15T 221SV* | 15.000               | 600 | 5.000                | 2.150 | ± 200 | 1.750-4.550 | 1.600-4.000       | 3.450 | 90 | 250 | 2.400 | ø700 | -   | 620 | 730     | 5.400  |

\*At oil flow rates of over 80 l/min flow restriction valves are to be applied.

Terminal West / Pin-Type mounting available upon request.

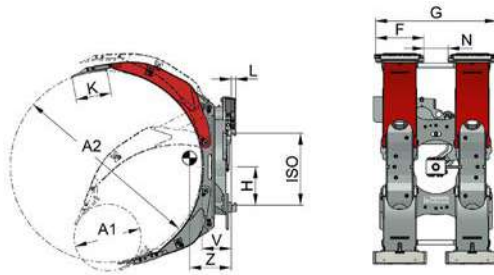
Pads ± 90° tiltable available upon request.

Tyre Handler in various capacities and versions upon request.



Fig. Tyre Handler 20T221SV



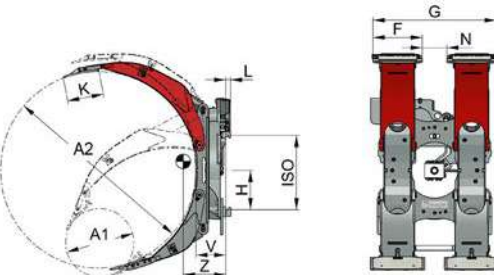


## Rotating Roll Clamp T458BC 360° rotation continuous - short arm fixed

| Model     | Capacity<br>kg | A1-A2<br>mm | F<br>mm | G<br>mm | H<br>mm | K<br>mm | L<br>mm | N<br>mm | Torque<br>$\Delta p = 125$ bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-----------|----------------|-------------|---------|---------|---------|---------|---------|---------|--------------------------------------|--------------------------------------------|------------|---------|-----------------|--------------|
| 1T458BC   | 1.200          | 440-1.350   | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                | 4,8                                        | 2          | 195     | 302             | 417          |
| 1,5T458BC | 1.550          | 440-1.350   | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                | 4,8                                        | 2          | 195     | 301             | 419          |
| 1,5T458BC | 1.500          | 470-1.450   | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                | 4,8                                        | 2          | 195     | 315             | 426          |
| 2T458BC   | 2.400          | 430-1.350   | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                | 6,1                                        | 2*/3       | 203     | 348             | 541          |
| 2T458BC   | 2.000          | 460-1.600   | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                | 6,1                                        | 2*/3       | 203     | 361             | 579          |
| 2T458BC   | 1.750          | 510-1.830   | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                | 6,1                                        | 2*/3       | 203     | 365             | 602          |
| 3T458BC   | 3.200          | 450-1.350   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                | 7,1                                        | 3          | 207     | 245             | 669          |
| 3T458BC   | 2.800          | 500-1.600   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                | 7,1                                        | 3          | 207     | 269             | 713          |
| 3T458BC   | 2.500          | 650-1.830   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                | 7,1                                        | 3          | 207     | 292             | 752          |
| 4T458BC   | 4.200          | 480-1.350   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                | 10,3                                       | 3*/4       | 268     | 311             | 1.035        |
| 4T458BC   | 3.500          | 570-1.600   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                | 10,3                                       | 3*/4       | 268     | 328             | 1.058        |
| 4T458BC   | 3.400          | 670-1.830   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                | 10,3                                       | 3*/4       | 268     | 353             | 1.124        |
| 5T458BC   | 3.900          | 810-2.000   | 420     | 1.000   | 350     | 300     | 46      | 160     | 10.560                               | 12,9                                       | 4          | 318     | 406             | 1.261        |
| 6T458BC   | 4.600          | 940-2.200   | 420     | 1.000   | 350     | 300     | 45      | 160     | 17.590                               | 20,7                                       | 4          | 318     | 408             | 1.471        |

**Preferential range** \* Technical details of attachment always refer to the smallest ISO class. Available with sideshift model T498BC, see page 90, Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required.

**Optional:** contact pad coatings (standard polyurethane coating Poly-1). **Optional:** continuous contact pads.

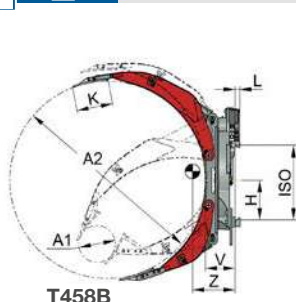


## Rotating Roll Clamp T458BC-2 360° rotation continuous - short arm fixed

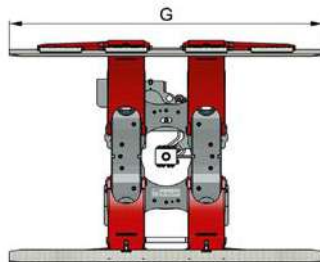
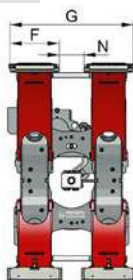
| Model       | Capacity<br>kg | A1-A2<br>mm | F<br>mm | G<br>mm | H<br>mm | K<br>mm | L<br>mm | N<br>mm | Torque<br>$\Delta p = 125$ bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-------------|---------|---------|---------|---------|---------|---------|--------------------------------------|--------------------------------------------|------------|---------|-----------------|--------------|
| 1T458BC-2   | 1.200          | 440-1.350   | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                | 4,8                                        | 2          | 195     | 301             | 418          |
| 1,5T458BC-2 | 1.550          | 440-1.350   | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                | 4,8                                        | 2          | 195     | 300             | 419          |
| 1,5T458BC-2 | 1.500          | 470-1.450   | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                | 4,8                                        | 2          | 195     | 314             | 426          |
| 2T458BC-2   | 2.400          | 430-1.350   | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                | 6,1                                        | 2*/3       | 203     | 345             | 540          |
| 2T458BC-2   | 2.000          | 460-1.600   | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                | 6,1                                        | 2*/3       | 203     | 358             | 579          |
| 2T458BC-2   | 1.750          | 510-1.830   | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                | 6,1                                        | 2*/3       | 203     | 362             | 601          |
| 3T458BC-2   | 3.200          | 450-1.350   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                | 7,1                                        | 3          | 207     | 244             | 668          |
| 3T458BC-2   | 2.800          | 500-1.600   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                | 7,1                                        | 3          | 207     | 268             | 713          |
| 3T458BC-2   | 2.500          | 650-1.830   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                | 7,1                                        | 3          | 207     | 291             | 751          |
| 4T458BC-2   | 4.200          | 480-1.350   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                | 10,3                                       | 3*/4       | 268     | 310             | 1.033        |
| 4T458BC-2   | 3.500          | 570-1.600   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                | 10,3                                       | 3*/4       | 268     | 327             | 1.057        |
| 4T458BC-2   | 3.400          | 670-1.830   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                | 10,3                                       | 3*/4       | 268     | 352             | 1.123        |
| 5T458BC-2   | 3.900          | 810-2.000   | 420     | 1.000   | 350     | 300     | 46      | 160     | 10.560                               | 12,9                                       | 4          | 318     | 405             | 1.260        |
| 6T458BC-2   | 4.600          | 940-2.200   | 420     | 1.000   | 350     | 300     | 45      | 160     | 17.590                               | 20,7                                       | 4          | 318     | 407             | 1.469        |

**Preferential range** \* Technical details of attachment always refer to the smallest ISO class. Available with sideshift model T498BC-2, see page 90, Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required.

**Optional:** contact pad coatings (standard polyurethane coating Poly-1). **Optional:** short arm with continuous contact pads.



T458B



T458BR

## Rotating Roll Clamp T458B

360° rotation continuous - short arm hydraulically adjustable in each turning position

| Model    | Capacity kg | A1-A2 mm    | F mm | G mm  | H mm | K mm | L mm | N mm | Torque $\Delta p = 125$ bar Nm | Oil volume required per rev. ltr. | ISO cl. | V mm | CofG Z mm | Weight kg |
|----------|-------------|-------------|------|-------|------|------|------|------|--------------------------------|-----------------------------------|---------|------|-----------|-----------|
| 1T458B   | 1.200       | 200 - 1.350 | 300  | 700   | 211  | 250  | 31   | 100  | 3.760                          | 4,8                               | 2       | 195  | 301       | 421       |
| 1T458B   | 1.100       | 200 - 1.450 | 300  | 700   | 211  | 250  | 31   | 100  | 3.760                          | 4,8                               | 2       | 195  | 279       | 426       |
| 1,5T458B | 1.550       | 200 - 1.350 | 300  | 700   | 211  | 250  | 31   | 100  | 3.760                          | 4,8                               | 2       | 195  | 301       | 424       |
| 1,5T458B | 1.500       | 200 - 1.450 | 300  | 700   | 211  | 250  | 31   | 100  | 3.760                          | 4,8                               | 2       | 195  | 313       | 429       |
| 2T458B   | 2.400       | 200 - 1.350 | 340  | 850   | 270  | 250  | 31   | 170  | 4.810                          | 6,1                               | 2*/3    | 203  | 341       | 547       |
| 2T458B   | 2.200       | 200 - 1.450 | 340  | 850   | 270  | 250  | 31   | 170  | 4.810                          | 6,1                               | 2*/3    | 203  | 344       | 557       |
| 2T458B   | 2.050       | 200 - 1.500 | 340  | 850   | 270  | 250  | 31   | 170  | 4.810                          | 6,1                               | 2*/3    | 203  | 352       | 563       |
| 2T458B   | 2.000       | 200 - 1.600 | 340  | 850   | 270  | 250  | 31   | 170  | 4.810                          | 6,1                               | 2*/3    | 203  | 354       | 586       |
| 2T458B   | 1.750       | 200 - 1.830 | 340  | 850   | 270  | 250  | 31   | 170  | 4.810                          | 6,1                               | 2*/3    | 203  | 358       | 609       |
| 3T458B   | 3.200       | 200 - 1.350 | 340  | 850   | 338  | 250  | 34   | 170  | 5.590                          | 7,1                               | 3       | 207  | 245       | 677       |
| 3T458B   | 3.100       | 200 - 1.450 | 340  | 850   | 338  | 250  | 34   | 170  | 5.590                          | 7,1                               | 3       | 207  | 255       | 700       |
| 3T458B   | 2.800       | 220 - 1.600 | 340  | 850   | 338  | 250  | 34   | 170  | 5.590                          | 7,1                               | 3       | 207  | 269       | 722       |
| 3T458B   | 2.500       | 200 - 1.830 | 340  | 850   | 338  | 250  | 34   | 170  | 5.590                          | 7,1                               | 3       | 207  | 291       | 760       |
| 3T458B   | 2.100       | 550 - 2.200 | 340  | 850   | 338  | 250  | 34   | 170  | 5.590                          | 7,1                               | 3       | 207  | 326       | 800       |
| 4T458B   | 4.200       | 220-1.350   | 420  | 1.000 | 384  | 300  | 41   | 160  | 8.800                          | 10,3                              | 3*/4    | 268  | 311       | 1.046     |
| 4T458B   | 3.900       | 220-1.450   | 420  | 1.000 | 384  | 300  | 41   | 160  | 8.800                          | 10,3                              | 3*/4    | 268  | 313       | 1.038     |
| 4T458B   | 3.500       | 250-1.600   | 420  | 1.000 | 384  | 300  | 41   | 160  | 8.800                          | 10,3                              | 3*/4    | 268  | 328       | 1.070     |
| 4T458B   | 3.400       | 300-1.830   | 420  | 1.000 | 384  | 300  | 41   | 160  | 8.800                          | 10,3                              | 3*/4    | 268  | 352       | 1.136     |
| 4T458B   | 2.800       | 600-2.200   | 420  | 1.000 | 384  | 300  | 41   | 160  | 8.800                          | 10,3                              | 3*/4    | 268  | 392       | 1.206     |
| 5T458B   | 4.750       | 250-1.600   | 420  | 1.000 | 350  | 300  | 46   | 160  | 10.560                         | 12,9                              | 4       | 318  | 366       | 1.183     |
| 5T458B   | 4.200       | 320-1.830   | 420  | 1.000 | 350  | 300  | 46   | 160  | 10.560                         | 12,9                              | 4       | 318  | 388       | 1.245     |
| 5T458B   | 3.900       | 400-2.000   | 420  | 1.000 | 350  | 300  | 46   | 160  | 10.560                         | 12,9                              | 4       | 318  | 405       | 1.276     |
| 6T458B   | 5.900       | 270-1.600   | 420  | 1.000 | 350  | 300  | 45   | 160  | 17.590                         | 20,7                              | 4       | 318  | 351       | 1.351     |
| 6T458B   | 4.600       | 600-2.200   | 420  | 1.000 | 350  | 300  | 45   | 160  | 17.590                         | 20,7                              | 4       | 318  | 407       | 1.490     |

**Preferential range** \* Technical details of attachment always refer to the smallest ISO class. Available with sideshift model T498B, see page 90. Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required. **Optional:** contact pad coatings (standard polyurethane coating Poly-1). **Optional:** continuous contact pads. Short arm adjustable in 45° position.

## Rotating Tyre Clamp T458BR

360° rotation continuous - short arm hydraulically adjustable in each turning position <sup>(1)</sup> fixed - continuous contact pads

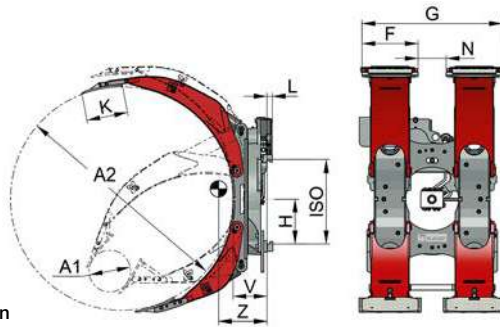
| Model                    | Capacity kg | A1-A2 mm    | G mm  | H mm | K mm | L mm | Torque $\Delta p = 125$ bar Nm | Oil volume required per rev. ltr. | ISO cl. | V mm | CofG Z mm | Weight kg |
|--------------------------|-------------|-------------|-------|------|------|------|--------------------------------|-----------------------------------|---------|------|-----------|-----------|
| 1T 458 BCR <sup>1)</sup> | 1.200       | 450 - 1.350 | 1.200 | 208  | 250  | 33   | 6.013                          | 7,6                               | 2       | 185  | 318       | 423       |
| 1T 458 BCR <sup>1)</sup> | 1.100       | 500 - 1.450 | 1.200 | 208  | 250  | 33   | 6.013                          | 7,6                               | 2       | 185  | 322       | 439       |
| 1,5 T458 BR              | 1.150       | 200 - 1.350 | 2.000 | 208  | 250  | 33   | 6.013                          | 7,6                               | 2       | 185  | 369       | 476       |
| 1,5 T458 BR              | 800         | 250 - 1.600 | 2.000 | 208  | 250  | 33   | 6.013                          | 7,6                               | 2       | 185  | 410       | 517       |
| 2T 458 BR                | 2.400       | 200 - 1.350 | 2.000 | 270  | 250  | 33   | 7.700                          | 9,7                               | 2*/3    | 207  | 360       | 647       |
| 2T 458 BR                | 2.000       | 220 - 1.600 | 2.000 | 270  | 250  | 32   | 7.700                          | 9,7                               | 2*/3    | 207  | 399       | 697       |
| 2T 458 BR                | 1.700       | 350 - 1.830 | 2.000 | 270  | 250  | 32   | 7.700                          | 9,7                               | 2*/3    | 207  | 442       | 743       |

<sup>1)</sup> Version with fixed short arm. \* Technical details of attachment always refer to the smallest ISO class. Available with sideshift model T498BR, see page 90. Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required. **Optional:** Short arm adjustable in 45° position.

## Rotating

### Roll Clamp T458B-2

360° rotation continuous - short arm  
hydraulically adjustable in each turning position



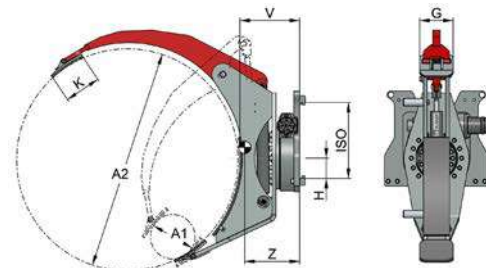
| Model      | Capacity<br>kg | A1-A2<br>mm | F<br>mm | G<br>mm | H<br>mm | K<br>mm | L<br>mm | N<br>mm | Torque<br>$\Delta p =$<br>125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | ISO<br>cl. | V<br>mm | CofG<br>Z mm | Weight<br>kg |
|------------|----------------|-------------|---------|---------|---------|---------|---------|---------|-----------------------------------------|--------------------------------------------|------------|---------|--------------|--------------|
| 1T458B-2   | 1.200          | 200 - 1.350 | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                   | 4,8                                        | 2          | 195     | 300          | 421          |
| 1T458B-2   | 1.100          | 200 - 1.450 | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                   | 4,8                                        | 2          | 195     | 278          | 427          |
| 1,5T458B-2 | 1.550          | 200 - 1.350 | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                   | 4,8                                        | 2          | 195     | 300          | 424          |
| 1,5T458B-2 | 1.500          | 200 - 1.450 | 300     | 700     | 211     | 250     | 31      | 100     | 3.760                                   | 4,8                                        | 2          | 195     | 314          | 430          |
| 2T458B-2   | 2.400          | 200 - 1.350 | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                   | 6,1                                        | 2 2/3      | 203     | 339          | 547          |
| 2T458B-2   | 2.200          | 200 - 1.450 | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                   | 6,1                                        | 2 2/3      | 203     | 342          | 556          |
| 2T458B-2   | 2.050          | 200 - 1.500 | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                   | 6,1                                        | 2 2/3      | 203     | 350          | 562          |
| 2T458B-2   | 2.000          | 200 - 1.600 | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                   | 6,1                                        | 2 2/3      | 203     | 352          | 586          |
| 2T458B-2   | 1.750          | 200 - 1.830 | 340     | 850     | 270     | 250     | 31      | 170     | 4.810                                   | 6,1                                        | 2 2/3      | 203     | 356          | 608          |
| 3T458B-2   | 3.200          | 200-1.350   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                   | 7,1                                        | 3          | 207     | 244          | 677          |
| 3T458B-2   | 3.100          | 200-1.450   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                   | 7,1                                        | 3          | 207     | 254          | 699          |
| 3T458B-2   | 2.800          | 220-1.600   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                   | 7,1                                        | 3          | 207     | 268          | 721          |
| 3T458B-2   | 2.500          | 200-1.830   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                   | 7,1                                        | 3          | 207     | 290          | 760          |
| 3T458B-2   | 2.100          | 550-2.200   | 340     | 850     | 338     | 250     | 34      | 170     | 5.590                                   | 7,1                                        | 3          | 207     | 276          | 799          |
| 4T458B-2   | 4.200          | 220-1.350   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                   | 10,3                                       | 3 3/4      | 268     | 310          | 1.045        |
| 4T458B-2   | 3.900          | 220-1.450   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                   | 10,3                                       | 3 3/4      | 268     | 312          | 1.037        |
| 4T458B-2   | 3.500          | 250-1.600   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                   | 10,3                                       | 3 3/4      | 268     | 327          | 1.069        |
| 4T458B-2   | 3.400          | 300-1.830   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                   | 10,3                                       | 3 3/4      | 268     | 351          | 1.135        |
| 4T458B-2   | 2.800          | 600-2.200   | 420     | 1.000   | 384     | 300     | 41      | 160     | 8.800                                   | 10,3                                       | 3 3/4      | 268     | 391          | 1.205        |
| 5T458B-2   | 4.750          | 250-1.600   | 420     | 1.000   | 350     | 300     | 46      | 160     | 10.560                                  | 12,9                                       | 4          | 318     | 365          | 1.182        |
| 5T458B-2   | 4.200          | 320-1.830   | 420     | 1.000   | 350     | 300     | 46      | 160     | 10.560                                  | 12,9                                       | 4          | 318     | 387          | 1.243        |
| 5T458B-2   | 3.900          | 400-2.000   | 420     | 1.000   | 350     | 300     | 46      | 160     | 10.560                                  | 12,9                                       | 4          | 318     | 404          | 1.274        |
| 6T458B-2   | 5.900          | 270-1.600   | 420     | 1.000   | 350     | 300     | 45      | 160     | 17.590                                  | 20,7                                       | 4          | 318     | 350          | 1.349        |
| 6T458B-2   | 4.600          | 600-2.200   | 420     | 1.000   | 350     | 300     | 45      | 160     | 17.590                                  | 20,7                                       | 4          | 318     | 406          | 1.489        |

**Preferential range** \* Technical details of attachment always refer to the smallest ISO class. Available with sideshift model T498B-2, see page 90. Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required. **Optional:** contact pad coatings (standard polyurethane coating Poly-1). **Optional:** short arm with continuous contact pads. Short arm adjustable in 45° position.

## Rotating

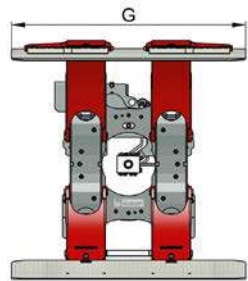
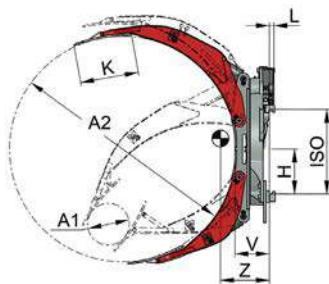
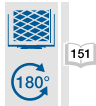
### Roll Clamp T458S

Short arm fixed - especially designed  
for extreme narrow rolls (width from 150 mm)



| Model    | Capacity<br>kg | Rotation°   | A1-A2<br>mm | G<br>mm | H<br>mm   | K<br>mm | Torque<br>$\Delta p =$<br>125 bar<br>Nm | Oil volume<br>required<br>per rev.<br>ltr. | ISO<br>cl. | V<br>mm    | CofG<br>Z mm | Weight<br>kg |
|----------|----------------|-------------|-------------|---------|-----------|---------|-----------------------------------------|--------------------------------------------|------------|------------|--------------|--------------|
| 1T 458 S | 350            | 90°<br>360° | 250 - 1.200 | 180     | 84<br>109 | 200     | 1.950<br>2.570                          | ---<br>3                                   | 2          | 340<br>320 | 258<br>222   | 245<br>260   |

Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required.

