



Helping hands for your Forklift truck

# RANGE BROCHURE

## 01 · 2021



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 50 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 46.000 m<sup>2</sup> spread over 9 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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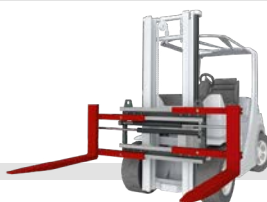
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Further attachments as well as different widths and larger models can be found on our web-page [www.kaup.de](http://www.kaup.de) under **PRODUCTS**.



T406-2H



T411Z



T412-V3

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**T413**

**T414B-1**

**T429C**



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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 **PRODUCTS**.



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(I) 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

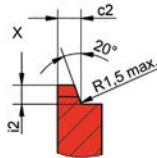
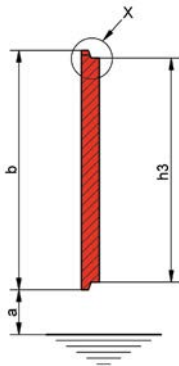
## Working pressures and oil flow rates

- 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 <sub>-1</sub>
			B	114				
2	1.000 - 2.500	500	A	76	407	16	13	381 <sub>-1</sub>
			B	152				
3	2.501 - 4.999	500	A	76	508	21,5	16	476 <sub>-1.5</sub>
			B	203				
4	5.000 - 8.000	600	A	127	635	25,5	19	597 <sub>-1.5</sub>
			B	254				
5	8.001 - 10.999	600	A	127	728	34	25	678 <sub>-1.5</sub>
			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 (largest measurement „A“ selected from the table)	<input type="text" value="2.370 mm"/>
minus smallest possible opening range (smallest measurement „A“ selected from the table)	<input type="text" value="570 mm"/>
results in	<input type="text" value="1.800 mm"/>
divided by the factor 4	<input type="text" value="1.800 mm : 4"/>
<b>largest possible sideshift stroke <math>\pm</math></b>	<input type="text" value="450 mm"/>

For example see Appliance Clamp 2T413G, construction width 1.520 mm, A = 570 - 2.370 mm, page 78.

## 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 approx. 1.800 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 **PRODUCTS**.





# 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 - 17

Quick coupler systems



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



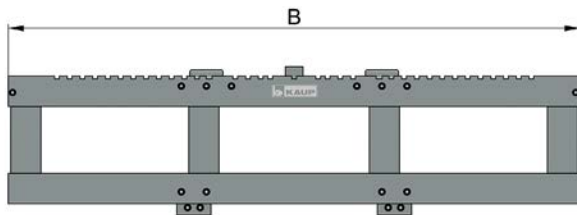
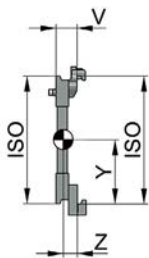
24 - 25



T180

T179

139



## Fork Carriage T013

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

Model	Capacity kg	LCD mm	B mm	ISO	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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
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.

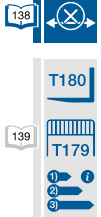
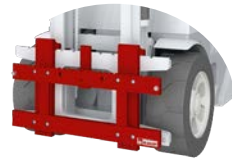
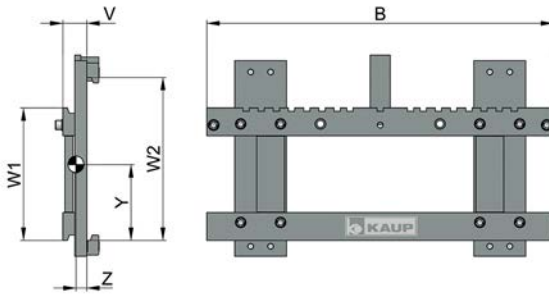


Available in combination with quick release bottom hooks (see page 128) for quick change fork applications to other attachments.



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 kg	LCD mm	B mm	Mounting		V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
				W1 ISO	W2 ISO				
2T 013.1	2.500	600	980	2	3	68	32	245	103
			1.040	2	3	68	32	244	106
			1.150	2	3	68	36	237	126
2T 013.2	2.500	600	980	3	2	75	41	242	130
			1.040	3	2	75	41	242	135
			1.150	3	2	75	43	243	152
4,8T 013.1	5.000	600	1.150	3	4	93	45	277	185
			1.200	3	4	93	46	274	189
			1.350	3	4	93	48	269	205
			1.800	3	4	103	59	241	302
4,8T 013.2	5.000	600	1.350	4	3	100	57	351	260
			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.

## Quick coupler systems

locked hydraulically or manually

are used on forklift trucks which carry out a large variety of applications requiring frequent change of attachments. The attachment is fitted in the top take-up of the quick coupler system and locked hydraulically or manually on the bottom take-up. Regardless if 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.

Further technical details available upon request.



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

### Sideshifters and Multiple Sideshifters

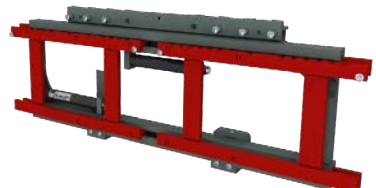
Attachment	Page	Oil flow rate (oil volume) [l/min]			Maximum operating pressure [bar]	Maximum capacity forklift truck / LCD [kg/mm]
		min.	optimum	max.		
1,5T 151 I	23	4	8	12	200	1.750/500
2T 151 P2 / 151 I	19-21/23	4	8	12	200	2.500/600
3T 151 P2 / 151 I	20/23	4	8	12	200	3.000/500
4T 151 P2 / 151 I	20/23	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

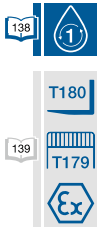
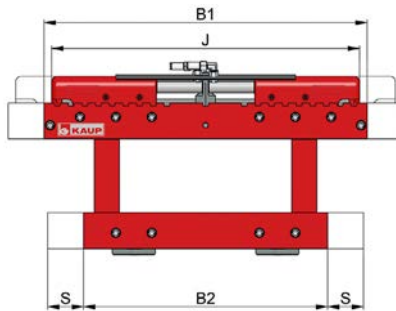
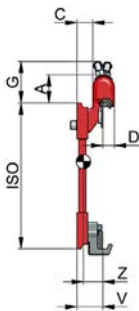
Bottom brackets fitted with glide bearing supporting rollers. Minimal friction loss lowers energy consumption, especially in electric forklift trucks, and extends the operating time of the batteries.



Capacities of up to 3.000 kg fitted with supporting rollers



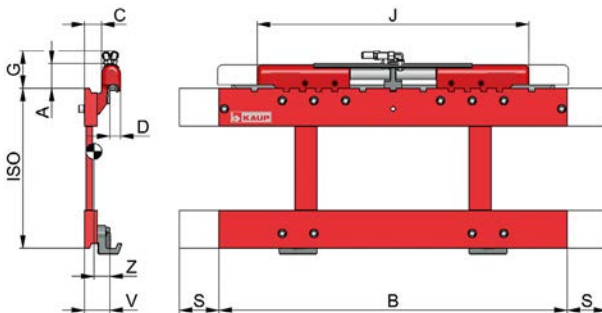
Capacities of 3.500 kg or more fitted with double supporting rollers



### 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**


## Sideshifter High-Performance Model T151P2

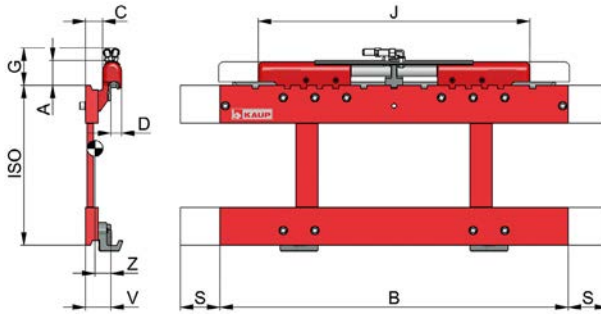
Model	Capacity kg	LCD mm	A mm	B mm	C mm	D mm	S mm	G mm	J mm	ISO cl.	V mm	CofG Z mm	Weight kg
2T 151P2	2.500	600	76	890	44	32	± 100	116	858	2	72	37	70
			76	920	44	32	± 100	116	858	2	72	37	72
			76	980	44	32	± 100	116	858	2	72	38	74
			76	1.020	44	32	± 100	116	858	2	72	39	76
			76	1.040	44	32	± 100	116	858	2	72	39	77
			76	1.150	44	32	± 100	116	858	2	72	43	97
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	1.310	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





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T180

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T179



## Sideshifter High-Performance Model T151P2

Model	Capacity kg	LCD mm	A mm	B mm	C mm	D mm	S mm	G mm	J mm	ISO cl.	V mm	CofG Z mm	Weight 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
5,5T 151P2	7.000	600	80	2.260	70	53	± 100	125	1.040	4	112	65	455
			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
6T 151P2	8.000	600	96	2.180	62	44	± 100	156	922	4	102	62	401
			96	2.260	62	44	± 100	156	922	4	102	62	473
			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
10T 151	8.000	1.100	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
			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 · 5T - 6T: **SOFTSTOP** end-of-stroke slow-down



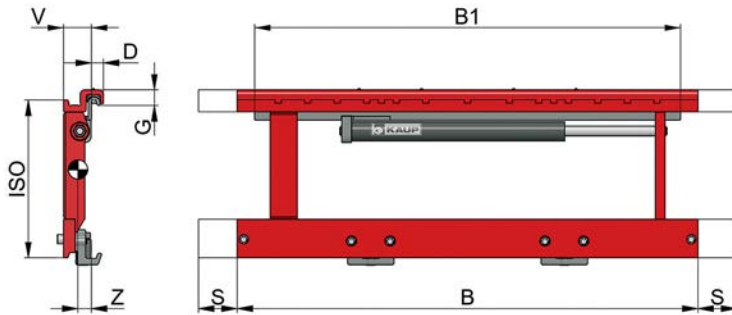
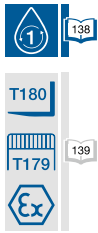
T2151P2 - for Reach Trucks



T151P2 - ISO-2/3



T151P2 - ISO-4



## Sidsifter with increased sidsift 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

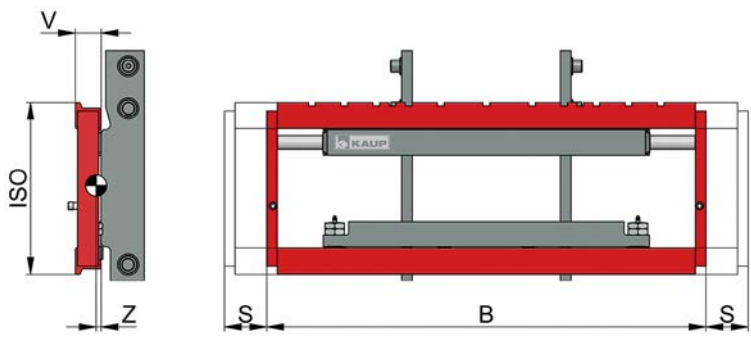
### Preferential range

<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 sidsifter 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.

1) CofG and weight measurements do not take the cheek plates into account.  
 2) 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



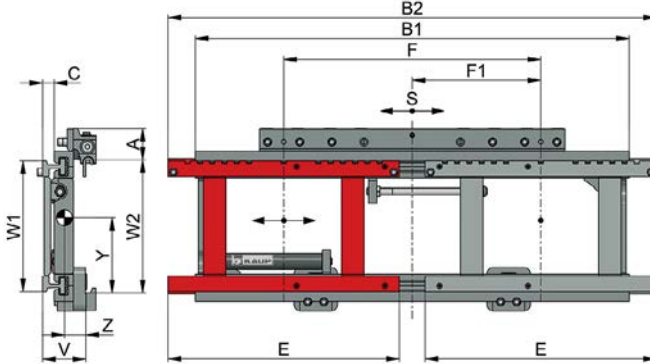
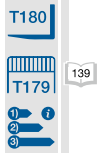
T151IN

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 kg	Mounting		A mm	Const. width		Adjusting range				V mm	CofG			Weight kg	
		W1 mm	W2 ISO		B1 mm	B2 mm	F mm	F1 mm	S 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

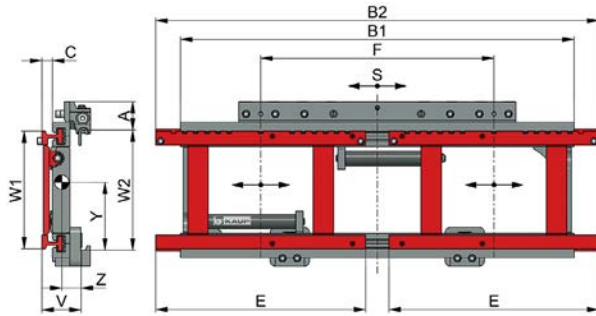
available upon request



T254



T255

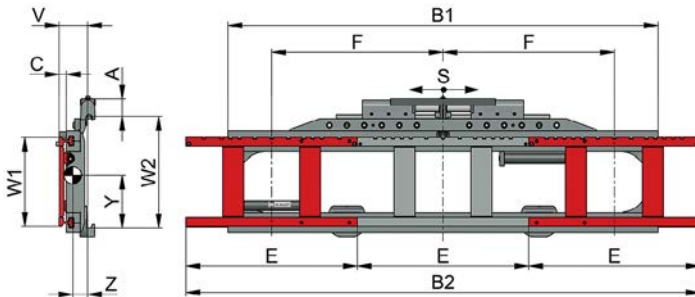


## Triple Sideshifter T253B

Model	Capacity per fork carriage kg @mm	Mounting W1 ISO	W2 ISO	A mm	Const. width B1 mm B2 mm		C mm	E mm	F mm	S mm	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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 fork carriage kg @mm	Mounting W1	W2	A mm	Const. width B1 mm B2 mm		C mm	E mm	F mm	S mm	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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 sidershifters. 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 sidershifter 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:

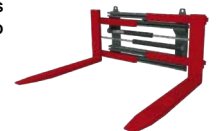
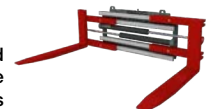
1. Excellent residual capacity - especially the two versions with weld-on forks - T466Z / T66BIZ.
2. The integrated version has a minimum loss of the truck capacity - about 2 % - compared to the residual capacity of version with integrated sidershifter.



### 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**



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



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



34 - 35

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



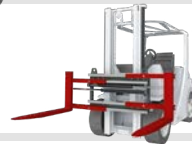
36 - 37

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



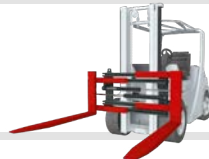
38 - 39

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



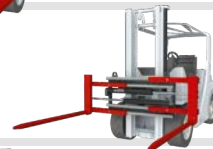
40 - 41

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



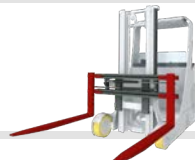
42 - 43

**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

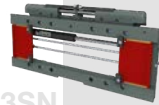
Attachment	Page	Oil flow rate (oil volume) [l/min]			Maximum operating pressure [bar]
		min.	optimum	max.	
2T 156 B	29	12	25	30	200
4,5T 156	29	12	25	30	200
2T 163 S	30	10	15	20	200
4,8T 163 S	30	15	25	30	200
2T 163 N / SN	31	12	20	25	180
4T 163 N / SN	31	12	20	25	180
4,5T 163 N / SN	31	12	20	25	180
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



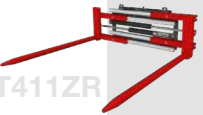
T163SN



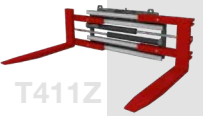
T160BZ



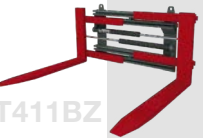
T466BZ



T411ZR



T411Z



T411BZ



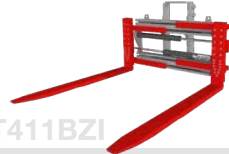
T160BI



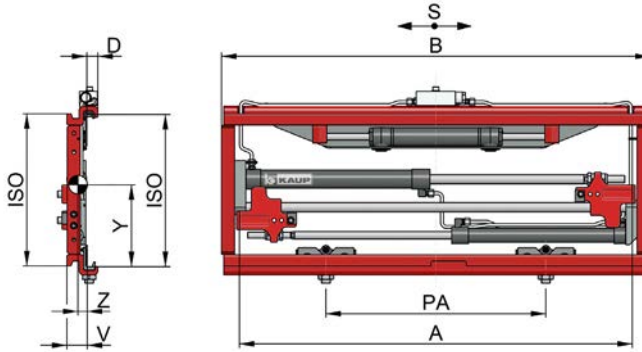
T411ZA



T411IZ



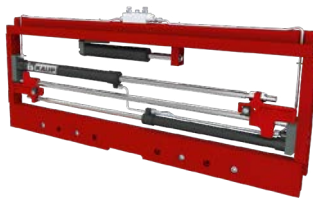
T411BZI



## Fork Positioner T156

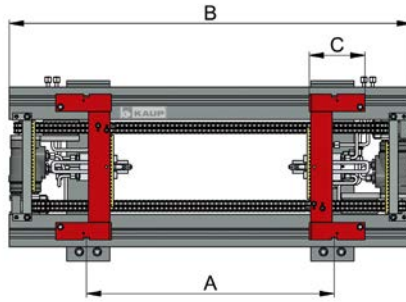
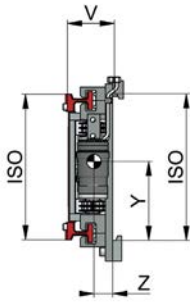
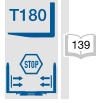
Model	Capacity kg	LCD mm	S mm	Opening range A mm	B mm	D mm	PA mm	suitable for fork width mm	ISO cl.	V mm	CofG Z mm	CofG <sub>V</sub> Y mm	Weight kg
2T 156B	2.500	500	± 100	290 - 795	890	28	590	70 - 125	2	55	23	217	60
				290 - 885	980	28	590			22	217	63	
				310 - 945	1.040	28	590			22	216	66	
				295 - 1.055	1.150	28	590			22	215	70	
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			40	265	152	

The original forks of the forklift truck, up to length of 1.600 mm, can be used.



2T156B

4.5T156



4,8T163S

## Fork Positioner T163S

with sideshift dependent on the opening range

Model	Capacity kg	LCD mm	S <sub>max</sub> * mm	Opening range			suitable for fork width mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
				A mm	B mm	C mm						
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.

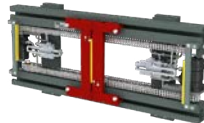
\*Please note that sideshift values can be considerably above maximum safety values for lateral stability.

## Fork Positioner T163ST with telescopic forks

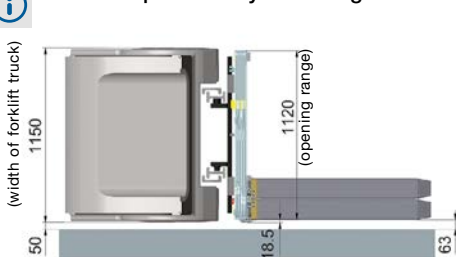
Ideal attachment for:

- 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.

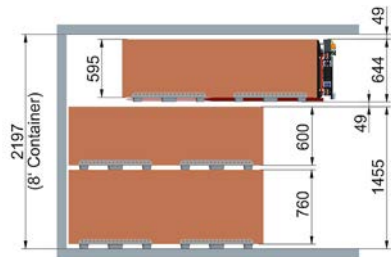
Maximum sideshift available when forks are in their closed position



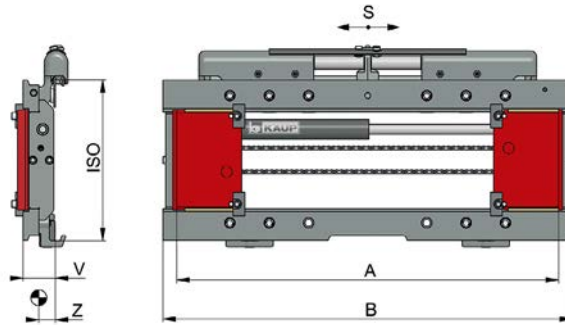
Maximum productivity in loading and unloading of containers



top view 2T163S/ST



side view 2T163S/ST

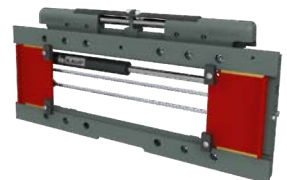


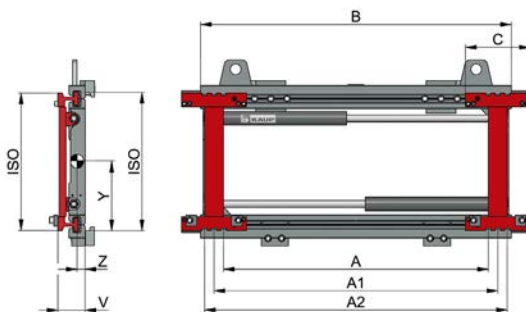
## Fork Positioner T163SN

Model	Capacity kg	LCD mm	S mm	Opening range A mm	B mm	suitable for fork width mm	ISO cl.	V mm	CofG Z mm	Weight 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	
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	
8T 163 SN	8.000	600	± 160	530-1.980	1.990	150-200	4	112	58	463
				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 250 mm (recommended width).  
Model T163N - without sideshift.

