



Helping hands for your Forklift truck

RANGE BROCHURE

01 · 2025



FORKLIFT TRUCK ATTACHMENTS



Headquarters Aschaffenburg · Germany



Production site Xiamen · China



Production site Brisbane · Australia

KAUP · „Helping hands for your Forklift truck“

KAUPcompany

„Helping hands for your Forklift truck“ - for more than 60 years that's what KAUP stands for. Since then we have had only one aspiration: to manufacture top quality products ‚Made by KAUP‘! This is what has made KAUP into a worldwide leading manufacturer of attachments for forklift trucks, stationary equipment for material handling and container spreaders for transshipment hubs and harbour terminals. Today KAUP is an owner-managed middle sized family enterprise which has, alone at headquarters in Aschaffenburg, production space of more than 47.000 m² spread over 10 production halls. In addition KAUP operates its own plant with 12.000 m² 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.



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. 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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U

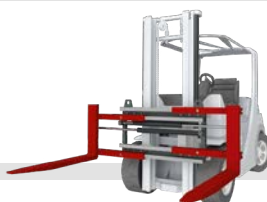
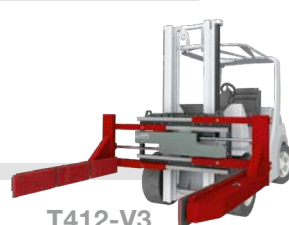
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Further attachments as well as different widths and larger models can be found on our web-page www.kaup.de under **Attachments**.

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T 180 FG / FG-2-4	Conveyor belt forks	106
T 180 KM / KH	Foldable forks (KM - mechanically / KH - hydraulically)	119
T 180 LA	Cross girder	118
T 181 G	Fork extensions	123
T 183	Crane jib	114-115
T 184	Loading bucket	111
T 185 / BT	Carrying ram, (BT = carpet carrying ram)	116-117
T 191	Container Crane Spreader, (upon request)	144
T 192 / T 193	Container Forklift Spreader	140-143
T 252 B / T 253 B	Double / Triple sideshifter	24-25
T 253 B-3	Triple sideshifter with 3 fork carriages	25



T413



T414B-1



T429C

Type	Name	Page
T 351 / G / S	Rotator with fork carriage (G = foundry / S = fishing-industry version)	55-56
T 355 / T 360 / G	Ladle tipper, Casting device for foundry ladles, Charging device	60
T 391 / G / S	Rotator with sideshift	57-58
T 405 / -130	Mini drum clamp, slip-on version (-130 = tiltable)	86-87
T 406 H / -2H	Drum tipping clamp (2H = dual drive)	85
T 410 Z	Fork positioner with fork carriage bars	40
T 411 / B	Fork clamp (B = wide version)	63
T 411 AH	Harbour clamp	64
T 411 D	Fork clamp with turnable forks	65
T 411 Z / T 411 ZR	Fork positioner on the basis of clamp bodies, Fork positioner with round forks	41, 43
T 411 BZ / BZI	Fork positioner - wide version (BZI = integrated mounting)	42-43
T 412 H / HP / V / V-3	Block & brick clamp	68-69
T 412 UH / UVP	Block & brick clamp with underslung arms	70-71
T 413 / B	Bale clamp, pulp bale clamp	72-75
T 413 G / GT / G-2H	Appliance clamp (T = telescopic version / 2H = tiltable)	78-81
T 413 G(T)-1L	Appliance clamp with aluminium arm (T = telescopic version)	79
T 413 R	Foam rubber clamp	76
T 413 RC / BRC	Recycling bale clamp	76-77
T 414 B-1	Appliance- / Carton Clamp (single swivel) with aluminium arms	82
T 414-2L	Appliance- / Carton Clamp (double swivel) with aluminium arms	83
T 414 GT-1L	Appliance- / Carton Clamp with aluminium arms (telescopic version)	81
T 415	Beer keg clamp	87
T 415-1 / T 415-2	Drum clamp	84
T 415 W / WD	Cask handler	88
T 419	Four pallet handler, Eight pallet handler	51
T 421 SV / BSV	Tyre handler	96
T 429	Multi pallet handler	48-51
T 445 F	Mini drum clamp	86
T 451	Rotating fork clamp	92
T 451 D	Rotating fork clamp with turnable forks	92
T 451 W / T451W-180	Pallet inverter (-180 with additional pair of forks)	93
T 451 WA	Pallet inverter with pusher	95
T 453 / T453-180	Rotating bale clamp (-180 Grate box discharger)	94
T 455-1	Rotating drum clamp	95
T 456 BZ / ZG	Rotating fork positioner	91
T 458 /R/S/T/P (T258)	Rotating roll clamp, Tyre clamp (R), Tissue clamp (T) Parallel guided (P)	97-100
T 466 /Z//I/Z/ZH/IZH	Fork positioner with independent sideshift function	36-39, 44, 105
T 479 / 479.1	Load backrests for clamps and fork positioners	126



Further attachments as well as different widths and larger models can be found on our web-page www.kaup.de under **Attachments**.



T429B-1-2-3



T458BT



T466BIZA

General Information



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

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



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

Visit our web-page under www.kaup.de



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** 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**.