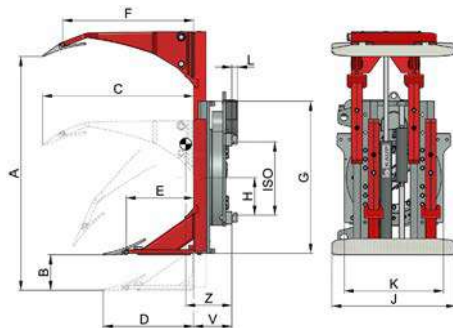
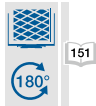
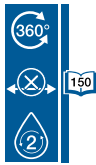


## Rotating Tissue Roll Clamp T458BT 360° rotation continuous

short arm hydraulically adjustable in each turning position <sup>(1)</sup> fixed - continuous rounded tissue contact pads

| Model                    | Capacity kg | A1-A2 mm    | G mm  | H mm | K mm | L mm | Torque $\Delta p = 125$ bar Nm | Oil volume required per rev. ltr. | ISO cl. | V mm | CofG Z mm | Weight kg |
|--------------------------|-------------|-------------|-------|------|------|------|--------------------------------|-----------------------------------|---------|------|-----------|-----------|
| 1T 458 BCT <sup>1)</sup> | 1.200       | 450 - 1.350 | 850   | 208  | 300  | 33   | 6.013                          | 7,6                               | 2       | 185  | 293       | 407       |
| 1T 458 BCT <sup>1)</sup> | 1.100       | 500 - 1.450 | 850   | 208  | 300  | 33   | 6.013                          | 7,6                               | 2       | 185  | 296       | 423       |
| 2T 458 BCT <sup>1)</sup> | 2.000       | 650 - 1.600 | 1.400 | 270  | 300  | 33   | 7.700                          | 9,7                               | 2 2/3   | 207  | 385       | 679       |
| 2T 458 BT                | 2.000       | 220 - 1.600 | 1.400 | 270  | 300  | 33   | 7.700                          | 9,7                               | 2 2/3   | 207  | 388       | 685       |
| 2T 458 BT                | 1.700       | 350 - 1.830 | 1.400 | 270  | 300  | 33   | 7.700                          | 9,7                               | 2 2/3   | 207  | 431       | 731       |
| 3T 458 BT                | 2.500       | 300 - 1.830 | 1.400 | 338  | 300  | 36   | 8.950                          | 11,3                              | 3       | 242  | 426       | 876       |
| 3T 458 BT                | 2.100       | 800 - 2.200 | 1.400 | 338  | 300  | 36   | 8.950                          | 11,3                              | 3       | 242  | 485       | 968       |
| 4T 458 BT                | 3.400       | 350 - 1.830 | 1.800 | 383  | 350  | 36   | 12.591                         | 11,2                              | 3 3/4   | 255  | 470       | 1.286     |
| 4T 458 BT                | 2.800       | 800 - 2.200 | 1.800 | 383  | 350  | 36   | 12.591                         | 11,2                              | 3 3/4   | 255  | 533       | 1.350     |
| 5T 458 BT                | 3.700       | 500 - 2.000 | 1.800 | 350  | 350  | 40   | 12.591                         | 11,2                              | 4       | 315  | 536       | 1.402     |
| 5T 458 BT                | 3.100       | 650 - 2.400 | 1.800 | 350  | 350  | 40   | 12.591                         | 11,2                              | 4       | 315  | 565       | 1.491     |

<sup>1)</sup> Version with fixed short arm. \* Technical details of attachment always refer to the smallest ISO class. Available with sideshift model T498BT, see page 90. Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required. Recommended length of contact pads: 70 % of roll width. **Optional:** Short arm adjustable in 45° position.



## Rotating Roll Clamp parallel guided T458P/T258

360° rotation continuous

| Model     | Cap. kg | Roll diameter mm | A mm  | B mm | C mm  | D mm  | E mm | F mm  | G mm  | H mm | J mm  | K mm  | L mm | Md <sup>2)</sup> Nm | Vol <sup>1)</sup> ltr. | ISO cl. | V mm | CofG Z mm | Weight kg |
|-----------|---------|------------------|-------|------|-------|-------|------|-------|-------|------|-------|-------|------|---------------------|------------------------|---------|------|-----------|-----------|
| 1T 458 P  | 1.200   | 350-1.200        | 1.315 | 200  | 855   | 510   | 380  | 740   | 850   | 213  | 700   | 560   | 33   | 6.013               | 7,6                    | 2       | 215  | 259       | 407       |
| 1,5T 458P | 1.200   | 300-1.350        | 1.425 | 200  | 925   | 580   | 450  | 810   | 970   | 213  | 700   | 560   | 33   | 6.013               | 7,6                    | 2       | 215  | 272       | 421       |
| 2T 458 P  | 2.000   | 300-1.500        | 1.570 | 200  | 1.005 | 670   | 540  | 890   | 1.130 | 269  | 700   | 790   | 33   | 7.700               | 9,7                    | 2 2/3   | 232  | 279       | 543       |
| 3T 458 P  | 2.500   | 300-1.500        | 1.600 | 200  | 995   | 655   | 540  | 890   | 1.130 | 338  | 990   | 1.010 | 40   | 8.950               | 11,3                   | 3       | 279  | 335       | 885       |
| 4T 458 P  | 3.200   | 430-1.870        | 1.985 | 200  | 1.290 | 865   | 750  | 1.155 | 1.330 | 328  | 800   | 870   | 36   | 8.950               | 11,3                   | 3       | 292  | 346       | 1.128     |
| 10T 258   | 8.200   | 900-2.300        | 2.700 | 300  | 1.485 | 1.010 | ---  | ---   | 1.800 | ---  | 1.050 | 1.120 | ---  | 23.000              | 32,8                   | ---     | 360  | 350       | 3.500     |
| 15T 258   | 11.000  | 900-2.300        | 2.700 | 400  | 1.485 | 1.010 | ---  | ---   | 2.230 | ---  | 1.500 | 1.120 | ---  | 23.000              | 32,8                   | ---     | 450  | 500       | 8.200     |
| 20T 258   | 15.000  | 900-2.300        | 2.700 | 400  | 1.485 | 1.010 | ---  | ---   | 2.230 | ---  | 1.500 | 1.350 | ---  | 34.500              | 46,2                   | ---     | 520  | 600       | 9.500     |

<sup>1)</sup> Oil volume required per rev. <sup>2)</sup> Md: Torque  $\Delta P = 125$  bar. Available with sideshift model T498P, see page 90. Available as non rotating clamp model T418. Capacity related to max. roll diameter. Long arm mechanically adjustable.

# OTHER ATTACHMENTS

## Overview Other Attachments

Page

Reach Fork  
Pantograph



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Telescopic Fork  
Fork Positioner with Telescopic Fork  
Conveyer Belt Forks



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Pusher  
Push-Pull



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Tipping Carriage  
Drum Tipping Device  
Loading Bucket



110 - 111

Load Stabilizer with Sideshift  
Load Stabilizer, Telescopic Load Stabilizer



112 - 113

Bucket Discharging Device  
Crane Hook, Crane Jib  
Carpet Carrying Ram, Carrying Ram



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Height adjustable Fork  
Cross Girder  
Foldable Forks, Hook-on Forks ISO 2328  
Hook-on Forks Terminal West, Fork Extensions



118 - 124

Load Backrest  
Contact pad coatings  
Accessories for KAUP Attachments



125 - 131

Electrical attachments eop,  
Fork Positioner with SmartFork®,  
Quick-coupling systems, Overhead block & brick  
clamps, Layer picking devices



132 - 139

Container Spreaders for forklift trucks  
Container Spreaders for cranes,  
Stationary Equipment,  
Residual capacity calculation form



140 - 146

## Recommended Oil flow rates and Pressures

**Reach Forks - Pantographs - Telescopic Forks - Conveyer Belt Forks - Push-Pulls  
Tipping Carriages - Drum Tipping Devices - Loading Buckets - Height Adjustable  
Forks - Load Stabilizers - Bucket Discharging Devices - Foldable forks**

| Attachment                    | Page    | Oil flow rate<br>(oil volume) [l/min] |         |      | Maximum<br>operating pressure<br>[bar] |
|-------------------------------|---------|---------------------------------------|---------|------|----------------------------------------|
|                               |         | min.                                  | optimum | max. |                                        |
| 2T 140 SV                     | 103     | 20                                    | 30      | 40   | 150                                    |
| 2T 149 / 149.1                | 103     | 15                                    | 20      | 30   | 150                                    |
| 3T 149                        | 103     | 20                                    | 30      | 40   | 150                                    |
| 4T 149                        | 103     | 20                                    | 30      | 40   | 150                                    |
| 2T 149 Z                      | 103     | 15                                    | 20      | 30   | 150                                    |
| 3T 149 Z                      | 103     | 20                                    | 30      | 40   | 150                                    |
| 8T 149 Z                      | 103     | 45                                    | 60      | 70   | 150                                    |
| 2T - 5T 180 CT / .1 / .2 / .3 | 104     | 15                                    | 25      | 30   | 150                                    |
| 2T 466 B / 2,5T 180 CT        | 105     | 15                                    | 25      | 30   | 150                                    |
| 2T 466 B / 2,5T 180 CT.1      | 105     | 15                                    | 25      | 30   | 150                                    |
| 4,8T 466 B/ 3,5T 180 CT       | 105     | 15                                    | 25      | 30   | 150                                    |
| 4,8T 466 B/ 3,5T 180 CT.1     | 105     | 15                                    | 25      | 30   | 150                                    |
| 4,8T 466 B/ 4,5T 180 CT       | 105     | 15                                    | 25      | 30   | 150                                    |
| 4,8T 466 B/ 4,5T 180 CT.1     | 105     | 15                                    | 25      | 30   | 150                                    |
| 1,8T 180 FG / -2-4S           | 106     | 15                                    | 25      | 30   | 150                                    |
| 2T 141 S / 142 S              | 107     | 15                                    | 20      | 30   | 150                                    |
| 3T 142 S                      | 107     | 15                                    | 20      | 30   | 150                                    |
| 1T-3T143/144/145/146S/A       | 107-109 | 20                                    | 30      | 40   | 150                                    |
| 2T 130                        | 110     | 15                                    | 20      | 30   | 150                                    |
| 3T - 4T 130                   | 110     | 20                                    | 30      | 50   | 150                                    |
| 5T - 6T 130                   | 110     | 25                                    | 40      | 60   | 150                                    |
| 1T 130 F-1 / -2 / -3 / -4     | 110     | 15                                    | 20      | 30   | 150                                    |
| 1T-10T 183 H/TH / CTH / HTH   | 115-116 | 10                                    | 15      | 20   | 150                                    |
| 2T 184 .2                     | 111     | 8                                     | 15      | 25   | 150                                    |
| 3T 184 .4                     | 111     | 12                                    | 25      | 40   | 150                                    |
| 4T 184 .1                     | 111     | 15                                    | 30      | 50   | 150                                    |
| 6T 184 .4                     | 111     | 35                                    | 60      | 75   | 150                                    |
| 1T 124 / 129 / 155 ST         | 112-113 | 10                                    | 15      | 20   | 150                                    |
| 2T - 3T 167 C                 | 114     | 15                                    | 30      | 40   | 150                                    |
| 4T 167 C                      | 114     | 20                                    | 40      | 50   | 150                                    |
| 2,5T 158                      | 118     | 10                                    | 15      | 20   | 150                                    |
| 4,5T - 6T 158                 | 118     | 15                                    | 25      | 30   | 150                                    |
| 1T - 3T 180 KH                | 119     | 10                                    | 15      | 20   | 150                                    |



**Reach Forks** allow loading of lorries or railway waggons from one side as well as loading and unloading goods stacked double deep on shelves as the load can be carried to the opposite side of the loading platform. Reach Forks, Telescopic Forks or Pusher Forks can be used for palletized goods or where it is possible to slip the forks beneath the load. Pusher Forks and Telescopic Forks are often used in combination with Fork Positioners. The Pantograph is designed for mounting Clamps or Multi Pallet Handlers onto its fork carriage.

**Conveyer Belt Forks** are designed for handling loads with or without pallet.

**Push-Pull Device** allows transportation of loads using inexpensive and space saving slip-sheets which makes, for example, economical loading of overseas containers feasible.



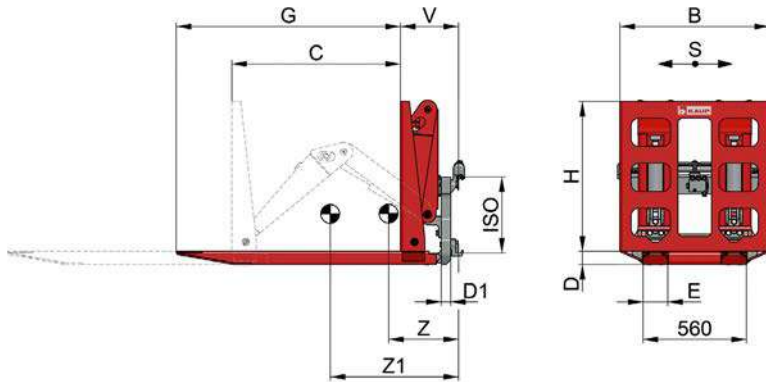
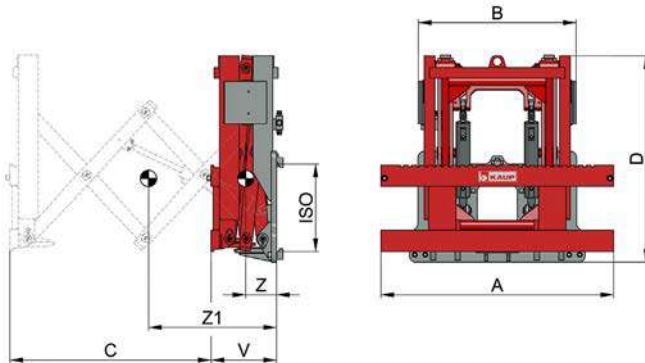


Fig. T140

## Reach Fork T140SV - fix pair distance

| Model     | Capacity<br>extended<br>kg | Capacity<br>retracted<br>kg | LCD<br>mm | S<br>mm | B<br>mm | C<br>mm | D<br>mm | D1<br>mm | E<br>mm | G<br>mm | H<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG<br>Z1<br>mm | Weight<br>kg |
|-----------|----------------------------|-----------------------------|-----------|---------|---------|---------|---------|----------|---------|---------|---------|------------|---------|-----------------|------------------|--------------|
| 2T 140 SV | 2.000                      | 2.500                       | 600       | ± 100   | 800     | 950     | 70      | 50       | 140     | 1.200   | 800     | 2          | 310     | 373             | 685              | 430          |
| 2T 140 SV | 2.000                      | 2.500                       | 600       | ± 100   | 800     | 950     | 70      | 50       | 140     | 1.200   | 800     | 3          | 310     | 332             | 607              | 490          |

**Preferential range** Max. distance from fork tip to mast =  $G + V + C$  + thickness of FLT carriage.  
Also available without sideshift, model T140. In this case the lost load center is reduced by approx. 30 mm.

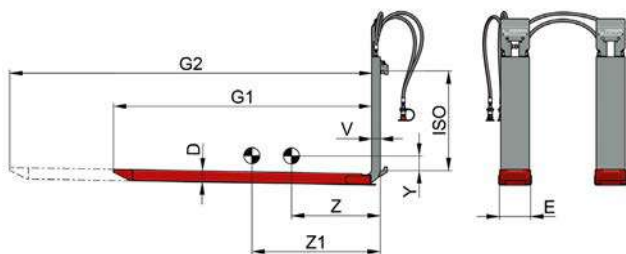


## Pantograph T149/T149Z

| Model    | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | C<br>mm | D<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG1<br>Z1<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|---------|---------|---------|------------|---------|-----------------|-------------------|--------------|
| 2T 149   | 2.000          | 600       | 1.040   | 730     | 950     | 970     | 2/3        | 310     | 146             | 609               | 450          |
| 2T 149.1 | 1.200          | 600       | 1.040   | 730     | 1.200   | 1.060   | 2/3        | 310     | 141             | 711               | 458          |
| 3T 149   | 3.000          | 600       | 1.150   | 1.130   | 800     | 970     | 3          | 435     | 198             | 565               | 680          |
| 4T 149   | 3.500          | 600       | 1.350   | 1.130   | 800     | 970     | 4          | 435     | 189             | 539               | 745          |
| 2T 149Z  | 3.000          | 500       | 1.100   | 890     | 620     | 1.170   | 2/3        | 354     | 149             | 436               | 470          |
| 3T 149Z  | 3.500          | 600       | 1.150   | 1.120   | 750     | 1.290   | 3          | 355     | 165             | 519               | 704          |
| 3T 149Z  | 3.500          | 600       | 1.150   | 1.120   | 750     | 1.290   | 4          | 355     | 167             | 525               | 697          |
| 8T 149Z  | 6.000          | 600       | 1.500   | 1.050   | 1.045   | 1.538   | 4          | 465     | 236             | 741               | 1.320        |

**Preferential range**  
**2/3T149Z suitable to attach clamps and multi pallet handlers.**  
The capacities are related to the extended pantograph. Available with sideshift function upon request.  
Max. distance from fork tip to mast =  $V + C$  + thickness of FLT carriage + fork length.  
Other fork carriage widths available upon request.





## Telescopic Forks T180CT with parallel movement

| Model       | Capacity (kg)<br>at a LCD (mm) |       |       | E**<br>mm | D<br>mm | G1<br>mm | G2<br>mm | ISO<br>cl.* | V<br>mm | CofG<br>Z<br>mm | CofG<br>Z1<br>mm | CofG <sub>y</sub><br>Y<br>mm | Weight<br>/pair<br>kg |
|-------------|--------------------------------|-------|-------|-----------|---------|----------|----------|-------------|---------|-----------------|------------------|------------------------------|-----------------------|
|             | 600                            | 1.450 | 1.750 |           |         |          |          |             |         |                 |                  |                              |                       |
| 2T180CT.3   | 2.000                          | ---   | ---   | 133       | 57      | 800      | 1.200    | 2           | 45      | 254             | 329              | 80                           | 125                   |
| 2T180CT.2   | 2.000                          | 950   | ---   | 133       | 57      | 1.100    | 1.850    | 2           | 45      | 383             | 532              | 61                           | 152                   |
| 2T180CT     | 2.000                          | 950   | ---   | 133       | 57      | 1.200    | 2.050    | 2           | 45      | 427             | 599              | 56                           | 161                   |
| 2T180CT.1   | 2.000                          | 950   | 800   | 133       | 57      | 1.350    | 2.350    | 2           | 45      | 495             | 701              | 50                           | 175                   |
| 2,5T180CT.3 | 2.500                          | ---   | ---   | 163       | 57      | 800      | 1.200    | 2           | 45      | 250             | 326              | 81                           | 152                   |
| 2,5T180CT.2 | 2.500                          | 1.200 | ---   | 163       | 57      | 1.100    | 1.850    | 2           | 45      | 377             | 534              | 62                           | 183                   |
| 2,5T180CT   | 2.500                          | 1.200 | ---   | 163       | 57      | 1.200    | 2.050    | 2           | 45      | 420             | 580              | 57                           | 194                   |
| 2,5T180CT.1 | 2.500                          | 1.200 | 1.000 | 163       | 57      | 1.350    | 2.350    | 2           | 45      | 487             | 708              | 51                           | 210                   |
| 3,5T180CT.2 | 3.500                          | 1.600 | ---   | 163       | 58      | 1.100    | 1.850    | 3           | 45      | 358             | 519              | 91                           | 200                   |
| 3,5T180CT   | 3.500                          | 1.600 | ---   | 163       | 58      | 1.200    | 2.050    | 3           | 45      | 401             | 588              | 84                           | 211                   |
| 3,5T180CT.1 | 3.500                          | 1.600 | 1.350 | 163       | 58      | 1.350    | 2.350    | 3           | 45      | 467             | 694              | 76                           | 228                   |
| 4,5T180CT.2 | 4.500                          | 1.850 | ---   | 163       | 58      | 1.100    | 1.850    | 3           | 45      | 358             | 519              | 91                           | 200                   |
| 4,5T180CT   | 4.500                          | 1.850 | ---   | 163       | 58      | 1.200    | 2.050    | 3           | 45      | 401             | 588              | 84                           | 211                   |
| 4,5T180CT.1 | 4.500                          | 1.850 | 1.550 | 163       | 58      | 1.350    | 2.350    | 3           | 45      | 467             | 694              | 76                           | 228                   |
| 4,8T180CT   | 5.000                          | 2.300 | ---   | 163       | 63      | 1.200    | 2.050    | 3           | 50      | 405             | 578              | 85                           | 232                   |
| 4,8T180CT.1 | 5.000                          | 2.300 | 1.900 | 163       | 63      | 1.350    | 2.350    | 3           | 50      | 470             | 681              | 77                           | 251                   |
| 5T180CT     | 5.000                          | 2.300 | ---   | 163       | 63      | 1.200    | 2.050    | 4           | 50      | 365             | 521              | 97                           | 259                   |
| 5T180CT.1   | 5.000                          | 2.300 | 1.900 | 163       | 63      | 1.350    | 2.350    | 4 A         | 50      | 427             | 618              | 89                           | 277                   |
| 6T180CT     | 6.000                          | 2.500 | ---   | 163       | 67      | 1.200    | 2.050    | 4           | 55      | 373             | 520              | 94                           | 280                   |
| 6T180CT.1   | 6.000                          | 2.500 | 2.050 | 163       | 67      | 1.350    | 2.350    | 4 A         | 55      | 436             | 617              | 82                           | 300                   |
| 8T180CT     | 8.000                          | 3.300 | ---   | 215       | 68      | 1.200    | 2.050    | 4           | 55      | 376             | 535              | 92                           | 370                   |
| 8T180CT.1   | 8.000                          | 3.300 | 2.750 | 215       | 68      | 1.350    | 2.350    | 4 A         | 55      | 439             | 633              | 81                           | 398                   |

Preferential range \* Mounting in ISO B available upon request. \*\* The outer fork is reinforced in the rear area (fork width 'E' + 10mm).