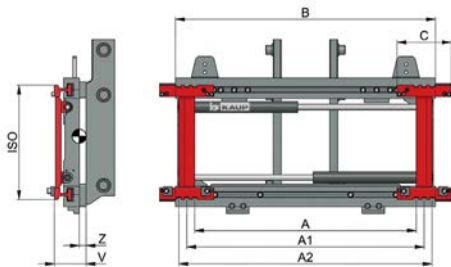
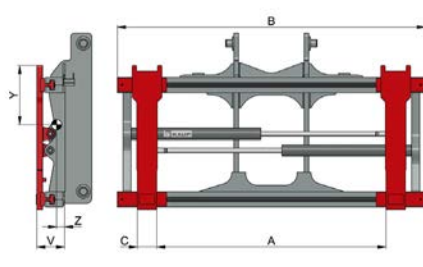




## Fork Positioner T160

Model	Capacity kg	LCD mm	Opening range centre to centre fork			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
			A mm	A1 mm	A2 mm									
2T160B	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
2,5T160B	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
3,5T160B	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
4,8T160B*	5.000	600	180-1.480	250-1.550	320-1.620	1.650				± 325	34	254	155	
			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
6T160	6.000	600	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	
			260-1.060	350-1.150	440-1.240	1.350	330	150	± 200	4	136	51	323	261
			260-1.170	350-1.260	440-1.350	1.460				± 227,5		51	323	273
			260-1.360	350-1.450	440-1.540	1.650				± 275		50	323	293
8T160	8.000	600	260-1.560	350-1.650	440-1.740	1.860				± 325	49	323	315	
			260-1.760	350-1.850	440-1.940	2.060				± 375	49	322	335	
			260-1.960	350-2.050	440-2.140	2.260				± 425	48	322	357	
			260-2.060	350-2.150	440-2.240	2.400				± 450	48	322	367	
10T160	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

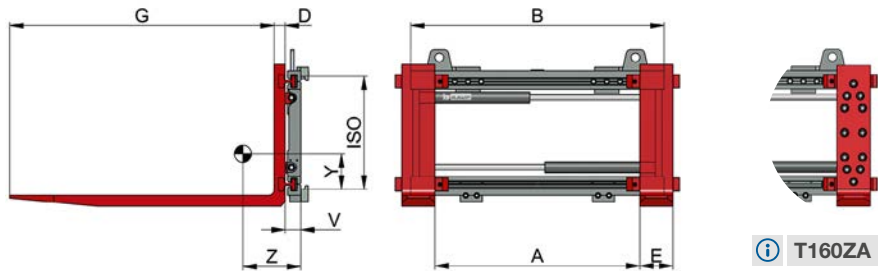
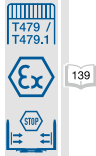
Model	Capacity kg	LCD mm	Opening range centre to centre fork			B mm	C mm	suitable for max. fork width	VS max mm	ISO cl.	V mm	CofG Z mm	Weight kg	
			A mm	A1 mm	A2 mm									
2T 160BI	2.500	500	150-850	250-950	320-1.020	1.040	240	120	± 175	2	116	51	117	
			150-950	250-1.050	320-1.120	1.150				± 200			51	123
2,5T 160BI	2.500	600	150-850	250-950	320-1.020	1.040	240	120	± 175	2	126	57	126	
			150-950	250-1.050	320-1.120	1.150				± 200			57	132
3,5T 160BI	3.600	500	180-980	250-1.050	320-1.120	1.150	240	130	± 200	3	141	61	173	
			180-1.180	250-1.250	320-1.320	1.350				± 250			61	188
4,8T 160BI*	5.000	600	180-1.180	250-1.250	320-1.320	1.350	255	150	± 250	3	141	63	250	
			180-1.360	250-1.430	320-1.500	1.550				± 295			63	269
6T 160BI	6.000	600	260-1.170	350-1.260	440-1.350	1.460	330	150	± 227,5	4	166	64	395	
			260-1.360	350-1.450	440-1.540	1.650				± 275			63	411
			260-1.560	350-1.650	440-1.740	1.860				± 325			61	457
8T 160BI	8.000	600	260-1.560	350-1.650	440-1.740	1.860	330	150	± 325	4	166	61	457	
			260-1.760	350-1.850	440-1.940	2.060				± 375			61	474
			260-1.960	350-2.050	440-2.140	2.260				± 425			62	490
			260-2.060	350-2.150	440-2.240	2.400				± 450			62	502
10T 160BI	8.000	1.100	260-1.760	360-1.860	460-1.960	2.060	370	200	± 375	4	210	97	605	
			260-1.960	360-2.060	460-2.160	2.260				± 425			96	635
			260-2.060	360-2.160	460-2.260	2.400				± 450			94	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 kg	LCD mm	A mm	B mm	Fork profile D mm	E mm	G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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			1.200	± 250	2	71	263	125	265
			130-830	1.040	50	120	± 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	
4,5T 160BZ	5.000	500	130-1.430	1.650			1.200	± 325	3	84	290	140	332
			130-930	1.150	60	150	± 200	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	
4,8T 160BZ*	5.000	600	130-1.530	1.750			1.200	± 350	3	84	244	160	458
			130-1.630	1.850			± 375	240			162	467	
			130-930	1.150	60	150	± 200	275			144	403	
			130-1.130	1.350			± 250	264			149	421	
			130-1.230	1.460			± 275	258			152	433	
6T 160Z	6.000	600	130-1.310	1.550			1.200	± 295	4	111	253	154	439
			200-1.110	1.350	70	150	± 227,5	257			192	522	
			200-1.200	1.460			± 250	252			194	534	
			200-1.400	1.650			± 300	245			199	554	
			200-1.600	1.860			± 350	237			204	576	
8T 160Z	8.000	600	210-2.060	2.400			1.200	± 462,5	4	111	220	214	629
			200-1.600	1.860	70	150	± 350	237			204	576	
			200-1.800	2.060			± 400	230			208	597	
			200-2.000	2.260			± 450	224			212	618	
			210-2.060	2.400			± 450	220			214	629	
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	
10T160Z	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	

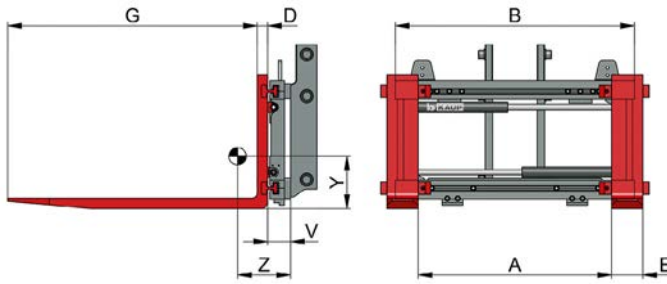
### Preferential range

\*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 T160IZ

Model	Capacity kg	LCD mm	A mm	B mm	Fork profile D mm	E mm	G mm	VS max mm	V mm	CofG Z mm	CofG <sub>V</sub> Y mm	Weight kg	
1,5T 160BIZ	1.600	500	170-870	1.040	40	100	1.200	± 175	91	261	197	210	
			170-970	1.150	± 200	255	200	216					
2T 160BIZ	2.500	500	130-830	1.040	45	120	1.200	± 175	91	300	184	245	
			130-930	1.150	± 200	293	187	251					
2,5T 160BIZ	2.500	600	130-830	1.040	50	120	1.200	± 175	101	305	186	267	
			130-930	1.150	± 200	300	188	273					
3,5T 160BIZ	3.600	500	130-930	1.150	50	150	1.200	± 200	111	292	221	355	
			130-1.130	1.350	± 250	283	225	370					
4,5T 160BIZ	5.000	500	130-1.130	1.350	60	150	1.200	± 250	114	263	240	469	
			130-1.310	1.550	± 295	255	243	489					
4,8T 160BIZ*	5.000	600	130-1.130	1.350	60	150	1.200	± 250	114	263	240	469	
			130-1.310	1.550	± 295	255	243	489					
6T 160BIZ	6.000	600	200-1.200	1.460	70	150	1.200	± 250	141	264	336	642	
			200-1.400	1.650	± 300	258	340	663					
8T 160BIZ	8.000	600	200-1.600	1.860	70	150	1.200	± 350	141	252	343	685	
			200-1.800	2.060	± 400	233	353	755					
10T 160BIZ	8.000	900	200-2.000	2.260	± 450	228	354	771	± 462,5	225	357	785	
			210-2.060	2.400	± 350	239	343	685					
10T 160BIZ	8.000	900	100-1.730	2.060	70	200	1.200	± 407,5	178	268	350	963	
			100-1.900	2.260	± 450	263	352	991					
10T 160BIZ	8.000	1.100	100-2.000	2.400	± 475	258	357	1.015	178	279	346	1.012	
			100-1.730	2.060	± 450	274	349	1.040					
12T 160IZ	12.000	600	370-2.000	2.400	80	200	1.200	± 407,5	178	225	585	1.450	
			300-2.300	2.700	± 500	216	590	1.540					
16T 160IZ	16.000	600	500-2.700	3.100	± 550	207	600	1.640	178	222	585	1.600	
			370-2.000	2.400	± 407,5	475	498	1.905					
24T 160IZ	24.000	600	370-2.000	2.400	90	250	1.200	± 407,5	178	244	568	1.755	
			500-2.700	3.100	± 550	438	517	2.090					
32T 160IZ	32.000	600	270-1.900	2.400	90	250	1.200	± 407,5	178	244	568	1.755	
			270-1.900	2.400	± 407,5	521	474	2.137					
32T 160IZ	16.000	1.200	400-2.600	3.100	2.400	± 550	486	492	2.320	178	230	585	2.020
			270-2.100	2.600	± 457,5	493	493	2.435					
32T 160IZ	16.000	1.200	260-2.600	3.100	2.400	± 585	470	505	2.570	178	230	585	2.020
			270-2.100	2.600	± 457,5	493	493	2.435					

\*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.

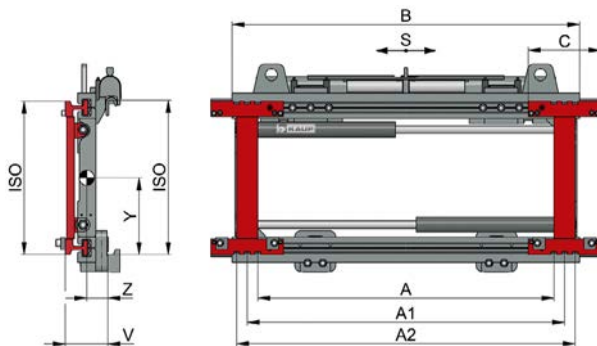
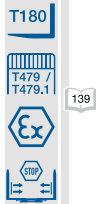
Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary.

Larger models and different widths available upon request.

Available without sideshift.

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





## Fork Positioner T466

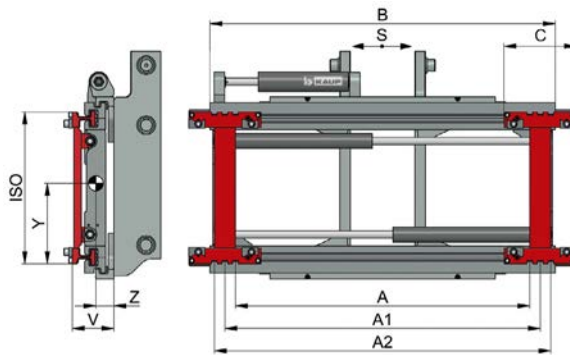
Model	Capacity kg	LCD mm	Opening range centre to centre fork			B mm	C mm	S mm	suitable for max. fork width	ISO cl.	V mm	CofG Z mm	CofG Y mm	CofG V mm	Weight kg	
			A mm	A1 mm	A2 mm											
2T 466B	2.500	500	150-790	250-890	320-960	980	240	± 100	120	2	138	55	244	141		
			150-850	250-950	320-1.020	1.040						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	372	348		
			260-1.170	350-1.260	440-1.350	1.460						72	370	363		
			260-1.360	350-1.450	440-1.540	1.650			± 160			72	370	383		
			260-1.560	350-1.650	440-1.740	1.860						72	366	404		
8T 466	8.000	600	260-1.560	350-1.650	440-1.740	1.860	330	± 160	150	4	176	72	366	404		
			260-1.760	350-1.850	440-1.940	2.060						73	364	425		
			260-1.960	350-2.050	440-2.140	2.260						73	362	445		
			260-2.060	350-2.150	440-2.240	2.400						74	359	460		
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 centre to centre fork			B mm	C mm	S mm	suitable for max. fork width	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
	kg	mm	A mm	A1 mm	A2 mm									
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 466 BI	6.000	600	260-1.170	350-1.260	440-1.350	1.460	330	± 100	150	4	171	68	343	402
			260-1.360	350-1.450	440-1.540	1.650		± 160				68	345	435
			260-1.560	350-1.650	440-1.740	1.860						68	343	468
8T 466 BI	8.000	600	260-1.560	350-1.650	440-1.740	1.860	330	± 160	150	4	171	68	343	468
			260-1.760	350-1.850	440-1.940	2.060						65	341	523
			260-1.960	350-2.050	440-2.140	2.260						65	340	559
			260-2.060	350-2.150	440-2.240	2.400						64	340	586
10T 466 BI	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



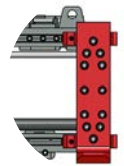
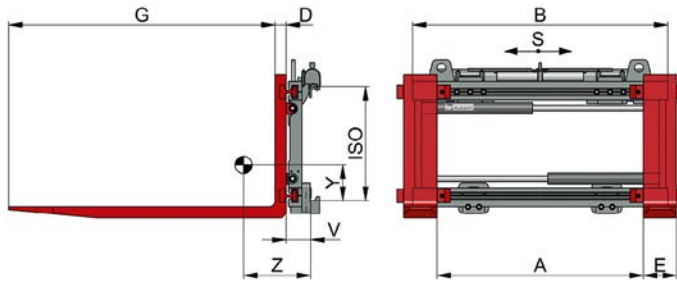
T466Z



T466BI



T466BIZ



**T466ZA**

## Fork Positioner T466Z

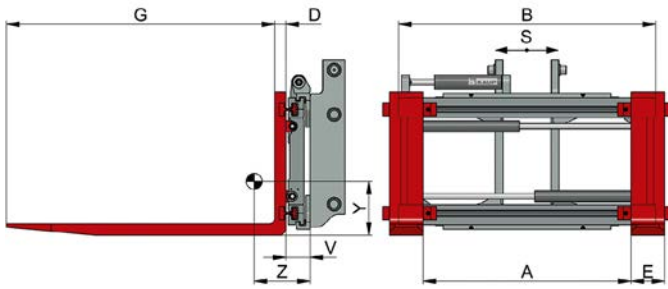
Model	Capacity kg	LCD mm	A mm	B mm	Fork profile D mm	E mm	G mm	S mm	ISO cl.	V mm	CofG Z mm	CofG <sub>y</sub> Y mm	Weight kg	
1,5T 466BZ	1.600	500	170-810	980	40	100	1.200	± 100	2	113	251	151	237	
			170-870	1.040							248	152	240	
			170-970	1.150							243	153	246	
2T 466BZ	2.500	500	130-770	980	45	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	187	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	187	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	151	280	225	620	
			200-1.200	1.460							277	226	630	
			200-1.400	1.650							± 160	269	232	655
			200-1.600	1.860							262	235	682	
			200-2.000	2.260							256	238	704	
8T 466Z	8.000	600	200-1.600	1.860	70	150	1.200	± 160	4	151	262	235	682	
			200-1.800	2.060							256	238	704	
			200-2.000	2.260							250	240	725	
			210-2.060	2.400							247	242	741	
			210-2.060	2.400							247	242	741	
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**



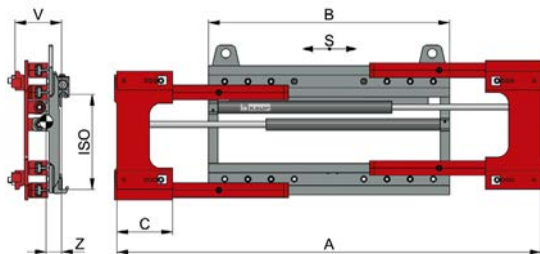
## Fork Positioner integrated T466BIZ

Model	Capacity kg	LCD mm	A mm	B mm	Fork profile D mm	E mm	G mm	S mm	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg		
1,5T 466BIZ	1.600	500	170-870	1.040	40	100	1.200	± 100	108	236	218	249		
			170-970	1.150							220	256		
2T 466BIZ	2.500	500	130-830	1.040	45	120	1.200	± 100	108	275	204	284		
			130-930	1.150							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							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							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	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	525		
6T 466BIZ	6.000	600	200-1.200	1.460	70	150	1.200	± 100	146	258	352	676		
			200-1.400	1.650							± 160	250	356	702
			200-1.600	1.860							240	362	741	
8T 466BIZ	8.000	600	200-1.600	1.860	70	150	1.200	± 160	146	240	362	741		
			200-1.800	2.060							233	366	771	
			200-2.000	2.260							218	372	835	
			210-2.060	2.400							212	376	866	
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 kg	LCD mm	S mm	A mm	B mm	C mm	ISO cl.	V mm	CofG Z mm	Weight 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
				580-2.280	1.550				112	526
4,8T410Z	5.000	600	± 100	580-1.930	1.200	240	3	253	113	487
				540-1.980	1.330				112	501
				570-2.170	1.460				111	517
				580-2.280	1.550				111	527
5T410Z	6.200	600	± 160	530-2.160	1.550	260	4	260	99	610
				800-2.700 <sup>1)</sup>	1.550				102	670
				530-2.430	1.820				99	643

### Preferential range

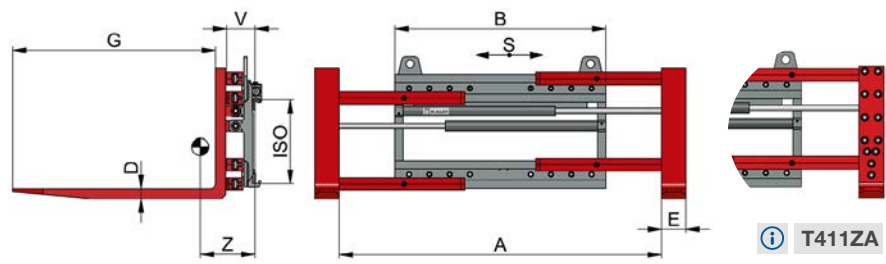
<sup>1)</sup> Transport of europallets lengthwise not possible.  
Fork Positioner with cylinder- and sideshift protection upon request.  
Fork Positioner without sideshift model T400Z.



1.6-2.5T410Z



T410Z



**T411ZA**

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2

T479

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## Fork Positioner T411Z

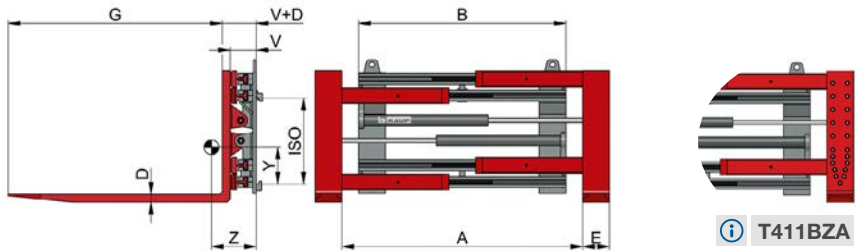
Model	Capacity kg	LCD mm	S mm	A mm	B mm	D mm	E mm	G mm	ISO cl.	V mm	CofG Z mm	Weight kg
1T411Z	1.500	500	± 100	340-1.300	750	40	100	1.200	2	133	268	237
				340-1.520	970						251	259
				350-1.700	1.130						244	270
1,6T411Z	2.300	500	± 100	330-1.730	1.200	45	120	1.200	2	133	266	324
				320-1.620	1.130						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
				260-1.560	1.130						259	495
3T411Z	3.600	500	± 100	260-1.760	1.330	50	150	1.200	2/3	152	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
4,5T411Z	5.000	500	± 100	250-1.870	1.460	60	150	1.200	3	188	239	591
				280-1.630	1.200						254	667
				240-1.680	1.330						250	682
4,5T411Z.1	5.000	500	± 100	280-1.980	1.550	60	150	1.200	3	178	248	695
				280-1.630	1.200						256	650
				240-1.680	1.330						252	664
4,8T411Z	5.000	600	± 100	270-1.870	1.460	70	150	1.200	3	178	249	679
				280-1.980	1.550						246	690
				280-1.630	1.200						280	696
5T411Z	6.200	600	± 160	240-1.680	1.330	70	150	1.200	4	176	277	710
				270-1.870	1.460						273	725
				280-1.980	1.550						270	736
				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



4.5T411Z      4.5T411Z.1      T411ZA



## Fork Positioner, wide version T411BZ

Model	Capacity kg	LCD mm	A mm	B mm	D mm	E mm	G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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.

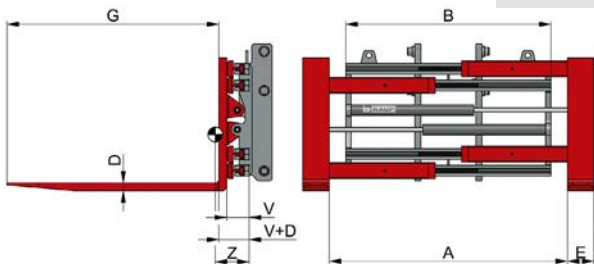
<sup>2)</sup> Alternatively available with third fork in the centre.

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**







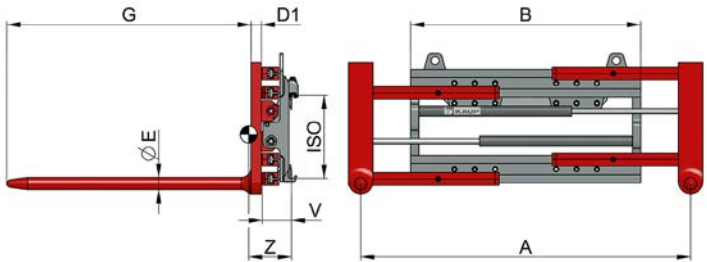
42 ⓘ T411BZIA



### Fork Positioner, wide version, integrated T411BZIA

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 ⓘ T411ZR



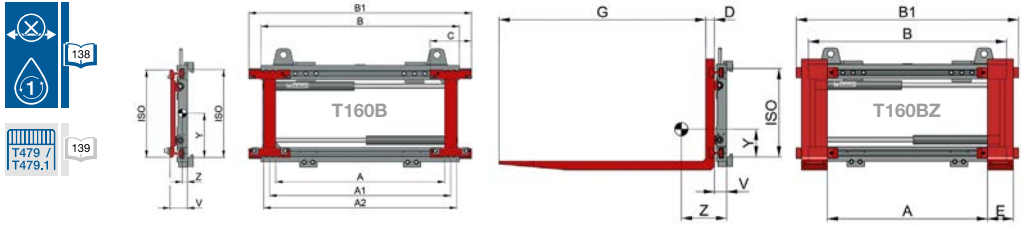
### Fork Positioner with round forks T411ZR

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.

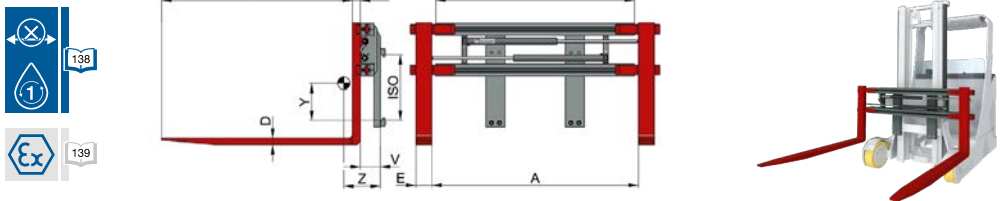


### Fork Positioner T160B for reach trucks

Model	Capacity kg	LCD mm	Opening range centre to centre fork			suitable for max. fork width			ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
			A mm	A1 mm	A2 mm	B mm	B1 mm	C mm					
2T 160B	2.080	600	150-410	250-510	320-580	750	750	240	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	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

**T411ZH / 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 (oil volume) [l/min]			Maximum operating pressure [bar]	Maximum capacity forklift truck / LCD [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

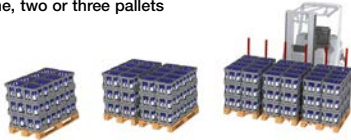
## Handling task

One or two pallets



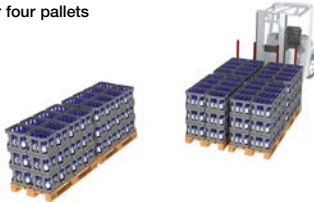
Q [kg/mm]	KAUP Attachment	LCD [mm]	R [kg]
1.600 / 500	1.5T 429C	600	1.060
1.800			1.300
2.000			1.390

One, two or three pallets



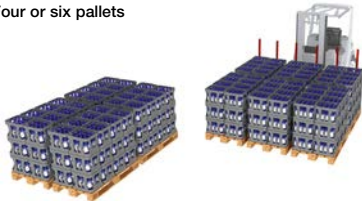
2.000 / 500	2T 429C (2.200/600)	600	1.380
2.500			1.790
2.000 / 500	2T 429C (2.500/600)	600	1.325
2.500			1.740
3.000			2.165
3.500			2.500
3.500 / 500	3T 429C	600	2.520
4.000			2.955
4.500			3.200
5.000 / 500	3T 429C-2	600	3.595
5.000 / 600			4.125
6.000 / 600			5.000

Two or four pallets



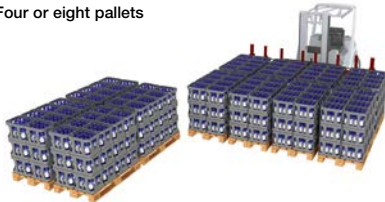
2.500 / 500	3T 429B-1-2-3	600	1.600
3.000			2.000
3.500			2.425
4.000			2.875
4.500 / 500	4T 429B-1-2-3	600	3.175
5.000			3.650
5.000 / 600	5T 429B-1-2-3	600	4.000

Four or six pallets



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

Four or eight pallets



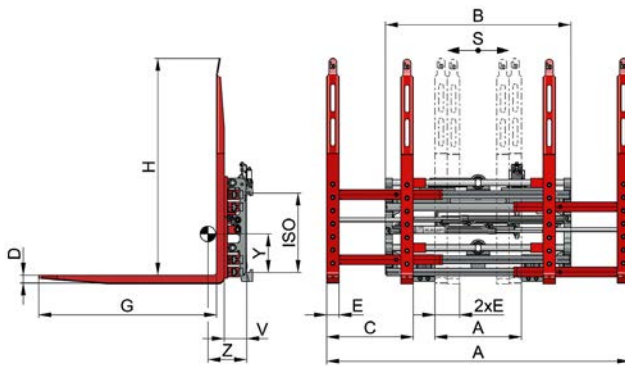
3.500 / 500	4T 429-4-6	1.200	1.225
4.000 / 500			1.425
4.500 / 500			1.775
4.500 / 600			2.000
5.000 / 500			2.025
5.000 / 600			2.375
6.000 / 600	6T 429-4-6	1.200	2.900
7.000			3.575
8.000			4.000
8.000 / 900	10T 429-4-6	1.200	5.300
7.000 / 600	4T 419-4-8L	1.200	3.375
12.000 / 600	12T 419-4-8	1.200	6.040
14.000 / 600			7.460
15.000 / 600			8.000



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

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

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

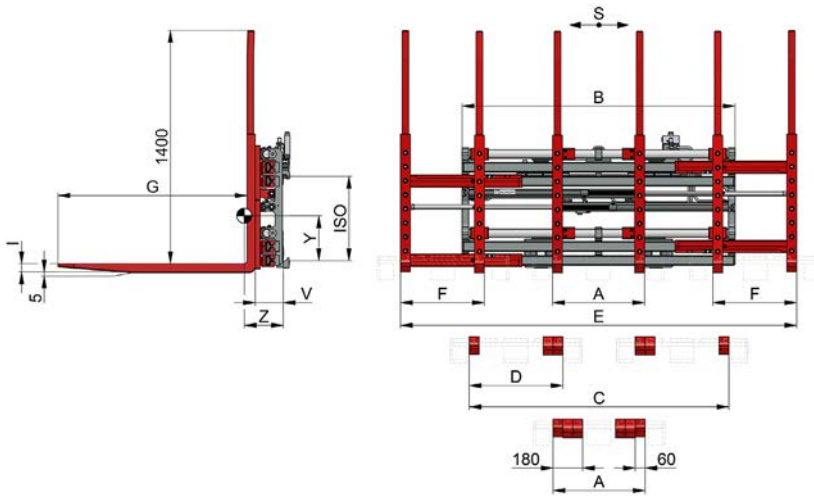
Model	Capacity kg	LCD mm	S mm	A mm	B mm	D mm	E mm	H mm	G mm	ISO cl.	V mm	CofG Z mm	CofGv Y mm	Weight kg
1,5T 429C	1.600	600	± 100	560-1.720	930	40	80	1.400	1.150	2	145	228	241	438
2T 429C	2.200	600	± 100	560-1.960	1.200	40	80	1.400	1.150 <sup>2)</sup>	2	145	216	245	470
2T 429C	2.500	600	± 100	560-1.960	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.