Prices

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



Preferential range

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



Terms of delivery

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



Capacity

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

General Information



Dimensions, weight and technical data

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



Toe-in

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



Safety

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



Operation in explosion hazardous areas

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



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



Attachments in foundry version

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



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

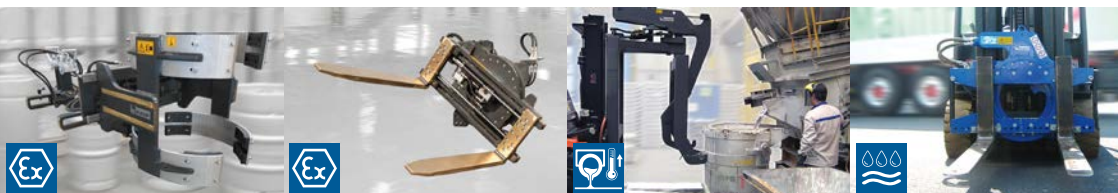


Attachments in fishing industry version

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



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



Hydraulic System

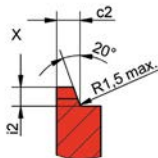
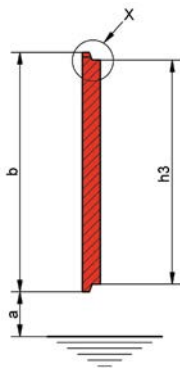
Working pressures and oil flow rates

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

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

Fork carriage versions according to ISO 2328

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



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

Attachments with sideshift function

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

Independent sideshift



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



The advantages of independent sideshift

1. The maximum allowable sideshift stroke (e.g. ± 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)		1.985 mm
minus smallest possible opening range (smallest measurement „A“ selected from the table)	-	485 mm
results in	=	1.500 mm
divided by the factor 4	: 4	1.500 mm : 4
largest possible sideshift stroke $\pm$	=	375 mm

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

KAUP rental service and used equipment sales

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

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

Choose the most suitable attachment - **renting or buying** - from a pool of more than 2.000 attachments in our 3.200 m² 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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✉ isabella.kunkel@kaup.de



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



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



FORK CARRIAGES | SIDESHIFTERS

KAUP Fork Carriages

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

KAUP Sideshifters

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

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

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

Overview Fork Carriages and Sideshifters

Page

Fork Carriage



16

Adapter Carriage
for changing to different ISO class



17

Sideshifter for
Reach Trucks 2T151P2



19

Sideshifter
High-Performance Model T151P2



20 - 21

Sideshifter
with increased sideshift stroke T151P-C



22

Sideshifter, integral mounting T151I

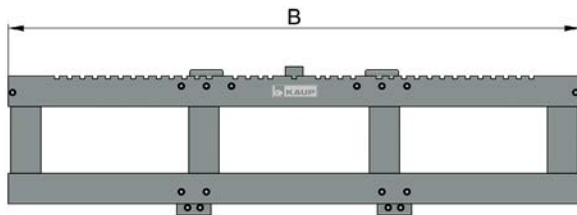
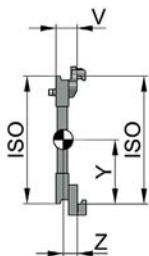
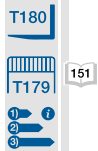


23

Double Sideshifter T252B
Triple Sideshifter T253B - T253B-3



24 - 25



Fork Carriage T013

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

Model	Capacity kg	LCD mm	B mm	ISO	V mm	CofG Z mm	CofG _v Y mm	Weight kg
2T013	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
3T013	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
4,8T013	5.000	600	1.150	3	75	42	278	128
			1.200	3	75	42	277	132
			1.300	3	75	43	275	145
			1.350	3	75	44	274	148
			1.600	3	85	51	267	220
			1.800	3	85	52	266	237
			2.000	3	85	53	265	255
8T013	8.000	600	1.400	4	90	51	352	246
			1.800	4	100	60	345	348
			2.180	4	100	61	342	397
			2.260	4	110	67	338	466

Other construction widths available upon request.

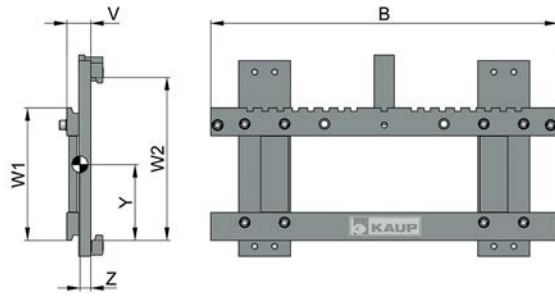


Available in combination with quick release bottom hooks (see page 128) for quick change fork applications to other attachments.



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





Adapter Carriage T013.1 / T013.2

for changing to different ISO class

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

Other construction widths available upon request.



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



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 ± 100 up to ± 160 mm.