Other capacities, profiles or lengths upon request. The bottoms of the outer forks are fitted with 5 mm thick wear-resistant hardox steel plates.

## Accessories

### Wear and tear bar

Additional Hardox wear and tear bar 5 mm thick on bottom of the outer forks.



### Load Stop A1, A2 and A3

#### Pallet stop A1

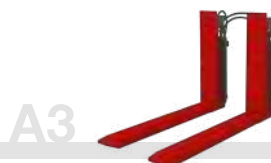
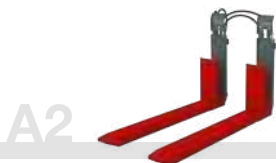
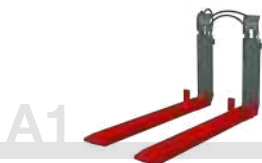
to confine the useable length of the forks for pick up of one pallet. In retracted position the pallet stop A1 is flush with the fork shank.

#### Load stop A2

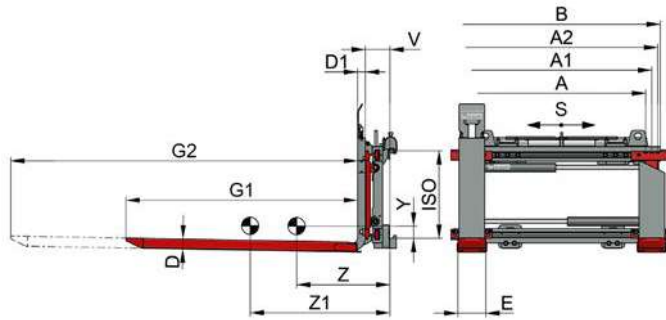
to confine the useable length of the forks. Use of the load stop reduces the useable length of the forks by at least 50 mm. Height of load stop A2 is 400 mm.

#### Load backrest A3

to confine the useable length of the forks and to support the load. Use of the load backrest reduces the useable length of the forks by at least 50 mm. Height of load backrest A3 is 850 mm.



Additional accessories for telescopic forks upon request.



## Fork Positioner with Telescopic Forks T466B/T180CT

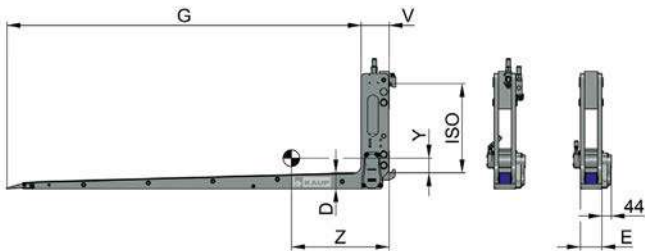
| Model                    | Capacity (kg)<br>at a LCD (mm) |       |       | A2*<br>mm                           | B<br>mm                 | E<br>mm | D<br>mm | D1<br>mm | G1<br>mm | G2<br>mm | S<br>mm | ISO<br>cl. | V<br>mm           | CofG<br>Z<br>mm   | CofG<br>Z1<br>mm  | CofG<br>Y<br>mm   | Weight<br>kg |
|--------------------------|--------------------------------|-------|-------|-------------------------------------|-------------------------|---------|---------|----------|----------|----------|---------|------------|-------------------|-------------------|-------------------|-------------------|--------------|
|                          | 600                            | 1.450 | 1.750 |                                     |                         |         |         |          |          |          |         |            |                   |                   |                   |                   |              |
| 2T466B<br>/2,5T180CT     | 2.020                          | 850   | ---   | 320-1.020<br>320-1.120<br>320-1.320 | 1.040<br>1.150<br>1.350 | 163     | 57      | 45       | 1.200    | 2.050    | 100     | 2          | 138<br>333<br>323 | 339<br>421<br>408 | 429<br>144<br>148 | 344<br>352<br>365 |              |
| 2T466B<br>/2,5T180CT.1   | 2.020                          | 850   | 700   | 320-1.020<br>320-1.120<br>320-1.320 | 1.040<br>1.150<br>1.350 | 163     | 57      | 45       | 1.350    | 2.350    | 100     | 2          | 138<br>381<br>370 | 388<br>507<br>492 | 517<br>137<br>140 | 350<br>368<br>381 |              |
| 2,5T466B<br>/2,5T180CT   | 2.500                          | 1.030 | ---   | 320-1.020<br>320-1.120<br>320-1.320 | 1.040<br>1.150<br>1.350 | 163     | 57      | 45       | 1.200    | 2.050    | 100     | 2          | 153<br>323<br>314 | 329<br>405<br>392 | 412<br>145<br>148 | 373<br>382<br>398 |              |
| 2,5T466B<br>/2,5T180CT.1 | 2.500                          | 1.030 | 860   | 320-1.020<br>320-1.120<br>320-1.320 | 1.040<br>1.150<br>1.350 | 163     | 57      | 45       | 1.350    | 2.350    | 100     | 2          | 153<br>369<br>358 | 375<br>495<br>470 | 495<br>138<br>142 | 389<br>398<br>414 |              |
| 4,8T466B<br>/3,5T180CT   | 3.500                          | 1.600 | ---   | 320-1.120<br>320-1.320<br>320-1.500 | 1.150<br>1.350<br>1.550 | 163     | 58      | 45       | 1.200    | 2.050    | 100     | 3          | 153<br>281<br>272 | 289<br>362<br>350 | 374<br>200<br>203 | 464<br>484<br>505 |              |
| 4,8T466B<br>/3,5T180CT.1 | 3.500                          | 1.600 | 1.350 | 320-1.120<br>320-1.320<br>320-1.500 | 1.150<br>1.350<br>1.550 | 163     | 58      | 45       | 1.350    | 2.350    | 100     | 3          | 153<br>320<br>310 | 330<br>423<br>409 | 437<br>192<br>196 | 481<br>501<br>522 |              |
| 4,8T466B<br>/4,5T180CT   | 4.500                          | 1.850 | ---   | 320-1.120<br>320-1.320<br>320-1.500 | 1.150<br>1.350<br>1.550 | 163     | 58      | 45       | 1.200    | 2.050    | 100     | 3          | 153<br>281<br>272 | 289<br>362<br>350 | 374<br>200<br>203 | 464<br>484<br>505 |              |
| 4,8T466B<br>/4,5T180CT.1 | 4.500                          | 1.850 | 1.550 | 320-1.120<br>320-1.320<br>320-1.500 | 1.150<br>1.350<br>1.550 | 163     | 58      | 45       | 1.350    | 2.350    | 100     | 3          | 153<br>320<br>310 | 330<br>437<br>409 | 437<br>192<br>196 | 481<br>501<br>522 |              |
| 4,8T466B<br>/4,8T180CT   | 5.000                          | 2.070 | ---   | 320-1.120<br>320-1.320<br>320-1.500 | 1.150<br>1.350<br>1.550 | 163     | 63      | 50       | 1.200    | 2.050    | 100     | 3          | 153<br>294<br>285 | 303<br>373<br>361 | 385<br>196<br>199 | 485<br>505<br>526 |              |
| 4,8T466B<br>/4,8T180CT.1 | 5.000                          | 2.070 | 1.710 | 320-1.120<br>320-1.320<br>320-1.500 | 1.150<br>1.350<br>1.550 | 163     | 63      | 50       | 1.350    | 2.350    | 100     | 3          | 153<br>334<br>324 | 345<br>436<br>421 | 450<br>188<br>191 | 504<br>524<br>545 |              |
| 6T466B<br>/6T180CT       | 6.000                          | 2.500 | ---   | 440-1.350<br>440-1.540              | 1.460<br>1.650          | 163     | 67      | 55       | 1.200    | 2.050    | 100     | 4          | 176<br>270        | 276<br>331        | 339<br>264        | 656<br>677        |              |
| 6T466B<br>/6T180CT.1     | 6.000                          | 2.500 | 2.050 | 440-1.350<br>440-1.540              | 1.460<br>1.650          | 163     | 67      | 55       | 1.350    | 2.350    | 100     | 4 A        | 176<br>305        | 312<br>383        | 393<br>254        | 676<br>697        |              |

**A2\* | up to 4,8T: A = A2 - 140 mm / A1 = A2 - 70 mm | from 6T: A = A2 - 180 mm / A1 = A2 - 90 mm**

**Incl. solenoid valve and accessory kit. For triplex mast a mast cable routing or an electric spring cable drum is necessary (see page 130 - 131).**

Load stop see accessories for telescopic forks on page 104.

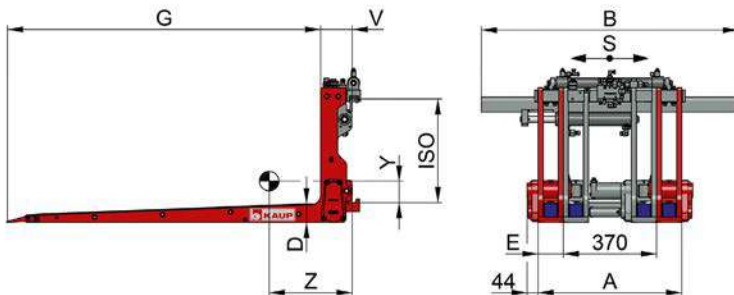




## Conveyor Belt Forks T180FG

| Modell     | Capacity kg | LCD mm | Fork dimensions E mm | D mm | G mm  | Number of belts per fork pcs. | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|------------|-------------|--------|----------------------|------|-------|-------------------------------|---------|------|-----------|------------------------|-----------|
| 1,8T 180FG | 1.600       | 600    | 100                  | 74   | 1.250 | 1                             | 2       | 130  | 317       | 85                     | 119       |
| 1,8T 180FG | 1.200       | 800    | 100                  | 74   | 1.650 | 1                             | 2       | 130  | 452       | 68                     | 136       |
| 1,8T 180FG | 800         | 1.250  | 100                  | 74   | 1.970 | 1                             | 2       | 130  | 567       | 57                     | 149       |

 Conveyor belt forks can be individually configured to suit your handling task – e.g. the number of belts and fork dimensions. Contact our project team for additional information.



## Conveyor Belt Forks T180FG-2-4S - with adjustable forks

| Model          | Pallet handling | Capacity kg | LCD mm | Adjusting range S mm | A mm    | B mm  | E mm | D mm | G mm  | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight kg |
|----------------|-----------------|-------------|--------|----------------------|---------|-------|------|------|-------|---------|------|-----------|------------------------|-----------|
| 1,8T180FG-2-4S | Euro-pallets    | 1.600       | 600    | ±100                 | 570-850 | 1.020 | 100  | 74   | 1.250 | 2       | 125  | 326       | 90                     | 225       |
| 1,8T180FG-2-4S | Euro-pallets    | 1.200       | 800    | ±100                 | 570-850 | 1.020 | 100  | 74   | 1.650 | 2       | 125  | 464       | 71                     | 260       |

 Conveyor belt forks can be individually configured to suit your handling task – e.g. the number of belts and fork dimensions. Contact our project team for additional information.

 Incl. solenoid valve and accessory kit. For triplex mast a mast cable routing or an electric spring cable drum is necessary (see page 130 - 131).



**T180FG**

suitable for mounting on sideshifters or fork positioners with connection acc. to ISO 2328



**T180FG-2-4S**

with independent sideshift and with hydraulically adjustable forks



**T180FG-4**

with long forks and with load backrest for palletless handling of large surface goods

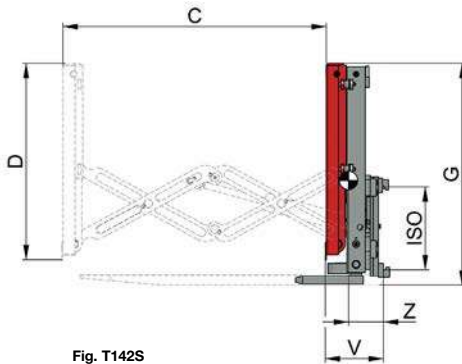
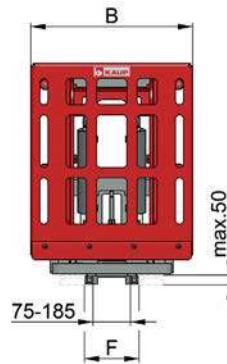


Fig. T142S



T141S/180

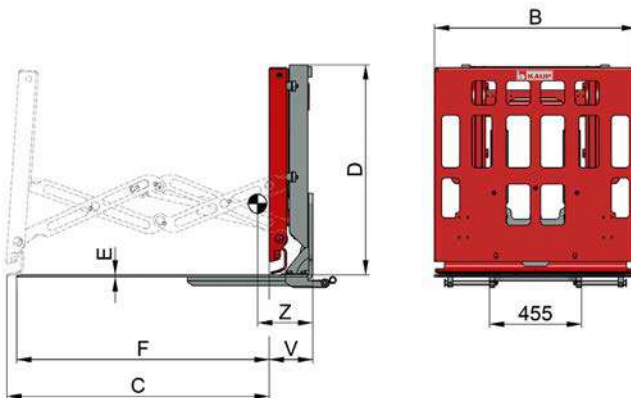
Multi-fork pusher available upon request

## Pusher T141S - 1 hydraulic function

## Pusher with pallet retainer T142S 2 hydraulic functions

| Model    | Pushing ability kg | B mm | C mm  | D mm | F mm | G mm  | ISO cl. | V mm | CofG Z mm | Weight kg |
|----------|--------------------|------|-------|------|------|-------|---------|------|-----------|-----------|
| 2T 141 S | 2.000              | 800  | 850   | 945  | 260  | 1.020 | 2/3     | 280  | 165       | 285       |
| 2T 142 S | 2.000              | 800  | 850   | 970  | 260  | 1.090 | 2/3     | 287  | 165       | 340       |
| 2T 141 S | 2.000              | 800  | 1.300 | 945  | 260  | 1.020 | 2/3     | 280  | 165       | 285       |
| 2T 142 S | 2.000              | 800  | 1.300 | 970  | 260  | 1.090 | 2/3     | 287  | 165       | 340       |
| 3T 142 S | 3.000              | 800  | 1.300 | 970  | 260  | 1.090 | 2/3     | 287  | 165       | 340       |

Forks are not included. To choose the right fork length please consider dimension V.



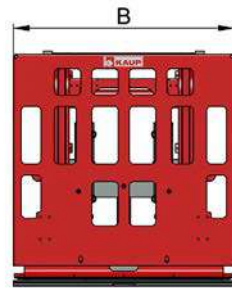
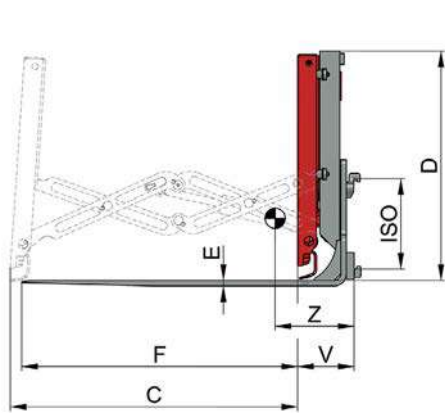
## Push-Pull T143SA - slip-on-fork version

## Push-Pull with sheet saver T145SA

slip-on-fork version - with built-in solenoid valve with accessory kit

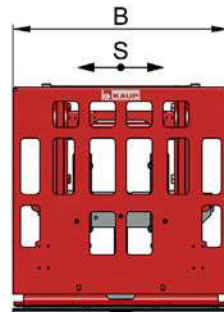
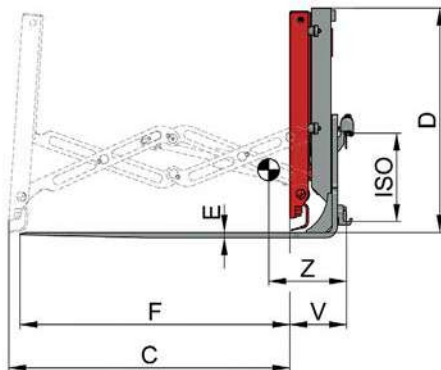
| Model     | Capacity kg | LCD mm | B mm  | C mm  | D mm  | E mm | F mm  | V mm | CofG Z mm | Weight kg |
|-----------|-------------|--------|-------|-------|-------|------|-------|------|-----------|-----------|
| 2T 143 SA | 1.700       | 600    | 1.000 | 1.300 | 1.035 | 10   | 1.250 | 215  | 275       | 450       |
| 2T 145 SA | 1.700       | 600    | 1.000 | 1.300 | 1.035 | 10   | 1.250 | 225  | 265       | 500       |

**Preferential range** Lifting heights of more than 3.750 mm require a mast cable routing or an electric spring cable drum (see page 130 - 131).



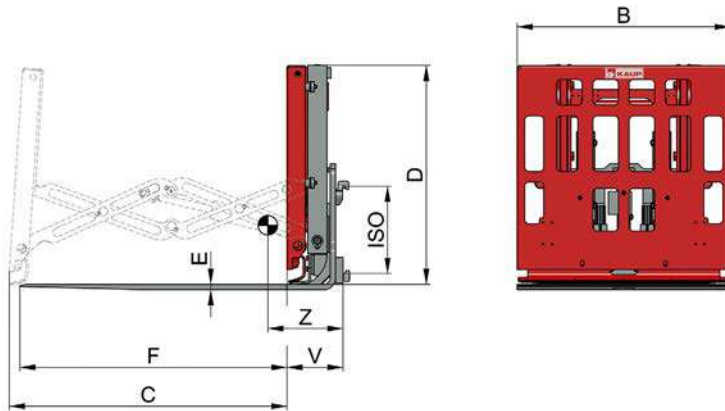
## Push-Pull T143S

| Model    | Capacity<br>kg | LCD<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T 143 S | 1.000          | 600       | 1.000   | 1.300   | 1.035   | 20      | 1.250   | 2          | 250     | 340             | 535          |
| 2T 143 S | 1.700          | 600       | 1.000   | 1.300   | 1.035   | 25      | 1.250   | 2/3        | 255     | 360             | 590          |
| 3T 143 S | 2.400          | 600       | 1.000   | 1.300   | 1.035   | 30      | 1.250   | 3          | 260     | 370             | 655          |



## Push-Pull with sideshift T144S

| Model    | Capacity<br>kg | LSP<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | S<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T 144 S | 1.000          | 600       | 1.000   | 1.300   | 1.035   | 20      | 1.250   | ± 100   | 2          | 257     | 340             | 545          |
| 2T 144 S | 1.700          | 600       | 1.000   | 1.300   | 1.035   | 25      | 1.250   | ± 100   | 2/3        | 262     | 360             | 600          |
| 3T 144 S | 2.400          | 600       | 1.000   | 1.300   | 1.035   | 30      | 1.250   | ± 100   | 3          | 267     | 375             | 665          |

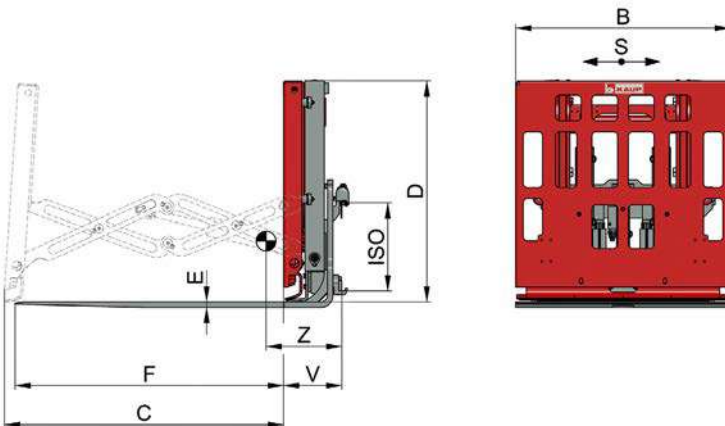


## Push-Pull with sheet saver T145S

with built-in solenoid valve with accessory kit

| Model    | Capacity<br>kg | LCD<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T 145 S | 1.000          | 600       | 1.000   | 1.300   | 1.035   | 20      | 1.250   | 2          | 260     | 330             | 575          |
| 2T 145 S | 1.700          | 600       | 1.000   | 1.300   | 1.035   | 25      | 1.250   | 2/3        | 265     | 345             | 635          |
| 3T 145 S | 2.400          | 600       | 1.000   | 1.300   | 1.035   | 30      | 1.250   | 3          | 270     | 365             | 690          |

Lifting heights of more than 3.750 mm require a mast cable routing or an electric spring cable drum (see page 130 - 131).

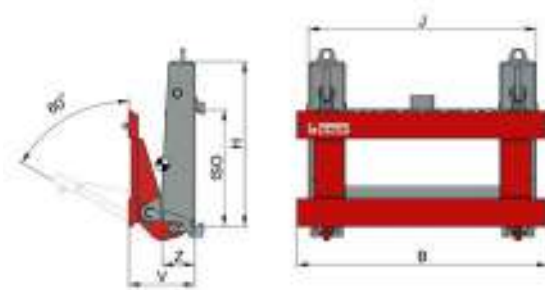
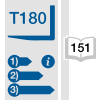


## Push-Pull with sideshift and sheet saver T146S

with built-in solenoid valve with accessory kit

| Model    | Capacity<br>kg | LSP<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | S<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|-----------|---------|---------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 1T 146 S | 1.000          | 600       | 1.000   | 1.300   | 1.035   | 20      | 1.250   | ± 100   | 2          | 268     | 320             | 585          |
| 2T 146 S | 1.700          | 600       | 1.000   | 1.300   | 1.035   | 25      | 1.250   | ± 100   | 2/3        | 273     | 335             | 645          |
| 3T 146 S | 2.400          | 600       | 1.000   | 1.300   | 1.035   | 30      | 1.250   | ± 100   | 3          | 278     | 345             | 710          |

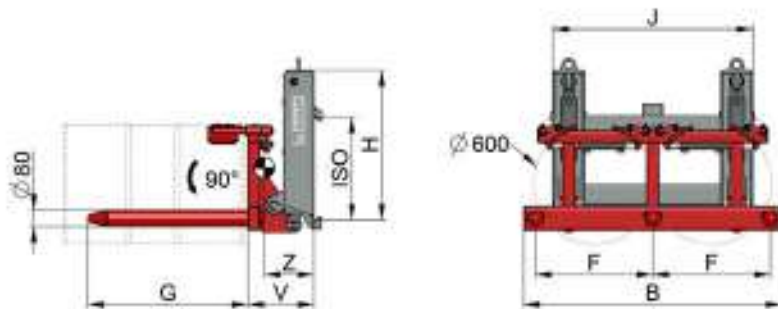
Lifting heights of more than 3.750 mm require a mast cable routing or an electric spring cable drum (see page 130 - 131).