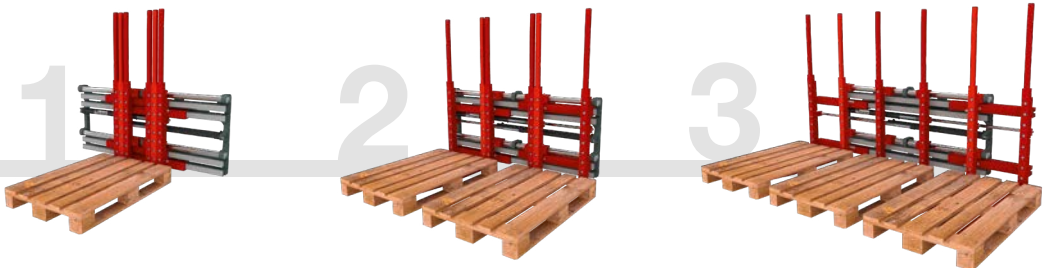
## Triple Pallet Handler T429B-1-2-3

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

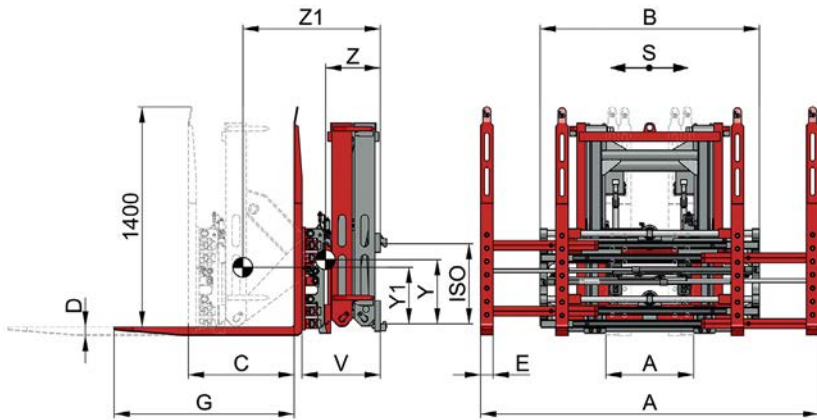
Model	Pallet width x length	Capacity kg	LCD mm	for FLT max.	S mm	B mm	Opening range			fork distance		G mm	I mm	ISO cl.	CofG <sub>v</sub>			
							A mm	C mm	E mm	D mm	F mm				V mm	Z mm	Y mm	Weight kg
3T 429B-1-2-3	800x1200	3.000	600	4,0/500	± 100	1.460	560	1.580	2.210	570	510	1.150	50	2/3	170	227	275	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.

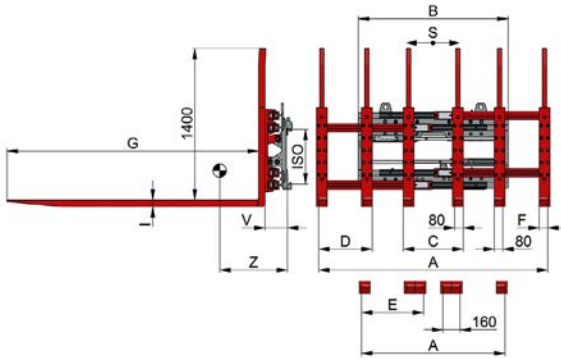
Model	Capacity kg	LCD mm	S mm	Opening range A mm	Width B mm	D mm	E mm	G mm	C mm	ISO cl.	V mm	CofG Z mm	CofG Z1 mm	CofG <sub>v</sub> Y mm	CofG <sub>v</sub> Y1 mm	Weight kg
2T 429C / 2T 149Z	1.950	600 ± 100		560-1.960	1.200	50	80	1.150	620	3	575	435	902	363	330	980
2T 429C / 3T 149Z	2.500	600 ± 100		560-1.960	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

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





4 | 6

138

2

139

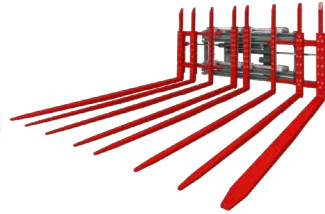
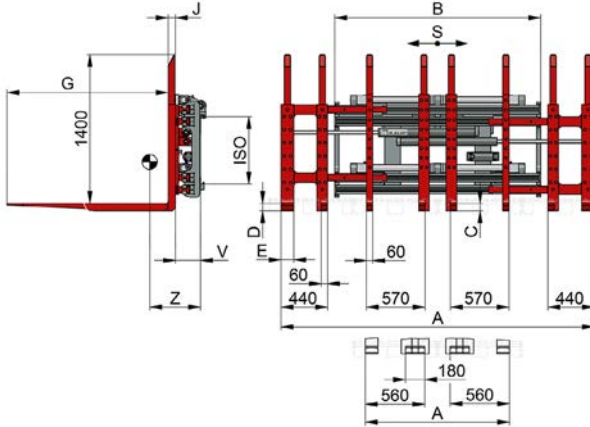
1 2 3

## 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 kg	LCD mm	S mm	A mm	B mm	C mm	D mm	E mm	F mm	I mm	G mm	ISO cl.	V mm	CofG Z mm	Weight 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.**



2 | 4

4 | 8

138

2

## 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

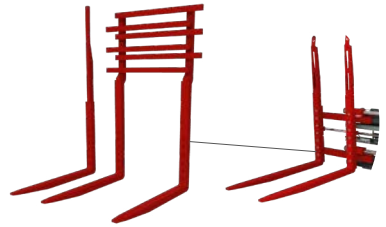
Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	D mm	E mm	J mm	G mm	ISO Kl.	V mm	CofG Z mm	Weight kg
4T 419-4-8 L	3.600	1.200	± 160	1.365-2.965	1.950	60	70	120	70	2.350	4	194	612	1.655
12T 419-4-8 L	8.000	1.200	± 160	1.365-2.965	2.500	80	70	150	80	2.400	Pin-Type	305	554	3.110
6T 419-2-4	4.800	600	± 160	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

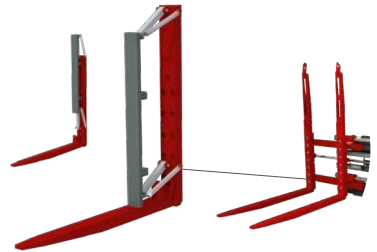
### Forks and Load Backrests

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

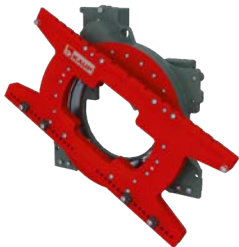


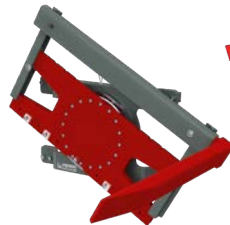
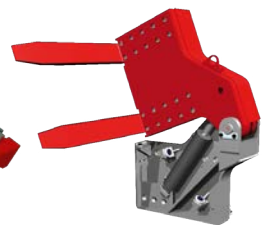
60

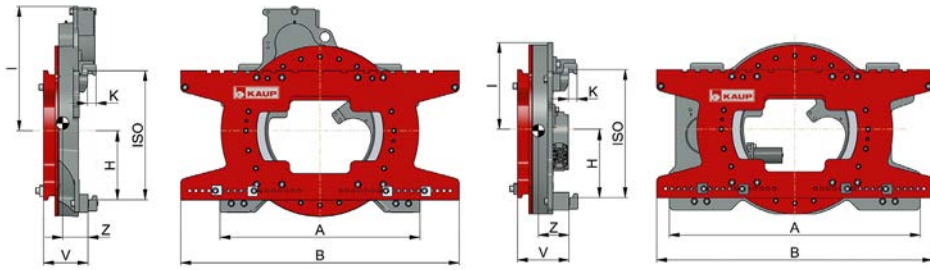
## Recommended Oil flow rates, Pressures and Forklift truck capacities

### Rotators - Ladle Tippers

Attachment	Page	Oil flow rate (oil volume) [l/min]			Maximum operating pressure [bar]	Maximum capacity forklift truck / LCD [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 kg	LCD mm	A mm	B mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp=125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight 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

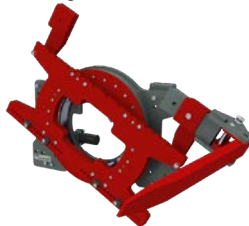
Forks for KAUP Rotators - lower brackets strengthened - see page 57

Downhold with gripping claw T167 - see page 57

Lateral supporting fork for containers - 800 mm long

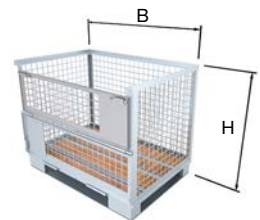


Removable

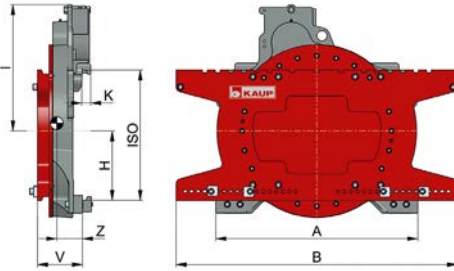


Removable and foldable

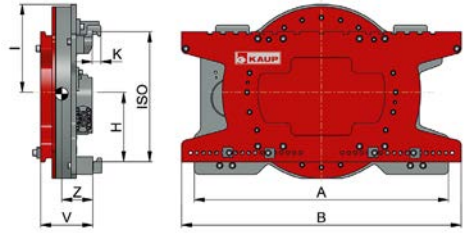
Container dimensions



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



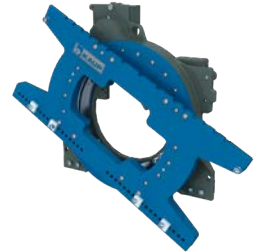
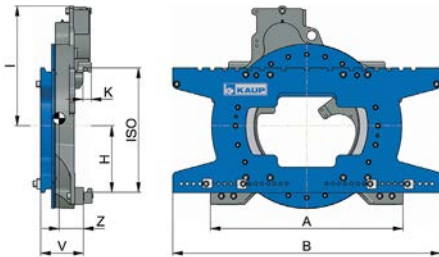
T351.2G

## Rotator T351G - 360° endless - foundry version

Model	Capacity kg	LCD mm	A mm	B mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp=125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight 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.

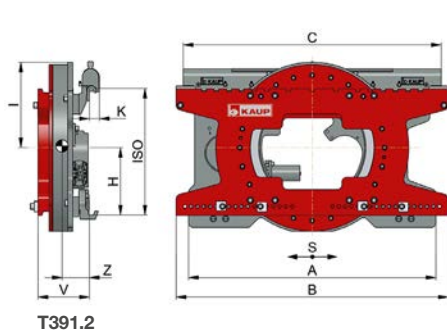
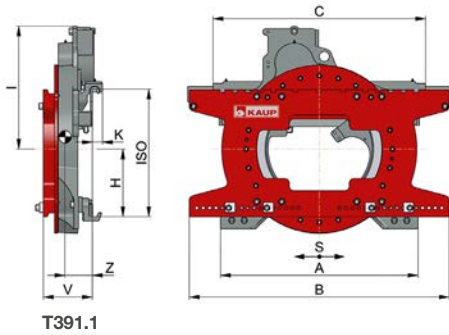


## Rotator T351.1S / T351.1.3S - 360° endless - fishing version

Model	Capacity kg	LCD mm	A mm	B mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp=125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight 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

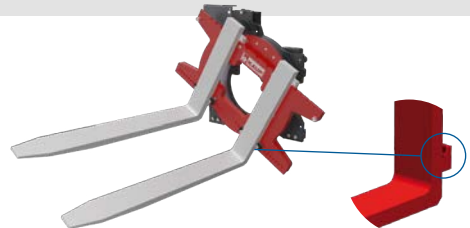
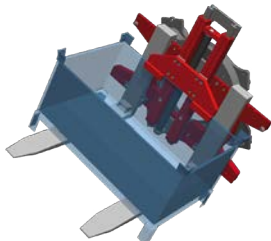
Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp= 125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight kg
1T 391.2	1.800	500	± 100	780	780	858	213	294	32	2	6.013	7,6	192	99	199
					890									101	205
2T 391.1	2.500	500	± 100	790	1.040	858	269	492	32	2	7.700	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	215	113	425
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



### 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.

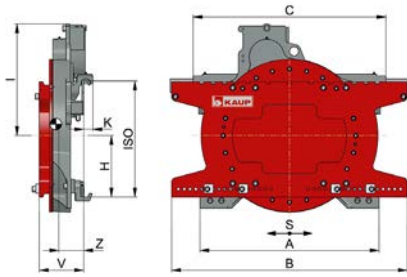
### Downhold with gripping claw 1T - 3T167

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

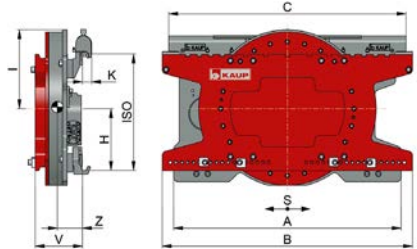
T351: incl. rotary conduit.

T391: incl. rotary conduit and solenoid valve.





T391.1G

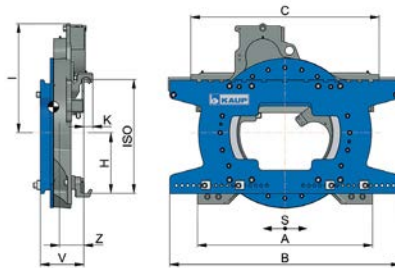


T391.2G

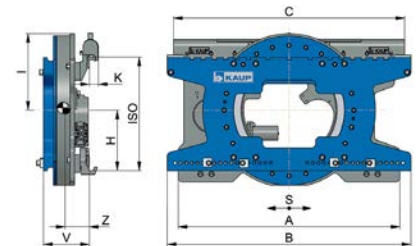
## Rotator T391G - 360° endless - foundry version

Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp= 125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight 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	600	± 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



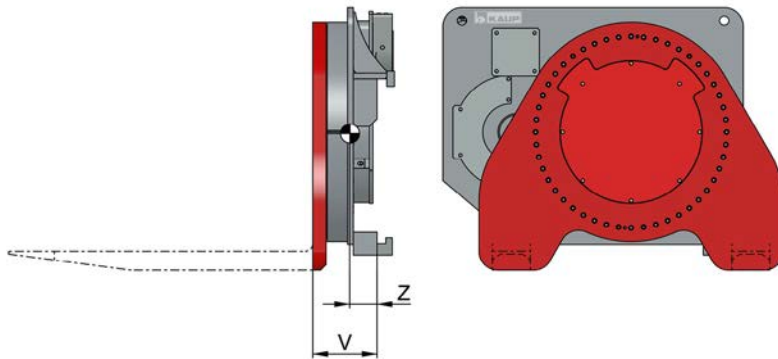
T391.2S

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

Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp= 125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight 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

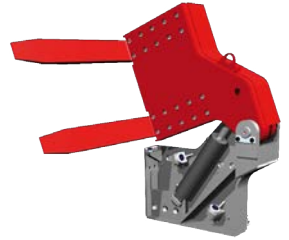
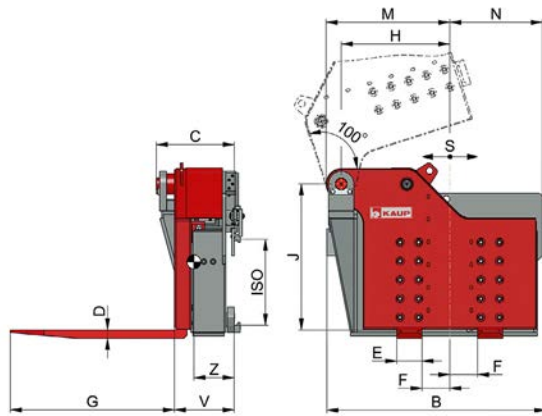
Model	Capacity kg	LCD mm	Torque Md $\Delta p=125$ bar Nm	Oil volume required per revolution ltr.	V mm	CofG <sup>1)</sup> Z mm	Weight <sup>1)</sup> kg
10T351	12.000	900	28.000	15	440	250	1.910
15T351	15.000	900	56.000	30	450	460	2.335
20T351	22.000	900	60.000	60	465	350	3.650
25T351	24.000	1.200	60.000	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 kg	LCD mm	S mm	B mm	D mm	E mm	G mm	F mm	C mm	H mm	J mm	M mm	N mm	ISO cl.	V mm	CofG Z mm	Weight kg
1T 360	800	500	$\pm 100$	820	40	100	1.000	150	297	320	465	150	365	2	250	220	295
2T 360	1.500	500	$\pm 100$	1.040	50	150	1.000	210	390	545	760	635	400	2	314	263	675
3T 360	2.500	500	$\pm 160$	1.285	50	150	1.000	330	460	645	900	735	550	3	356	239	1.085
5T 360	4.000	600	$\pm 200$	1.890	60	160	1.000	175	630	880	890	990	525	4	460	282	1.430
7T 360	6.000	600	$\pm 200$	1.890	70	200	1.000	195	630	880	890	990	525	4	470	315	1.780
10T 360	7.500	600	$\pm 200$	1.775	80	200	1.000	480	670	910	1.035	1.045	730	4	565	385	2.600
12T 360	9.000	700	$\pm 275$	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 kg	LCD mm	V mm	CofG Z mm	Weight 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

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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



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Cask Handler

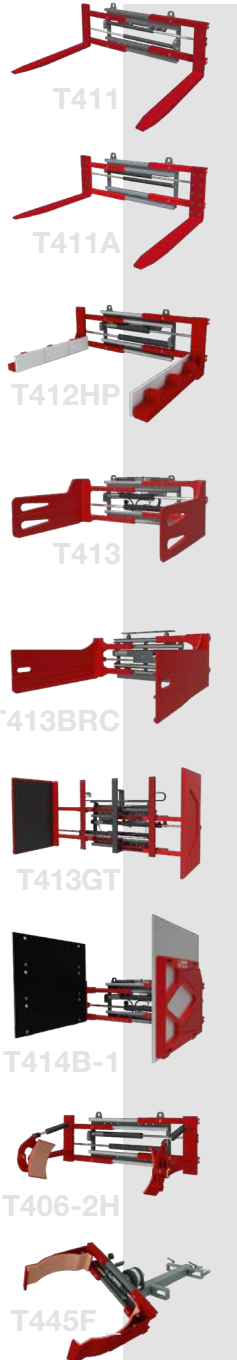


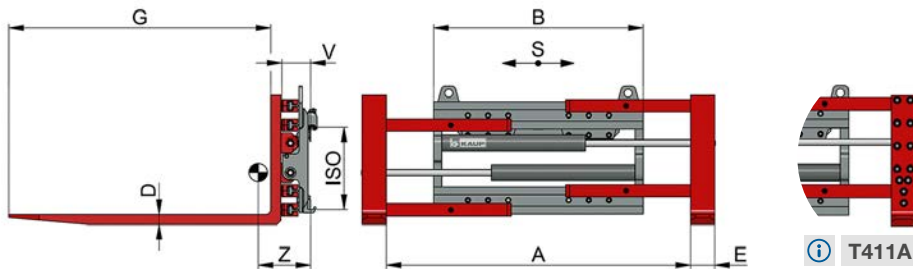
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## Recommended Oil flow rates and Pressures

### Clamps

Attachment	Page	Oil flow rate (oil volume) [l/min]			Maximum operating pressure [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
					310-1.710	1.200						270	339
1,5T 401	2.300	1.250	500	without	260-1.260	850	45	120	1.200	2	126	260	300
2T 411	2.800	2.000	500	± 100	280-1.380	970	50	120	1.200	2/3	143	262	384
					320-1.620	1.130						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
3T 411	3.600	2.500	500	± 100	260-1.560	1.130	50	150	1.200	3	152	255	510
					260-1.760	1.330						249	529
					130-1.630	1.460						245	539
					260-1.890	1.460						245	541
4T 411	4.150	2.900	500	± 100	260-1.560	1.130	50	150	1.200	3	162	245	572
					260-1.760	1.330						240	591
					130-1.630	1.460						237	603
					260-1.890	1.460						236	606
4,5T 411	5.000	3.500	500	± 100	230-1.480	1.200	60	150	1.200	3	188	253	689
					250-1.650	1.330						248	709
					120-1.520	1.460						245	725
					220-1.720	1.460						244	728
					260-1.890	1.550						241	744
4,5T 411.1	5.000	3.500	500	± 100	230-1.480	1.200	60	150	1.200	3	178	249	677
					250-1.650	1.330						245	695
					220-1.720	1.460						242	711
					260-1.890	1.550						239	724
4,8T 411	5.000	3.200	600	± 100	230-1.480	1.200	70	150	1.200	3	178	273	723
					250-1.650	1.330						269	741
					220-1.720	1.460						265	757
					260-1.890	1.550						262	770
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
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

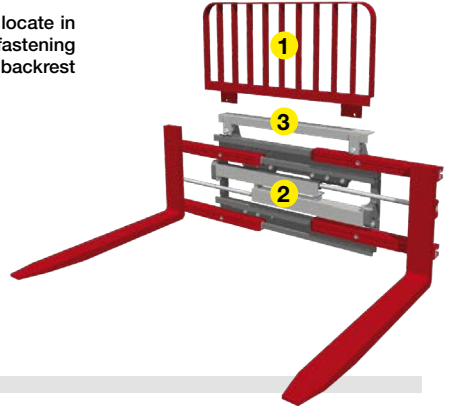


## Accessories for Clamps

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

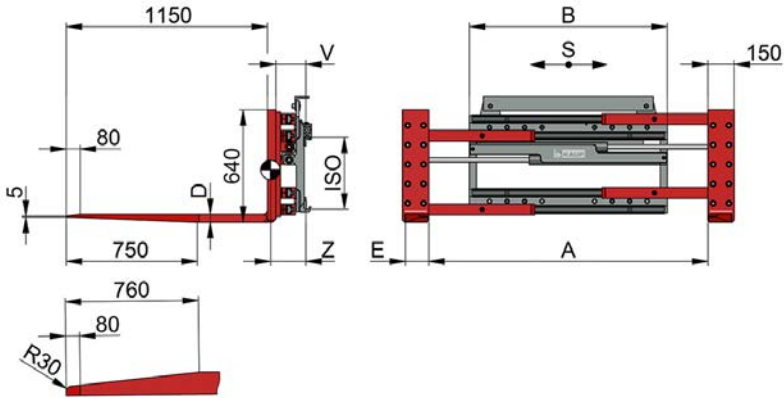
#### Load Backrest T479

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 or sideshift cylinder protection, respectively hose 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.



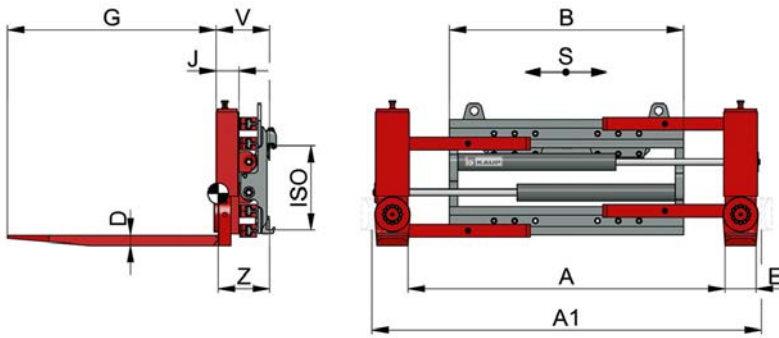
#### Harbour Clamp T411AH - with bolt-on forks - fork length 1.150 mm

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

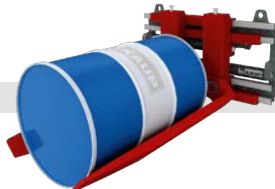
In the basic position the forks of this clamp are similar to other fork clamps and fork positioners with forks and can be used for handling palletized goods, grate boxes and other loads that can be taken up by forks.

### 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.

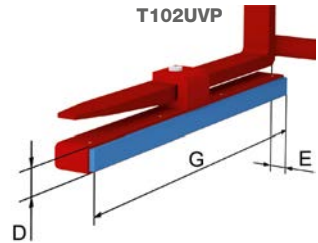
As slip-on arms are customised to your requirements and applications the following examples only show part of the extensive KAUP product range for slip-on arms.