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

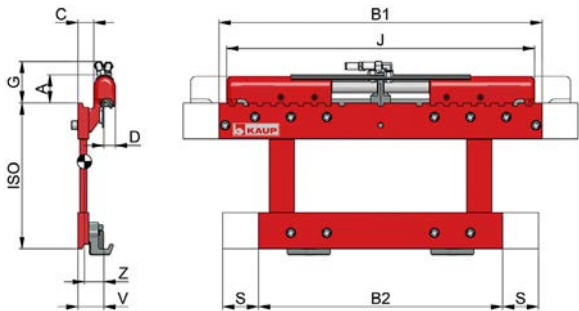
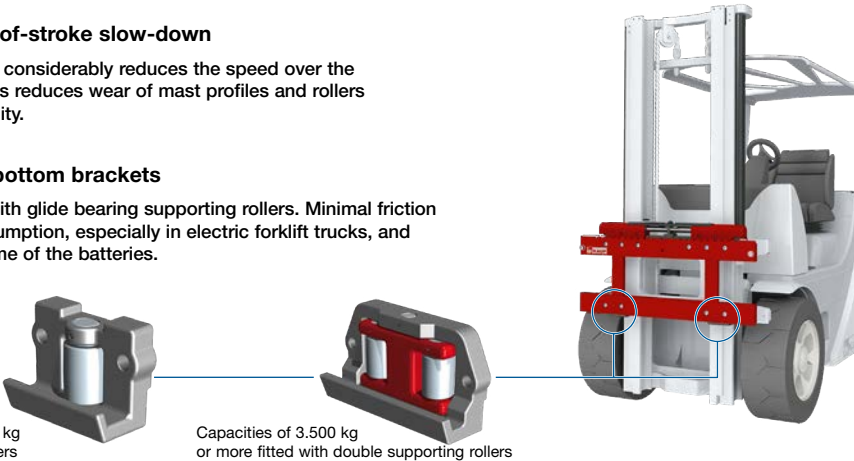
Sideshifter High-Performance Model T151P2

SOFTSTOP end-of-stroke slow-down

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

SMOOTHROLL bottom brackets

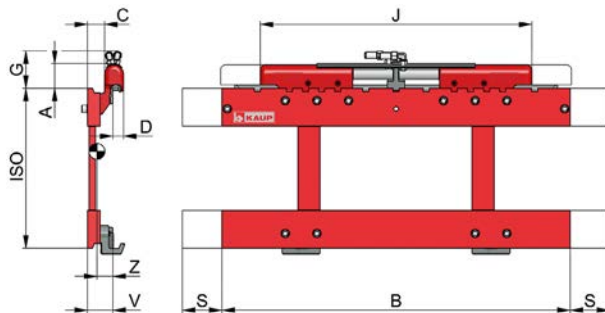
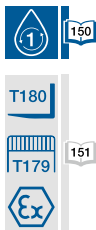
Bottom brackets fitted with glide bearing supporting rollers. Minimal friction loss lowers energy consumption, especially in electric forklift trucks, and extends the operating time of the batteries.



Sideshifter for Reach Trucks 2T151P2

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

Other construction widths available upon request.



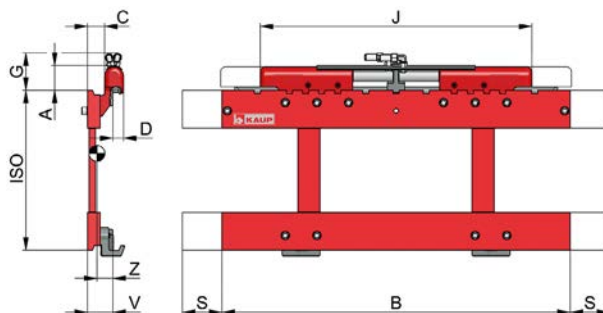
Sideshifter High-Performance Model T151P2

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
			76	1.600	54	32	± 100	116	858	2	82	52	146
3T 151P2 *	3.000	500	76	1.020	54	34	± 100	116	858	3	82	45	106
			76	1.070	54	34	± 100	116	858	3	82	45	110
			76	1.100	54	34	± 100	116	858	3	82	46	112
			76	1.150	54	34	± 100	116	858	3	82	46	115
			76	1.300	54	34	± 100	116	858	3	82	48	132
			76	1.600	64	34	± 100	116	858	3	92	57	207
4T 151P2	5.000	500	85	1.100	50	40	± 100	125	1.040	3	82	41	136
			85	1.150	50	40	± 100	125	1.040	3	82	41	139
			85	1.200	50	40	± 100	125	1.040	3	82	42	143
			85	1.300	50	40	± 100	125	1.040	3	82	44	156
			85	1.350	50	40	± 100	125	1.040	3	82	44	165
			85	1.600	60	40	± 100	125	1.040	3	92	54	231
			85	1.800	60	40	± 100	125	1.040	3	92	55	248
			85	2.000	60	40	± 100	125	1.040	3	92	56	256
4,8T 151P2	5.000	600	103	1.150	42	44	± 100	165	922	3	82	39	149
			103	1.200	42	44	± 100	165	922	3	82	40	153
			103	1.300	42	44	± 100	165	922	3	82	42	166
			103	1.350	42	44	± 100	165	922	3	82	42	175
			103	1.410	42	44	± 100	165	922	3	82	44	190
			103	1.600	52	44	± 100	165	922	3	92	52	241
			103	1.800	52	44	± 100	165	922	3	92	53	258
			103	2.000	52	44	± 100	165	922	3	92	56	313