## Tipping Carriage T130

| Model  | Capacity kg | LCD mm | B mm  | H mm | J mm  | ISO cl. | V mm | CofG Z mm | Weight kg |
|--------|-------------|--------|-------|------|-------|---------|------|-----------|-----------|
| 2T 130 | 2.000       | 600    | 1.100 | 725  | 1.000 | 2       | 280  | 170       | 250       |
| 3T 130 | 2.400       | 600    | 1.100 | 725  | 1.000 | 3       | 290  | 185       | 270       |
| 4T 130 | 3.600       | 600    | 1.100 | 725  | 1.000 | 3       | 290  | 170       | 410       |
| 5T 130 | 4.600       | 600    | 1.100 | 820  | 1.050 | 4       | 422  | 240       | 500       |
| 6T 130 | 6.900       | 600    | 1.100 | 820  | 1.050 | 4       | 422  | 250       | 580       |

Upon request available with tipping angle 90° or with tilting angle +45°/-30° ('Hinged Forks').



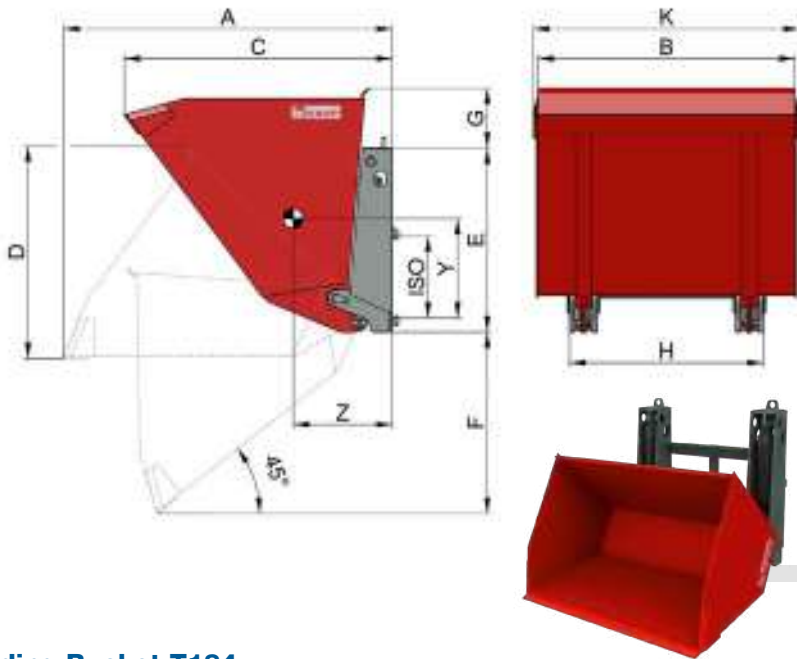
## Drum Tipping Device T130F - rubber coated flaps - for cylindrical steel drums

| Model      | Number of drums | Capacity kg | LCD mm | B mm  | F mm | G mm | H mm | J mm  | ISO cl. | V mm | CofG Z mm | Weight kg |
|------------|-----------------|-------------|--------|-------|------|------|------|-------|---------|------|-----------|-----------|
| 1T 130 F-1 | 1               | 300         | 450    | 970   | 588  | 800  | 930  | 390   | 2       | 380  | 282       | 230       |
| 1T 130 F-2 | 2               | 600         | 450    | 1.130 | 588  | 800  | 800  | 1.000 | 2       | 330  | 247       | 280       |
| 1T 130 F-3 | 3               | 900         | 450    | 1.920 | 588  | 800  | 800  | 1.000 | 2       | 330  | 340       | 350       |
| 1T 130 F-4 | 4               | 1.200       | 450    | 2.520 | 588  | 800  | 800  | 1.000 | 2       | 330  | 380       | 430       |

For an optimal handling with the attachment we recommend a fork lift truck equipped with independent sideshift (integrated or hook-on). In this case a third hydraulic function on your FLT will be necessary or an additional solenoid valve (add-on price see page 129).







T184

## Loading Bucket T184

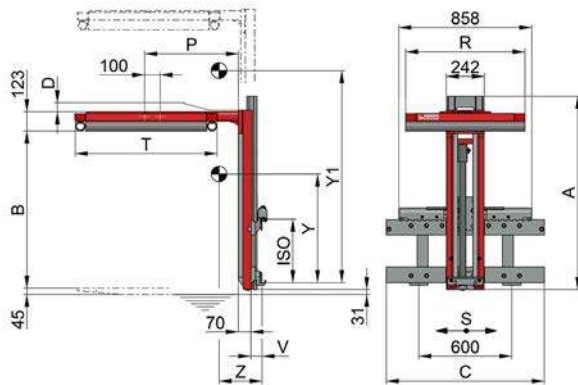
Loose goods such as sand, gravel, coal, grain, fertilizer, cement, clay, concrete etc. can be transported with the Loading Bucket (see approx. specific weights in table below). The Loading Bucket is tilted forward to the ground by means of hydraulic cylinders.

**Important:** ensure that the **Loading Bucket is at least 200 mm wider** than the forklift truck width, measured over the front axle, so that the wheels do not touch the goods to be scooped up.

|          | Cubic Capacity<br>Loose     |             |             |         |         |         |         |         |         |         |         |         |            |           | CofG CofG <sub>v</sub> |         |              |  |  |
|----------|-----------------------------|-------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|-----------|------------------------|---------|--------------|--|--|
| Model    | Capacity<br>kg              | goods<br>m³ | Water<br>m³ | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | G<br>mm | H<br>mm | K<br>mm | ISO<br>cl. | LCD<br>mm | Z<br>mm                | Y<br>mm | Weight<br>kg |  |  |
|          | Loose weight to 2.200 kg/m³ |             |             |         |         |         |         |         |         |         |         |         |            |           |                        |         |              |  |  |
| 2T 184.2 | 1.760                       | 0,8         | 0,7         | 1.610   | 1.300   | 1.245   | 955     | 925     | 805     | 280     | 980     | 1.346   | 2/3        | 830       | 515                    | 420     | 530          |  |  |
| 2T 184.2 | 2.200                       | 1,0         | 0,9         | 1.610   | 1.650   | 1.245   | 955     | 925     | 805     | 280     | 980     | 1.696   | 2/3        | 830       | 525                    | 435     | 590          |  |  |
| 2T 184.2 | 2.420                       | 1,1         | 1,0         | 1.610   | 1.800   | 1.245   | 955     | 925     | 805     | 280     | 980     | 1.846   | 2/3        | 830       | 530                    | 445     | 615          |  |  |
|          | Loose weight to 2.200 kg/m³ |             |             |         |         |         |         |         |         |         |         |         |            |           |                        |         |              |  |  |
| 3T 184.4 | 2.420                       | 1,1         | 0,9         | 1.660   | 1.300   | 1.350   | 1.070   | 925     | 915     | 300     | 980     | 1.346   | 2/3        | 830       | 463                    | 504     | 560          |  |  |
| 3T 184.4 | 2.640                       | 1,2         | 1,0         | 1.660   | 1.500   | 1.350   | 1.070   | 925     | 915     | 300     | 980     | 1.546   | 2/3        | 830       | 474                    | 508     | 594          |  |  |
| 3T 184.4 | 2.860                       | 1,3         | 1,1         | 1.660   | 1.650   | 1.350   | 1.070   | 925     | 915     | 300     | 980     | 1.696   | 2/3        | 830       | 481                    | 511     | 620          |  |  |
| 3T 184.4 | 3.080                       | 1,4         | 1,2         | 1.660   | 1.800   | 1.350   | 1.070   | 925     | 915     | 300     | 980     | 1.846   | 2/3        | 830       | 487                    | 514     | 646          |  |  |
|          | Loose weight to 2.500 kg/m³ |             |             |         |         |         |         |         |         |         |         |         |            |           |                        |         |              |  |  |
| 4T 184.1 | 5.000                       | 2,0         | 1,4         | 1.780   | 2.000   | 1.410   | 1.135   | 1.230   | 810     | 210     | 1.004   | 2.046   | 3/4        | 890       | 548                    | 561     | 835          |  |  |
|          | Loose weight to 2.200 kg/m³ |             |             |         |         |         |         |         |         |         |         |         |            |           |                        |         |              |  |  |
| 6T 184.4 | 6.600                       | 3,0         | 2,4         | 2.250   | 2.400   | 1.990   | 1.370   | 1.265   | 1.190   | 245     | 1.143   | 2.484   | 4          | 1.125     | 700                    | 595     | 1.620        |  |  |
| 6T 184.4 | 7.920                       | 3,6         | 2,8         | 2.250   | 2.800   | 1.990   | 1.370   | 1.265   | 1.190   | 245     | 1.143   | 2.884   | 4          | 1.125     | 720                    | 603     | 1.730        |  |  |

### A few specific weights of loads (kg/m<sup>3</sup>)

|                         |       |                               |       |                  |       |
|-------------------------|-------|-------------------------------|-------|------------------|-------|
| coal.....               | 700   | fertilizer .....              | 1.200 | mud, clay .....  | 2.100 |
| grain, pulses .....     | 750   | powder cement, unpacked ..... | 1.800 | Thomasmear ..... | 2.200 |
| potatoes, turnips ..... | 750   | sand, wet gravel.....         | 2.000 | concrete .....   | 2.200 |
| wet pit coal .....      | 1.000 |                               |       |                  |       |



## Load Stabilizer with Sideshift T155ST

Optimized for maximum residual capacity by carriages beside the frame

| Model      | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm     | C<br>mm | D<br>mm | P<br>mm | R<br>mm | T<br>mm | Closing<br>force at<br>120 bar<br>N | ISO<br>cl. | S<br>mm | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | CofG <sub>v</sub><br>Y1<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|-------------|---------|---------|---------|---------|---------|-------------------------------------|------------|---------|---------|-----------------|------------------------------|-------------------------------|--------------|
| 1T 155ST   | 2.500          | 500       | 1.240   | 960-1.970   | 890     | 80      | 605     | 800     | 1.000   | 3.700                               | 2 ± 100    | ± 100   | 82      | 208             | 577                          | 1.041                         | 236          |
| 1T 155.1ST | 2.500          | 500       | 1.240   | 960-1.770   | 890     | 10      | 605     | 800     | 1.000   | 3.700                               | 2 ± 100    | ± 100   | 82      | 210             | 567                          | 935                           | 232          |
| 1T 155.2ST | 2.500          | 500       | 920     | 760-1.350   | 890     | 10      | 605     | 800     | 1.000   | 3.700                               | 2 ± 100    | ± 100   | 82      | 221             | 470                          | 740                           | 214          |
| 1T 155.3ST | 2.500          | 500       | 1.495   | 960-2.170   | 890     | 280     | 605     | 800     | 1.000   | 3.700                               | 2 ± 100    | ± 100   | 82      | 200             | 623                          | 1.178                         | 251          |
| 1T 155.4ST | 2.500          | 500       | 1.240   | 1.070-2.080 | 890     | 10      | 605     | 800     | 1.000   | 3.700                               | 2 ± 100    | ± 100   | 82      | 207             | 606                          | 1.072                         | 237          |
| 1T 155.5ST | 2.500          | 500       | 1.495   | 1.200-2.210 | 890     | 10      | 605     | 800     | 1.000   | 3.700                               | 2 ± 100    | ± 100   | 82      | 201             | 674                          | 1.138                         | 250          |

### Preferential range

The standard contact pad frame is alternatively available in 770 x 920 mm.  
To choose the right fork length please consider 70 mm overhang (see drawing).

T155



T155



T129S



T129



T129



T124

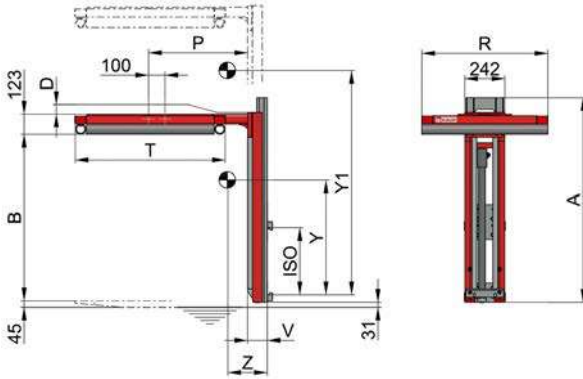


T124



T124





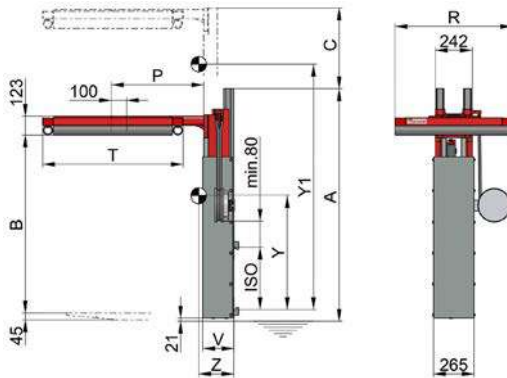
1T129

## Load Stabilizer T129ST

| Model       | A<br>mm | B<br>mm     | D<br>mm | P<br>mm | R<br>mm | T<br>mm | Closing<br>force at<br>120 bar<br>N | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>V</sub><br>Y<br>mm | CofG <sub>V</sub><br>Y1<br>mm | Weight<br>kg |
|-------------|---------|-------------|---------|---------|---------|---------|-------------------------------------|------------|---------|-----------------|------------------------------|-------------------------------|--------------|
| 1T 129 ST   | 1.240   | 960-1.970   | 80      | 605     | 800     | 1.000   | 3.700                               | 2/3        | 122     | 251             | 702                          | 1.362                         | 165          |
| 1T 129.1 ST | 1.240   | 960-1.770   | 10      | 605     | 800     | 1.000   | 3.700                               | 2/3        | 122     | 256             | 690                          | 1.217                         | 162          |
| 1T 129.2 ST | 920     | 760-1.350   | 10      | 605     | 800     | 1.000   | 3.700                               | 2/3        | 122     | 283             | 562                          | 964                           | 144          |
| 1T 129.3 ST | 1.495   | 960-2.170   | 280     | 605     | 800     | 1.000   | 3.700                               | 2/3        | 122     | 234             | 754                          | 1.525                         | 181          |
| 1T 129.4 ST | 1.240   | 1.070-2.080 | 10      | 605     | 800     | 1.000   | 3.700                               | 2/3        | 122     | 250             | 741                          | 1.404                         | 167          |
| 1T 129.5 ST | 1.495   | 1.200-2.210 | 10      | 605     | 800     | 1.000   | 3.700                               | 2/3        | 122     | 236             | 827                          | 1.472                         | 179          |

### Preferential range

The total height is the result of adding fig. B + D + 123 mm + 45 mm. To choose the right fork length please consider dimension V.  
The standard contact pad frame is alternatively available in 770 x 920 mm.

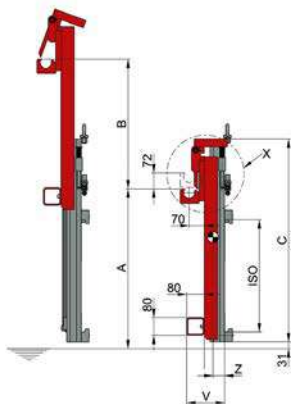


1T124

## Telescopic Load Stabilizer T124ST

| Model       | A<br>mm | B<br>mm     | C<br>mm | P<br>mm | R<br>mm | T<br>mm | Closing<br>force at<br>120 bar<br>N | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>V</sub><br>Y<br>mm | CofG <sub>V</sub><br>Y1<br>mm | Weight<br>kg |
|-------------|---------|-------------|---------|---------|---------|---------|-------------------------------------|------------|---------|-----------------|------------------------------|-------------------------------|--------------|
| 1T 124 ST   | 1.515   | 1.175-2.995 | 1.650   | 605     | 800     | 1.000   | 3.700                               | 2/3        | 204     | 217             | 749                          | 1.732                         | 273          |
| 1T 124.1 ST | 1.190   | 950-2.570   | 1.550   | 605     | 800     | 1.000   | 3.700                               | 2/3        | 204     | 231             | 627                          | 1.515                         | 248          |
| 1T 124.2 ST | 940     | 750-1.930   | 1.160   | 605     | 800     | 1.000   | 3.700                               | 2/3        | 204     | 253             | 522                          | 1.190                         | 216          |

The total height is the result of adding fig. A + C. To choose the right fork length please consider dimension V.  
The standard contact pad frame is alternatively available in 770 x 920 mm.

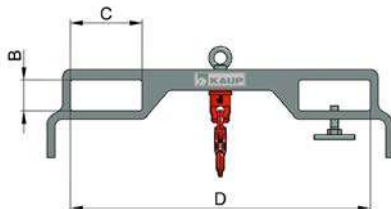


T167C

## Bucket Discharging Device T167C - hydraulically operated for drop bottom buckets

| Model    | Capacity<br>kg | A<br>mm | B<br>mm | C<br>mm | D<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|----------|----------------|---------|---------|---------|---------|------------|---------|-----------------|--------------|
| 2T 167 C | 1.500          | 725     | 590     | 920     | 242     | 2/3        | 171     | 55              | 95           |
| 3T 167 C | 2.500          | 715     | 650     | 970     | 242     | 2/3        | 181     | 59              | 118          |
| 4T 167 C | 3.500          | 730     | 1.050   | 1.320   | 283     | 3          | 196     | 62              | 210          |

Forks are not included. To choose the right fork length please consider dimension V.



T183 G/S

## Crane Hook T183G/S

slip-on-fork version

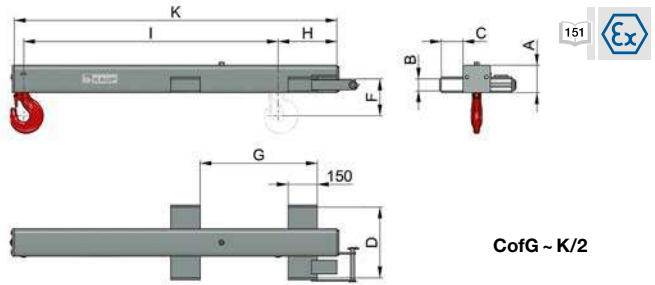
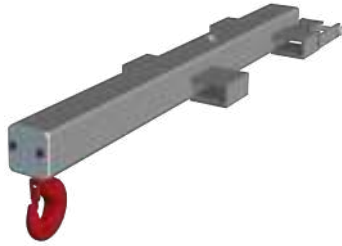
| Model      | Capacity<br>kg | B<br>mm | C<br>mm | D<br>mm | K<br>mm | Weight<br>kg |
|------------|----------------|---------|---------|---------|---------|--------------|
| 1T 183 G/S | 1.500          | 60      | 140     | 585     | 100     | 23           |
| 2T 183 G/S | 2.500          | 60      | 140     | 585     | 100     | 29           |
| 3T 183 G/S | 3.500          | 60      | 140     | 585     | 100     | 32           |
| 5T 183 G/S | 5.000          | 70      | 170     | 580     | 120     | 41           |



T183HTM

T183G

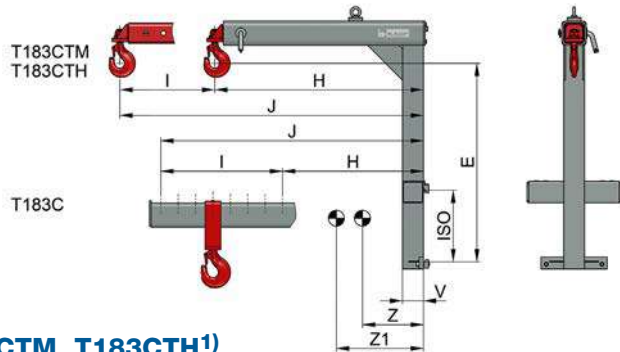




CofG ~ K/2

## Crane Jib T183G slip-on-fork version

| Model     | Capacity kg | LCD mm | A mm | B mm | C mm | D mm | F mm | G mm | H mm | I mm   | K mm  | Weight kg |
|-----------|-------------|--------|------|------|------|------|------|------|------|--------|-------|-----------|
| 1T 183 G  | 1.500       | 500    | 120  | 50   | 120  | 400  | 183  | 600  | 300  | 12x100 | 1.560 | 68        |
| 2T 183 G  | 2.500       | 500    | 140  | 50   | 150  | 480  | 187  | 600  | 300  | 12x100 | 1.560 | 90        |
| 3T 183 G  | 4.000       | 500    | 160  | 60   | 150  | 500  | 187  | 600  | 300  | 12x100 | 1.560 | 116       |
| 5T 183 G  | 6.000       | 600    | 200  | 70   | 150  | 550  | 255  | 600  | 300  | 8x150  | 1.585 | 165       |
| 7T 183 G  | 8.000       | 600    | 260  | 80   | 150  | 530  | 265  | 600  | 300  | 8x150  | 1.585 | 170       |
| 10T 183 G | 10.000      | 600    | 260  | 80   | 210  | 730  | 325  | 600  | 345  | 7x165  | 1.595 | 315       |

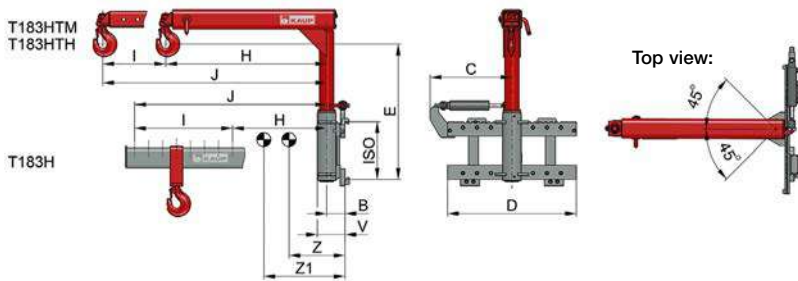


## Crane Jib T183C, T183CTM, T183CTH<sup>1)</sup>

| Model       | Capacity kg | LCD mm | H-J mm      | I mm    | E mm  | ISO cl. | V mm | CofG Z mm | CofG Z1 mm | Weight kg |
|-------------|-------------|--------|-------------|---------|-------|---------|------|-----------|------------|-----------|
| 1T 183 C    | 1.500       | 500    | 500-1.200   | 7 x 100 | 1.110 | 2       | 120  | 358       | --         | 115       |
| 2T 183 C    | 2.500       | 500    | 500-1.200   | 7 x 100 | 1.080 | 2/3     | 140  | 368       | --         | 158       |
| 3T 183 C    | 4.000       | 500    | 500-1.200   | 7 x 100 | 1.365 | 3       | 160  | 310       | --         | 210       |
| 5T 183 C    | 6.000       | 600    | 600-1.200   | 4 x 150 | 1.255 | 4       | 200  | 359       | --         | 270       |
| 7T 183 C    | 8.000       | 600    | 600-1.200   | 4 x 150 | 1.250 | 4       | 260  | 372       | --         | 262       |
| 10T 183 C   | 6.600       | 1.200  | 1.175-2.000 | 5 x 165 | 1.165 | 4       | 260  | 685       | --         | 585       |
| 1T 183 CTM  | 820         | 1.200  | 1.200-2.000 | 8 x 100 | 1.135 | 2       | 120  | 390       | 587        | 150       |
| 2T 183 CTM  | 1.470       | 1.200  | 1.200-2.000 | 8 x 100 | 1.230 | 2/3     | 140  | 359       | 537        | 181       |
| 3T 183 CTM  | 2.350       | 1.200  | 1.200-2.000 | 8 x 100 | 1.310 | 3       | 160  | 349       | 524        | 245       |
| 5T 183 CTM  | 3.650       | 1.350  | 1.350-2.150 | 8 x 100 | 1.265 | 4       | 200  | 440       | 663        | 349       |
| 7T 183 CTM  | 5.000       | 1.350  | 1.350-2.150 | 8 x 100 | 1.265 | 4       | 220  | 433       | 631        | 373       |
| 1T 183 CTH  | 820         | 1.200  | 1.200-2.000 | -       | 1.220 | 2       | 120  | 390       | 609        | 150       |
| 2T 183 CTH  | 1.470       | 1.200  | 1.200-2.000 | -       | 1.230 | 2/3     | 140  | 359       | 570        | 181       |
| 3T 183 CTH  | 2.350       | 1.200  | 1.200-2.000 | -       | 1.320 | 3       | 160  | 349       | 543        | 245       |
| 5T 183 CTH  | 3.650       | 1.350  | 1.350-2.150 | -       | 1.280 | 4       | 200  | 440       | 684        | 349       |
| 7T 183 CTH  | 5.000       | 1.350  | 1.350-2.150 | -       | 1.270 | 4       | 260  | 433       | 672        | 373       |
| 10T 183 CTH | 6.400       | 1.350  | 1.350-2.050 | -       | 1.145 | 4       | 260  | 570       | 707        | 820       |

<sup>1)</sup> T183C = hook manually adjustable  
T183CTM = mechanical telescope  
T183CTH = hydraulic telescope - 1 hydraulic function

Higher capacities upon request.