### Block Arms T102UVP

underslung version with vulcollan lining

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

Preferential range



### Block & Brick Arms T102UH

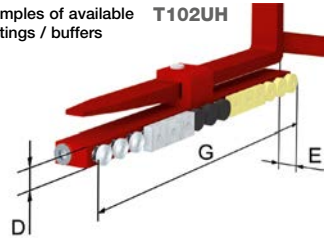
underslung version with mechano-hydraulic equilibration

Model	Length G* mm	Reduction of opening		Weight per pair kg
		Height D* mm	range per side E 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 (1), 1.019 (12), 1.101 (13), 1.183 (14), 1.265 (15)

Examples of available coatings / buffers

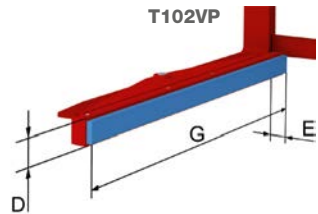


### Block Arms T102VP

slip-on version with vulcollan linings

Model	Length G mm	Reduction of opening		Weight per pair kg
		Height D mm	range per side E 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

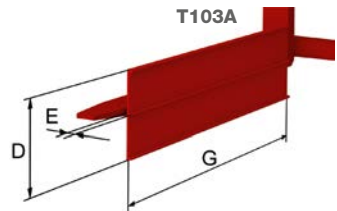
Preferential range <sup>1)</sup> Double high arms



### Bale Arms T103A

slip-on version

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

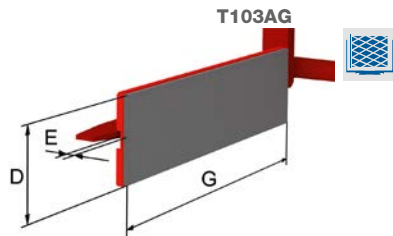




## Bale Arms T103AG

gripping nap strap coated, slip-on version

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



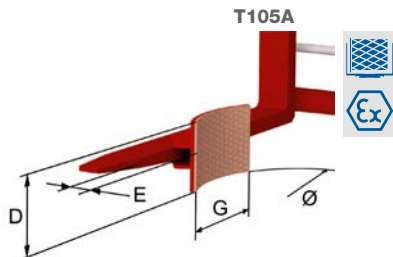
## Drum Arms T105A

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

Model	Number of drums	for Ø mm	Length G mm	Height D mm	Arm-overhang per side E mm	Weight per pair 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.

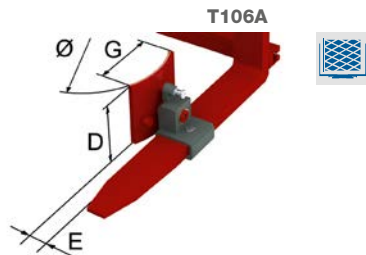


## Rotating Drum / Roll Arms T106A

slip-on version - mechanically tiltable

Model	for Ø mm	Length G mm	Height D mm	Arm-overhang per side E mm	Weight per pair 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.

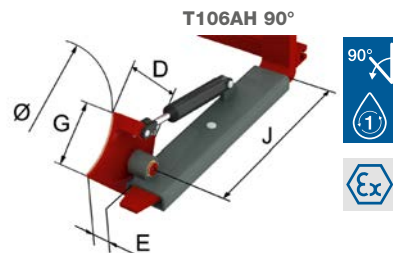


## Rotating Drum / Roll Arms T106AH 90°

slip-on version - hydraulically tiltable up to 90°

Model	No. of hydr. arms	for Ø mm	Length G mm	Height D mm	E <sup>1)</sup> mm	J <sup>2)</sup> mm	Weight per pair 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.

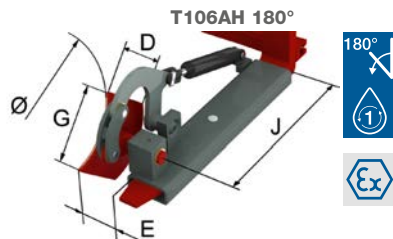


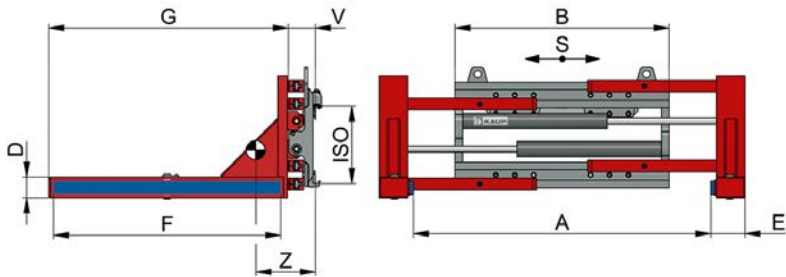
## Rotating Drum / Roll Arms T106AH 180°

slip-on version - hydraulically tiltable up to 180°

Model	No. of hydr. arms	for Ø mm	Length G mm	Height D mm	E <sup>1)</sup> mm	J <sup>2)</sup> mm	Weight per pair 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.



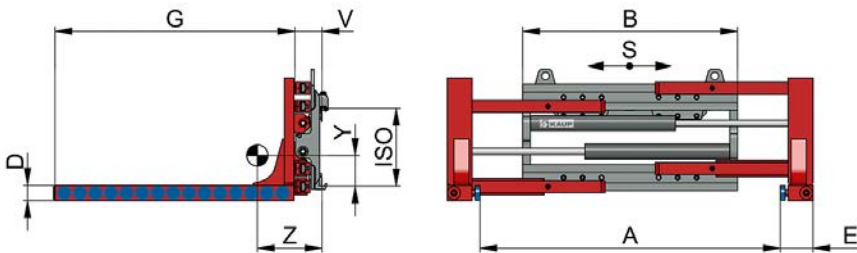


### Block Clamp T412V - with polyurethane lining and parallel compensation

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 kg	LCD mm	S mm	A mm	B mm	D mm	E mm	F mm	G mm	ISO cl.	V mm	CofG Z mm	Weight 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 kg	LCD mm	S mm	A mm	B mm	D mm	E mm	G <sup>1)</sup> mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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

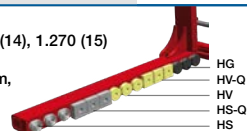
**Preferential range** Also available without sideshift, model T402H.

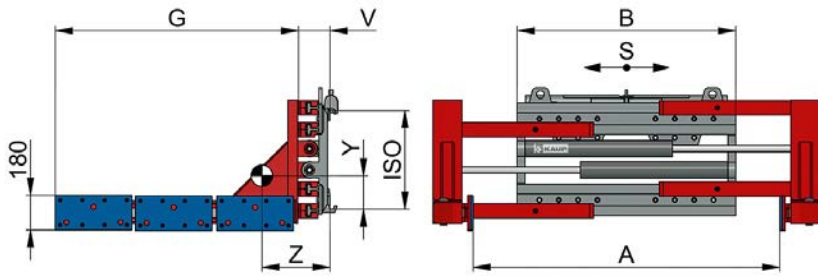
<sup>1)</sup> Fig „G“ depends on the number of pistons ( ), available arm length 942 (11), 1.024 (12), 1.106 (13), 1.188 (14), 1.270 (15)

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

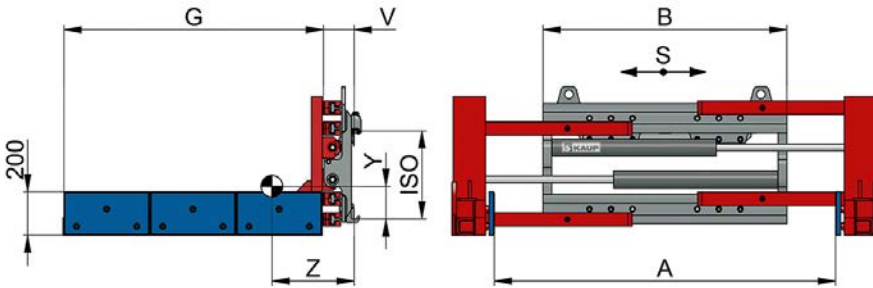




### Block Clamp T412V-3 - with mechanical equilibration plates with Vulcollan coating

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

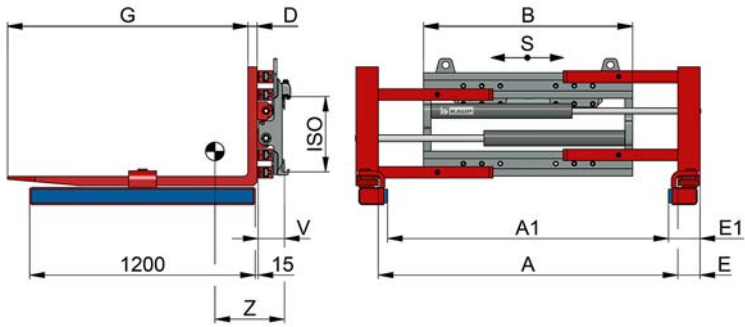
Each of the arms consists of three mechano-hydraulic equilibration plates (400 x 200 mm). Typically they are manufactured from bulb plate, thus the clamp is excellently suited for handling 400 x 200 x 200 mm blocks. Depending on the particular application, polyurethane coated contact surfaces are available.

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).



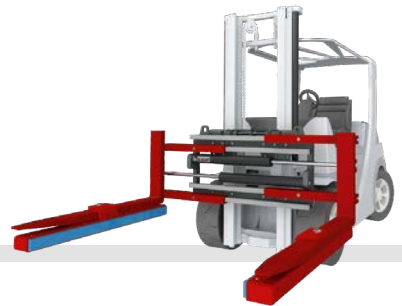
## Block Clamp T412UVP - with slip-on underslung arms - to handle building material

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	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

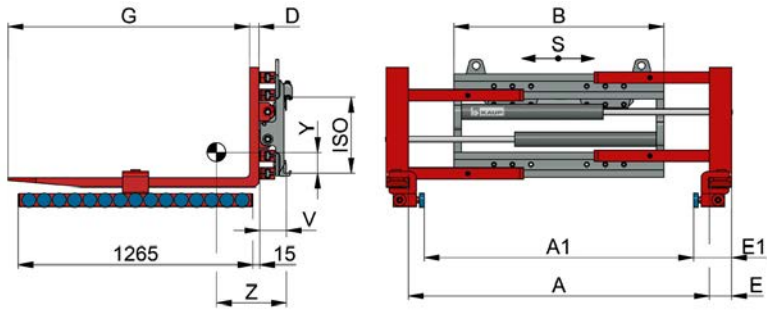
### Preferential range

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.

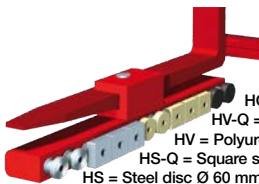
Model	Capacity of forks kg	Capacity as clamp kg	LCD mm	S mm	A1 mm	A mm	B mm	D mm	E mm	E1 mm	G mm	ISO cl.	V mm	CofG Z mm	CofG Y mm	CofG <sub>v</sub> mm	Weight kg
1,5T 412UH	2.300	1.250	500	± 100	140-1.320	320-1.500	970	45	120	210	1.200	2	133	456	74	500	
2T 412UH	2.800	2.000	500	± 100	140-1.440	320-1.620	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	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

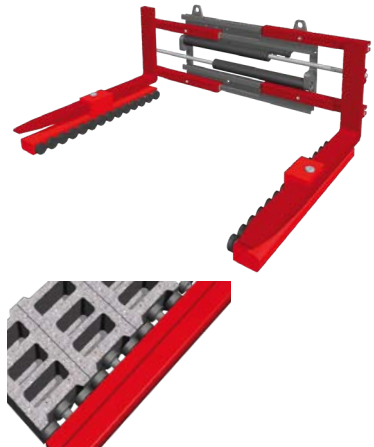
Also available without sideshift, model T402UH.



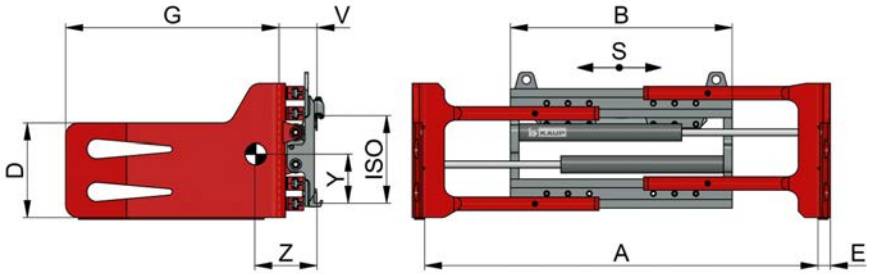
Examples of available coatings / buffers - the armlength depends on the number of pistons (see model T102UH on page 66):



HG = Rubber buffers Ø 75 mm  
 HV-Q = Square Polyurethane buffers 75 x 75 mm  
 HV = Polyurethane buffers Ø 75 mm  
 HS-Q = Square steel buffers 80 x 80 mm  
 HS = Steel disc Ø 60 mm



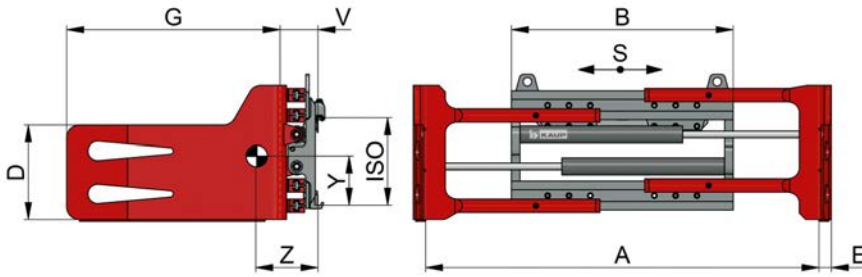
Clamping scheme for mechano-hydraulic equilibration



## 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 kg	LCD mm	S mm	A mm	B mm	D mm	E mm	G mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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
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
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
2T 413	2.100	500	± 100	595-2.395	1.520	440	42	1.000	2/3	178	267	231	520
								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 kg	LCD mm	S mm	A mm	B mm	D mm	E mm	G mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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.

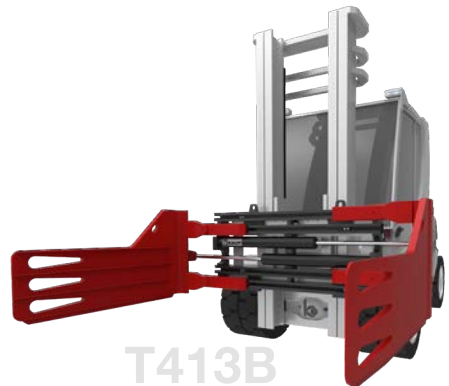
Bale clamps with higher capacities available upon request (see page 75).

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.

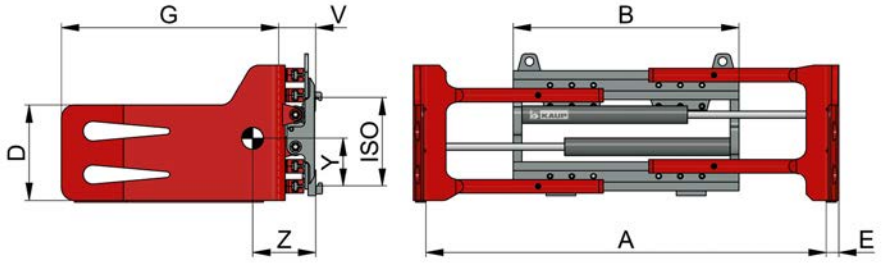


T413



T413B



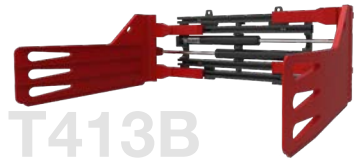


## Bale Clamp, Pulp Bale Clamp T413

Model	Capacity kg	LCD mm	A mm	B mm	D mm	E mm	G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
1,5 T413	1.400	500	495-1.675	970	440	37	800	± 295	2	156	225	229	352
			495-1.675								288	221	388
			495-1.675								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								286	220	392
			425-1.605								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								285	220	393
			495-1.745								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								280	220	404
			480-1.880								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								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								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								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								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								349	228	598
			1.560								800	575-1.975	1.600
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								341	229	618
			1.560								800	605-2.235	1.600
3T 413	2.500	500	645-2.445	1.460	470	47	1.000	± 450	2/3	175	266	237	593
			645-2.445								329	231	647
			1.560								800	645-2.445	1.600
4T 413	3.000	500	575-1.975	1.130	470	47	1.200	± 350	3	185	332	279	697
			575-1.975								399	274	761
			1.880								800	575-1.975	1.600
4T 413	3.000	500	475-1.975	1.330	470	47	1.200	± 375	3	185	325	280	715
			475-1.975								392	275	779
			1.880								800	475-1.975	1.600
4T 413	3.000	500	605-2.235	1.330	470	47	1.200	± 407,5	3	185	324	280	718
			605-2.235								391	275	782
			1.880								800	605-2.235	1.600
4T 413	3.000	500	635-2.435	1.460	470	47	1.200	± 450	3	185	317	281	743
			635-2.435								382	276	807
			1.880								800	635-2.435	1.600

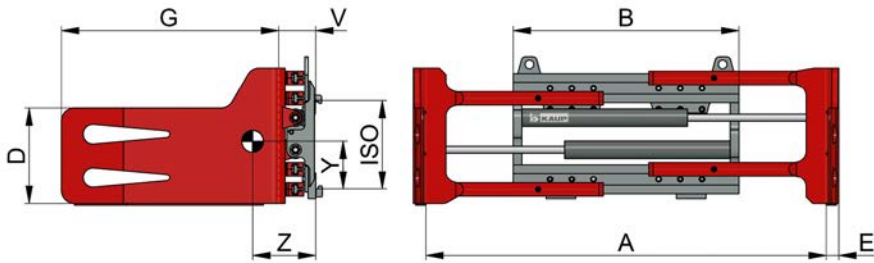


T413



T413B





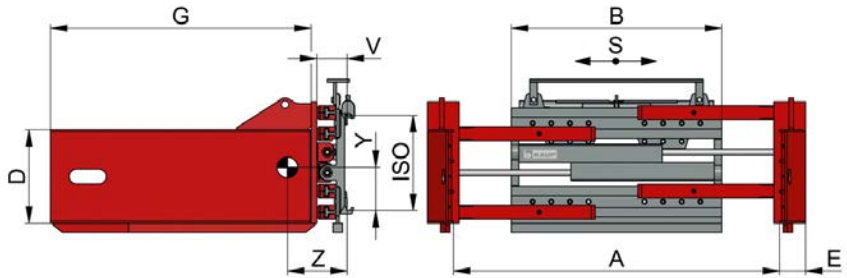
## Bale Clamp, Pulp Bale Clamp T413

Model	Capacity kg	LCD mm	A mm	B mm	D mm	E mm	G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG <sub>y</sub> Y mm	Weight 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.

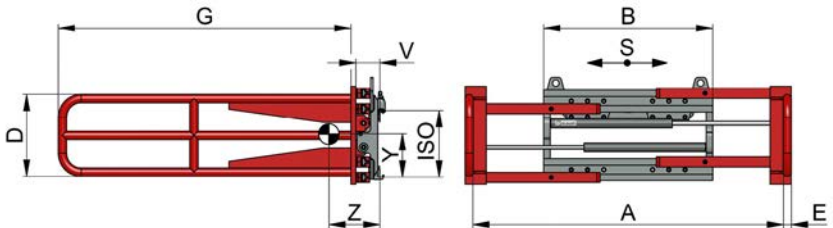
Also available with 1 arm oscillating, model T413B-1. Bale Clamps with higher capacities available upon request. Variations in width, opening ranges and arm dimensions available upon request. Special version for Big Bags, based on the KAUP Bale Clamp, are also available.



## Recycling Bale Clamp T413RC

Model	Capacity kg	LCD mm	S mm	A mm	B mm	D mm	E mm	G mm	ISO cl.	V mm	CofG <sub>Z</sub> mm	CofG <sub>Y</sub> mm	Weight kg
2T 413RC	2.100	500	± 100	575-1.875	1.040	440	42	1.000 1.200	2/3	143	280 346	210 212	573 628
2T 413RC	2.100	500	± 100	485-1.785	1.130	440	42	1.000 1.200	2/3	143	277 343	209 211	580 635
2T 413RC	2.100	500	± 100	595-2.395	1.520	440	42	1.000 1.200	2/3	143	258 319	214 215	641 696
3T 413RC	1.790 1.560	700 800	± 100	465-1.765	1.130	500	130	1.400 1.600	2/3	153	371 422	221 217	811 847
3T 413RC	1.790 1.560	700 800	± 100	605-2.235	1.330	500	130	1.400 1.600	2/3	153	361 410	221 217	840 875
4T 413RC	2.140 1.880	700 800	± 100	565-1.965	1.130	500	130	1.400 1.600	3	163	370 419	257 252	919 955
4T 413RC	2.140 1.880	700 800	± 100	595-2.225	1.330	500	130	1.400 1.600	3	163	354 401	260 255	975 1.011
4,5T 413RC	2.400 1.920	800 1.000	± 100	550-1.950	1.200	500	130	1.600 2.000	3	188	391 489	220 214	1.025 1.095
4,5T 413RC	2.400 1.920	800 1.000	± 100	650-2.280	1.330	500	130	1.600 2.000	3	188	383 479	220 214	1.051 1.122
4,5T 413RC	2.400 1.920	800 1.000	± 100	590-2.290	1.460	500	130	1.600 2.000	3	188	377 471	220 214	1.072 1.142
4,5T 413RC	2.400 1.920	800 1.000	± 100	630-2.460	1.550	500	130	1.600 2.000	3	188	372 465	220 214	1.092 1.162

Also available without sideshift, model T403RC.

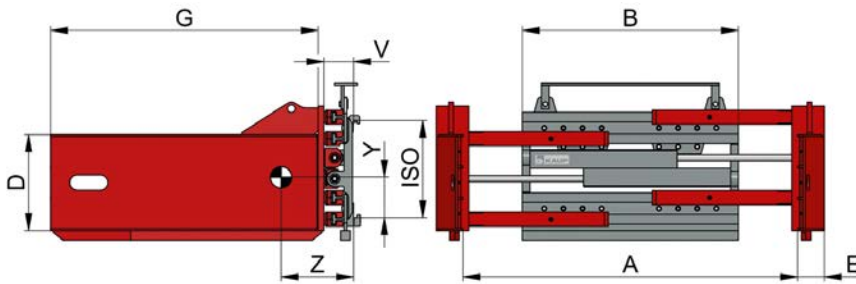


## Foam Rubber Clamp T413R

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

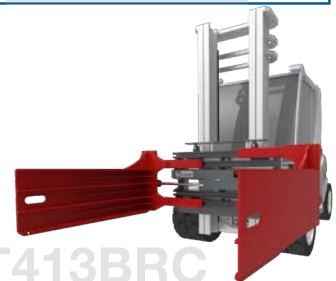
Also available without sideshift, model T403RC.



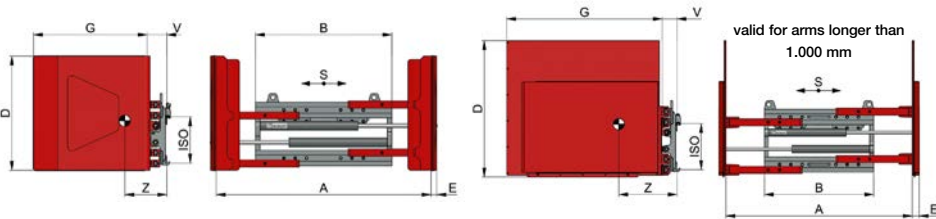
T413R



T413RC



T413BRC

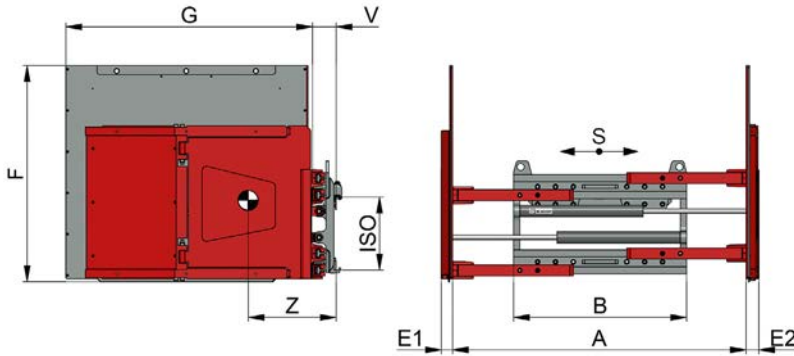


## Appliance Clamp T413G - rubber coated arms - both arms fix

Model	Capacity 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 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 READY** 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 kg	LCD mm	S mm	A mm	B mm	E1 mm	E2 mm	F mm	G mm	ISO cl.	V mm	CofG Z mm	Weight 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	

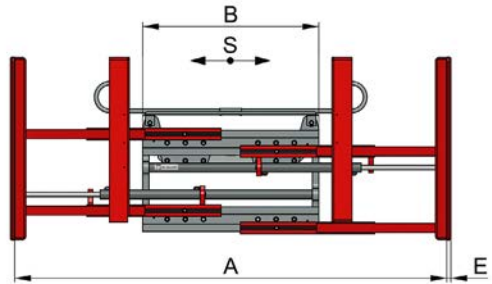
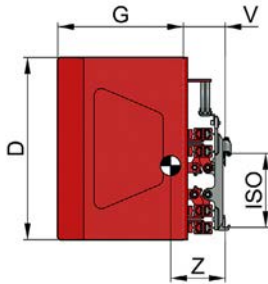
### Preferential range

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.