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



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



Sideshifter High-Performance Model T151P2

Model	Capacity 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
			80	2.260	70	53	± 100	125	1.040	4	112	65	455
5,5T 151P2	7.000	600	96	1.220	52	44	± 100	156	922	4	92	50	230
			96	1.400	52	44	± 100	156	922	4	92	51	249
			96	1.800	62	44	± 100	156	922	4	102	61	352
			96	2.180	62	44	± 100	156	922	4	102	62	401
			96	2.260	62	44	± 100	156	922	4	102	62	473
6T 151P2	8.000	600	112	1.400	50	53	± 160	212	1.392	4	92	42	295
			112	1.800	60	53	± 160	212	1.392	4	102	53	397
			112	2.180	60	53	± 160	212	1.392	4	102	55	446
			112	2.260	70	53	± 160	212	1.392	4	112	61	516
10T 151	8.000	1.100	112	1.800	54	53	± 160	45	1.510	4	106	46	455
			112	2.000	54	53	± 160	45	1.510	4	106	46	490
			112	2.260	54	53	± 160	45	1.510	4	106	46	535
			112	2.400	54	53	± 160	45	1.510	4	106	46	560

Preferential range Other construction widths available upon request.



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



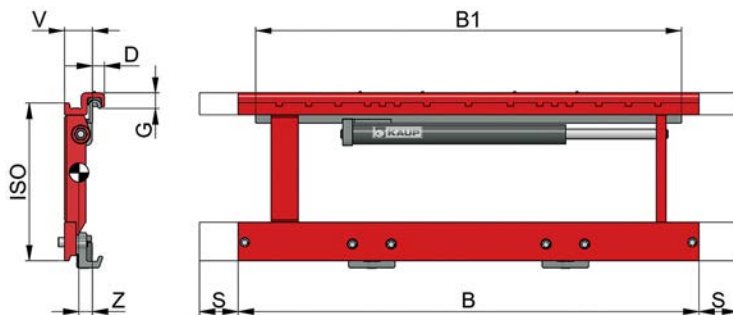
2T151P2 - for Reach Trucks



T151P2 - ISO-2/3



T151P2 - ISO-4



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

Model	Capacity kg	LCD mm	B mm	B1 mm	S mm ¹⁾	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

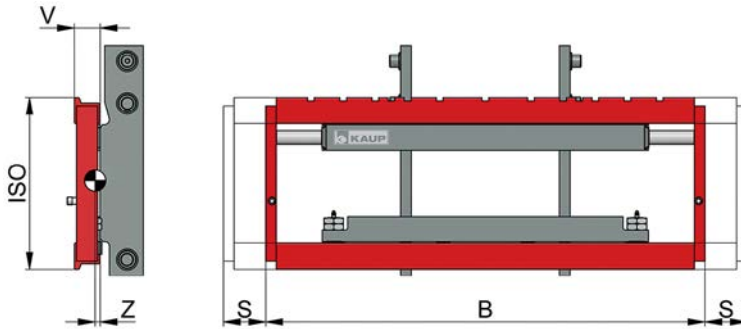
1) Differing shift strokes available upon request. Higher capacities and other construction widths available upon request.
2T151P4N-C with EASYSLIDE greasable sliding pads, all others with bottom brackets with roller guidance (SMOOTHROLL).



T151P-C

Hook-on sideshifter for container stuffing





Sideshifter, integral mounting T151I

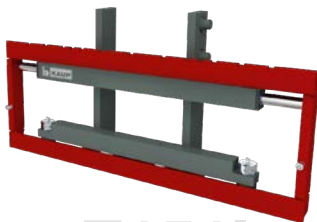
Model	Capacity kg	LCD mm	B mm	S mm	ISO cl.	V mm	CofG ¹⁾ Z mm	Weight ¹⁾ kg
1,5T 151 I	1.750	500	1.040	± 100	2	61	36	92
2,5T 151 I	2.500	500	1.150	± 100	2	70	36	102
3T 151 I	3.000	500	1.150	± 100	3	75	35	130
3,5T 151 I	3.500	500	1.150	± 100	3	85	43	135
4,5T 151 I	4.500	500	1.350	± 100	3	85	44	200
4,8T 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 ²⁾	12.000	600	2.600	± 150	--	215	165	2.650
16T 151 I ²⁾	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



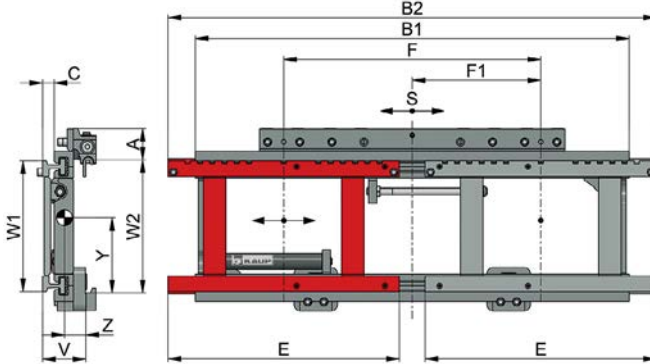
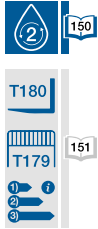
T151IN