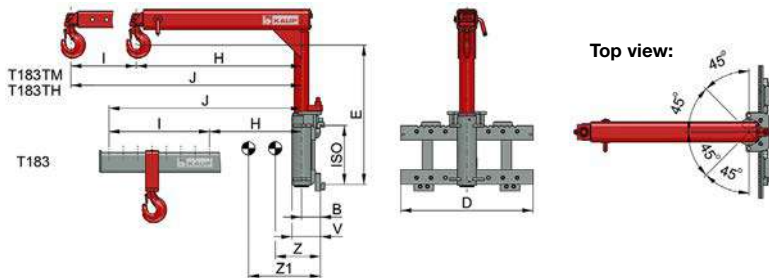


## Crane Jib T183H, T183HTM, T183HTH<sup>1)</sup>

| Model      | Capacity<br>kg | LCD<br>mm | B<br>mm | C<br>mm | D<br>mm | H-J<br>mm   | I<br>mm | E<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG<br>Z1<br>mm | Weight<br>kg |
|------------|----------------|-----------|---------|---------|---------|-------------|---------|---------|------------|---------|-----------------|------------------|--------------|
| 1T 183 H   | 1.500          | 500       | 125     | 585     | 920     | 500-1.200   | 7 x 100 | 945     | 2          | 186     | 267             | --               | 203          |
| 2T 183 H   | 2.500          | 500       | 132     | 585     | 920     | 500-1.200   | 7 x 100 | 915     | 2          | 198     | 315             | --               | 232          |
| 2T 183 H   | 2.500          | 500       | 142     | 585     | 920     | 500-1.200   | 7 x 100 | 1.015   | 3          | 208     | 293             | --               | 260          |
| 3T 183 H   | 4.000          | 500       | 155     | 720     | 1.150   | 500-1.200   | 7 x 100 | 1.155   | 3          | 234     | 265             | --               | 349          |
| 5T 183 H   | 6.000          | 600       | 187     | 720     | 1.220   | 600-1.200   | 4 x 150 | 950     | 4          | 284     | 268             | --               | 555          |
| 2T 183 HTM | 1.530          | 1.150     | 132     | 585     | 920     | 1.150-1.950 | 8 x 100 | 1.065   | 2          | 198     | 311             | 436              | 252          |
| 2T 183 HTM | 1.530          | 1.150     | 142     | 585     | 920     | 1.150-1.950 | 8 x 100 | 1.165   | 3          | 208     | 292             | 403              | 281          |
| 3T 183 HTM | 2.475          | 1.140     | 155     | 720     | 1.150   | 1.140-1.940 | 8 x 100 | 1.160   | 3          | 234     | 290             | 398              | 386          |
| 5T 183 HTM | 3.850          | 1.280     | 145     | 720     | 1.220   | 1.280-2.080 | 8 x 100 | 940     | 4          | 242     | 329             | 469              | 546          |
| 2T 183 HTH | 1.525          | 1.155     | 132     | 585     | 920     | 1.155-1.965 | -       | 1.065   | 2          | 198     | 330             | 471              | 268          |
| 2T 183 HTH | 1.525          | 1.155     | 142     | 585     | 920     | 1.155-1.965 | -       | 1.165   | 3          | 208     | 310             | 437              | 296          |
| 3T 183 HTH | 2.480          | 1.135     | 155     | 720     | 1.150   | 1.135-1.945 | -       | 1.160   | 3          | 234     | 332             | 424              | 420          |
| 5T 183 HTH | 3.910          | 1.260     | 145     | 720     | 1.220   | 1.260-2.070 | -       | 950     | 4          | 242     | 370             | 502              | 585          |

- <sup>1)</sup> T183H = hydraulic swivel  $\pm 45^\circ$  - hook manually adjustable - 1 hydraulic function  
 T183HTM = hydraulic swivel  $\pm 45^\circ$  and mechanical telescope - 1 hydraulic function  
 T183HTH = hydraulic swivel  $\pm 45^\circ$  and hydraulic telescope - 2 hydraulic functions

Higher capacities upon request.

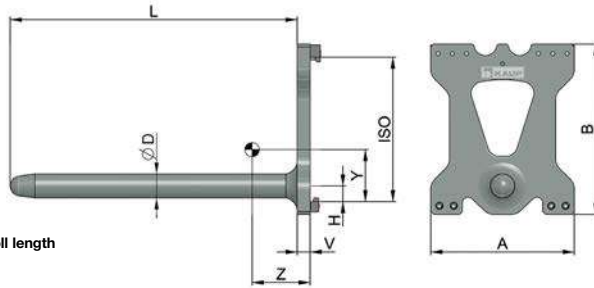


## Crane Jib T183, T183TM, T183TH<sup>1)</sup>

| Model     | Capacity<br>kg | LCD<br>mm | B<br>mm | D<br>mm | H-J<br>mm   | I<br>mm | E<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG<br>Z1<br>mm | Weight<br>kg |
|-----------|----------------|-----------|---------|---------|-------------|---------|---------|------------|---------|-----------------|------------------|--------------|
| 1T 183    | 1.500          | 500       | 125     | 920     | 500-1.200   | 7 x 100 | 945     | 2          | 186     | 271             | --               | 201          |
| 2T 183    | 2.500          | 500       | 132     | 920     | 500-1.200   | 7 x 100 | 915     | 2          | 198     | 320             | --               | 230          |
| 2T 183    | 2.500          | 500       | 142     | 920     | 500-1.200   | 7 x 100 | 1.015   | 3          | 208     | 296             | --               | 259          |
| 3T 183    | 4.000          | 500       | 155     | 1.150   | 500-1.200   | 7 x 100 | 1.155   | 3          | 234     | 258             | --               | 356          |
| 5T 183    | 6.000          | 600       | 187     | 1.220   | 600-1.200   | 4 x 150 | 950     | 4          | 284     | 270             | --               | 553          |
| 2T 183 TM | 1.470          | 1.200     | 132     | 920     | 1.150-1.950 | 8 x 100 | 1.065   | 2          | 198     | 314             | 441              | 251          |
| 2T 183 TM | 1.470          | 1.200     | 142     | 920     | 1.150-1.950 | 8 x 100 | 1.165   | 3          | 208     | 294             | 407              | 279          |
| 3T 183 TM | 2.350          | 1.200     | 155     | 1.150   | 1.190-1.990 | 8 x 100 | 1.160   | 3          | 234     | 295             | 402              | 404          |
| 5T 183 TM | 3.650          | 1.350     | 187     | 1.220   | 1.350-2.150 | 8 x 100 | 970     | 4          | 284     | 346             | 471              | 636          |
| 2T 183 TH | 1.410          | 1.250     | 132     | 920     | 1.250-2.050 | -       | 1.065   | 2          | 198     | 360             | 535              | 272          |
| 2T 183 TH | 1.410          | 1.250     | 142     | 920     | 1.250-2.050 | -       | 1.165   | 3          | 208     | 338             | 470              | 301          |
| 3T 183 TH | 2.480          | 1.135     | 155     | 1.150   | 1.135-1.945 | -       | 1.170   | 3          | 234     | 327             | 417              | 427          |
| 5T 183 TH | 3.880          | 1.270     | 187     | 1.220   | 1.270-2.080 | -       | 970     | 4          | 284     | 368             | 483              | 668          |

- <sup>1)</sup> T183 = mechanical swivel  $\pm 90^\circ$  - hook manually adjustable  
 T183TM = mechanical swivel  $\pm 90^\circ$  and mech. telescope  
 T183TH = mechanical swivel  $\pm 90^\circ$  and hydraulic telescope - 1 hydraulic function

Higher capacities upon request.

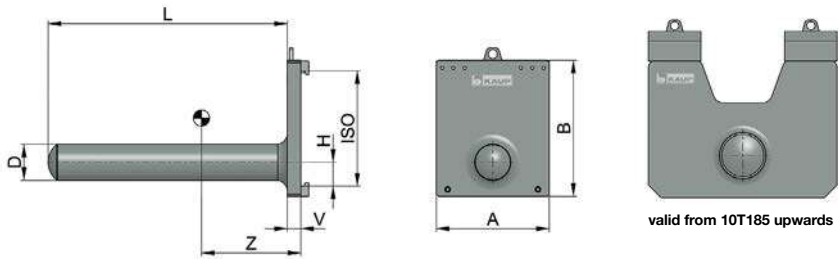


Ram length to be at least  $\frac{2}{3}$  of roll length

## Carpet Carrying Ram T185BT

| Model       | D mm | A mm | B mm | H mm | L mm  | Capacity in kg at mm LCD |       |       |       |       |       |       |       | ISO cl. | V mm | add-on weight per 100mm |           |                |       |
|-------------|------|------|------|------|-------|--------------------------|-------|-------|-------|-------|-------|-------|-------|---------|------|-------------------------|-----------|----------------|-------|
|             |      |      |      |      |       | 500                      | 750   | 1.000 | 1.250 | 1.500 | 1.750 | 2.000 | 2.500 |         |      | CofG Z mm               | CofG Y mm | CofG Weight kg | kg    |
| 1T185BT.2   | 45   | 500  | 495  | 55   | 1.000 | 600                      | 400   | 300   | 240   | 200   | 171   | 150   | 120   | 2       | 30   | 116                     | 169       | 57             | 1,25  |
| 1T185BT.2   | 50   | 500  | 495  | 55   | 1.000 | 800                      | 533   | 400   | 320   | 267   | 229   | 200   | 160   | 2       | 30   | 139                     | 163       | 61             | 1,54  |
| 1T185BT.2   | 55   | 500  | 495  | 55   | 1.000 | 1.000                    | 667   | 500   | 400   | 333   | 286   | 250   | 200   | 2       | 30   | 156                     | 158       | 64             | 1,86  |
| 1,5T185BT.2 | 60   | 500  | 495  | 55   | 1.000 | 1.300                    | 867   | 650   | 520   | 433   | 371   | 325   | 260   | 2       | 40   | 150                     | 161       | 81             | 2,22  |
| 1,5T185BT.2 | 65   | 500  | 495  | 55   | 1.000 | 1.700                    | 1.133 | 850   | 680   | 567   | 486   | 425   | 340   | 2       | 40   | 159                     | 156       | 84             | 2,60  |
| 2T185BT.2   | 70   | 500  | 495  | 55   | 1.000 | 2.100                    | 1.400 | 1.050 | 840   | 700   | 600   | 525   | 420   | 2       | 40   | 172                     | 152       | 88             | 3,02  |
| 2T185BT.2   | 75   | 500  | 495  | 55   | 1.000 | 2.600                    | 1.733 | 1.300 | 1.040 | 867   | 743   | 650   | 520   | 2       | 40   | 189                     | 150       | 95             | 3,46  |
| 3T185BT.3   | 80   | 500  | 600  | 55   | 1.000 | 3.200                    | 2.133 | 1.600 | 1.280 | 1.067 | 914   | 800   | 640   | 3       | 45   | 171                     | 191       | 116            | 3,94  |
| 3T185BT.3   | 85   | 500  | 600  | 55   | 1.000 | 3.800                    | 2.533 | 1.900 | 1.520 | 1.267 | 1.086 | 950   | 760   | 3       | 45   | 201                     | 183       | 123            | 4,45  |
| 4T185BT.3   | 90   | 500  | 600  | 55   | 1.000 | 4.400                    | 2.933 | 2.200 | 1.760 | 1.467 | 1.257 | 1.100 | 880   | 3       | 55   | 192                     | 186       | 144            | 4,99  |
| 4T185BT.3   | 95   | 500  | 600  | 55   | 1.000 | 5.200                    | 3.467 | 2.600 | 2.080 | 1.733 | 1.486 | 1.300 | 1.040 | 3       | 55   | 202                     | 181       | 149            | 5,56  |
| 5T185BT.4   | 100  | 600  | 760  | 55   | 1.000 | 6.000                    | 4.000 | 3.000 | 2.400 | 2.000 | 1.714 | 1.500 | 1.200 | 4       | 55   | 169                     | 245       | 202            | 6,16  |
| 6T185BT.4   | 110  | 600  | 760  | 55   | 1.000 | 7.500                    | 5.000 | 3.750 | 3.000 | 2.500 | 2.143 | 1.875 | 1.500 | 4       | 55   | 184                     | 235       | 213            | 7,46  |
| 7T185BT.4   | 120  | 600  | 760  | 80   | 1.000 | 10.000                   | 6.667 | 5.000 | 4.000 | 3.333 | 2.857 | 2.500 | 2.000 | 4       | 70   | 175                     | 221       | 264            | 8,88  |
| 8T185BT.4   | 130  | 600  | 760  | 80   | 1.000 | 12.000                   | 8.000 | 6.000 | 4.800 | 4.000 | 3.429 | 3.000 | 2.400 | 4       | 70   | 198                     | 211       | 280            | 10,42 |

Other ISO classes than indicated are available.



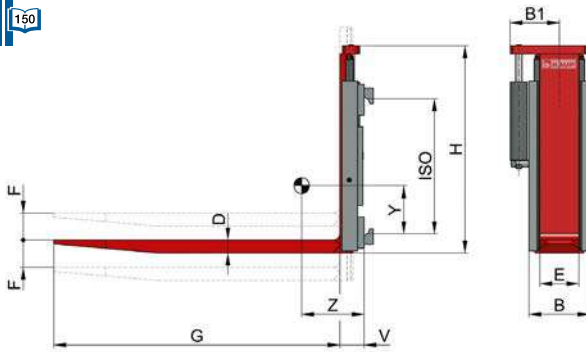
## Carrying Ram T185 - steel tube version

| Model  | D<br>mm | A<br>mm | B<br>mm | H<br>mm | L<br>mm | Capacity in kg at mm LCD |        |        |        |        |        | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG<br>Y<br>mm | add-on weight<br>per 100 mm |       |
|--------|---------|---------|---------|---------|---------|--------------------------|--------|--------|--------|--------|--------|------------|---------|-----------------|-----------------|-----------------------------|-------|
|        |         |         |         |         |         | 500                      | 600    | 700    | 800    | 900    | 1.000  | 1.100      |         |                 |                 | Weight<br>kg                | kg    |
| 4T 185 | 160     | 500     | 600     | 150     | 1.000   | 4.000                    | 3.333  | 2.857  | 2.500  | 2.222  | 2.000  | 1.818      | 3       | 60              | 190             | 210                         | 6,09  |
| 5T 185 | 195     | 600     | 750     | 150     | 1.000   | 6.000                    | 5.000  | 4.285  | 3.750  | 3.333  | 3.000  | 2.727      | 4       | 60              | 177             | 305                         | 7,59  |
| 8T 185 | 195     | 600     | 750     | 150     | 1.000   | 9.600                    | 8.000  | 6.857  | 6.000  | 5.333  | 4.800  | 4.363      | 4       | 80              | 172             | 380                         | 8,57  |
| 10T185 | 220     | 800     | 900     |         | 1.000   | 12.000                   | 10.000 | 8.571  | 7.500  | 6.666  | 6.000  | 5.454      |         | 90              | 160             | 555                         | 12,00 |
| 15T185 | 300     | 900     | 1.100   |         | 1.000   | 18.000                   | 15.000 | 12.857 | 11.250 | 10.000 | 9.000  | 8.181      |         | 100             | 134             | 800                         | 12,00 |
| 20T185 | 360     | 1.050   | 1.150   |         | 1.000   | 24.000                   | 20.000 | 17.142 | 15.000 | 13.333 | 12.000 | 10.909     |         | 100             | 133             | 950                         | 14,60 |
| 25T185 | 360     | 1.200   | 1.200   |         | 1.000   | 30.000                   | 25.000 | 21.428 | 18.750 | 16.666 | 15.000 | 13.636     |         | 100             | 135             | 1.170                       | 20,50 |
| 40T185 | 360     | 1.300   | 1.200   |         | 1.000   | 48.000                   | 40.000 | 34.285 | 30.000 | 26.666 | 24.000 | 21.818     |         | 140             | 170             | 1.800                       | 34,40 |
| 60T185 | 420     | 1.300   | 1.300   |         | 1.000   | 80.000                   | 66.666 | 57.142 | 50.000 | 44.444 | 40.000 | 36.363     |         | 140             | 200             | 1.995                       | 41,50 |
| 80T185 | 510     | 1.400   | 1.600   |         | 1.000   | 100.800                  | 84.000 | 72.000 | 63.000 | 56.000 | 50.400 | 45.820     |         | 160             | 215             | 3.000                       | 56,50 |

Terminal West / Pin-Type mounting available upon request.

From 10T185 upwards the basic plate measurement A/B is only exemplary and should be adapted to the truck mounting.





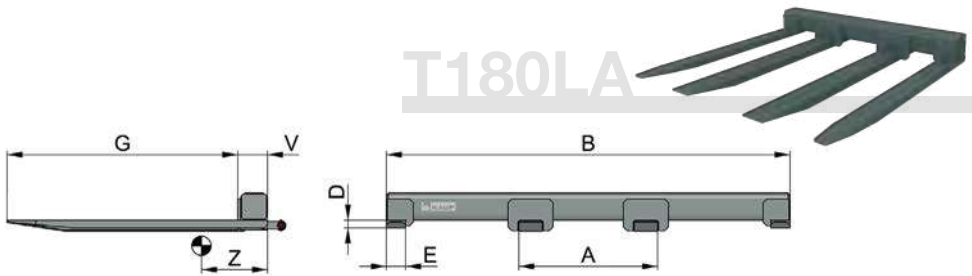
## Height adjustable Fork T158 - standard fork for ISO carriage

The height adjustable fork is used in combination with a hook-on fork\* as level compensator

| Modell   | Capacity<br>kg | LCD<br>mm | B<br>mm | B1<br>mm | E<br>mm | D<br>mm | G<br>mm | F<br>mm | H<br>mm | ISO<br>cl. | V<br>mm | CofG<br>Z<br>mm | CofG <sub>v</sub><br>Y<br>mm | Weight<br>per<br>piece<br>kg |
|----------|----------------|-----------|---------|----------|---------|---------|---------|---------|---------|------------|---------|-----------------|------------------------------|------------------------------|
| 2,5T 158 | 1.250          | 500       | 205     | 235      | 120     | 50      | 1.200   | 100     | 680     | 2          | 73      | 156             | 162                          | 105                          |
| 4,5T 158 | 2.500          | 500       | 235     | 255      | 150     | 60      | 1.200   | 100     | 800     | 3          | 103     | 273             | 180                          | 177                          |
| 6T 158   | 3.000          | 600       | 255     | 275      | 150     | 70      | 1.200   | 100     | 980     | 4          | 110     | 248             | 255                          | 258                          |

\*Fork is not included. To choose the right fork length please consider dimension V.

Level compensators based on rotators and height adjustable fork carriages are available upon request.