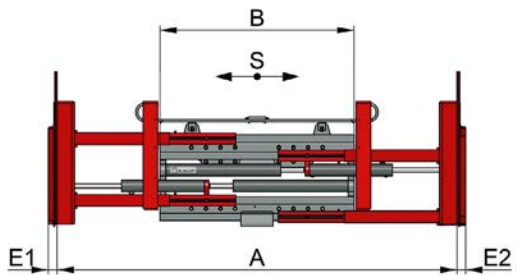
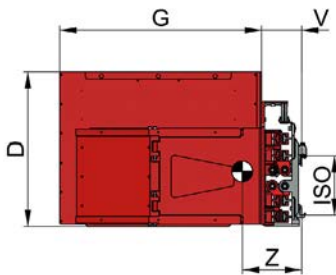


**Telescopic Appliance Clamp T413GT** - rubber coated arms - both arms fix

Model	Capacity 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 413 GT	700	500	± 100	380-2.380	970	1.000	28	690	2	232	270	435
1,5T 413 GT	1.250	500	± 100	440-2.440	970	1.000	28	690	2	242	285	470
1,5T 413 GT	1.250	500	± 100	410-2.610	1.200	1.000	28	690	2	242	285	486
1,5T 413 GT	1.250	500	± 100	440-2.440	970	1.200	28	690	2	242	300	515
1,5T 413 GT	1.250	500	± 100	410-2.610	1.200	1.200	28	690	2	242	295	530
2T 413 GT	1.250	700	± 100	475-2.475	1.130	1.050	78	1.380	2	281	438	830
2T 413 GT	1.250	700	± 100	450-2.750	1.330	1.050	78	1.380	2	281	429	871
3T 413 GT	1.800	700	± 100	475-2.475	1.130	1.050	78	1.380	3	281	424	854
3T 413 GT	1.800	700	± 100	450-2.750	1.330	1.050	78	1.380	3	281	416	895

Also available without sideshift, model T403 GT.

**SLC READY** 1,5T & 2T413GT: Clamp available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force (Models 2T after design adaptation). Available without sideshift model T403GT/099H and with sideshift, model T413GT/099H.

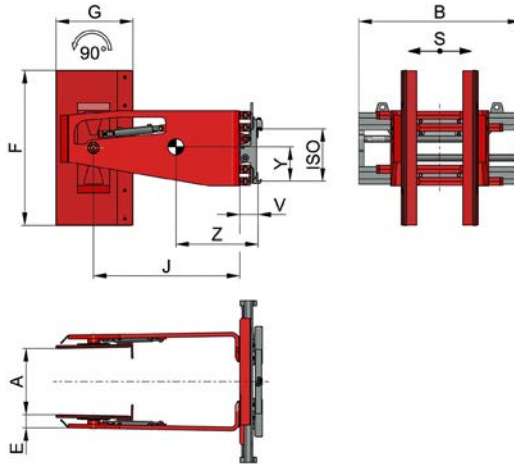


**Telescopic Appliance-/Carton Clamp T413GT-1L** rubber coated arms - one arm fix, one arm swivelling

Model	Capacity kg	LCD mm	S mm	A mm	B mm	D mm	E1 mm	E2 mm	G mm	ISO cl.	V mm	CofG Z mm	Weight kg
2T 413 GT-1L	1.250	700	± 100	480-2.740	1.330	1.050	60	60	1.380	2	276	411	864
3T 413 GT-1L	1.800	700	± 100	480-2.740	1.330	1.050	60	60	1.380	3	276	405	889

Also available without sideshift, model T403GT-1L.

**SLC READY** 2T413GT-1L: Clamp after design adaptation available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force. Available without sideshift model 2T403GT-1L/099H and with sideshift, model 2T413GT-1L/099H.

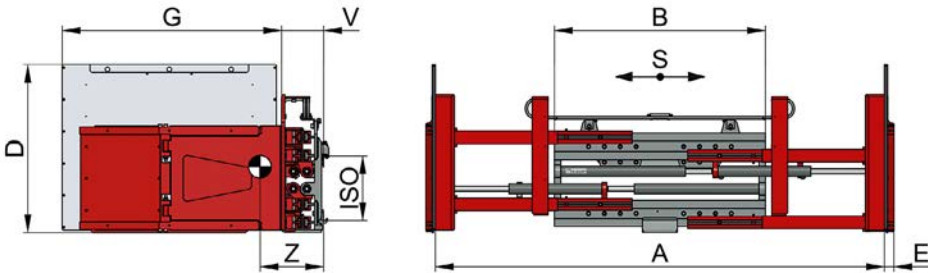


### Appliance Clamp tiltable 2T413G-2H - rubber coated arms

Model	Capacity kg	LCD mm	S mm	A mm	B mm	F mm	E mm	G mm	J mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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.

**i** 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).

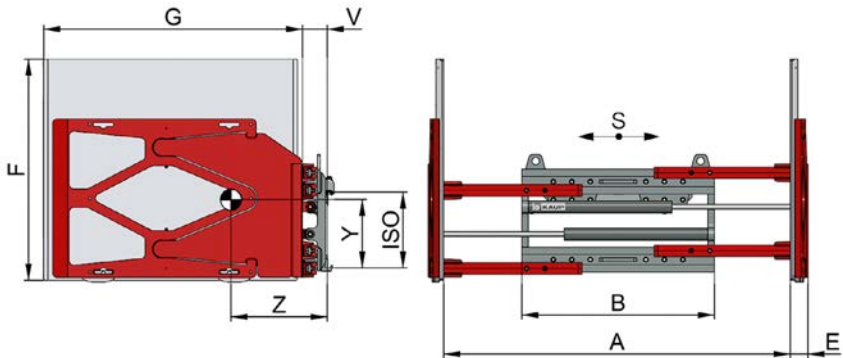


### Telescopic Appliance- / Carton Clamp T414GT-1L - rubber coated arms - both arms swivelling

Model	Capacity kg	LCD mm	S mm	A mm	B mm	D mm	E mm	G mm	ISO cl.	V mm	CofG Z mm	Weight 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.



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

Model	Capacity kg	LCD mm	S mm	A mm	B mm	E mm	F mm	G mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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

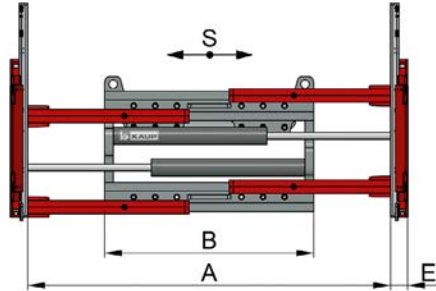
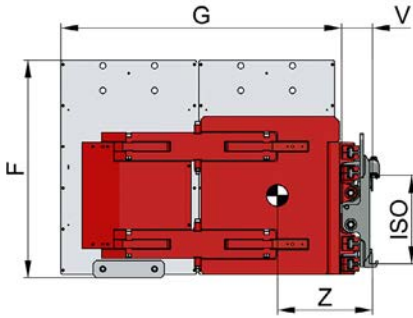
### Preferential range

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

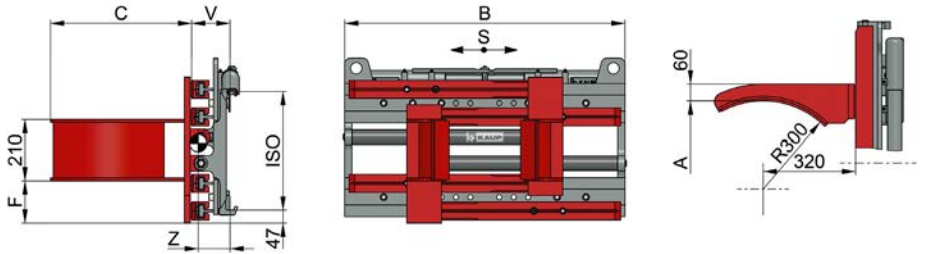
Model	Capacity kg	LCD mm	S mm	A mm	B mm	E mm	F mm	G mm	ISO cl.	V mm	CofG Z mm	Weight kg
1,5T 414-2L	1.250	500	± 100	480-1.660	970	60	1.000	1.000	2	133	345	495
							1.000	1.200			401	535
							1.200	1.200			472	599
							1.200	1.380			492	647
1,5T 414-2L	1.250	500	± 100	330-1.430	1.040	60	1.000	1.000	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.



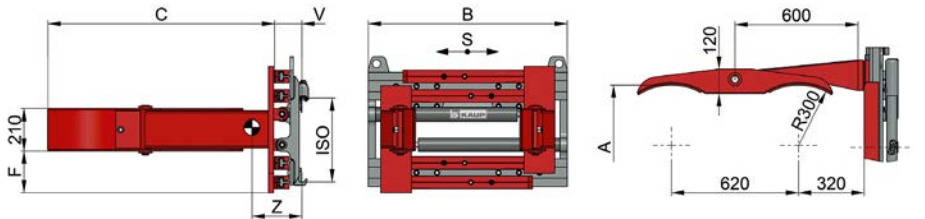
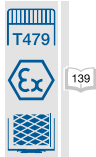
## Drum Clamp T415-1 - for cylindrical steel drums

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.



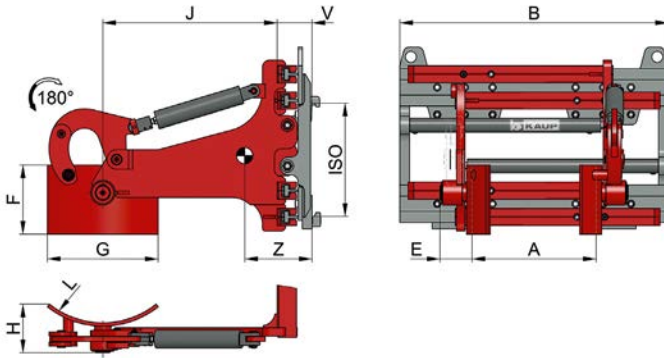
## Drum Clamp T415-2 - for cylindrical steel drums

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	Z mm	CofG 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	

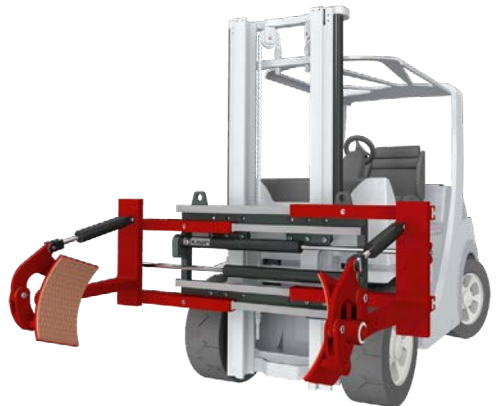
Single arm drive = H, Dual arm drive = 2H.

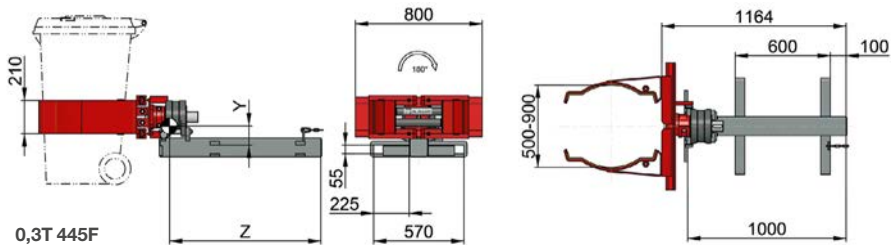
With one tilt cylinder drums can only be handled in vertical position.  
With two cylinders drums can be handled in vertical or horizontal position.

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

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

Available with arms for plastic drums.



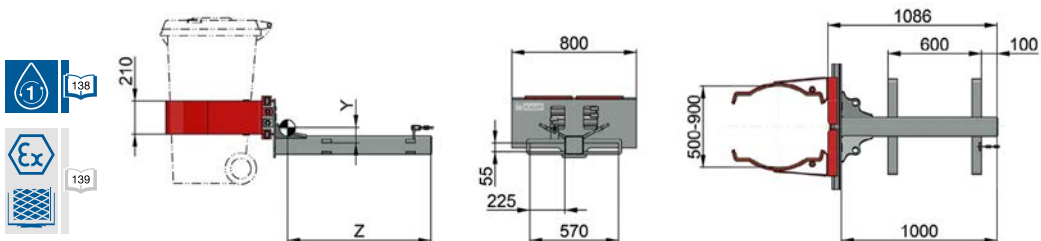


## Mini Drum Clamp T445F - slip-on version - for cylindrical steel drums and garbage bins

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
0,8T445F	700	320	530 - 930	360°	2.570	1.010	122	247

Available with arms for plastic drums.

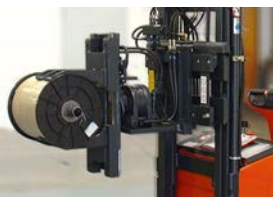


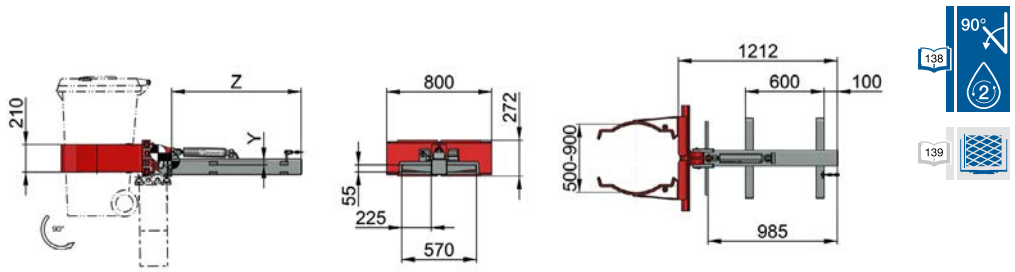
## Mini Drum Clamp T405

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.



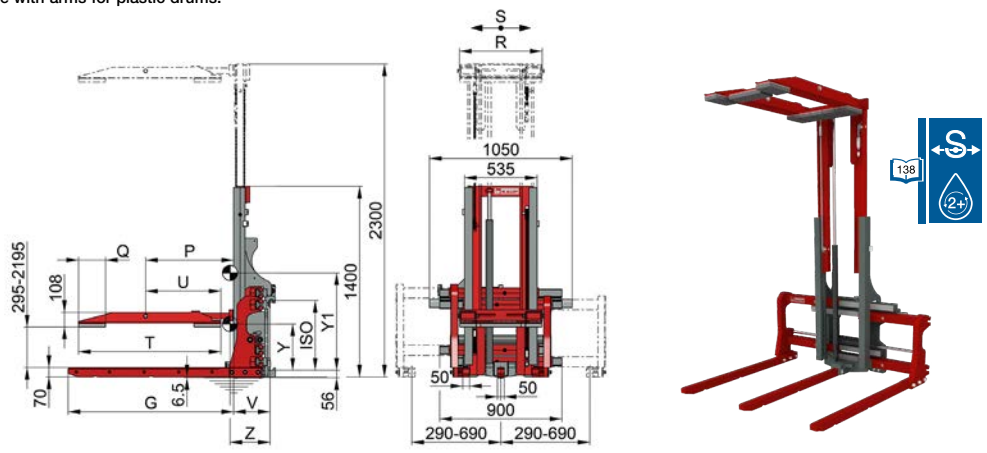


### Mini Drum Tipping Clamp T405/130

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

Model	Capacity kg	LCD mm	Opening range mm	Tipping-angle °	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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 kg	LCD mm	S mm	G mm	T mm	P mm	R mm	Q mm	U mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	CofG <sub>v</sub> Y1 mm	Weight 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.



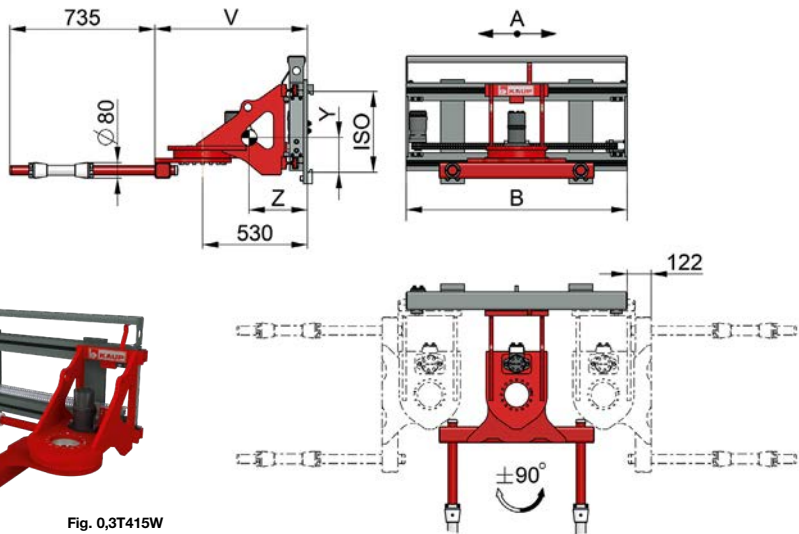


Fig. 0,3T415W

## Cask Handler T415W / WD

Model	Capacity kg	LCD mm	Adjusting range A mm	Construction width B mm	ISO class	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight 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



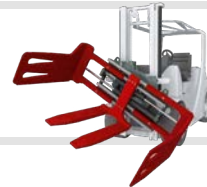
92

Pallet Turnover Clamps



93, 95

Rotating Bale Clamps



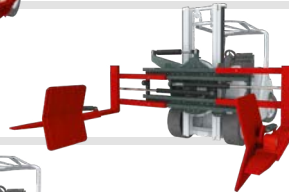
94

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 (oil volume) [l/min]			Maximum operating pressure [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

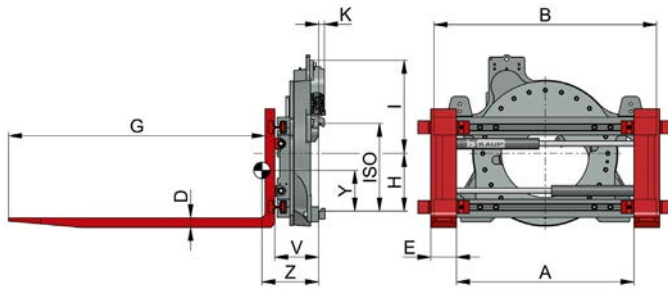
Due to the KAUP Modular System all Clamps shown on pages 63 to 85 can be combined with a Rotator. The best known Rotating Clamps are Roll Clamps, Fork Clamps, Bale Clamps and Pallet Turnover Clamps. If required for the operation all Rotating Clamps can be upgraded with sideshift function.



#### 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**

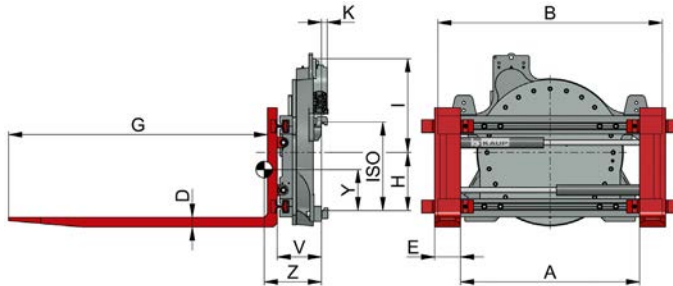
360°  
138  
2  
139  
STOP

### Rotating Fork Positioner T456BZ - Rotation 360° 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 <sub>Z</sub> mm	CofG <sub>Y</sub> mm	Weight 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

1) Md: Torque  $\Delta P = 125$  bar. 2) 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**

360°  
138  
2  
139  
STOP

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

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 <sub>Z</sub> mm	CofG <sub>Y</sub> mm	Weight 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
3,5T456 BZG	3.600	500	130-930	1.150	50	150	1.200	338	395	40	8.950	11,3	3	258	273	235	712
4,5T456 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

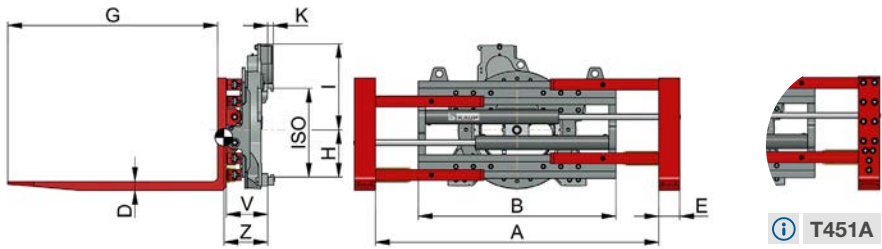
1) Md: Torque  $\Delta P = 125$  bar. 2) Oil volume required per rev

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**





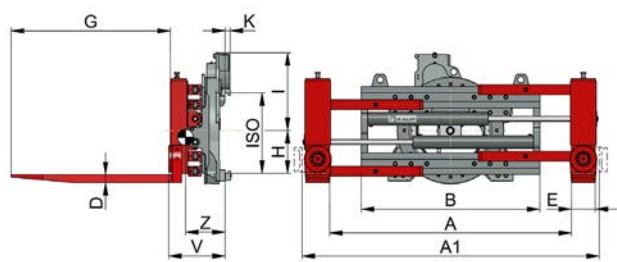
T451A

### 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
				480-2.180	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 Δ P = 125 bar. <sup>3)</sup> Oil volume required per rev.

T451A - Version with screw-on forks

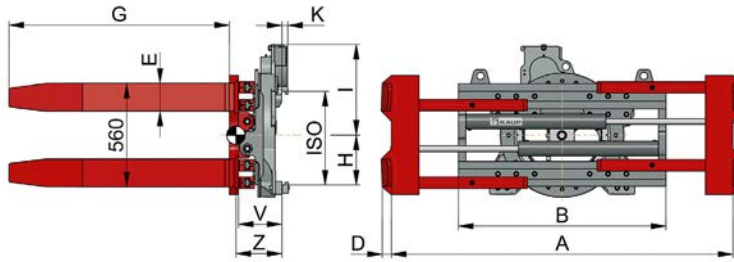


### Rotating Fork Clamp with Turnable Forks T451D

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													285	436
				260-1.660	1.200													281	452
2T 451 D	2.300	2.000	500	130-1.330	1.130	50	150	510-1.710	457	32	269	7.700	9,7	2/3	356	312	602		
				230-1.530	1.130													312	605
				230-1.730	1.330													308	620

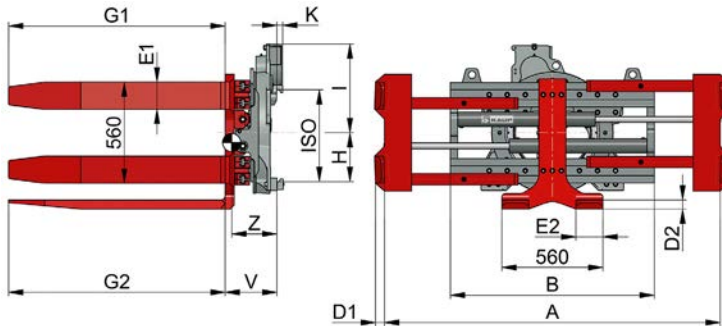
**Preferential range** <sup>1)</sup> Md: Torque Δ P = 125 bar. <sup>2)</sup> Oil volume required per rev. Fork length 'G' = 1.200 mm. Also available with sideshift, model T491D, see page 90.



## 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
1,5 T451W	1.250	500	540-1.720 530-1.930	970 1.200	45	125	1.200	213	478	33	6.013	7,6	2	216	383 376	531 547
2T 451W	2.000	500	560-1.860 560-2.060	1.130 1.330	50	150	1.200	269	457	33	7.700	9,7	2/3	232	385 381	725 740
3T 451W	2.500	500	560-1.860 560-2.060	1.130 1.330	50	150	1.200	338	395	40	8.950	11,3	3	279	373 369	869 888
4T 451W	2.900	500	560-2.060 560-2.190	1.330 1.460	60	160	1.200	338	395	40	8.950	11,3	3	289	380 378	1.029 1.041
4,5T 451W	2.900	500	560-2.060 560-2.180	1.330 1.460	60	160	1.200	328	675	36	14.823	17,4	4	291	364 362	1.155 1.169
5T 451W	3.500	600	580-2.210 850-2.750	1.550 1.550	60	200	1.200	345	455	40	13.434	15,7	4	360	412 407	1.442 1.505

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

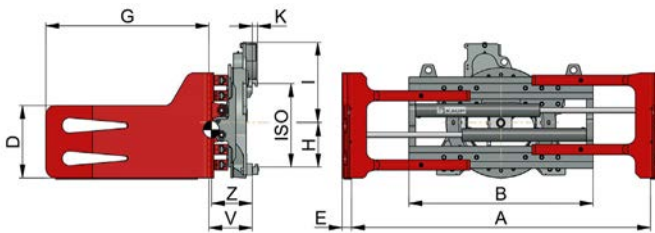
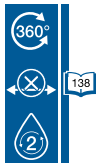


## Pallet Turnover Clamp T451W/180

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

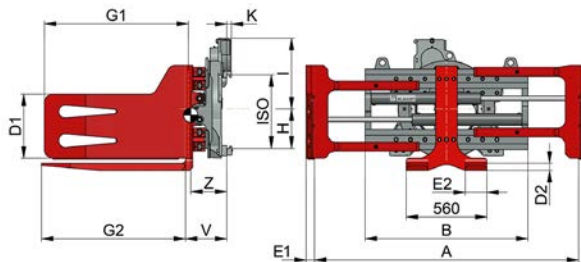
**Attention:** Additional forks exclusively possible with underclearance according to ISO class »B« version. 1) Md: Torque  $\Delta P = 125$  bar. 2) Oil volume required per rev. Also available with sideshift, model T491W/180, see page 90. **Note:** Container must have suitable insertion slots.