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

	Capacity per fork carriage		Mounting			Const. width			Adjusting range				CofG				CofG _y	
Model	kg	@mm	W1 ISO	W2 ISO	A mm	B1 mm	B2 mm	C mm	E mm	F mm	F1 mm	S mm	V mm	Z mm	Y mm	Weight kg		
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	72	320	339		
5T252B-Q	2.750	600	3	4	118	1.550	1.780	41	800	980-1.300	580	± 100	153	73	317	355		
6T252B-L	2.000	1.200	4	4	135	1.460	1.520	56	720	800-1.000	400	± 160	178	80	363	412		
6T252B-Q	2.000	1.200	4	4	135	1.600	1.780	56	800	980-1.300	580	± 160	178	81	360	436		

Preferential range

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

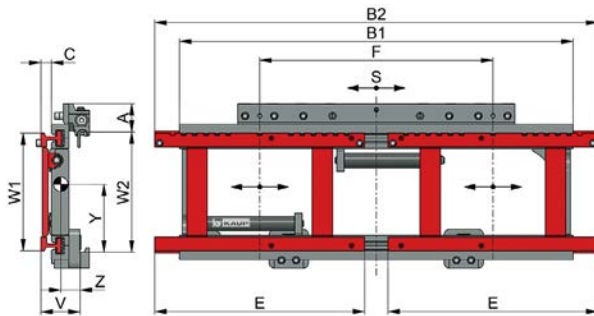
Capacities of 3T upwards with **SOFTSTOP** end-of-stroke slow-down. Higher capacities and other construction widths available upon request.

 Please observe necessary fork shank under-clearance.

Quadruple Sideshifter T254 and Quintuple Sideshifter T255

available upon request



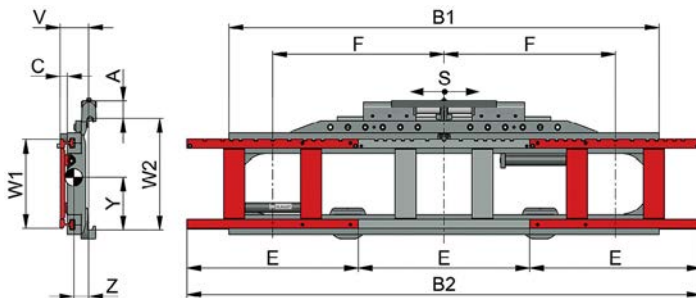


Triple Sideshifter T253B

Model	Capacity per 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 _v 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	72	320	344
5T253B-L/Q	2.750	600	3	4	118	1.550	1.600	40	800	800-1.440	± 100	153	73	318	360
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 _v 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 sideshifters. And KAUP offers a large variety of Fork Positioners - suitable for every transportation and operational task.

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

Application recommendation for KAUP Fork Positioners

Light duty

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

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

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



Medium duty

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

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

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

T466Z - hook-on design with forks welded on

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

T466BIZ - integrated design with forks welded on

Special features:

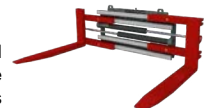
1. Excellent residual capacity - especially the two versions with weld-on forks - T466Z / T66BIZ.
2. The integrated version has a minimum loss of the truck capacity - about 2 % - compared to the residual capacity of version with integrated sideshifter.



Heavy duty

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

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



Overview Fork Positioners

Page

Fork Positioner T156



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Fork Positioner T163S - T163SN