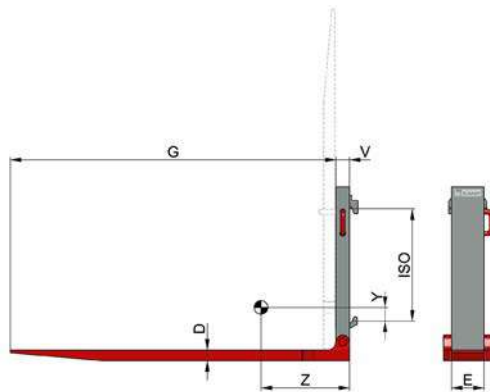


## Cross Girder T180LA - slip-on-fork version

| Modell      | Capacity<br>kg | LCD<br>mm | A<br>mm | B<br>mm | E<br>mm | D<br>mm | G<br>mm | V<br>mm | CofG<br>Z<br>mm | Weight<br>kg |
|-------------|----------------|-----------|---------|---------|---------|---------|---------|---------|-----------------|--------------|
| 1,5T 180 LA | 1.600          | 600       | 1.000   | 4.000   | 100     | 40      | 1.200   | 155     | 315             | 290          |
| 2T 180 LA   | 2.500          | 600       | 1.000   | 4.000   | 120     | 45      | 1.200   | 155     | 335             | 320          |
| 3,5T 180 LA | 3.500          | 600       | 1.000   | 4.000   | 120     | 45      | 1.200   | 175     | 345             | 360          |
| 4,5T 180 LA | 4.500          | 600       | 1.000   | 4.000   | 120     | 50      | 1.200   | 175     | 350             | 370          |
| 8T 180 LA   | 8.000          | 600       | 1.500   | 4.000   | 150     | 60      | 1.200   | 175     | 375             | 425          |
| 10T 180 LA  | 8.000          | 1.100     | 1.500   | 4.000   | 150     | 70      | 1.800   | 175     | 635             | 590          |

Higher capacities, other construction widths and longer forks available upon request.

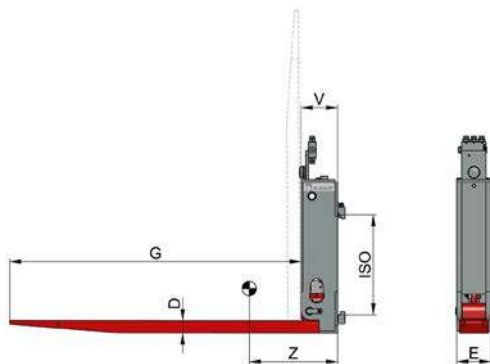
Secured by safety pins behind the fork shank as standard.



**Foldable Fork T180KM** - for mounting on ISO fork carriage - mechanically foldable

| Model       | Capacity per pair kg | LCD mm | E mm | D mm | G mm  | ISO cl. | V mm | CofG Z mm | CofG <sub>v</sub> Y mm | Weight per piece kg |
|-------------|----------------------|--------|------|------|-------|---------|------|-----------|------------------------|---------------------|
| 1T 180 KM   | 1.500                | 500    | 80   | 40   | 1.200 | 2       | 50   | 320       | 61                     | 52                  |
| 2T 180 KM   | 2.000                | 500    | 100  | 40   | 1.200 | 2       | 50   | 336       | 60                     | 63                  |
| 2,5T 180 KM | 2.500                | 500    | 120  | 40   | 1.200 | 2       | 50   | 339       | 54                     | 76                  |
| 3T 180 KM   | 3.500                | 500    | 130  | 45   | 1.200 | 3       | 60   | 305       | 96                     | 103                 |
| 4T 180 KM   | 4.000                | 500    | 130  | 50   | 1.200 | 3       | 60   | 311       | 91                     | 107                 |
| 5T 180 KM   | 5.000                | 500    | 150  | 50   | 1.200 | 3       | 60   | 313       | 86                     | 124                 |

Higher capacities available upon request.

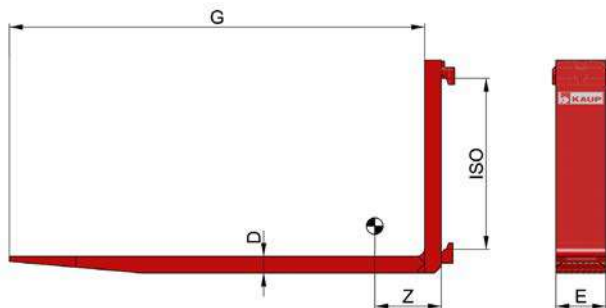


**Foldable Fork T180KH** - for mounting on ISO fork carriage - hydraulically foldable

| Model     | Capacity per pair kg | LCD mm | E mm | D mm | G mm  | H mm | ISO cl. | V mm | CofG Z mm | Weight per piece kg |
|-----------|----------------------|--------|------|------|-------|------|---------|------|-----------|---------------------|
| 1T 180 KH | 1.500                | 500    | 120  | 40   | 1.000 | 535  | 2       | 150  | 284       | 80                  |
| 2T 180 KH | 2.500                | 500    | 140  | 50   | 1.000 | 620  | 2       | 150  | 300       | 100                 |
| 3T 180 KH | 3.500                | 500    | 150  | 50   | 1.000 | 770  | 3       | 185  | 303       | 132                 |

Higher capacities available upon request.

T180



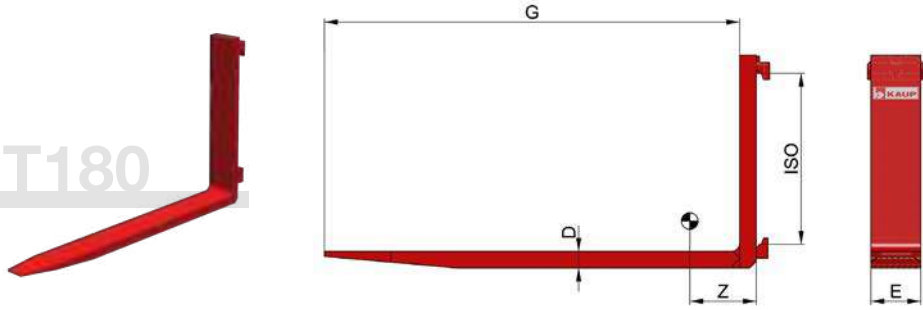
## Hook-on Fork T180 - standard forks for ISO carriage

| Model   | Capacity<br>per pair<br>kg | LCD<br>mm | E<br>mm | D<br>mm | G<br>mm | ISO<br>cl. | CofG<br>Z<br>mm | Weight<br>per<br>piece<br>kg | Add-on<br>weight<br>per<br>100 mm<br>kg |  |
|---------|----------------------------|-----------|---------|---------|---------|------------|-----------------|------------------------------|-----------------------------------------|--|
| 2T180   | 1.950                      | 500       | 80      | 40      | 1.000   | 2          | 294             | 38                           | 2,5                                     |  |
|         |                            |           |         |         | 1.100   |            | 336             | 41                           |                                         |  |
|         |                            |           |         |         | 1.150   |            | 358             | 42                           |                                         |  |
|         |                            |           |         |         | 1.200   |            | 380             | 43                           |                                         |  |
| 2,5T180 | 2.500                      | 500       | 100     | 40      | 1.000   | 2          | 294             | 48                           | 3,1                                     |  |
|         |                            |           |         |         | 1.100   |            | 336             | 51                           |                                         |  |
|         |                            |           |         |         | 1.150   |            | 358             | 53                           |                                         |  |
|         |                            |           |         |         | 1.200   |            | 380             | 54                           |                                         |  |
|         |                            |           |         |         | 1.400   |            | 422             | 60                           |                                         |  |
|         |                            |           |         |         | 1.600   |            | 510             | 67                           |                                         |  |
| 2,5T180 | 2.500                      | 600       | 120     | 40      | 1.000   | 2          | 294             | 57                           | 3,8                                     |  |
|         |                            |           |         |         | 1.100   |            | 336             | 61                           |                                         |  |
|         |                            |           |         |         | 1.150   |            | 358             | 63                           |                                         |  |
|         |                            |           |         |         | 1.200   |            | 380             | 65                           |                                         |  |
|         |                            |           |         |         | 1.400   |            | 422             | 72                           |                                         |  |
|         |                            |           |         |         | 1.600   |            | 510             | 80                           |                                         |  |
|         |                            |           |         |         | 1.800   |            | 601             | 87                           |                                         |  |
|         |                            |           |         |         | 2.000   |            | 693             | 95                           |                                         |  |
| 3T180   | 3.000                      | 500       | 100     | 45      | 1.000   | 3          | 286             | 58                           | 3,5                                     |  |
|         |                            |           |         |         | 1.100   |            | 327             | 62                           |                                         |  |
|         |                            |           |         |         | 1.150   |            | 348             | 63                           |                                         |  |
|         |                            |           |         |         | 1.200   |            | 369             | 65                           |                                         |  |
|         |                            |           |         |         | 1.400   |            | 417             | 72                           |                                         |  |
|         |                            |           |         |         | 1.600   |            | 503             | 79                           |                                         |  |
|         |                            |           |         |         | 1.800   |            | 592             | 86                           |                                         |  |
|         |                            |           |         |         | 2.000   |            | 683             | 93                           |                                         |  |
| 4,5T180 | 4.500                      | 500       | 120     | 50      | 1.000   | 3          | 281             | 76                           | 4,7                                     |  |
|         |                            |           |         |         | 1.100   |            | 322             | 81                           |                                         |  |
|         |                            |           |         |         | 1.150   |            | 343             | 83                           |                                         |  |
|         |                            |           |         |         | 1.200   |            | 364             | 85                           |                                         |  |
|         |                            |           |         |         | 1.400   |            | 450             | 95                           |                                         |  |
|         |                            |           |         |         | 1.600   |            | 539             | 104                          |                                         |  |
|         |                            |           |         |         | 1.800   |            | 630             | 114                          |                                         |  |
|         |                            |           |         |         | 2.000   |            | 722             | 123                          |                                         |  |
|         |                            |           |         |         | 2.200   |            | 815             | 132                          |                                         |  |
|         |                            |           |         |         | 2.400   |            | 909             | 142                          |                                         |  |



When forks are used in combination with a Rotator extremely high strain is applied to the lower fork angle when rotating a load which in turn strains the lower brackets. For this type of operation KAUP recommends forks with strengthened lower brackets (model code T180.2).

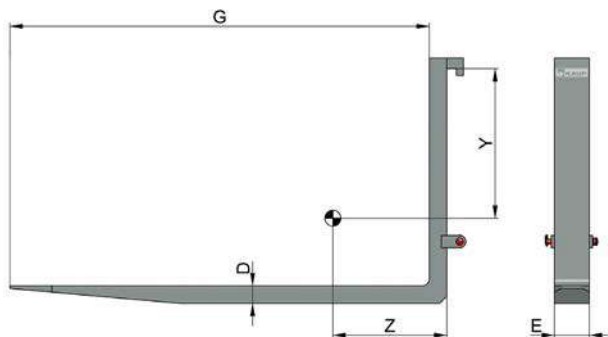
T180



## Hook-on Fork T180 - standard forks for ISO carriage

| Model  | Capacity per pair kg | LCD mm | E mm | D mm | G mm  | ISO cl. | CofG Z mm | Weight per piece kg | Add-on weight per 100 mm kg |
|--------|----------------------|--------|------|------|-------|---------|-----------|---------------------|-----------------------------|
| 5T180  | 5.000                | 600    | 150  | 50   | 1.000 | 3       | 281       | 94                  | 5,9                         |
|        |                      |        |      |      | 1.100 |         | 322       | 100                 |                             |
|        |                      |        |      |      | 1.150 |         | 343       | 103                 |                             |
|        |                      |        |      |      | 1.200 |         | 364       | 106                 |                             |
|        |                      |        |      |      | 1.400 |         | 450       | 118                 |                             |
|        |                      |        |      |      | 1.600 |         | 539       | 129                 |                             |
|        |                      |        |      |      | 1.800 |         | 630       | 141                 |                             |
|        |                      |        |      |      | 2.000 |         | 722       | 153                 |                             |
| 7T180  | 7.000                | 600    | 150  | 60   | 1.200 | 4       | 327       | 135                 | 7,1                         |
|        |                      |        |      |      | 1.400 |         | 408       | 149                 |                             |
|        |                      |        |      |      | 1.600 |         | 493       | 163                 |                             |
|        |                      |        |      |      | 1.800 |         | 581       | 178                 |                             |
|        |                      |        |      |      | 2.000 |         | 670       | 192                 |                             |
|        |                      |        |      |      | 2.200 |         | 761       | 206                 |                             |
|        |                      |        |      |      | 2.400 |         | 853       | 220                 |                             |
| 9T180  | 9.000                | 600    | 150  | 70   | 1.200 | 4       | 343       | 160                 | 8,2                         |
|        |                      |        |      |      | 1.400 |         | 397       | 176                 |                             |
|        |                      |        |      |      | 1.600 |         | 481       | 193                 |                             |
|        |                      |        |      |      | 1.800 |         | 568       | 209                 |                             |
|        |                      |        |      |      | 2.000 |         | 657       | 226                 |                             |
|        |                      |        |      |      | 2.200 |         | 747       | 242                 |                             |
|        |                      |        |      |      | 2.400 |         | 838       | 258                 |                             |
| 12T180 | 12.000               | 600    | 200  | 70   | 1.200 | 4       | 343       | 215                 | 11,0                        |
|        |                      |        |      |      | 1.400 |         | 397       | 237                 |                             |
|        |                      |        |      |      | 1.600 |         | 481       | 259                 |                             |
|        |                      |        |      |      | 1.800 |         | 568       | 281                 |                             |
|        |                      |        |      |      | 2.000 |         | 657       | 303                 |                             |
|        |                      |        |      |      | 2.200 |         | 747       | 325                 |                             |
|        |                      |        |      |      | 2.400 |         | 838       | 347                 |                             |
| 14T180 | 14.600               | 600    | 200  | 80   | 1.200 | 4       | 325       | 236                 | 12,6                        |
|        |                      |        |      |      | 1.400 |         | 405       | 261                 |                             |
|        |                      |        |      |      | 1.600 |         | 489       | 286                 |                             |
|        |                      |        |      |      | 1.800 |         | 576       | 312                 |                             |
|        |                      |        |      |      | 2.000 |         | 645       | 337                 |                             |
|        |                      |        |      |      | 2.200 |         | 755       | 362                 |                             |
|        |                      |        |      |      | 2.400 |         | 847       | 387                 |                             |

Higher capacities and specific dimensions and special height of fork shank upon request.

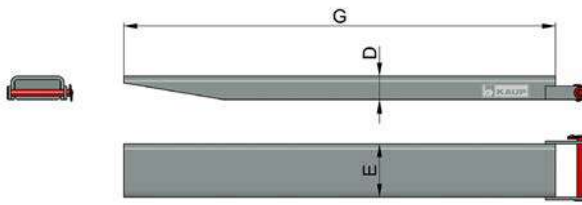


## Hook-on Fork T180TW - with quick release system 'Terminal West'

| Model      | Capacity per pair kg | LCD mm | E mm | D mm | G mm  | CofG Z mm | CofG <sub>v</sub> Y mm | Weight per piece kg | Add-on Weight per 100 mm kg |
|------------|----------------------|--------|------|------|-------|-----------|------------------------|---------------------|-----------------------------|
| 12T 180 TW | 12.000               | 600    | 200  | 80   | 1.200 | 250       | 690                    | 270                 | 12,6                        |
|            |                      |        |      |      | 1.400 | 320       | 715                    | 295                 |                             |
|            |                      |        |      |      | 1.600 | 395       | 735                    | 320                 |                             |
|            |                      |        |      |      | 1.800 | 470       | 755                    | 345                 |                             |
|            |                      |        |      |      | 2.000 | 550       | 770                    | 370                 |                             |
|            |                      |        |      |      | 2.200 | 640       | 785                    | 395                 |                             |
|            |                      |        |      |      | 2.400 | 725       | 840                    | 420                 |                             |
| 16T 180 TW | 16.000               | 600    | 200  | 90   | 1.200 | 235       | 730                    | 305                 | 14,1                        |
|            |                      |        |      |      | 1.400 | 305       | 760                    | 333                 |                             |
|            |                      |        |      |      | 1.600 | 375       | 785                    | 399                 |                             |
|            |                      |        |      |      | 1.800 | 450       | 805                    | 389                 |                             |
|            |                      |        |      |      | 2.000 | 530       | 820                    | 417                 |                             |
|            |                      |        |      |      | 2.200 | 615       | 840                    | 445                 |                             |
|            |                      |        |      |      | 2.400 | 700       | 855                    | 473                 |                             |
| 24T 180 TW | 24.000               | 600    | 250  | 90   | 1.200 | 240       | 735                    | 370                 | 17,7                        |
|            |                      |        |      |      | 1.400 | 305       | 760                    | 405                 |                             |
|            |                      |        |      |      | 1.600 | 380       | 785                    | 440                 |                             |
|            |                      |        |      |      | 1.800 | 475       | 805                    | 475                 |                             |
|            |                      |        |      |      | 2.000 | 540       | 825                    | 510                 |                             |
|            |                      |        |      |      | 2.200 | 620       | 840                    | 545                 |                             |
|            |                      |        |      |      | 2.400 | 705       | 855                    | 580                 |                             |
| 32T 180 TW | 32.000               | 600    | 250  | 100  | 1.200 | 235       | 725                    | 395                 | 19,6                        |
|            |                      |        |      |      | 1.400 | 300       | 760                    | 435                 |                             |
|            |                      |        |      |      | 1.600 | 370       | 785                    | 475                 |                             |
|            |                      |        |      |      | 1.800 | 445       | 805                    | 515                 |                             |
|            |                      |        |      |      | 2.000 | 525       | 825                    | 555                 |                             |
|            |                      |        |      |      | 2.200 | 610       | 840                    | 595                 |                             |
|            |                      |        |      |      | 2.400 | 695       | 855                    | 635                 |                             |

Other capacities available upon request.



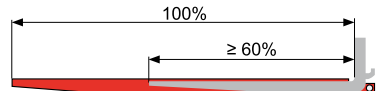


# Fork Extension T181G - closed version - for KAUP Attachments

| Model    | suitable for<br>fork section<br>mm | E<br>mm | D<br>mm | G<br>mm | Weight<br>per piece<br>kg |  |
|----------|------------------------------------|---------|---------|---------|---------------------------|--|
| 1T181G   | 100 x 40                           | 128     | 66      | 1.600   | 33                        |  |
|          |                                    |         |         | 1.800   | 37                        |  |
|          |                                    |         |         | 2.000   | 41                        |  |
| 2T181G   | 120 x 45 / 50                      | 148     | 76      | 1.600   | 39                        |  |
|          |                                    |         |         | 1.800   | 44                        |  |
|          |                                    |         |         | 2.000   | 49                        |  |
|          |                                    |         |         | 2.200   | 54                        |  |
|          |                                    |         |         | 2.400   | 59                        |  |
| 4T181G   | 150 x 50                           | 181     | 76      | 1.600   | 45                        |  |
|          |                                    |         |         | 1.800   | 51                        |  |
|          |                                    |         |         | 2.000   | 56                        |  |
|          |                                    |         |         | 2.200   | 61                        |  |
|          |                                    |         |         | 2.400   | 66                        |  |
| 4,5T181G | 150 x 60                           | 181     | 86      | 1.600   | 47                        |  |
|          |                                    |         |         | 1.800   | 53                        |  |
|          |                                    |         |         | 2.000   | 59                        |  |
|          |                                    |         |         | 2.200   | 65                        |  |
|          |                                    |         |         | 2.400   | 71                        |  |
| 6T181G   | 150 x 70                           | 181     | 96      | 1.600   | 49                        |  |
|          |                                    |         |         | 1.800   | 56                        |  |
|          |                                    |         |         | 2.000   | 62                        |  |
|          |                                    |         |         | 2.200   | 68                        |  |
|          |                                    |         |         | 2.400   | 74                        |  |

Other dimensions available upon request.

**Criteria for choosing fork extensions:** the fork extensions must be supported by at least 60 % of the existing fork length. Fork extension capacity corresponds to capacity of forks.





## Pin-Type Forks

shaft mounting

KAUP offers nearly every type of Pin-Type forks (shaft guided forks). As the dimensions are not standardized, and as these are mounted on a wide variety of high capacity forklift trucks and construction machines, we require detailed information before quoting such forks.

## Bolt-on (screw-on) Forks

for attachments with bolt-on plates

Screw-on forks are fitted to the attachment by screws. As drill patterns are not standardized and may vary according to the manufacturer of the lift truck or the attachment we require detailed information before quoting such forks.

## Special Forks

KAUP's programme includes nearly every type of special fork available on the market e.g. forks with offset shank, knife forks (full taper), folding forks, inverted forks, double forks (fork pairs), etc.

## Forks with special dimensions

KAUP forks are available with fork sections ranging from 80 x 40 mm up to 400 x 120 mm.

Fork lengths of up to 3.000 mm and fork shank heights of 2.000 mm are available.

## Forks with quick release system 'Terminal West'

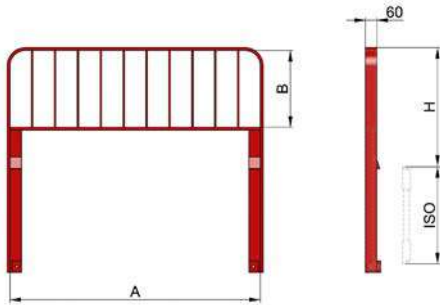
Model code T180TW - see page 122.

## Forks for Rotators

lower brackets strengthened - model code T180.2 - see page 57, 120 - 121.

**For projects with KAUP special forks it is advisable to contact our specialists directly for a specific quotation.**





## Load Backrest T179

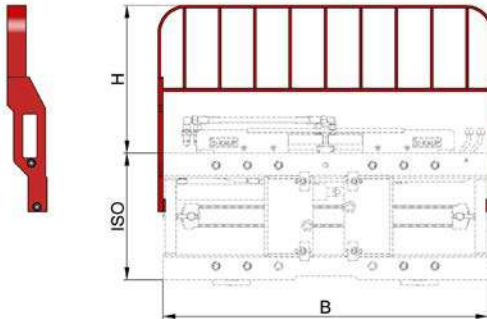
for fork carriages and sideshifter - bracket mounted version

| Model  | A<br>mm | B<br>mm | H<br>mm | ISO<br>cl. | Weight<br>kg |
|--------|---------|---------|---------|------------|--------------|
| 1T 179 | 892     | 410     | 600     | 2          | 28           |
| 2T 179 | 1.042   | 410     | 600     | 2          | 31           |
| 4T 179 | 1.152   | 310     | 500     | 3          | 32           |
| 6T 179 | 1.802   | 480     | 735     | 4          | 105          |

Fork carriages and sideshifters see pages 16 to 25.  
Maximum height H = 1.000 mm, otherwise upon request.