## 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	970	440	37	1.000	213	478	33	6.013	7,6	2	246	312	462
			475-1.725	1.040											308	475
			465-1.865	1.200											305	485
2T 453	2.000	500	575-1.875	1.040	440	42	1.000	269	457	32	7.700	9,7	2/3	266	304	606
			675-2.075	1.040											303	609
			485-1.785	1.130											303	611
			585-1.985	1.130											302	614
			485-1.985	1.330											300	627
			595-2.395	1.520											291	667
2,5T 453	2.300	500	475-1.775	1.130	470	47	1.000	269	457	32	7.700	9,7 2' / 3	271	305	703	
			475-1.975	1.330										301	722	
3T 453	2.500	500	475-1.775	1.130	470	47	1.000	338	395	40	8.950	11,3	3	304	305	814
			475-1.975	1.330											303	834
			475-2.105	1.460											301	845
			375-1.775	1.330											299	870
4T 453	2.900	500	475-1.975	1.330	470	47	1.000	338	395	40	8.950	11,3	3	314	299	872
			605-2.235	1.330											299	875
			475-2.105	1.460											297	885
			415-2.045	1.520											287	929
			465-1.865	1.330											309	1.044
4,8T 453	3.500	500	695-2.325	1.330	470	52	1.000	338	395	40	8.950	11,3	3	344	308	1.051
			565-2.195	1.460											307	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.

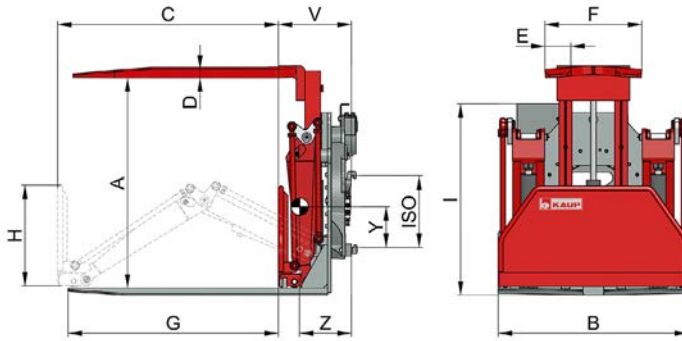


## Rotating Bale Clamp T453/180

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	970	440	37	1.200	125	45	1.200	6.013	7,6	2B	267	427	652
			655-2.005	1.200											420	668
2T453/180	2.000	500	575-1.875	1.040	440	42	1.200	150	50	1.200	7.700	9,7	2/3B	285	411	863
			585-1.985	1.130											409	871
			585-2.185	1.330											405	886
3T453/180	2.500	500	695-2.095	1.130	470	47	1.200	150	50	1.200	8.950	11,3	3B	304	409	1.084
			675-2.175	1.330											406	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.

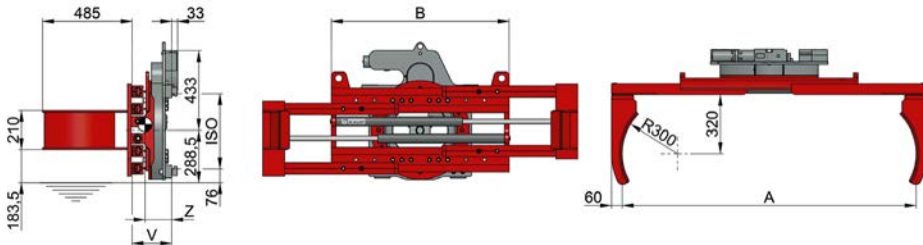


## Pallet Turnover Clamp with Pusher T451WA 360° rotation continuous

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 on forks kg	mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	ISO cl.	V mm	CofG Z mm	Weight 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.



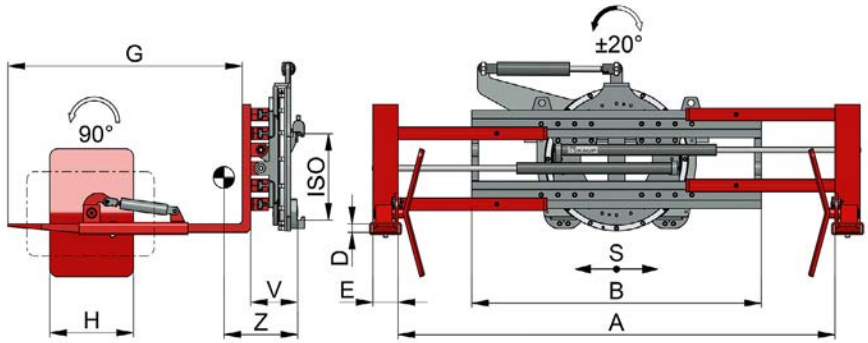
## Rotating Drum Clamp T455-1

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

Model	Capacity kg	LCD mm	A mm	B mm	Torque $\Delta p=125$ bar Nm	ISO class	V mm	CofG Z mm	Weight 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.

Model	Capacity on forks kg	Capacity as clamp kg	mm	S mm	A mm	Tyre-diameter mm	B mm	D mm	E mm	G mm	H mm	ISO cl.	V mm	CofG Z mm	Weight 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	± 150	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	± 150	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

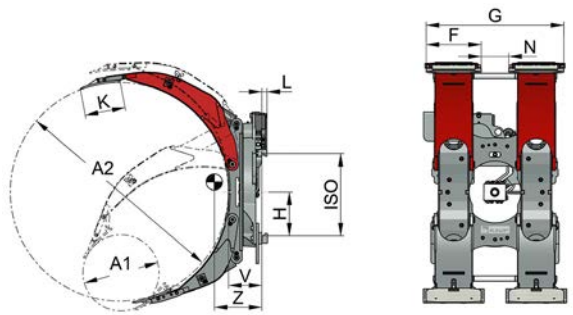
\*At oil flow rates of over 80 l/min flow restriction valves are to be applied.  
Terminal West / Pin-Type mounting available upon request.  
Pads ± 90° tiltable available upon request.

Tyre Handler in various capacities and versions upon request.



Fig. Tyre Handler 20T221SV

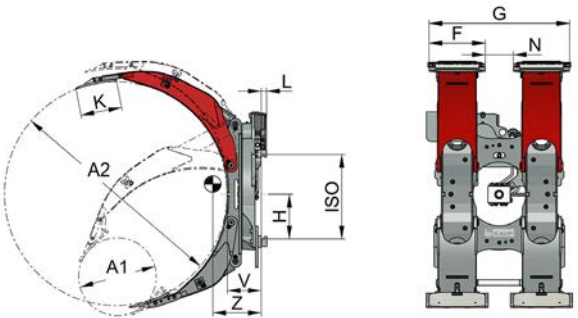




### Rotating Roll Clamp T458BC 360° rotation continuous - short arm fixed

Model	Capacity 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
1T 458 BC	1.200	450 - 1.350	300	700	208	250	33	100	6.013	7,6	2	185	279	397
2T 458 BC	2.400	450 - 1.350	340	850	270	250	33	170	7.700	9,7	2*/3	207	278	556
2T 458 BC	2.000	650 - 1.600	340	850	270	250	33	170	7.700	9,7	2*/3	207	310	606
3T 458 BC	3.200	450 - 1.350	340	850	339	250	36	170	8.950	11,3	3	242	282	677
3T 458 BC	2.800	650 - 1.600	340	850	339	250	36	170	8.950	11,3	3	242	317	738
4T 458 BC	3.700	550 - 1.450	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	344	1.033
4T 458 BC	3.500	600 - 1.600	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	350	1.083
5T 458 BC	4.750	600 - 1.600	420	1.000	350	300	40	350	12.591	11,2	4	315	367	1.163
5T 458 BC	4.200	700 - 1.830	420	1.000	350	300	40	350	12.591	11,2	4	315	397	1.214
6T 458 BC	5.500	700 - 1.800	420	1.000	350	300	40	350	19.998	17,9	4	327	395	1.419
6T 458 BC	4.600	900 - 2.200	420	1.000	350	300	40	350	19.998	17,9	4	327	432	1.544

**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. **Contact pad coatings:** Standard polyurethane coating Poly-1. **Optional:** continuous contact pads.

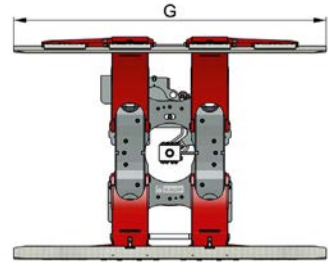
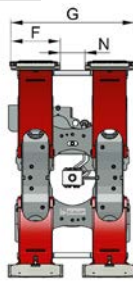
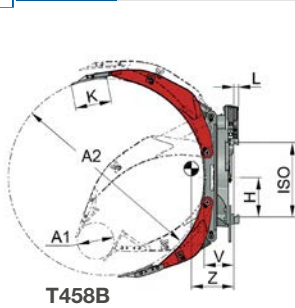


### Rotating Roll Clamp T458BC-2 360° rotation continuous - short arm fixed

Model	Capacity 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
1T 458 BC-2	1.200	450 - 1.350	300	700	208	250	33	100	6.013	7,6	2	185	279	397
2T 458 BC-2	2.400	450 - 1.350	340	850	270	250	33	170	7.700	9,7	2*/3	207	278	556
2T 458 BC-2	2.000	650 - 1.600	340	850	270	250	33	170	7.700	9,7	2*/3	207	311	606
3T 458 BC-2	3.200	450 - 1.350	340	850	339	250	36	170	8.950	11,3	3	242	282	677
3T 458 BC-2	2.800	650 - 1.600	340	850	339	250	36	170	8.950	11,3	3	242	317	738
4T 458 BC-2	3.700	550 - 1.450	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	344	1.033
4T 458 BC-2	3.500	600 - 1.600	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	350	1.084
5T 458 BC-2	4.750	600 - 1.600	420	1.000	350	300	40	160	12.591	11,2	4	315	367	1.163
5T 458 BC-2	4.200	700 - 1.830	420	1.000	350	300	40	160	12.591	11,2	4	315	397	1.214
6T 458 BC-2	5.500	700 - 1.800	420	1.000	350	300	40	160	19.998	17,9	4	327	395	1.419
6T 458 BC-2	4.600	900 - 2.200	420	1.000	350	300	40	160	19.998	17,9	4	327	432	1.544

**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. **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
1T 458 B	1.200	200 - 1.350	300	700	208	250	33	100	6.013	7,6	2	185	269	394
1T 458 B	1.100	220 - 1.450	300	700	208	250	33	100	6.013	7,6	2	185	291	407
1,5 T458 B	1.550	200 - 1.350	300	700	208	250	33	100	6.013	7,6	2	185	272	399
1,5 T458 B	1.500	220 - 1.450	300	700	208	250	33	100	6.013	7,6	2	185	285	412
2T 458 B	2.400	200 - 1.350	340	850	270	250	33	170	7.700	9,7	2*/3	207	274	532
2T 458 B	2.200	220 - 1.450	340	850	270	250	33	170	7.700	9,7	2*/3	207	286	544
2T 458 B	2.000	220 - 1.600	340	850	270	250	33	170	7.700	9,7	2*/3	207	305	578
2T 458 B	1.700	350 - 1.830	340	850	270	250	33	170	7.700	9,7	2*/3	207	345	625
3T 458 B	3.200	220 - 1.350	340	850	339	250	36	170	8.950	11,3	3	242	261	705
3T 458 B	3.000	250 - 1.450	340	850	339	250	36	170	8.950	11,3	3	242	275	723
3T 458 B	2.800	250 - 1.600	340	850	339	250	36	170	8.950	11,3	3	242	287	751
3T 458 B	2.500	300 - 1.830	340	850	339	250	36	170	8.950	11,3	3	242	303	780
3T 458 B	2.100	800 - 2.200	340	850	339	250	36	170	8.950	11,3	3	242	355	870
4T 458 B	3.900	250 - 1.350	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	319	993
4T 458 B	3.700	250 - 1.450	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	323	1.026
4T 458 B	3.500	250 - 1.600	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	329	1.075
4T 458 B	3.400	350 - 1.830	420	1.000	383	300	36	160	12.591	11,2	3*/4	255	356	1.121
4T 458 B	2.800	800 - 2.200	420	1.000	383	300	36	160	12.591	11,2	3*/4	255	405	1.184
5T 458 B	4.750	250 - 1.600	420	1.000	350	300	40	160	12.591	11,2	4	315	359	1.162
5T 458 B	4.200	350 - 1.830	420	1.000	350	300	40	160	12.591	11,2	4	315	389	1.213
5T 458 B	3.900	500 - 2.000	420	1.000	350	300	40	160	12.591	11,2	4	303	414	1.242
5T 458 B	3.300	650 - 2.400	420	1.000	350	300	40	160	12.591	11,2	4	325	462	1.374
6T 458 B	5.500	400 - 1.800	420	1.000	350	300	40	160	19.998	17,9	4	327	390	1.413
6T 458 B	4.600	600 - 2.200	420	1.000	350	300	40	160	19.998	17,9	4	327	422	1.529

**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. **Contact pad coatings:** Standard polyurethane coating Poly-1. **Optional:** continuous contact pads. Short arm adjustable in 45° position.

## Rotating Tyre Clamp T458BR

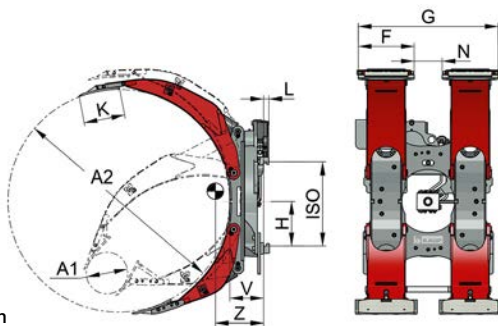
360° rotation continuous - short arm hydraulically adjustable in each turning position <sup>(1)</sup> fixed - continuous contact pads

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

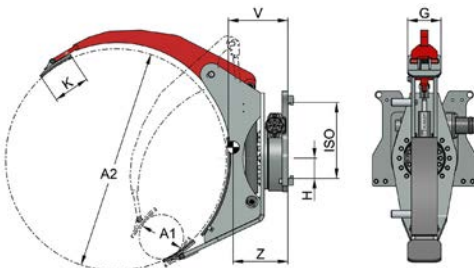


Model	Capacity kg	A1-A2 mm	F mm	G mm	H mm	K mm	L mm	N mm	Torque $\Delta p=125$ bar Nm	Oil volume required per rev. ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1T 458 B-2	1.200	200 - 1.350	300	700	208	250	33	100	6.013	7,6	2	185	269	393
1T 458 B-2	1.100	220 - 1.450	300	700	208	250	33	100	6.013	7,6	2	185	291	406
1,5 T458 B-2	1.550	200 - 1.350	300	700	208	250	33	100	6.013	7,6	2	185	272	398
1,5 T458 B-2	1.500	220 - 1.450	300	700	208	250	33	100	6.013	7,6	2	185	285	411
2T 458 B-2	2.400	200 - 1.350	340	850	270	250	33	170	7.700	9,7	2*/3	207	273	530
2T 458 B-2	2.200	220 - 1.450	340	850	270	250	33	170	7.700	9,7	2*/3	207	285	542
2T 458 B-2	2.000	220 - 1.600	340	850	270	250	33	170	7.700	9,7	2*/3	207	304	576
2T 458 B-2	1.700	350 - 1.830	340	850	270	250	33	170	7.700	9,7	2*/3	207	344	623
3T 458 B-2	3.200	220 - 1.350	340	850	339	250	36	170	8.950	11,3	3	242	260	703
3T 458 B-2	3.000	250 - 1.450	340	850	339	250	36	170	8.950	11,3	3	242	274	721
3T 458 B-2	2.800	250 - 1.600	340	850	339	250	36	170	8.950	11,3	3	242	286	749
3T 458 B-2	2.500	300 - 1.830	340	850	339	250	36	170	8.950	11,3	3	242	303	778
3T 458 B-2	2.100	800 - 2.200	340	850	339	250	36	170	8.950	11,3	3	242	355	868
4T 458 B-2	3.900	250 - 1.350	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	319	991
4T 458 B-2	3.700	250 - 1.450	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	323	1.024
4T 458 B-2	3.500	250 - 1.600	420	1.000	383	300	36	160	12.591	11,2	3*/4	270	329	1.073
4T 458 B-2	3.400	350 - 1.830	420	1.000	383	300	36	160	12.591	11,2	3*/4	255	355	1.119
4T 458 B-2	2.800	800 - 2.200	420	1.000	383	300	36	160	12.591	11,2	3*/4	255	404	1.182
5T 458 B-2	4.750	250 - 1.600	420	1.000	350	300	40	160	12.591	11,2	4	320	373	1.200
5T 458 B-2	4.200	350 - 1.830	420	1.000	350	300	40	160	12.591	11,2	4	315	389	1.211
5T 458 B-2	3.900	500 - 2.000	420	1.000	350	300	40	160	12.591	11,2	4	315	436	1.241
5T 458 B-2	3.300	650 - 2.400	420	1.000	350	300	40	160	12.591	11,2	4	315	450	1.330
6T 458 B-2	5.500	400 - 1.800	420	1.000	350	300	40	160	19.998	17,9	4	327	390	1.411
6T 458 B-2	4.600	600 - 2.200	420	1.000	350	300	40	160	19.998	17,9	4	327	422	1.527

**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. **Contact pad coatings:** Standard polyurethane coating Poly-1. **Optional:** short arm with continuous contact pads. Short arm adjustable in 45° position.

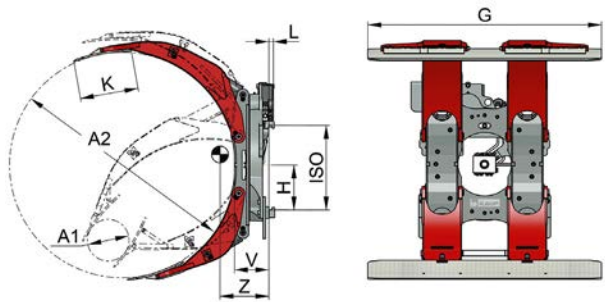
## Rotating Roll Clamp T458S

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



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

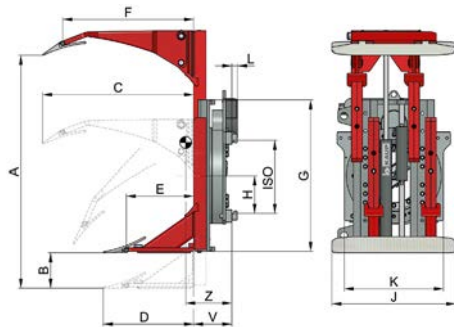
Capacity related to max. roll diameter. For taking up horizontal rolls, 5-degree mast forward tilt is required.



**Rotating Tissue Roll Clamp T458BT** 360° rotation continuous  
 short arm hydraulically adjustable in each turning position (1) 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 <sup>2/3</sup>	207	385	679
2T 458 BT	2.000	220 - 1.600	1.400	270	300	33	7.700	9,7	2 <sup>2/3</sup>	207	388	685
2T 458 BT	1.700	350 - 1.830	1.400	270	300	33	7.700	9,7	2 <sup>2/3</sup>	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 <sup>3/4</sup>	255	470	1.286
4T 458 BT	2.800	800 - 2.200	1.800	383	350	36	12.591	11,2	3 <sup>3/4</sup>	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
1,5T458P	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 <sup>2/3</sup>	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

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Reach Fork  
Pantograph



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Telescopic Fork  
Fork Positioner with Telescopic Fork



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Conveyer Belt Forks



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Pusher  
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Tipping Carriage  
Drum Tipping Device



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Loading Bucket  
Snow Plough Blade



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Load Stabilizer with Sideshift  
Load Stabilizer, Telescopic Load Stabilizer



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Bucket Discharging Device  
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114 - 117

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



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Load Backrest  
Contact pad coatings  
Accessories for KAUP Attachments

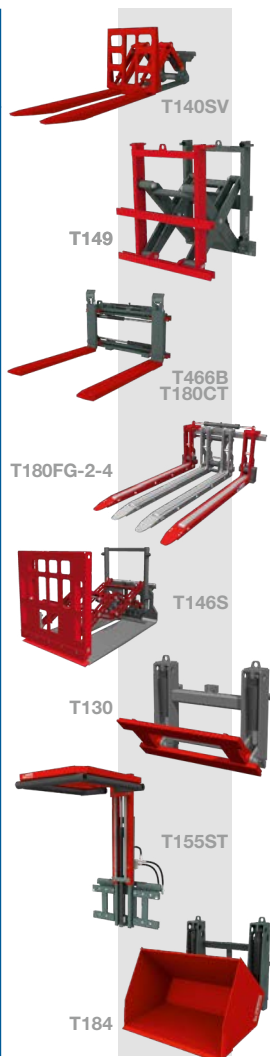


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## Recommended Oil flow rates and Pressures

**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 (oil volume) [l/min]			Maximum operating pressure [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.

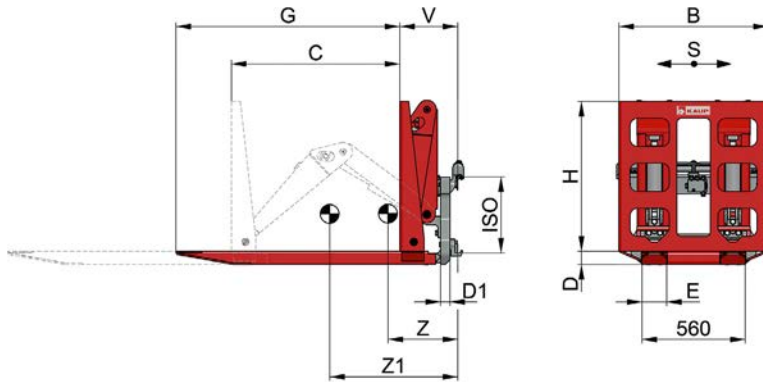
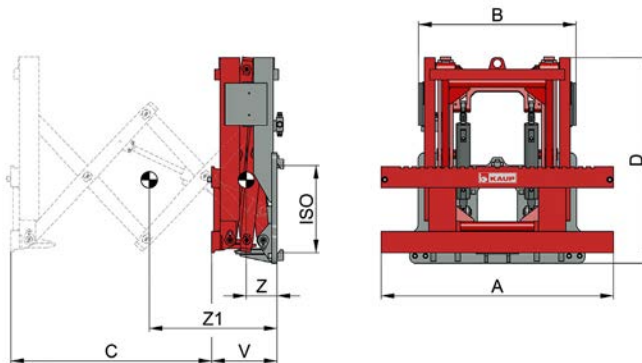


Fig. T140

### Reach Fork T140SV - fix pair distance

Model	Capacity		LCD mm	S mm	B mm	C mm	D mm	D1 mm	E mm	G mm	H mm	ISO cl.	V mm	CofG	CofG	Weight kg
	extended kg	retracted kg												Z mm	Z1 mm	
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

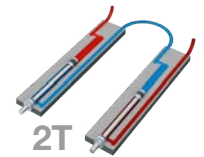
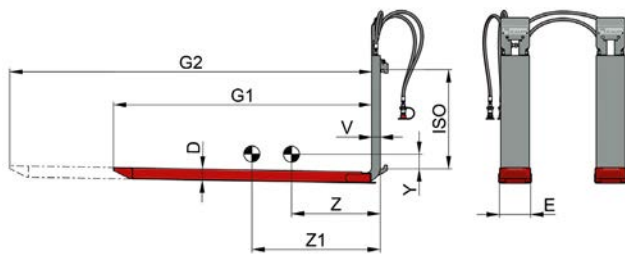
Preferential range Max. distance from fork tip to mast =  $G + V + C$  + thickness of FLT carriage.  
 Also available without sideshift, model T140. In this case the lost load center is reduced by approx. 30 mm.



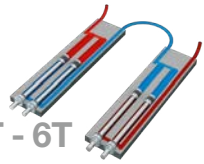
### Pantograph T149/T149Z

Model	Capacity kg	LCD mm	A mm	B mm	C mm	D mm	ISO cl.	V mm	CofG	CofG1	Weight kg
									Z mm	Z1 mm	
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.