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



32 - 33

Fork Positioner T160Z - T160IZ with valveblock sideshift - with forks



34 - 35

Fork Positioner T466 - T466BI with independent sideshift - without forks



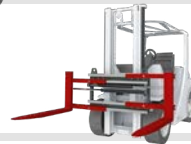
36 - 37

Fork Positioner T466Z - T466BIZ with independent sideshift - with forks



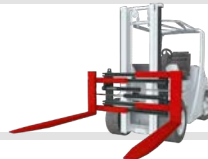
38 - 39

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



40 - 41

Fork Positioner T411BZ - T411BZI with valveblock sideshift - with forks



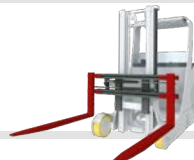
42 - 43

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



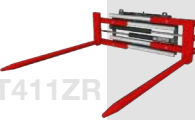
T163SN



T160BZ



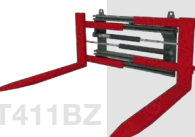
T466BZ



T411ZR



T411Z



T411BZ



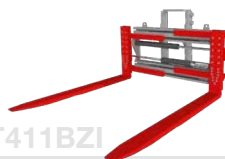
T160BI



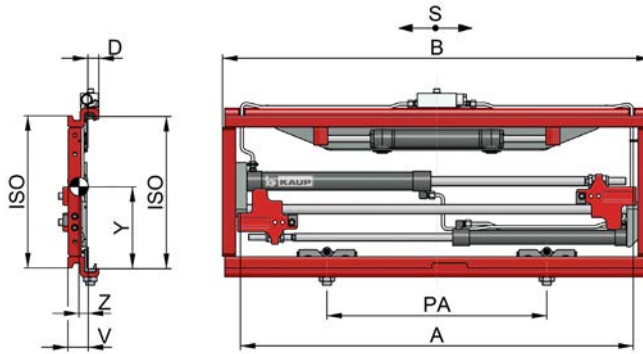
T411ZA



T411IZ



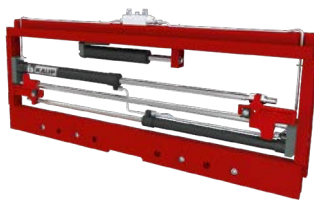
T411BZI



Fork Positioner T156

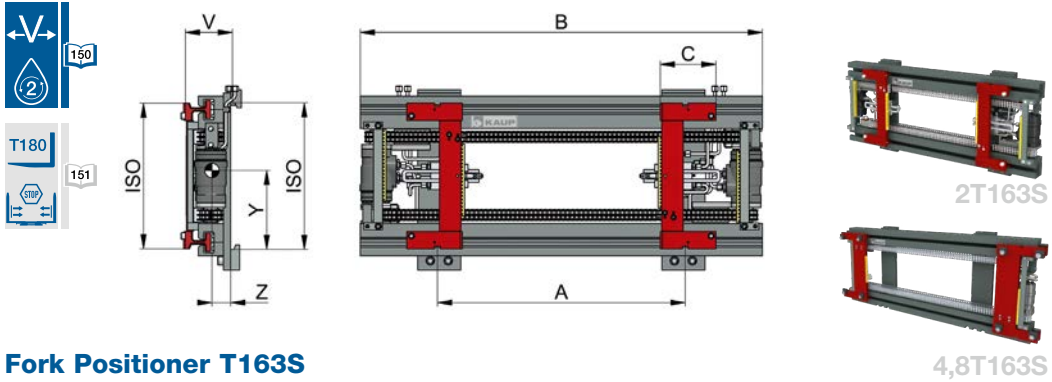
Model	Capacity kg	LCD mm	S mm	Opening range A mm	B mm	D mm	PA mm	suitable for fork width mm	ISO cl.	V mm	CofG Z mm	CofG _v Y mm	Weight kg
2T 156B	2.500	500	± 100	290 - 795	890	28	590	70 - 125	2	55	23	217	60
				290 - 885	980	28	590				22	217	63
				310 - 945	1.040	28	590				22	216	66
				295 - 1.055	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 1.800 mm, can be used.



2T156B

4.5T156



Fork Positioner T163S

with sideshift dependent on the opening range

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

Higher capacities and other construction widths available upon request.

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

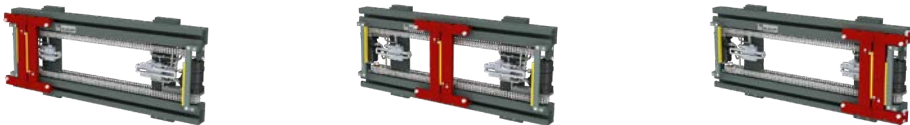
Fork Positioner T163ST

with telescopic forks

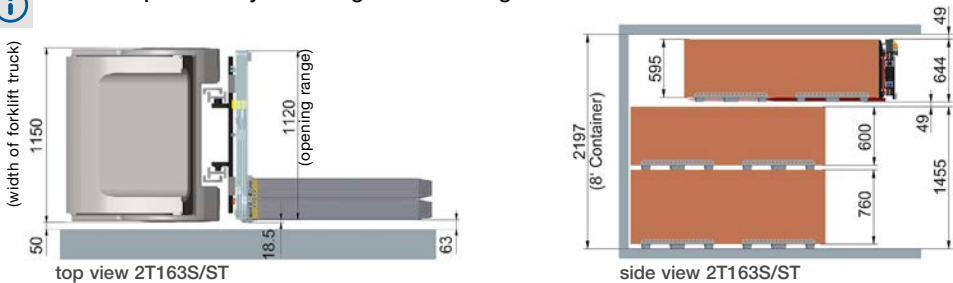
- Ideal attachment for:

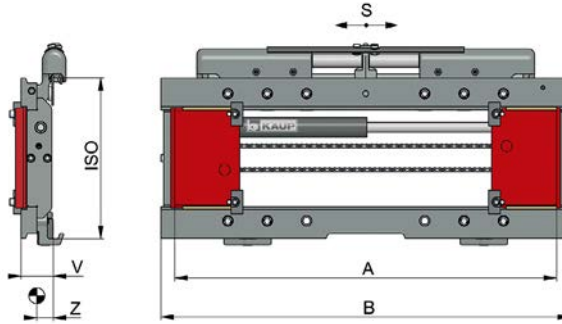
 - loading and unloading of containers,
 - handling of narrow loads to be picked up outside the width of the forklift truck,
 - handling of loads with low entry height e.g. sheet metal, chip boards etc.