# T179



## Load Backrest T173

for fork positioners T156 and T163N/SN - screw-on-carriage version

| Model  | B<br>mm | H<br>mm | ISO<br>cl. | Weight<br>kg |
|--------|---------|---------|------------|--------------|
| 2T 173 | 1.040   | 470     | 2          | 30           |
| 4T 173 | 1.160   | 430     | 3          | 34           |
| 6T 173 | 1.400   | 730     | 4          | 87           |

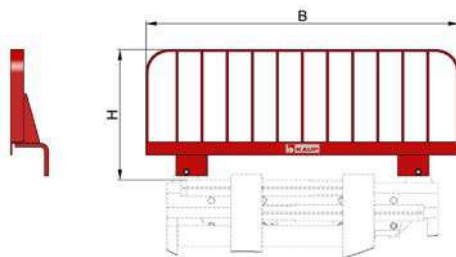
Fork Positioners T156 and T163N/SN see pages 29 and 31.  
Maximum height H = 1.000 mm, otherwise upon request.



# T173



151



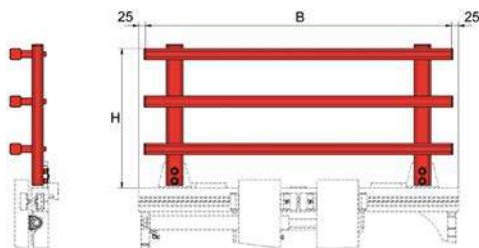
**Load Backrest T479** - screw-on-body version  
for KAUP ranges T160, T410Z, T411, T411Z, T411ZR, T411D,  
T412, T413, T414, T415, T406, T466

| Model    | B<br>mm | H<br>mm | Weight<br>kg |
|----------|---------|---------|--------------|
| 1T 479   | 720     | 500     | 20           |
| 1.5T 479 | 970     | 500     | 26           |
| 2T 479   | 970     | 500     | 26           |
| 3T 479   | 970     | 500     | 26           |
| 3T 479   | 1.250   | 500     | 35           |
| 4T 479   | 1.250   | 500     | 35           |
| 5T 479   | 1.250   | 500     | 35           |
| 6T 479   | 1.460   | 500     | 60           |
| 8T 479   | 1.750   | 500     | 67           |
| 10T 479  | 2.000   | 500     | 82           |

The related attachments can be found on the pages 32 to 44 (T160, T466, T411R and T411Z) and 63 up to 85 (T411, T411D, T412, T413, T414, T415, T406). Maximum height H = 1.000 mm, otherwise upon request.



T479



### Load Backrest T479.1

screw-on-body version - for KAUP ranges T160B / T466B up to 4.8T

| Model      | B<br>mm | H<br>mm | Weight<br>kg |
|------------|---------|---------|--------------|
| 2T 479.1   | 990     | 500     | 19           |
| 3,5T 479.1 | 1.100   | 500     | 21           |
| 4,8T 479.1 | 1.300   | 500     | 24           |

The related attachments can be found on pages 32 to 39 (T160B, T466B). Maximum height H = 1.000 mm.

Please note: load backrest width (B) corresponds to width of T160 / T466B range minus 50 mm.

Load Backrest T479.1 for KAUP integrated fork positioners T466BI and T466BIZ up to 4.8T available upon request.



T479.1

## Contact pad coatings for KAUP Roll Clamps, for Appliance- and Carton Clamps and Drum Clamps

The inner surface of the contact pads is very important on Roll Clamps as well as on Appliance- and Carton Clamps as it is in direct contact with the load to be handled. These KAUP Clamps can be fitted with different types of contact pad surfaces specifically suited to the application.



### Cast contact pads

with fish bone pattern are standard. These can be applied universally and are suitable for most applications.



### Bulb plate pads

are an alternative to cast contact pads when special shapes and sizes are to be manufactured individually. Suitable for a multitude of applications.



### Metal spray surface

contact pads with a metal spray surface distinguish themselves by having a low build-up and excellent friction. This surface should only be chosen for loads with a very hard surface.



### SIC surface

is also used for loads with a very hard top surface and characterizes excellent friction.



### Polyurethane coating Poly-1 (light)

distinguishes itself through excellent friction. It is extremely durable, leaves no marks or streaks and can be used universally. (Standard for contact pads with coating).



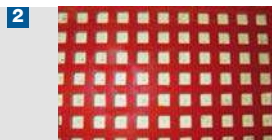
### Polyurethane coating Poly-2 (dark)

distinguishes itself through excellent friction. It is extremely durable, leaves no marks or streaks and can be used universally. (Alternative to Poly-1 on request).



### Rubber lining

vulcanised onto the contact pads, is an alternative to Polyurethane. It is characterized through excellent friction and moulds to the surface of the load. This lining can be used for most applications.



### Secutex lining

is made of Polyurethane cast around a metal grid. It is screwed onto the contact pads and can be exchanged easily if necessary. It distinguishes itself through excellent friction and durability.



### Gripping nap strap coating

the yellow coating is very soft, leaves no marks on the load and distinguishes itself through excellent friction. The black coating has low wear and tear qualities.



### Grooved profile rubber (RPG)

The vulcanized grooved profile rubber on the aluminum pressure plates is characterized by high abrasion resistance. Due to the very good adhesion and adaptation to the load surface a lower clamping pressure is required. Grooved profile rubber is only available on screw-on aluminum pressure plates.



### Remagrip coating

this diamond shaped soft rubber coating is used as standard on drum clamps. It is to a certain degree acid resistant.

**1** for use on KAUP Roll Clamps T458 - T498.

**2** for use on KAUP Appliance and Large Surface Clamps T413G - T414-2.

**3** for use on KAUP-Drum Clamps T405 - T495.



## Accessories for KAUP Attachments

KAUP has an extensive program of accessories for forklift truck attachments. Following is an excerpt of the most common accessories. If your required part is not listed please contact us directly. We will be pleased to assist you.

To order parts or accessories please note that we need the exact type of attachment and the correct serial number. This information can be found on the identification plate attached to the unit. This information is additionally engraved on the attachment body.

Please consider that the shown prices are based on the purchasing conditions for spare parts.

## Accessories mechanical

### Quick release bottom hooks

for quick assembling and disassembling of attachments without tools.  
The hooks can be used left and right.

### For attachments with sideshift

| Part Number  | ISO class        |  |
|--------------|------------------|--|
| 012 015 2101 | ISO class 2      |  |
| 012 015 2201 | ISO class 3      |  |
| 012 015 0501 | ISO class 3 (4T) |  |
| 012 014 8101 | ISO class 4      |  |



Version for attachments  
**with sideshift**  
ISO class 3 (4T version)  
and ISO class 4



Version for attachments  
**with sideshift**  
ISO class 2 and 3  
(cl. 3 only 3T version)

### For attachments without sideshift (for clamps)

| Part Number  | ISO class   |  |
|--------------|-------------|--|
| 012 015 1101 | ISO class 2 |  |
| 012 015 2601 | ISO class 3 |  |
| 012 014 8301 | ISO class 4 |  |

### For attachments without sideshift (Rotators, rotating combinations, rams)

| Part Number  | ISO class   |  |
|--------------|-------------|--|
| 012 015 1201 | ISO class 2 |  |
| 012 015 2801 | ISO class 3 |  |



Version for attachments  
**without sideshift**

## Accessories hydraulic

| Part Number     | Name of the item                                                                                                                                                   |                 |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 048 099 0040 re | Double hose reel                                                                                                                                                   | Length 2.800 mm |
| 048 099 0041 li | nominal hose diameter DN 10                                                                                                                                        | 2.800 mm        |
| 048 000 3001 re | nominal pressure PN 225 bar                                                                                                                                        | 4.500 mm        |
| 048 000 3002 li |                                                                                                                                                                    | 4.500 mm        |
| 048 000 3003 re |                                                                                                                                                                    | 5.500 mm        |
| 048 000 3004 li |                                                                                                                                                                    | 5.500 mm        |
| 048 000 3005 re |                                                                                                                                                                    | 6.500 mm        |
| 048 000 3006 li |                                                                                                                                                                    | 6.500 mm        |
| 048 099 0007    | Quadruple Hose Reel $\Delta p$ max. working pressure 350 bar<br>hose length 5.000 mm<br>for lift height Duplex 8.000 mm,<br>Triplex 7.000 mm, DN 10 right and left |                 |

\*li = left / re = right

|              |                 |
|--------------|-----------------|
| 048 099 0043 | Crocodile joint |
|--------------|-----------------|

|              |                                                                |
|--------------|----------------------------------------------------------------|
| 042 096 0008 | Swivel joint w/o clutch for Double hose reel w/o closing valve |
|--------------|----------------------------------------------------------------|

|              |                                            |         |
|--------------|--------------------------------------------|---------|
| 042 021 0078 | Solenoid valve for further circuits, DN 10 | 12 Volt |
| 042 021 0079 |                                            | 24 Volt |
| 042 021 0080 |                                            | 36 Volt |
| 042 099 0022 |                                            | 48 Volt |
| 042 099 0035 |                                            | 72 Volt |
| 042 021 0081 | Solenoid valve for further circuits, DN 12 | 80 Volt |
| 042 021 0061 |                                            | 12 Volt |
| 042 098 0020 |                                            | 24 Volt |

|              |                                                       |
|--------------|-------------------------------------------------------|
| 042 021 0015 | Manometer Gauge for pressure reducing valve 0-400 bar |
|--------------|-------------------------------------------------------|

|              |                                                                              |      |
|--------------|------------------------------------------------------------------------------|------|
| 042 099 0097 | Two Stage Pressure Limiting Valve adjustable for two different pressures     | DN 8 |
| 042 098 0053 | Three Stage Pressure Limiting Valve adjustable for three different pressures | DN 8 |

|              |                                 |                    |
|--------------|---------------------------------|--------------------|
| 042 095 0007 | Flow Divider (Gear Pump Design) | Q = 10 - 32 l/min  |
| 042 096 0086 | Flow Divider (Gear Pump Design) | Q = 15 - 46 l/min  |
| 042 095 0052 | Flow Divider (Gear Pump Design) | Q = 48 - 131 l/min |



## Accessories electrical

### Electrical accessories for operating additional attachment functions

The modular structure from three system components ensures the optimal accessory for operating additional attachment functions for every type of forklift truck.

#### Module 1 - Switch Set

| Part Number  | Name of the item                                                                                                          |  |
|--------------|---------------------------------------------------------------------------------------------------------------------------|--|
| 026 008 0002 | Switch set supplied with electrical cable, see saw and rocker switches<br>usable for an operating voltage of 12 V to 80 V |  |



#### Module 2 - Mast cable routing

| Part Number                              | Name of the item                                                                                                                                                                         |  |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>1</b><br>026 008 1001<br>026 008 1002 | <b>Cable routing in pipe system</b><br>Mast cable routing for lifting heights up to 5.600 mm<br>Mast cable routing for lifting heights up to 8.000 mm                                    |  |
| <b>2</b><br>026 008 1003<br>026 008 1004 | <b>Guiding with reverse roller pulley</b><br>Mast cable routing for lifting heights up to 7.000 mm <sup>1)</sup><br>Mast cable routing for lifting heights up to 12.000 mm <sup>1)</sup> |  |



<sup>1)</sup> Guiding with reverse roller pulley is not suitable for forklift trucks with a free lift mast.

#### Module 3 - Connection solenoid valve - attachment

| Part Number              | Name of the item                                              |  |
|--------------------------|---------------------------------------------------------------|--|
| <b>1</b><br>026 008 2001 | Attachment connection for single solenoid valve <sup>1)</sup> |  |
| <b>2</b><br>026 008 2002 | Attachment connection for double solenoid valve <sup>1)</sup> |  |



<sup>1)</sup> The solenoid valve is not part of the delivery.

### Predefined sets for choosing the most suitable Electrical Assembly Kit

| Electrical assembly kit                                                            | MODULE 1                                                                            | MODULE 2                                                                            |                               |                                                                                     |                                | MODULE 3                                                                            |                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | switch set                                                                          | pipe system                                                                         |                               | with reverse roller                                                                 |                                | connection solenoid valve                                                           |                                                                                     |
|                                                                                    |  |  |                               |  |                                |  |  |
| Part Number                                                                        | incl. seesaw & rocker switch                                                        | lifting height up to 5.600 mm                                                       | lifting height up to 8.000 mm | lifting height up to 7.000 mm                                                       | lifting height up to 12.000 mm | single solenoid valve                                                               | double solenoid valve                                                               |
| 026 008 3001                                                                       | X                                                                                   | X                                                                                   |                               |                                                                                     |                                | X                                                                                   |                                                                                     |
| 026 008 3002                                                                       | X                                                                                   | X                                                                                   |                               |                                                                                     |                                |                                                                                     | X                                                                                   |
| 026 008 3003                                                                       | X                                                                                   |                                                                                     | X                             |                                                                                     |                                | X                                                                                   |                                                                                     |
| 026 008 3004                                                                       | X                                                                                   |                                                                                     | X                             |                                                                                     |                                |                                                                                     | X                                                                                   |
| 026 008 3005                                                                       | X                                                                                   |                                                                                     |                               | X                                                                                   |                                | X                                                                                   |                                                                                     |
| 026 008 3006                                                                       | X                                                                                   |                                                                                     |                               | X                                                                                   |                                |                                                                                     | X                                                                                   |
| 026 008 3007                                                                       | X                                                                                   |                                                                                     |                               |                                                                                     | X                              | X                                                                                   |                                                                                     |
| 026 008 3008                                                                       | X                                                                                   |                                                                                     |                               |                                                                                     | X                              |                                                                                     | X                                                                                   |

## Accessories electrical

### Electric Spring Cable Drum for electricity feed over Triplex mast

| Part Number  | Name of the item                        |             |
|--------------|-----------------------------------------|-------------|
| 048 099 0066 | Electric Spring Cable Drum incl. holder | 3 pole 8 m  |
| 048 099 1001 | Electric Spring Cable Drum              | 6 pole 10 m |
| 048 099 0601 | Electric Spring Cable Drum              | 9 pole 12 m |



### Radio controlled solenoid valve for wireless control of hydraulic functions

| Part Number  | Name of the item                                                                                                                                                            |  |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 042 093 0011 | Radio solenoid valve 12 V with radio remote control and visual indicator of set valve position. Including transmitter, battery charger and 2 rechargeable batteries (12VDC) |  |



### Light column display for preselected pressure range (traffic light design)

| Part Number  | Name of the item                                                                                  |  |
|--------------|---------------------------------------------------------------------------------------------------|--|
| 026 099 0083 | Light column display 12 Volt                                                                      |  |
| 026 099 0099 | Light column display 24 Volt                                                                      |  |
| 026 099 0034 | Light column display 48 Volt                                                                      |  |
| 026 082 0101 | Control panel with light display 12 / 24 / 48 Volt                                                |  |
| 042 001 7001 | Pressure Relief Valve for two additional pressures (= total 3) 12 Volt switched by solenoid valve |  |
| 042 001 7002 | Pressure Relief Valve 24 Volt switched by solenoid valve                                          |  |
| 042 001 7004 | Pressure Relief Valve 48 Volt switched by solenoid valve                                          |  |
| 026 099 0035 | Accessory Kit                                                                                     |  |



## Optical / audible sensor

rotating attachments can be fitted with a sensor which signals, optically and/or audibly, the exact 180° position.



## Sensor technology for

### Appliance- and Large Surface Clamps

The clamping arms of KAUP Appliance and Large Surface Clamps can be fitted with sensors so that these identify the load pattern i.e. one or two high / one or two deep. Preset pressures required to pick up the load are automatically adjusted by the sensor control system.



## Forklevel assistance system

Forklevel is a stand-alone device for horizontal alignment of the forks (spirit level function) and for sighting the load to be picked up. It is mounted on a fork of the truck and activates when the forks are in the horizontal position. The activated line laser projects a horizontal auxiliary line onto the load or the pallet position and enables precise alignment of the load to be picked up.

Part Number of the set: 026 072 0601

## Check device for

### Appliance- and Large Surface Clamps / Roll Clamps

Used for checking and adjusting predefined pressures on the clamp. With the help of the check device and the corresponding analysis and adjustment, the exact clamping pressure can be set so that damage to sensitive loads e.g. white or brown goods or paper rolls can be minimised.



**Further technical details, further accessories and optional fittings available upon request.**





## KAUP-eop: attachments - electrically operated

**eop:** Stands for 'electrically operated' and describes the new electrically driven attachments from KAUP. The decisive contrast to conventionally operated attachments: they do not require any hydraulics, i.e. no oil. eop attachments are simply a clean and environmentally friendly alternative to hydraulically operated attachments.

Electrically driven attachments have a more precise control. They require only a fraction of the energy needed by their hydraulic counterparts, even though these attachments are based on the same basic components from the KAUP modular system.

With the **eop** series, KAUP has electrified the most important implement functions - sideshifting, fork adjusting and rotating.

## Precise, flexible, economical and smart



**eop attachments** allow the precise positioning of forks and rotators for the exact placement of the load – whether via the autonomous control of the attachment or the control of the industrial truck.



AGV, AMR, forklift truck, high lift truck or plant constructor and automator: **eop attachments** from KAUP can be combined with all known industrial trucks or used in the implementation of automated solutions.



**eop attachments** are very energy-efficient and significantly increase the operating times of the carrier vehicles.



How many operating hours has the attachment already been used for? What load patterns did the unit transport? Are there any disruptions in the handling process? These and numerous other questions can be answered with the individually definable monitoring of the **eop attachments**.



## Sideshifter 1.7T151 eop

with bidirectional CAN bus communication for precise sideshift function



Capacity: 1.700 kg at 600 mm l.c.

Construction width: 880 mm

ISO class 2A



Supply voltage: 24 V DC (12 V/48 V)

Rated current: 10 A

Rated power: 240 W



## Fork Positioner 2T160B eop

with bidirectional CAN bus communication for precise positioning of the forks and for precise sideshift function



Capacity: 1.500 kg at 500 mm l.c.

Construction width: 1.040 mm

ISO class 2A



Supply voltage: 24 V DC (12 V/48 V)

Rated current: 20 A

Rated power: 480 W



## Double Pallet Handler 1.5T429 eop

with bidirectional CAN bus communication for precise positioning of the forks and for precise sideshift function



Capacity: 1.600 kg at 600 mm l.c.

Construction width: 930 mm

ISO class 2A



Supply voltage: 24 V DC (12 V/48 V)

Rated current: 20 A

Rated power: 480 W



## Rotator 1T351 eop

with bidirectional CAN bus communication for precise rotating function and for precise rotation angle positioning



Rotation range: 360° endless

Torque: 2.000 Nm

Rotation speed: 2,5 min<sup>-1</sup>

Capacity: 1.200 kg at 600 mm l.c.

Construction width: 930 mm

ISO class 2A



Supply voltage: 48 V DC (24V)

Rated current: 20 A

Rated power: 960 W



## KAUP Fork Positioner with SmartFork®

Assistance systems are widespread in today's logistics. They increase safety, speed up work processes and increase comfort for the forklift driver.

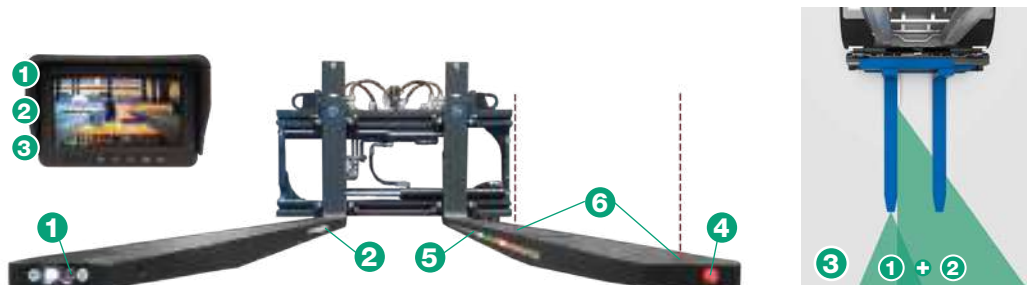
KAUP Fork Positioners with hook-on forks as well as with bolt-on forks can be supplied with SmartFork® sensors. We will be happy to advise you and configure the optimum system for your application.