2,5T - 6T



## Telescopic Forks T180CT with parallel movement

Model	Capacity (kg) at a LCD (mm)			E mm	D mm	G1 mm	G2 mm	ISO cl.	V mm	CofG Z mm	CofG Z1 mm	CofG <sub>v</sub> Y mm	Weight /pair 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	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	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	55	439	633	81	398

Preferential range \* Mounting in ISO B available upon request. 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.

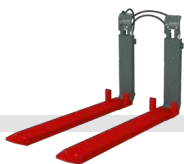
#### Load stop A2

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.

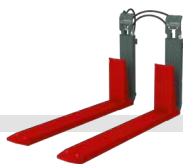
#### Load backrest A3

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.

A1



A2

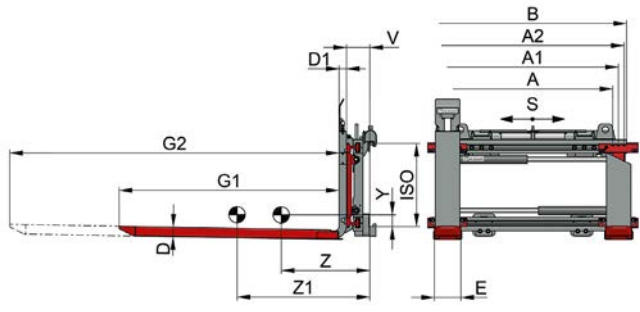


A3



Additional accessories for telescopic forks upon request.





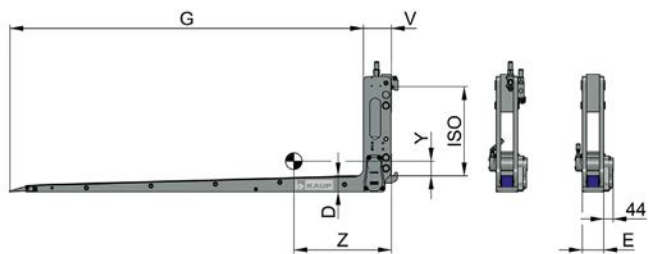
## Fork Positioner with Telescopic Forks T466B/T180CT

Model	Capacity (kg) at a LCD (mm)			A2* mm	B mm	E mm	D mm	D1 mm	G1 mm	G2 mm	S mm	ISO cl.	V mm	CofG Z mm	CofG Z1 mm	CofG Y mm	Weight kg
	600	1.450	1.750														
2T466B /2,5T180CT	2.020	850	---	320-1.020 320-1.120 320-1.320	1.040 1.150 1.350	163	57	45	1.200	2.050	100	2	138	339 333 323	429 421 408	142 144 148	344 352 365
2T466B /2,5T180CT.1	2.020	850	700	320-1.020 320-1.120 320-1.320	1.040 1.150 1.350	163	57	45	1.350	2.350	100	2	138	388 381 370	517 507 492	135 137 140	360 368 381
2,5T466B /2,5T180CT	2.500	1.030	---	320-1.020 320-1.120 320-1.320	1.040 1.150 1.350	163	57	45	1.200	2.050	100	2	153	329 323 314	412 405 392	142 145 148	373 382 398
2,5T466B /2,5T180CT.1	2.500	1.030	860	320-1.020 320-1.120 320-1.320	1.040 1.150 1.350	163	57	45	1.350	2.350	100	2	153	375 369 358	495 485 470	136 138 142	389 398 414
4,8T466B /3,5T180CT	3.500	1.600	---	320-1.120 320-1.320 320-1.500	1.150 1.350 1.550	163	58	45	1.200	2.050	100	3	153	289 281 272	374 362 350	197 200 203	464 484 505
4,8T466B /3,5T180CT.1	3.500	1.600	1.350	320-1.120 320-1.320 320-1.500	1.150 1.350 1.550	163	58	45	1.350	2.350	100	3	153	330 320 310	437 423 409	189 192 196	481 501 522
4,8T466B /4,5T180CT	4.500	1.850	---	320-1.120 320-1.320 320-1.500	1.150 1.350 1.550	163	58	45	1.200	2.050	100	3	153	289 281 272	374 362 350	197 200 203	464 484 505
4,8T466B /4,5T180CT.1	4.500	1.850	1.550	320-1.120 320-1.320 320-1.500	1.150 1.350 1.550	163	58	45	1.350	2.350	100	3	153	330 320 310	437 423 409	189 192 196	481 501 522
4,8T466B /4,8T180CT	5.000	2.070	---	320-1.120 320-1.320 320-1.500	1.150 1.350 1.550	163	63	50	1.200	2.050	100	3	153	303 294 285	385 373 361	193 196 199	485 505 526
4,8T466B /4,8T180CT.1	5.000	2.070	1.710	320-1.120 320-1.320 320-1.500	1.150 1.350 1.550	163	63	50	1.350	2.350	100	3	153	345 334 324	450 436 421	185 188 191	504 524 545
6T466B /6T180CT	6.000	2.500	---	440-1.350 440-1.540	1.460 1.650	163	67	55	1.200	2.050	100	4	176	276 270	339 331	260 264	656 677
6T466B /6T180CT.1	6.000	2.500	2.050	440-1.350 440-1.540	1.460 1.650	163	67	55	1.350	2.350	100	4	176	312 305	393 383	250 254	676 697

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

Load stop see accessories for telescopic forks on page 104.

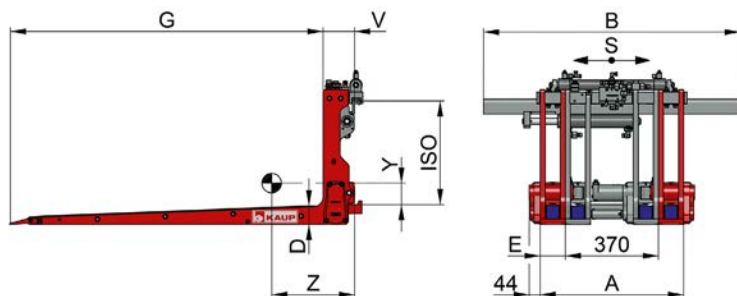




## Conveyor Belt Forks T180FG

Modell	Capacity kg	LCD mm	Fork dimensions			Number of belts per fork pcs.	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
			E mm	D mm	G mm						
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			E mm	D mm	G mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
				S mm	A mm	B mm								
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

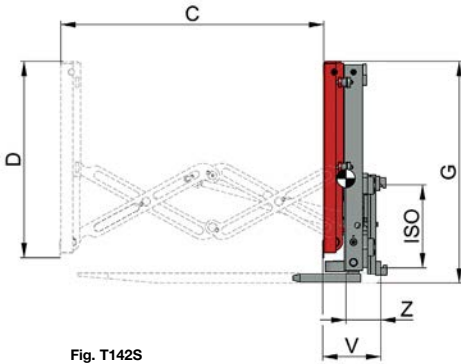
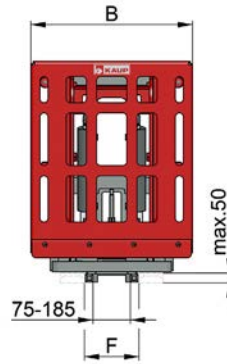


Fig. T142S



T141S/180

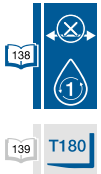
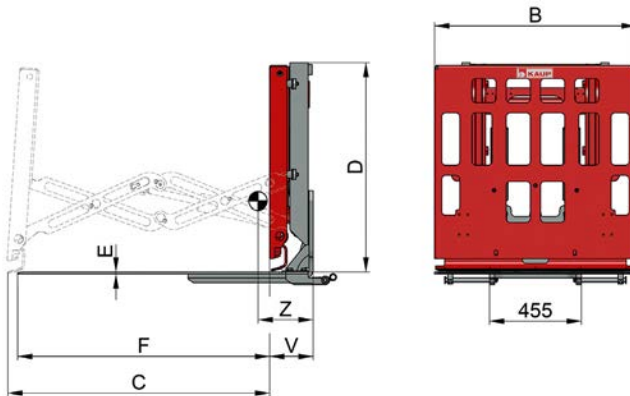
Multi-fork pusher available upon request

### 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.



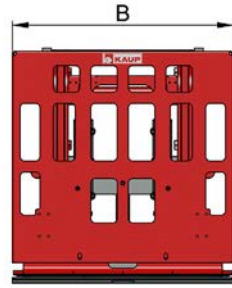
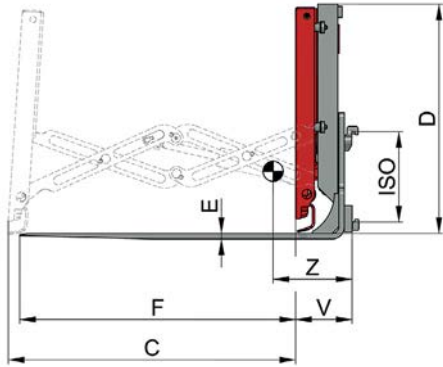
### Push-Pull T143SA - slip-on-fork version

### Push-Pull with sheet saver T145SA

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

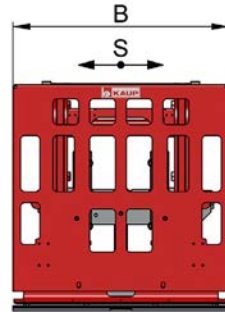
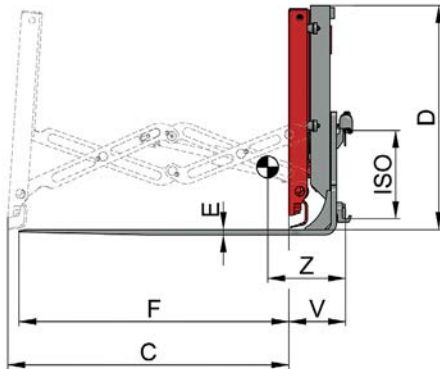
Model	Capacity kg	LCD mm	B mm	C mm	D mm	E mm	F mm	V mm	CofG Z mm	Weight kg
2T 143 SA	1.700	600	1.000	1.300	1.035	10	1.250	215	275	450
2T 145 SA	1.700	600	1.000	1.300	1.035	10	1.250	225	265	500

**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).



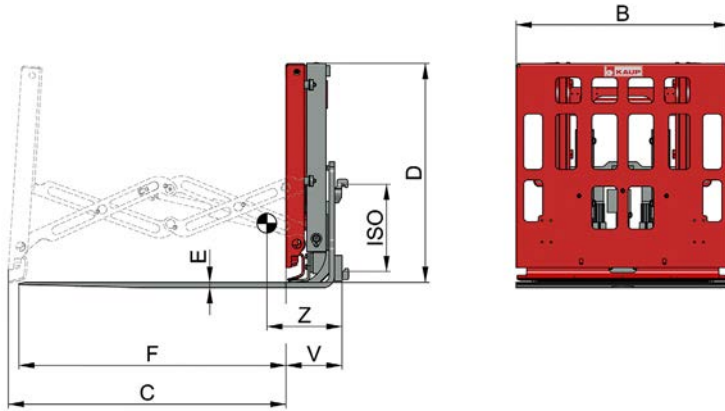
### Push-Pull T143S

Model	Capacity kg	LCD mm	B mm	C mm	D mm	E mm	F mm	ISO cl.	V mm	CofG Z mm	Weight 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 kg	LSP mm	B mm	C mm	D mm	E mm	F mm	S mm	ISO cl.	V mm	CofG Z mm	Weight 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

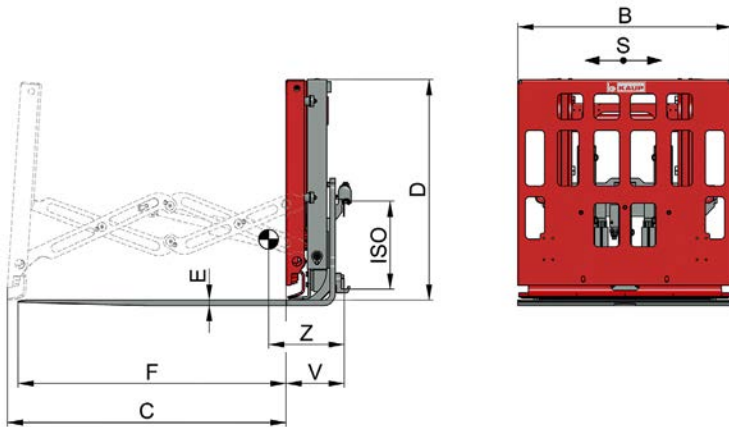


### Push-Pull with sheet saver T145S

with built-in solenoid valve with accessory kit

Model	Capacity kg	LCD mm	B mm	C mm	D mm	E mm	F mm	ISO cl.	V mm	CofG Z mm	Weight 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).

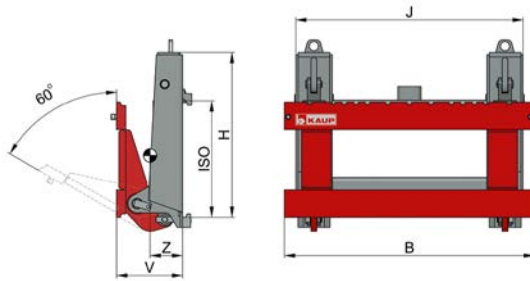
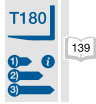


### Push-Pull with sideshift and sheet saver T146S

with built-in solenoid valve with accessory kit

Model	Capacity kg	LSP mm	B mm	C mm	D mm	E mm	F mm	S mm	ISO cl.	V mm	CofG Z mm	Weight 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

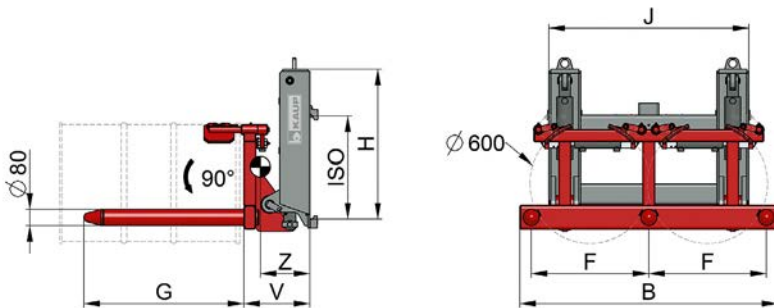
Lifting heights of more than 3.750 mm require a mast cable routing or an electric spring cable drum (see page 130 - 131).



## 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').

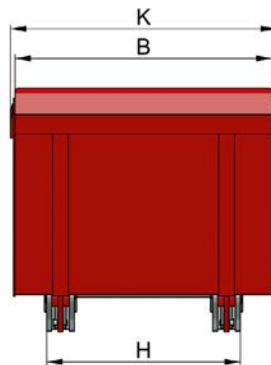
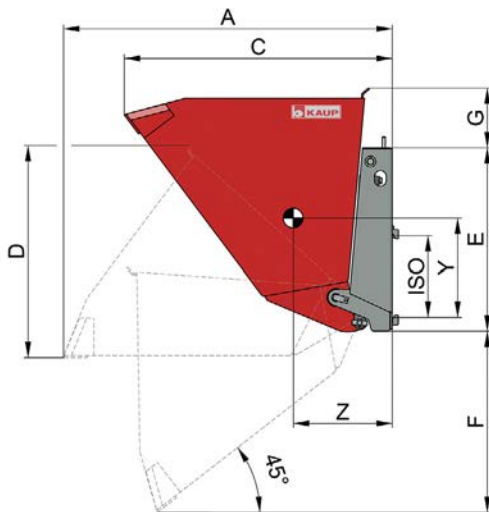


## Drum Tipping Device T130F - rubber coated flaps - for cylindrical steel drums

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.

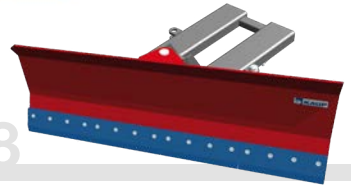
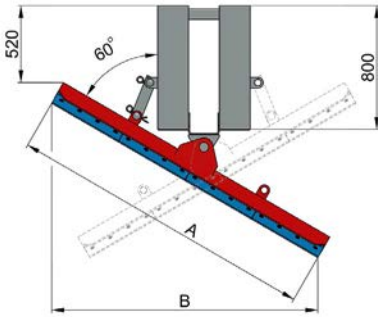
**Important:** ensure that the **Loading Bucket is at least 200 mm wider** than the forklift truck width, measured over the front axle, so that the wheels do not touch the goods to be scooped up.

Model	Cubic Capacity Loose				A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	ISO cl.	LCD mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight kg
	Capacity kg	goods m <sup>3</sup>	Water m <sup>3</sup>	Water m <sup>3</sup>														
	Loose weight to 2.200 kg/m <sup>3</sup>																	
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/m <sup>3</sup>																	
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/m <sup>3</sup>																	
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/m <sup>3</sup>																	
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	Thomasmeal .....	2.200
potatoes, turnips .....	750	sand, wet gravel.....	2.000	concrete .....	2.200
wet pit coal .....	1.000				





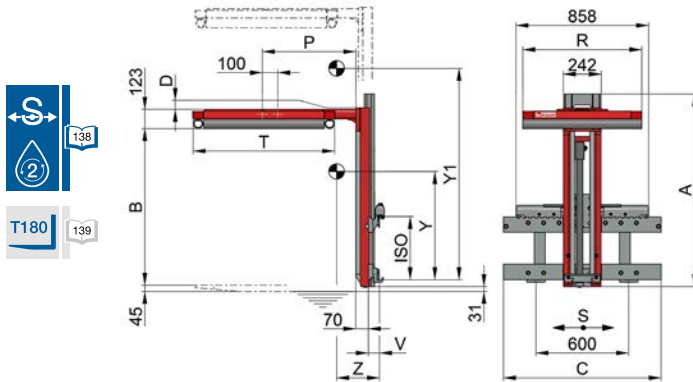
# T198

## Snow Plough Blade T198G1/T198FG1

mechanically tiltable - to clear to right or left side - with fork pockets for slipping on forks with a maximum fork cross cut of 160 x 60 mm - distance between fork pockets measured over the outer edges 560 mm

Model	Clearance width B mm	Width A mm	Weight kg
T198 G 1 with polyurethane ridge	1.700	2.000	220
T198 FG 1 with spring flaps (steel)	1.700	2.000	320

Fork pockets with other dimensions available upon request.



# T155ST

## Load Stabilizer with Sideshift T155ST

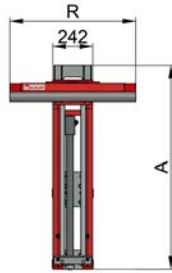
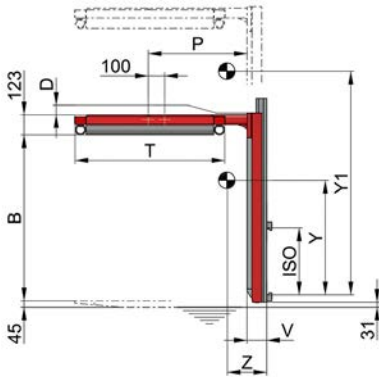
Optimized for maximum residual capacity by carriages beside the frame

Model	Capacity kg	LCD mm	A mm	B mm	C mm	D mm	P mm	R mm	T mm	Closing force at 120 bar			V mm	CofG			Weight kg
										N	ISO cl.	S mm		Z mm	Y mm	Y1 mm	
1T 155ST	2.500	500	1.240	960-1.970	890	80	605	800	1.000	3.700	2 ± 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	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	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	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	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	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).

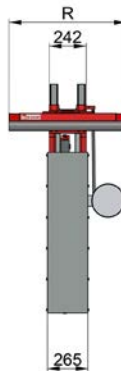
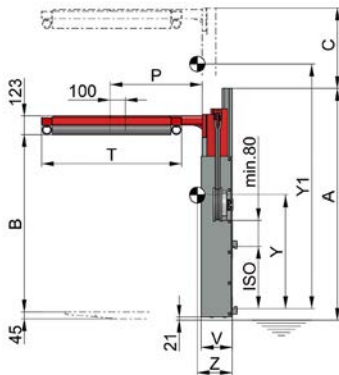


## Load Stabilizer T129ST

Model	A mm	B mm	D mm	P mm	R mm	T mm	Closing force at 120 bar N	ISO cl.	V mm	CofG Z mm	CofG <sub>V</sub> Y mm	CofG <sub>V</sub> Y1 mm	Weight 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

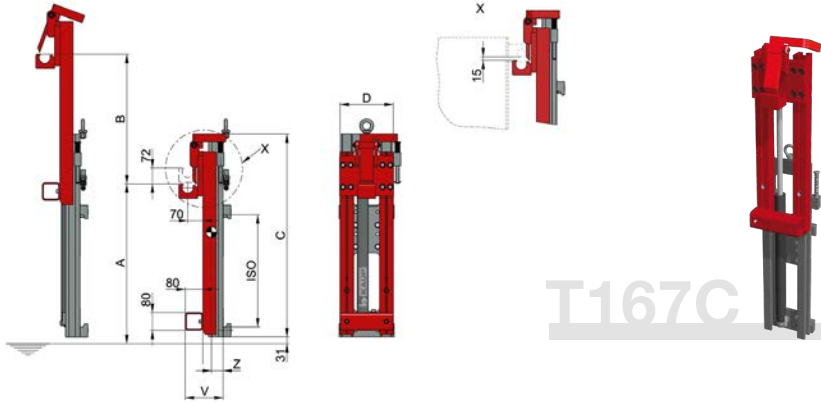
The total height is the result of adding fig. B + D + 123 mm + 45 mm. To choose the right fork length please consider dimension V.  
**The standard contact pad frame is alternatively available in 770 x 920 mm.**



## Telescopic Load Stabilizer T124ST

Model	A mm	B mm	C mm	P mm	R mm	T mm	Closing force at 120 bar N	ISO cl.	V mm	CofG Z mm	CofG <sub>V</sub> Y mm	CofG <sub>V</sub> Y1 mm	Weight 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.**

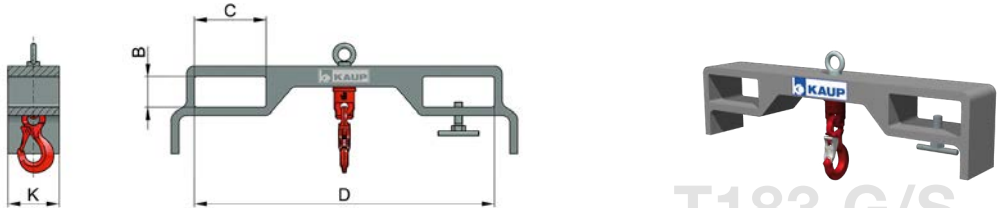


T167C

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

Model	Capacity kg	A mm	B mm	C mm	D mm	ISO cl.	V mm	CofG Z mm	Weight 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

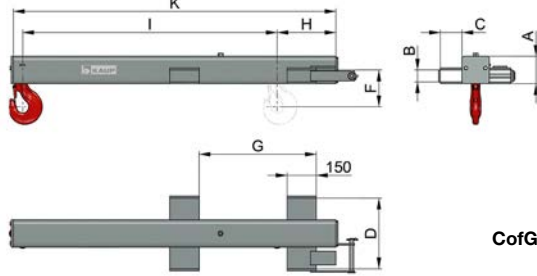
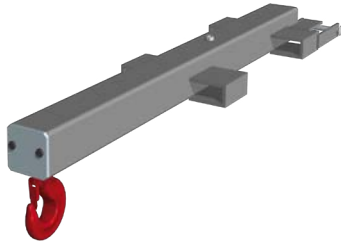
Model	Capacity kg	B mm	C mm	D mm	K mm	Weight kg
1T 183 G/S	1.500	60	140	585	100	23
2T 183 G/S	2.500	60	140	585	100	29
3T 183 G/S	3.500	60	140	585	100	32
5T 183 G/S	5.000	70	170	580	120	41



T183HTM



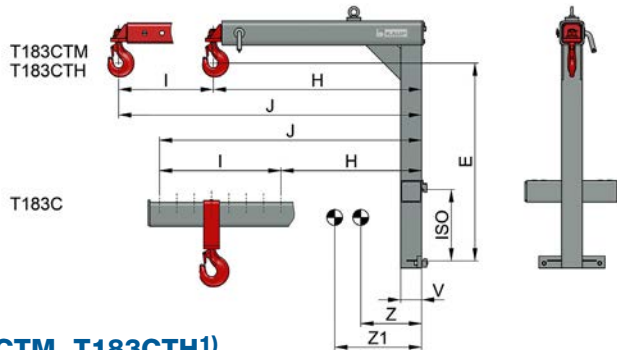
T183G



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

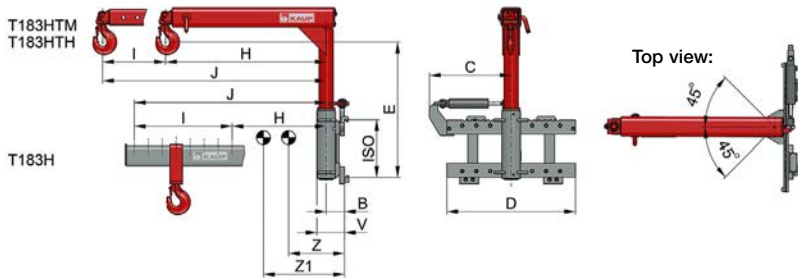


## Crane Jib T183C, T183CTM, T183CTH<sup>1)</sup>

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.