Maximum sideshift available when forks are in their closed position



Maximum productivity in loading and unloading of containers



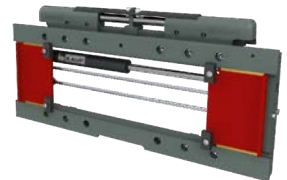


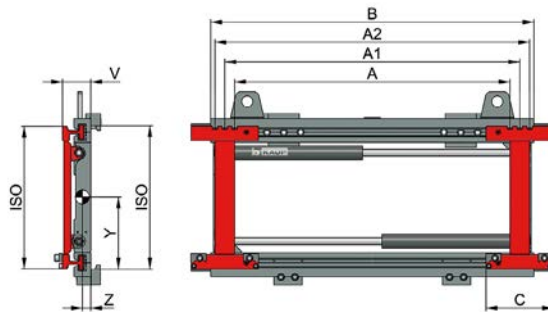
Fork Positioner T163SN

Model	Capacity 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
				390-1.690	1.710	70-120		92	49	171
				500-2.120	2.130	70-120		92	51	209
4T 163 SN	4.000	500	± 100	390-1.030	1.040	90-160	3	82	41	153
				430-1.150	1.160	90-160		82	42	162
				390-1.350	1.360	90-160		82	43	177
				390-1.490	1.510	90-160		92	51	214
				390-1.690	1.710	90-160		92	52	232
4,5T 163 SN	5.000	500	± 100	430-1.150	1.160	90-160	3	92	48	182
				390-1.350	1.360	90-160		92	50	200
				390-1.790	1.810	90-160		112	65	303
				450-1.900	1.910	90-160		112	65	316
4,8T 163 SN	5.000	600	± 100	430-1.150	1.160	90-160	3	92	45	195
				390-1.350	1.360	90-160		92	50	216
5T 163 SN	5.000	600	± 100	470-1.190	1.200	150-200	4	102	57	256
6T 163 SN	8.000	600	± 160	470-1.390	1.400	150-200	4	102	46	345
				470-1.470	1.510	150-200		102	50	353
				500-1.680	1.690	150-200		102	50	385
				470-1.870	1.880	150-200		112	58	451
				530-1.980	1.990	150-200		112	58	463
8T 163 SN	8.000	600	± 160	500-2.120	2.130	150-200	4	132	68	588
				530-2.380	2.400	150-200		132	70	642

Preferential range

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

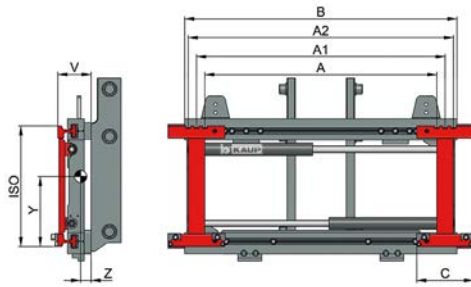




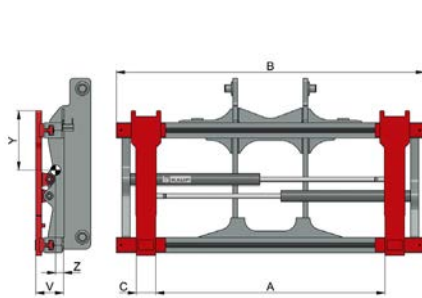
Fork Positioner T160

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

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



T160BI



T160ITW



Fork Positioner integrated T160BI

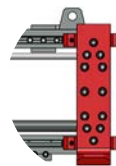
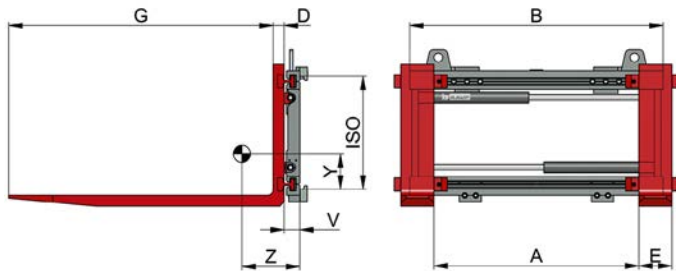
Model	Capacity kg	LCD mm	Opening range centre to centre fork A mm	A1 mm	A2 mm	B mm	C mm	suitable for max. fork width	VS max mm	ISO cl.	V mm	CofG Z mm	CofG _V Y mm	Weight kg
2T 160BI	2.500	500	150-850	250-950	320-1.020	1.040	240	120	± 175	2	116	51	210	117
			150-950	250-1.050	320-1.120	1.150			± 200	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

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

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

Model	Capacity kg	LCD mm	A mm	B mm	C mm	VS max mm	V mm	CofG Z mm	CofG _V 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

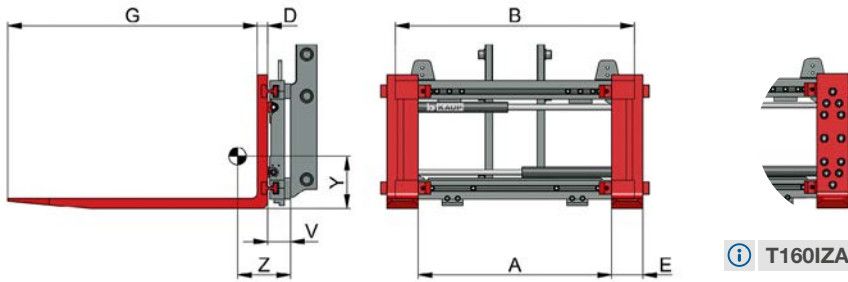
Model	Capacity kg	LCD mm	A mm	B mm	Fork profile		G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG _y Y mm	Weight kg
1,5T 160BZ	1.600	500	170-810	980	40	100	1.200	± 160	2	71	245	134	209
			170-870	1.040				± 175			240	135	213
			170-970	1.150				± 200			234	137	219
2T 160BZ	2.500	500	130-770	980	45	120	1.200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