### SmartFork® - the advantages

- Improve visibility:** Even with loaded cargo
- Higher level of safety:** For staff and goods
- Reduce damages:** Through improved visibility and intelligent sensor technology
- Reduce costs:** Through less damage to goods and packaging
- Better ergonomics:** Full visibility without uncomfortable rotation of the head and the upper body
- Save time:** Through safe navigation when transporting goods and faster workflows
- Easy handling:** Intelligent sensors integrated in the forks make your work easier

### The SmartFork® applications at a glance

- 1 FrontCam:** for best view ahead the load  
Extension of the field of vision ahead the load | Sighting of carriers | Detecting persons / obstacles when the load is picked up | Targeting load carriers | Inclination display of the forks (spirit level function), horizontal alignment | Person detection
- 2 SideCam:** for perfect view of the load  
Easy and safe retraction in pallets | Improved lifting of loads | Reduced manoeuvring damages | Both forks in the camera field of view | Aiming along the fork | Unique, semi-integrated camera installation | Cable routing integrated into the fork | Significantly stronger and more durable solution compared to previous systems | Inclination display of the forks (spirit level function), horizontal alignment | Person detection
- 3 PremiumCam:** for best view ahead and of the load  
Combination of FrontCam and SideCam for best visibility on and ahead of the load | Automatic switching from side camera to front camera when storing or retrieving goods | Safe transport, even in unclear situations | Detection of distances or targeting pallets in great heights | Precise and easy entering into pallet pockets / the load carrier | Less damage to transported goods | Both camera perspectives at a glance! Split screen with touch function | Inclination display of the forks (spirit level function), horizontal alignment | Person detection
- 4 Laser:** Precise and safe loading  
Precise sighting of pallets and loads even with loaded cargo | Safe loading | Simple load pick-up in the warehouse | Less damage to the transported goods
- 5 Flash:** Entry depth detection and warning function  
**Warning function (outer fork blade):** Forks are visible from afar in dark and unclear environments | **Entry depth function (inner fork blade):** Display of entry depth for efficient and safe load pick-up | Reduction of accidents | Higher working safety | Displayed lengths and colours freely programmable
- 6 EasySecure:** Exact recognition of entry depth  
Safe recognition of transverse or longitudinal pallet storage | Reaching the permissible entry depth is displayed | Lifting of cargo placed behind is prevented by slightly backing up the lift truck | Up to three firmly defined pallets can be picked up and stored independently | Up to three sensors per fork possible | Light sensor inside the fork tip | Display in the driver's cabin indicates the entry depth



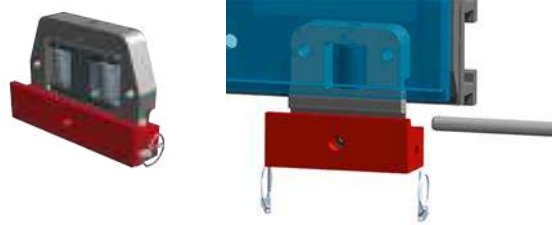
## KAUP-Quick-coupling systems

From quick-change claws for occasional attachment changes to the hydraulic quick release system from our long-standing distribution partner B&B Attachments: KAUP has a wide range of quick-coupling systems to increase the flexibility of any forklift truck by using more than one attachment.

### Quick release bottom hooks

are the most cost-effective solution for quick assembling and disassembling of attachments without tools. The hooks can be used left and right.

Suitable quick release bottom hooks for your attachment can be found under Accessories on page 128.



### Quick coupler systems T013SW

locked hydraulically (T013SWH) or manually (T013SWM)

are used on forklift trucks which carry out a large variety of applications requiring frequent change of attachments. Whether you are handling palletized goods or transporting non-palletized goods - the forklift truck can be optimally adapted for a wide range of different applications within a short period of time. The attachment is fitted in the top take-up of the quick coupler system and locked hydraulically or manually on the bottom take-up.

Further technical details available upon request.





# PowerMount



PowerMount, from B&B Attachments is a quick release system which provides a faster, easier and safer way to interchange forklift attachments. Attachments can now be safely engaged and disengaged by the driver in 60 - 90 seconds, making your forklift fleet more flexible and cost effective.



Integrated or hook-on version



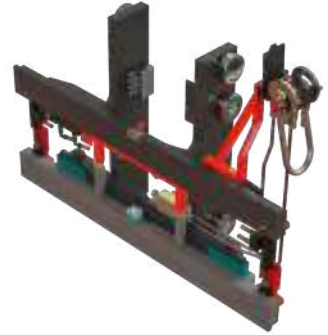
Capacity from 2.500 kg to 8.000 kg



Carriage sizes available in Class 2, 3 and 4



Quick release coupler system with up to  
4 hydraulic connections available and  
1 seven pin electrical supply to attachments.



## PowerMount - key points

- Allows one hydraulic attachment to be changed to another in 60 – 90 seconds.
- Existing as well as new attachments can be easily made ready for use with PowerMount.
- Quick and simple – the operator can now change attachments without an engineer.
- Visibility through the PowerMount is exceptionally good – very close to a standard forklift truck carriage.
- The weight and lost load of the unit are minimal, so loss in residual capacity is very low.
- Uncomplicated design and reliable proven function.
- Can be fitted to virtually any forklift truck.
- Visual and audible warnings to ensure attachments are secure.
- Attachment hydraulics are coupled, even under full truck pressure.
- Severely reduce operational costs.
- Utilise your forklift fleet more effectively.
- Reduces risk of accidents through incorrect equipment use.

**Contact us!** Our sales team will be happy to help you choose the right PowerMount device.





The building products industry is a demanding one. Handling the various products in production and on the construction site can be very time consuming and expensive. B&B Attachments has adapted to meet the special requirements of this industry with the BlockMaster range.

The BlockMaster range has been developed to withstand the tough conditions of the brick and block industry. It offers a complete range of specialist clamps for the building materials industry. BlockMaster is optimised for maximum productivity in palletless handling of brick, block, flag and kerb products.



## BlockMaster - the product range

- Parallel action clamps with rotating options, for single packs of flag and kerb
- Parallel action clamps for double packs of flag and kerb
- Pivot type clamps designed for handling one, two or multiple brick or block packs
- Pivot type clamps with rotating options for handling one, two or multiple brick or block packs
- Kiln tine attachments
- Special constructions for individual site requirements

**Contact us!** Our sales team will be happy to help you choose the right BlockMaster.







The LayerMaster from B&B Attachments is a layer picking device. It offers the warehouse and logistics industry the innovative solution for both single layer picking and pallet load splitting.

In a warehouse or distribution centre, picking typically accounts for about 25 per cent of total labour costs. The Layer Master can handle orders of more than 1,000 cartons per hour. By comparison, manual picking can handle a maximum of 100-250 cartons per hour.

Combining a LayerMaster with a forklift truck, allows single or multiple layers of products to be picked and mixed pallets to be assembled quickly, safely, and efficiently with a minimum of manual labour.



FMLY545



FMOP900



C2LY545



C2OF900



**Mounting types:** fork mounted | side mounted  
| carriage mounted | static version (with lifting mast, power pack and control panel)



**Field of application:** primarily in the food industry  
| in the large distribution centres of supermarkets

## LayerMaster - the advantages



Adjusted for a wide range of products:

- Boxed and frozen goods
- Glass
- Plastics containers
- Tinned products
- Plastic trays
- ...



Unique in the way it works because the product is clamped from all four sides with minimal pressure.

Where a number of different layer weights (or product types) are required to be handled, a multi stage valve is supplied as standard to enable up to 3 pressures to be selected.

**Contact us!** Our sales team will be happy to help you choose the right LayerMaster.





## KAUP- forklift spreader for container handling

KAUP Container spreaders for forklift trucks guarantee efficient handling for all container types. Whether it's a top spreader, spreader for lateral or frontal pick-up, rigid design or telescopic - KAUP spreaders can be optimally configured for almost any application.

KAUP forklift trucks spreaders ensure maximum handling performance, providing an excellent view of the container corners. This enables the operator to position the spreader quickly and accurately.

### Durable and low maintenance



Long service life and reliable operation, as all technical components are located in well-protected areas.



Camera systems.  
LED work lights.



Highly flexible design allows handling of even damaged containers.

### Options available



Locking via twist lock, pin or hook. Hydraulic or manual locking.



Tropical or seawater-resistant version available.



Large and individual customised telescoping ranges.



Separate (independent) sideshift.



Reach & slew function for precise positioning.



Hydraulic rotation 270° or 360° endless (Reachstacker only).

## Fixed Top Lift Spreader T192E

For top handling a specified container size  
(10' to 40' ISO / Sealand / special container dimensions)



To be slipped onto forks and inverted forks |  
Hook-on | Integrated | Terminal West | Pin-Type



1 hydraulic function



Capacity (SWL) from 1.000 kg to 45.000 kg



## Top Lift Spreader T192E telescopic version

For top handling of 10' to 40' ISO / Sealand / special container dimensions



To be slipped onto forks and reversible forks |  
Hook-on | Integrated | Terminal West | Pin-Type



2 hydraulic functions



Capacity (SWL) from 1.000 kg to 45.000 kg



## Top Lift Spreader T192E double telescopic version

For top handling of containers with customized dimensions for example; accommodation, office, construction or module containers.



To be slipped onto forks and inverted forks |  
Hook-on | Integrated | Terminal West | Pin-Type



2 hydraulic functions and solenoid valve



Capacity (SWL) from 1.000 kg to 12.000 kg



## Fixed Side Lift Spreader T193

For lateral handling of a specified container size (10' to 40' ISO / Sealand / special container dimensions)



Hook-on | Integrated | Terminal West | Pin-Type



1 hydraulic function



Capacity (SWL) from 1.000 kg to 12.000 kg



Optionally available with independant sideshift



Optionally available with hydraulically adjustable bottom support



## Side Lift Spreader T193 telescopic version

For lateral handling of 10' to 40' ISO / Sealand / special container dimensions



Hook-on | Integrated | Terminal West | Pin-Type



2 hydraulic functions



Capacity (SWL) from 1.000 kg to 12.000 kg



Optionally available with independent sideshift



Optionally available with hydraulically adjustable bottom support





## End Lift Spreader T193L

For lateral handling of empty containers



Hook-on | Integrated | Terminal West | Pin-Type



1 hydraulic function



Capacity (SWL) from 1.000 kg to 8.000 kg



## Rotating End Lift Spreader T193LD 360° rotation continuous

For lateral handling and turning empty containers.



Hook-on | Integrated | Terminal West | Pin-Type



2 hydraulic functions



Capacity (SWL) from 1.000 kg to 8.000 kg



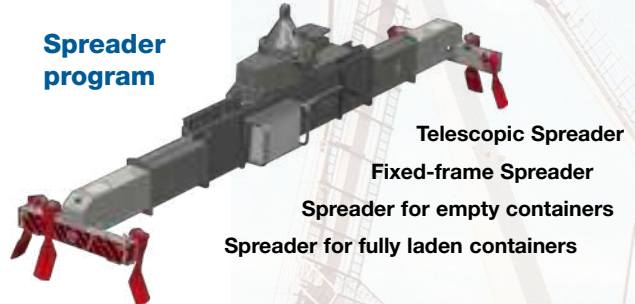
## KAUP Container Spreaders

KAUP Crane Spreaders have been in operation world wide for more than 40 years. By using the KAUP Modular Build System KAUP Spreaders have a favourable relation of weight to carrying capacity and can be designed to meet individual requirements such as capacity, lifting speed and size of container to be picked up.

KAUP Spreaders operate at a maximum speed of 120 m/min and can pick up weights of up to 60 tons. An excellent view of the container corner castings enables the crane operator to position quickly and exactly guaranteeing a maximum turnover rate.



### Spreader program



Telescopic Spreader

Fixed-frame Spreader

Spreader for empty containers

Spreader for fully laden containers

### For operation on

- gantry container bridges
- portal cranes
- reach stackers
- luffing cranes
- mobile harbour cranes
- ship to shore cranes
- straddle carriers

### Technical options available

- telescopic range from 20' to 24' - 30' - 35' - 40' - 43' - 45' - 48'
- width adjustment to compensate difference between ISO and Sealand containers
- level compensation from 600 mm to 1.200 mm
- flippers: 4 or 6 as required
- slewing gear 270° or 360° endless
- trim and list control
- Piggy Back arms
- emergency lifting hooks 4 x 10.000 kg on central frame  
4 x 10.000 kg on crosshead
- tropical or sea water resistant versions available

### Project planning:

In order to draw up an exact quotation for a container or forklift truck spreader to meet your requirements we require detailed information regarding type, mounting, load weight, details regarding containers to be transported etc.

**Contact us!** We analyse your material handling needs.

## KAUP Stationary Material Handling Equipment

KAUP Stationary Material Handling Equipment are project related system solutions which can be integrated into any production line. Their versatility is based on the modular built system of our renowned forklift truck attachments. Therefore they can usually be delivered and put into operation within a short time.



Our equipment is put into operation for handling bagged goods and powder containers. Our practice orientated equipment is also in high demand for the handling of goods, storage of food and beverages or for turning sheet metal or paper sheets for their processing on both sides. Our main customers are to be found in food and beverage industries as well as chemical and automobile manufacturing industries.

The majority of our equipment has its own power unit using hydraulic aggregates. Control of the equipment is available in automatic, semi-automatic and manual versions which optimally meets the requirements of the user.

KAUP system solutions are based on the modular built system - but are in their own way special custom-made products. Before finding the most suitable solution for your handling operation a thorough analysis of each application case and the task to be mastered is carried out. In our Design Department the equipment is optimised and adapted to the specific requirements with the help of state of the art CAD-CAM systems.

**Contact us!** We analyse your material handling needs.

20T251W/099 - Inverter for steel sheets



**Optimise your material flow ..... with KAUP system solutions**



25T251W/099 - Inverter for steel sheets



1,6T451W/099 - Pallet Inverter



1,6T451W/099 - Pallet changer



## Residual capacity calculation for forklift trucks with attachments

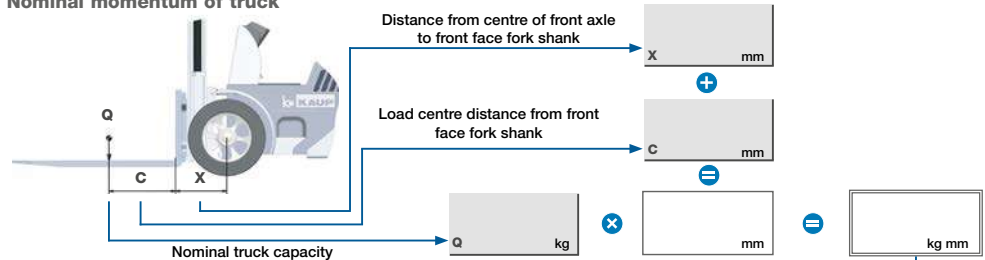
Please consider that a calculation according to this form will only show you an estimated residual capacity. Various factors influencing the residual capacity, such as extreme lift heights or load centre distances are not considered in this calculation. Please contact your forklift truck supplier for exact values. The nominal capacity of the attachment may not be exceeded. An online calculation can be found on our website [www.kaup.de](http://www.kaup.de)

| Forklift truck             | Brand: | KAUP attachment             | Model: |
|----------------------------|--------|-----------------------------|--------|
| Model:                     |        | Capacity:                   | [kg]   |
| Nominal capacity Q:        | [kg]   | Load centre:                | [mm]   |
| Load centre distance C:    | [mm]   | Lost load V <sup>1)</sup> : | [mm]   |
| Thickness of fork shank S: | [mm]   | Centre of gravity CofG:     | [mm]   |
| Measurement X:             | [mm]   | Weight G:                   | [kg]   |

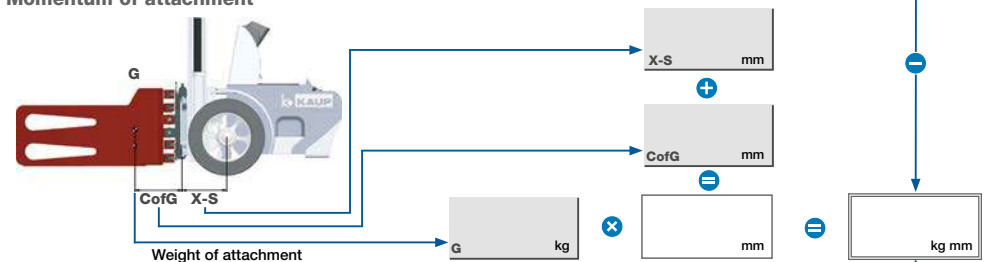
<sup>1)</sup> Please consider additionally measurement „V“ acc. to our indexes the thickness of the shank of clamping arms or forks.

### Calculation scheme

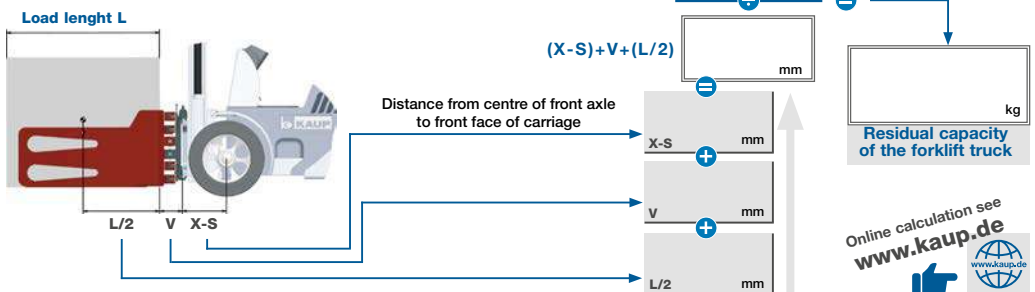
#### Nominal momentum of truck



#### Momentum of attachment



#### Residual capacity of the forklift truck



Online calculation see  
[www.kaup.de](http://www.kaup.de)  



## SIDESHIFTERS



T151P2



T151P2



T253B-L/Q



T255

## FORK POSITIONERS



T156



T163S



T163SN



T160BI

## FORK POSITIONERS



T411BZ



T160BIZ



T466BIZ



T410Z

## MULTI PALLET HANDLERS



T429C



T429C



T429C



T429-129

## MULTI PALLET HANDLERS



T429B-1-2-3



T429-4-6



T429-4-6



T419-4-8



## ROTATORS · LADLE TIPPERS



T351



T391



T351-T167S



0.8T351.2-SG

## ROTATORS · LADLE TIPPERS



T351



T391



T360



T360G

## FORK CLAMPS



T411I



T411



T411DH



T411-T106A-2H

## BLOCK & BRICK CLAMPS



T412H



T412UHV



T412V-3



T412HP

## BALE CLAMPS



T413B



T413B



T413



T413B

## APPLIANCE- / CARTON CLAMPS



T413G-T180TM



T413G/099H SLC



T414B-1/099H SLC



T414GT-1L

## ROTATING CLAMPS



T453-180



T451



T491



T451D

## ROTATING ROLL CLAMPS



T458



T458BC-2



T498B



T458B

## TELESCOPIC FORKS · CONVEYER BELT FORKS · PUSH PULLS · PANTOGRAPHS



T180CT



T180FG



T143SA



T149

## CRANE JIBS · CARRYING RAMS · SPECIAL SOLUTIONS



T183C



T185



T136



T0991





## What do the blue icons indicate?

1. Main function of the KAUP attachment - 2. Several special attachment versions - 3. The number of load units multi pallet handlers can handle. Additional information can be found on other pages. Take note of the relevant page listed next to the respective icon.



## Sideshift function

additional information given on page  13



Attachment has **separate sideshift** serially. The maximum allowable sideshift stroke (e.g.  $\pm 100$  mm) is always available independent of fork or arm position (with clamps or fork positioners).



Attachment has **valveblock sideshift** serially (integrated sideshift). Its design means that sideshift stroke is not available when the forks or arms are completely opened and/or completely closed.



Attachment is serially designed **without sideshift**. It can be fitted with separate or valve block sideshift upon request.

## Hydraulic functions

additional information given on page  12



Attachment is operated hydraulically, i.e. supplied with oil from the forklift truck's hydraulic system. Truck requires **one** additional hydraulic function.



Attachment is operated hydraulically, i.e. supplied with oil from the forklift truck's hydraulic system. Truck requires **two** additional hydraulic functions.



Attachment requires **more than two** additional hydraulic functions in order to operate. In this case one of the hydraulic circuits is split by use of a solenoid valve which is part of the attachment.

## Special versions



Attachment is serially manufactured in foundry version. It is designed for operation in applications with extremely high temperatures. Additional information given on page  11



Attachment is serially manufactured for the fishing industry and is available in two versions T351.1S and T351.1.3S. Additional information given on page  11



Attachment serially modified for tough operation. For this purpose individual components are protected from mechanical damage.

## Rotating function



Attachment rotates hydraulically by **360°** endless in both directions.



Attachment rotates hydraulically by **180°** in both directions.



Attachment rotates hydraulically as level compensation by  **$\pm 20^\circ$**  in both directions.

## Tilting function



Attachment has a hydraulic **180°** tilt function.



Attachment has a hydraulic **90°** tilt function.



Attachment has a hydraulic **60°** tilt function.

## Multi Pallet Handling



For 1 or 2 pallets next to each other.



T429C: 1 or 2 pallets next to each other. T429-4: 2 pallets or 4 pallets in front of and next to each other.



For 1, 2 or 3 pallets next to each other.



For 4 or 6 pallets by pallet pick-up lengthwise 800 x 1.200 mm.



For 2 or 4 pallets next to each other or e.g. 4 or 8 pallets in front of and next to each other.



For double deep loading and unloading of 1 or 2 pallets or e.g. of 1, 2 or 3 pallets.



## What do the grey icons indicate?

1. Options for additional accessories - 2. Options for all available special attachment versions - 3. important information regarding KAUP attachments. Additional information can be found on other pages. Take note of the relevant page listed next to the respective icon.



## Accessories, options and important information

### Load backrests



Attachment can be fitted with load backrest model T173. Additional information and available models can be

found on page **125**



Attachment can be fitted with load backrest model T179. Additional information and available models can be

found on page **125**



Attachment can be fitted with load backrest model T479. The load backrest model T479.1 is suitable for fork positioners T160B and T466B up to 4,8T. Additional information and available models

can be found on page **126**

### Important information



Attachment supplied serially without forks. All forks in accordance with ISO 2328 can be used. Matching forks

model T180 are available. See from page **120**



Attachment is specially designed for the function fork positioning and is not suitable for clamping between

the forks.  
Clamps can be found from page **61**



Attachment is designed with toe-in on the tips which should be taken into account when choosing the opening

range. Additional information can be found on page **11**



Please note the additional information below the data table.

### Contact pad coatings and sensor technology



Attachment can be fitted with different types of contact pad surfaces specifically suited to the application.

Overview of all available pressure plate coatings can be found on page **127**



Attachment is available with automatic pressure adjustment. The system independently identifies differing load patterns and automatically sets the required clamping pressure.



Attachment is available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force.

The required pressures are always adjusted autonomously depending on the load.

### Special versions



Attachment is available for operation in explosion hazardous areas.

Additional information can be found on page **11**



The attachment is available in a version for heavy duty applications. Therefore individual components are protected against mechanical damage.



Attachment is available restricted to 180° rotation.



Explanation of the icons 'Main functions and special versions of attachments' can be found on page 150.



Helping hands for your Forklift truck

# Forklift Truck Attachments Stationary Handling Equipment Container Spreaders



KAUP attachments correspond to the requirements of the valid EC regulations regarding quality, safety and technical documentation. All technical data are subject to alteration. KAUP is certified acc. to DIN EN ISO 9001



Helping hands for your Forklift truck

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