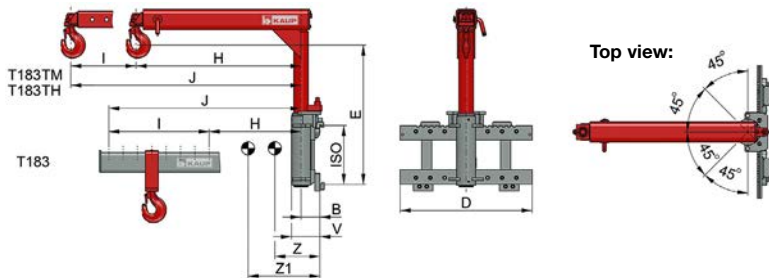


## Crane Jib T183H, T183HTM, T183HTH<sup>1)</sup>

Model	Capacity kg	LCD mm	B mm	C mm	D mm	H-J mm	I mm	E mm	ISO cl.	V mm	CofG Z mm	CofG Z1 mm	Weight 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.

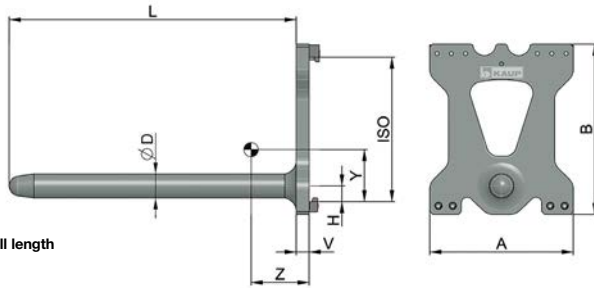


## Crane Jib T183, T183TM, T183TH<sup>1)</sup>

Model	Capacity kg	LCD mm	B mm	D mm	H-J mm	I mm	E mm	ISO cl.	V mm	CofG Z mm	CofG Z1 mm	Weight 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.

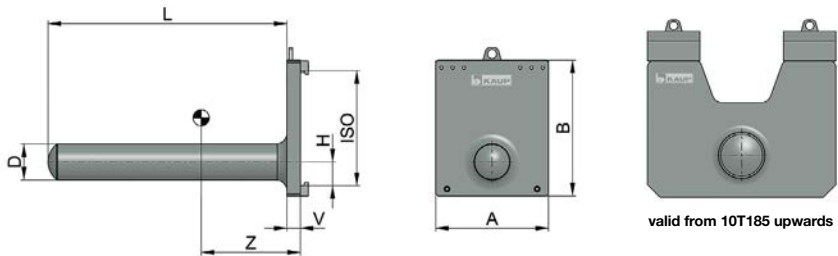


Ram length to be at least 2/3 of roll length

## 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	CofG Z mm	CofG Y mm	add-on weight per 100mm			
						500	750	1.000	1.250	1.500	1.750					2.000	2.500	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.

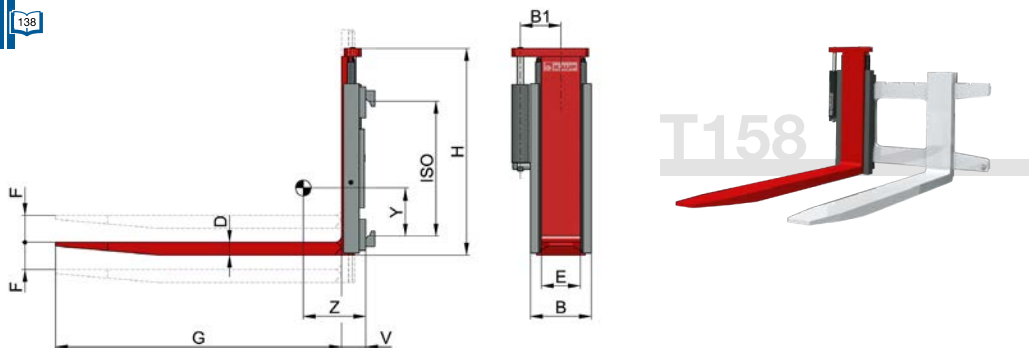


## Carrying Ram T185 - steel tube version

Model	D mm	A mm	B mm	H mm	L mm	Capacity in kg at mm LCD						ISO cl.	V mm	CofG Z mm	CofG Y mm	add-on weight per 100mm	
						500	600	700	800	900	1.000					1.100	Weight 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	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	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	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	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	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	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	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.



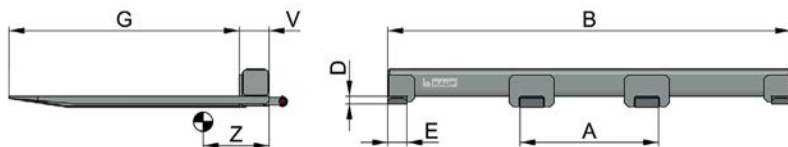
## Height adjustable Fork T158 - standard fork for ISO carriage

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

Modell	Capacity kg	LCD mm	B mm	B1 mm	E mm	D mm	G mm	F mm	H mm	ISO cl.	V mm	CofG Z mm	CofG <sub>v</sub> Y mm	Weight per piece 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.



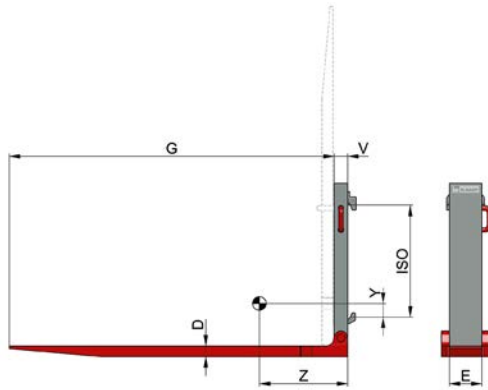
## Cross Girder T180LA - slip-on-fork version

Modell	Capacity kg	LCD mm	A mm	B mm	E mm	D mm	G mm	V mm	CofG Z mm	Weight 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.

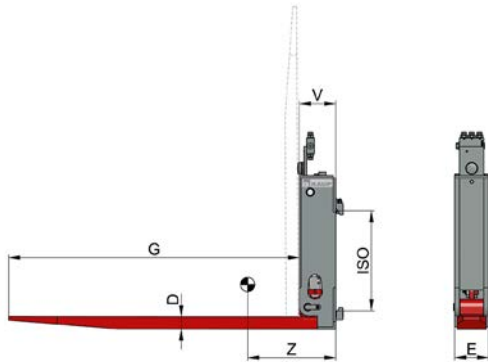




### Foldable Fork T180KM - for mounting on ISO fork carriage - mechanically foldable

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.

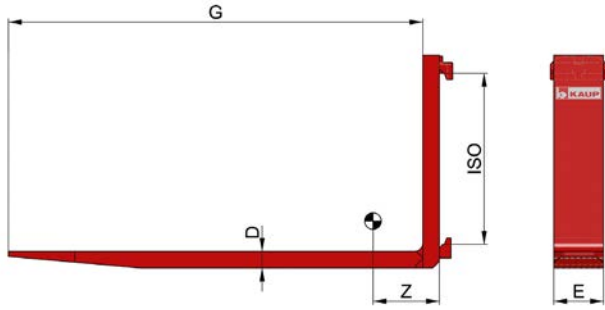


### Foldable Fork T180KH - for mounting on ISO fork carriage - hydraulically foldable

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



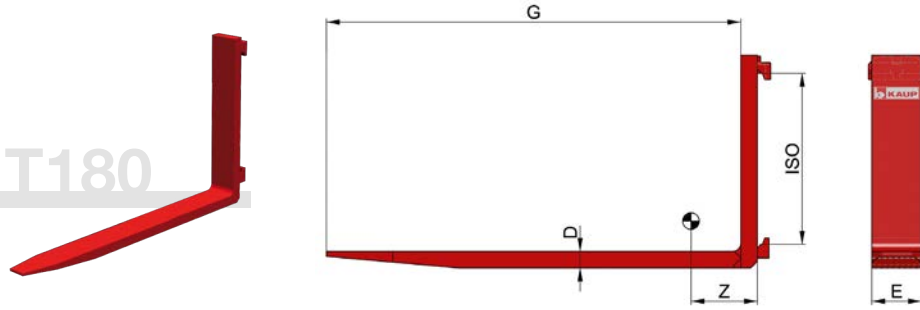
## Hook-on Fork T180 - standard forks for ISO carriage

Model	Capacity 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
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).

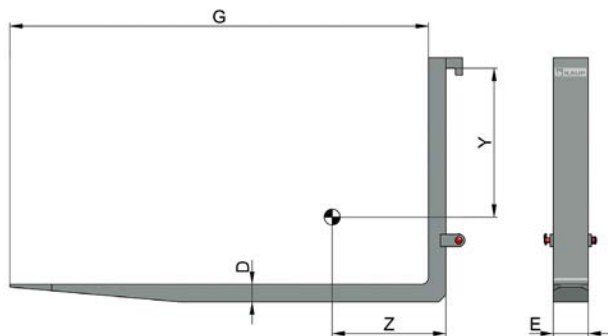
# T180



## 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	
					2.200		815	165	
2.400	909	177							
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.



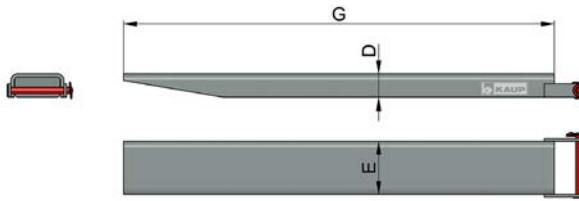
## Hook-on Fork T180TW - with quick release system 'Terminal West'

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	
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	
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	
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.



T180TW

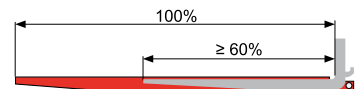


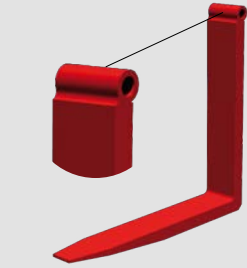
## Fork Extension T181G - closed version - for KAUP Attachments

Model	suitable for fork section mm	E mm	D mm	G mm	Weight per piece kg
1T 181G	100x40	126	66	1.200	27
				1.400	32
				1.600	36
				1.800	40
				2.000	44
1,5T 181G	120x45	148	71	1.200	31
				1.400	36
				1.600	41
				1.800	46
				2.000	51
2T 181G	120x50	148	76	1.200	32
				1.400	37
				1.600	42
				1.800	47
				2.000	52
4T 181G	150x50	181	76	1.200	37
				1.400	43
				1.600	49
				1.800	55
				2.000	61
4,5T 181G	150x60	181	86	1.200	39
				1.400	45
				1.600	51
				1.800	57
				2.000	63
6T 181G	150x70	181	96	1.200	41
				1.400	47
				1.600	53
				1.800	59
				2.000	65
8T 181G	200x60	236	86	1.200	45
				1.400	53
				1.600	61
				1.800	69
				2.000	77
10T 181G	200x70	236	96	1.200	47
				1.400	55
				1.600	63
				1.800	71
				2.000	79
				2.200	87
				2.400	95

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.

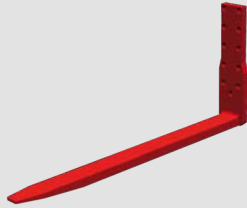




## Pin-Type Forks

shaft mounting

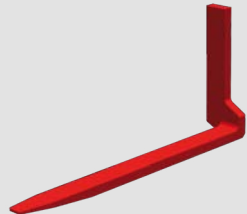
KAUP offers nearly every type of Pin-Type forks (shaft guided forks). As the dimensions are not standardized, and as these are mounted on a wide variety of high capacity forklift trucks and construction machines, we require detailed information before quoting such forks.



## Bolt-on (screw-on) Forks

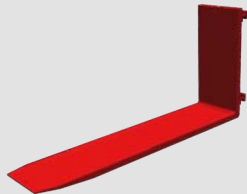
for attachments with bolt-on plates

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.



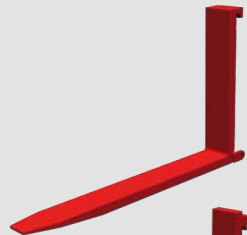
## Special Forks

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'

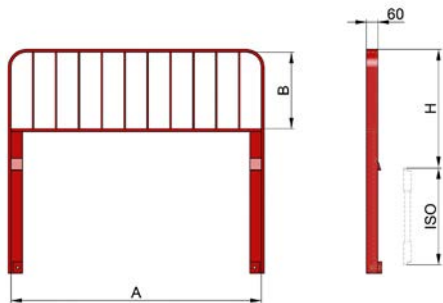
Model code T180TW - see page 122.



## 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

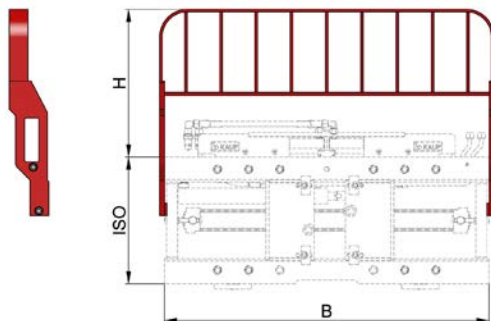
for fork carriages and sidershifter - bracket mounted version

Model	A mm	B mm	H mm	ISO cl.	Weight 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 sidershifters see pages 14 to 21.  
Maximum height H = 1.000 mm, otherwise upon request.



# T179



## Load Backrest T173

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

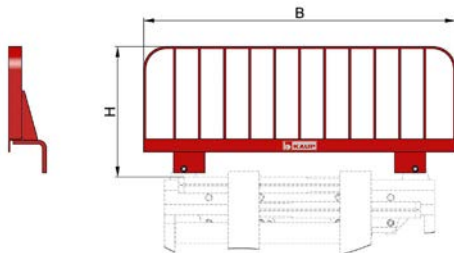
Model	B mm	H mm	ISO cl.	Weight kg
2T 173	1.040	470	2	30
4T 173	1.160	430	3	34
6T 173	1.400	730	4	87

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



# T173

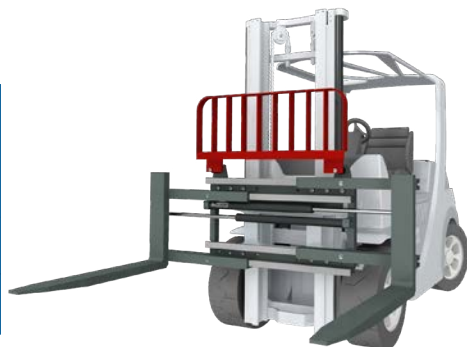




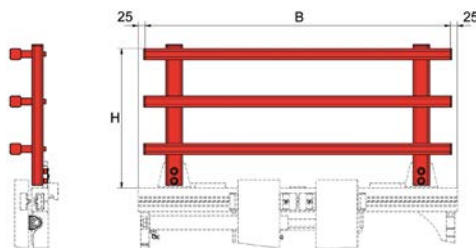
**Load Backrest T479** - screw-on-body version  
for KAUP ranges T160, T410Z, T411, T411Z, T411ZR, T411D,  
T412, T413, T414, T415, T406, T466

Model	B mm	H mm	Weight kg
1T 479	970	500	26
1,5T 479	970	500	26
2T 479	1.130	500	28
3T 479	1.130	500	28
4T 479	1.130	500	32
5T 479	1.330	500	37
6T 479	1.550	500	48
8T 479	1.860	500	55
10T 479	2.060	500	78

The related attachments can be found on the pages 28 to 40 (T160, T466, T411R and T411Z) and 57 up to 80 (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 mm	H mm	Weight 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 28 to 35 (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)

bonded in several layers in a costly and complex process, 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).



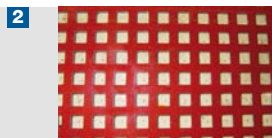
### Polyurethane coating Poly-2 (dark)

bonded in several layers in a costly and complex process, 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).



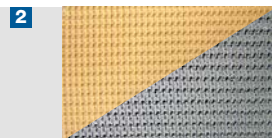
### Rubber lining

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.



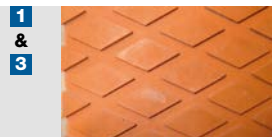
### Gripping nap strap coating

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.



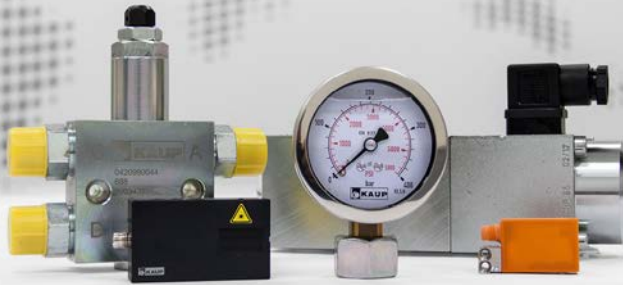
### Remagrip coating

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

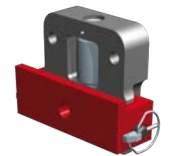
Part Number	ISO class
012 015 2101	ISO class 2
012 015 2201	ISO class 3
012 015 0501	ISO class 3 (4T)
012 014 8101	ISO class 4



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

### For attachments without sideshift (for clamps)

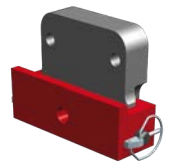
Part Number	ISO class
012 015 1101	ISO class 2
012 015 2601	ISO class 3
012 014 8301	ISO class 4



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

### 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 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 hose length 5.000 mm for lift height Duplex 8.000 mm, 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	80 Volt	
042 021 0061	Solenoid valve for further circuits, DN 12	12 Volt
042 098 0020	Solenoid valve for further circuits, DN 12	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 usable for an operating voltage of 12 V to 80 V



#### Module 2 - Mast cable routing

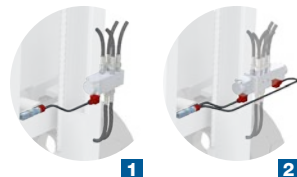
Part Number	Name of the item
<b>1</b> 026 008 1001 026 008 1002	<b>Cable routing in pipe system</b> Mast cable routing for lifting heights up to 5.600 mm Mast cable routing for lifting heights up to 8.000 mm
<b>2</b> 026 008 1003 026 008 1004	<b>Guiding with reverse roller pulley</b> Mast cable routing for lifting heights up to 3.500 mm <sup>↲</sup> Mast cable routing for lifting heights up to 6.000 mm <sup>↲</sup>



<sup>↲</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> 026 008 2001	Attachment connection for single solenoid valve <sup>↲</sup>
<b>2</b> 026 008 2002	Attachment connection for double solenoid valve <sup>↲</sup>



<sup>↲</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 3.500 mm	lifting height up to 6.000 mm	single solenoid valve	double solenoid valve
		026 008 3001	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.



### Roll Clamp Force Gauge T006

The compact, portable Roll Clamp Force Gauge T006 from KAUP consists of two pressure plates with clamp force sensors, one tensioning strap each for fixing the measuring device, a control unit with control, printer and connections for an external analysis system as well as a transport case. Part Number of the set: 006 099 0060.



### 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 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

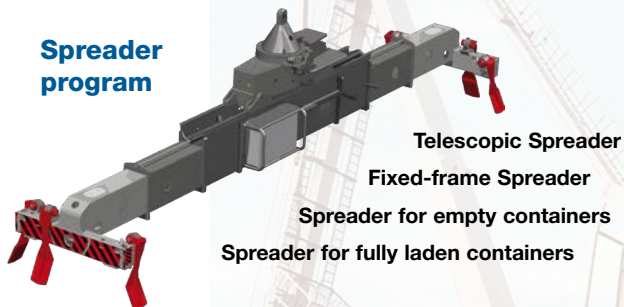
## KAUP Container Spreaders

KAUP Crane Spreaders have been in operation world wide for more than 30 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
- forklift trucks
- luffing cranes
- mobile harbour cranes
- ship to shore cranes
- reach stackers
- straddle carriers

### Technical options available

- telescopic range from 20' - 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.

**Therefore it is advisable to contact our spreader specialists directly for a quotation.**



## Residual capacity calculation for forklift trucks with attachments

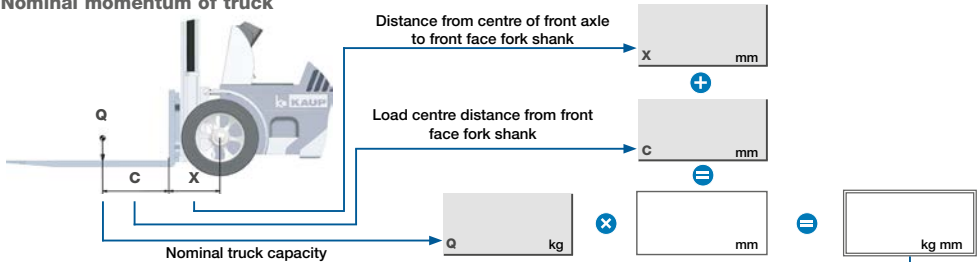
Please consider that a calculation according to this form will only show you an estimated residual capacity. Various factors influencing the residual capacity, such as extreme lift heights or load centre distances are not considered in this calculation. Please contact your forklift truck supplier for 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]

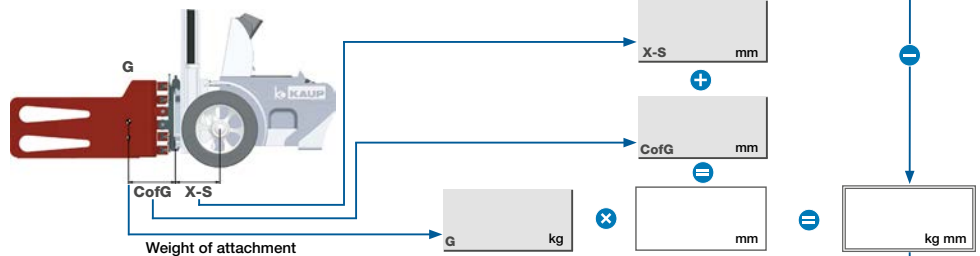
<sup>1)</sup> Please consider additionally measurement „V“ acc. to our indexes the thickness of the shank of clamping arms or forks.

### Calculation scheme

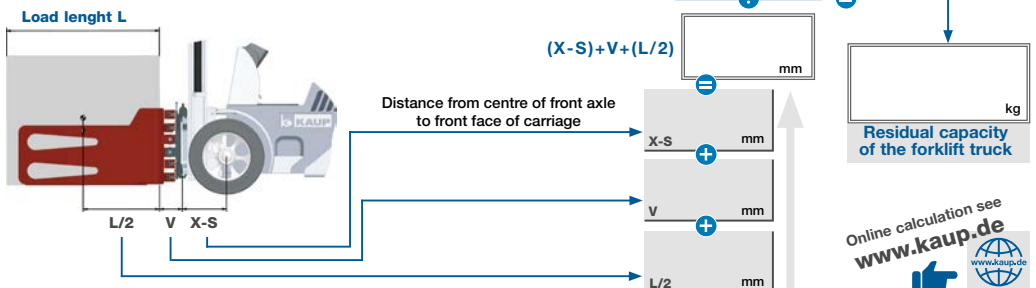
#### Nominal momentum of truck



#### 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



T453-180



T451



T491



T451D

## ROTATING CLAMPS



T458



T458BC-2



T498B



T458B

## ROTATING ROLL CLAMPS



T180CT



T180FG



T143SA



T149

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



T183C



T185



T136



T0991

## CRANE JIBS · CARRYING RAMS · SPECIAL SOLUTIONS





## 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.



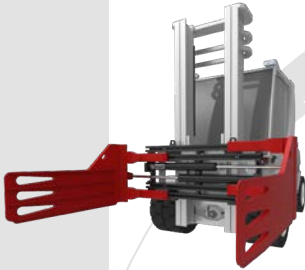
Attachment is available restricted to 180° rotation.



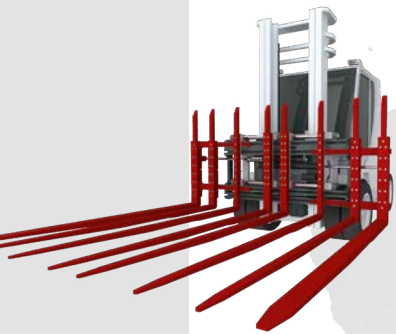
Explanation of the icons 'Main functions and special versions of attachments' can be found on page 138.



T458B



T413B



T429B-4-8



Helping hands for your Forklift truck

# Forklift Truck Attachments Container Spreaders for Cranes Stationary Handling Equipment



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



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