Preferential range

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

Model T160ZA with screw-on
forks available upon request





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 _V 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	261	338	636
			200-1.400	1.650				± 300		253	342	661
			200-1.600	1.860				± 350		239	349	709
8T 160BIZ	8.000	600	200-1.600	1.860	70	150	1.200	± 350	141	239	349	709
			200-1.800	2.060				± 400		234	352	729
			200-2.000	2.260				± 450		230	355	749
			210-2.060	2.400				± 462,5		228	356	759
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
			100-2.000	2.400				± 475		258	357	1.015
10T 160BIZ	8.000	1.100	100-1.730	2.060	80	200	1.200	± 407,5	178	279	346	1.012
			100-1.900	2.260				± 450		274	349	1.040
			100-2.000	2.400				± 475		268	353	1.064
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
			500-2.700	3.100				± 550		207	600	1.640
16T 160IZ	16.000	600	370-2.000	2.400	90	200	1.200	± 407,5	178	222	585	1.600
	8.000	1.200	370-2.000	2.400			2.400	± 407,5		475	498	1.905
	8.000	1.200	500-2.700	3.100			2.400	± 550		438	517	2.090
24T 160IZ	24.000	600	270-1.900	2.400	90	250	1.200	± 407,5	178	244	568	1.755
	12.000	1.200	270-1.900	2.400			2.400	± 407,5		521	474	2.137
	12.000	1.200	400-2.600	3.100			2.400	± 550		486	492	2.320
32T 160IZ	32.000	600	270-2.100	2.600	100	250	1.200	± 457,5	178	230	585	2.020
	16.000	1.200	270-2.100	2.600			2.400	± 457,5		493	493	2.435
	16.000	1.200	260-2.600	3.100			2.400	± 585		470	505	2.570

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

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

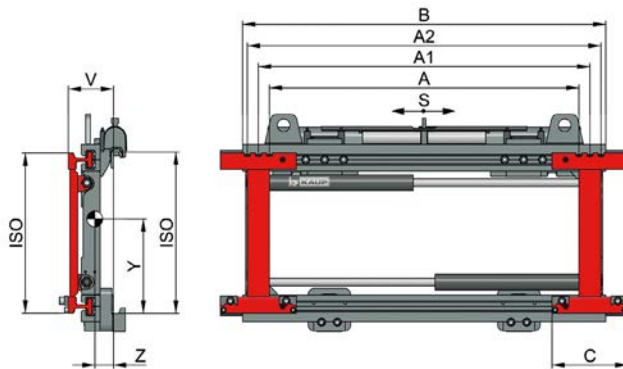
Fork carriage drawings, roller studs and chain anchors to be supplied by customer if necessary.

Larger models and different widths available upon request.

Available without sideshift.

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





Fork Positioner T466

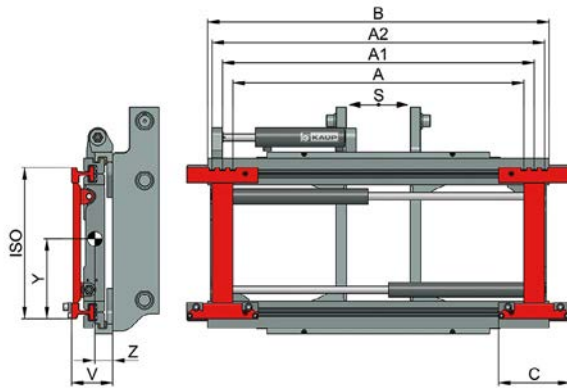
Model	Capacity kg	LCD mm	Opening range centre to centre fork A mm	A1 mm	A2 mm	B mm	C mm	S mm	suitable for max. fork width	ISO cl.	V mm	CofG Z mm	CofG Y mm	Weight kg
2T466C	2.500	600	150-790	250-890	320-960	980	240	± 100	120	2	138	60	243	136
			150-850	250-950	320-1.020	1.040						60	243	137
			150-950	250-1.050	320-1.120	1.150						60	244	139
			150-1.150	250-1.250	320-1.320	1.350						61	241	149
3,5T466C	3.500	500	180-880	250-950	320-1.020	1.040	240	± 100	130	3	153	61	285	179
			180-980	250-1.050	320-1.120	1.150						62	284	186
			180-1.080	250-1.150	320-1.220	1.250						62	283	194
			180-1.180	250-1.250	320-1.320	1.350						63	282	201
			180-1.380	250-1.450	320-1.520	1.550						64	280	216
			180-1.480	250-1.550	320-1.620	1.650						65	279	224
4,8T466C*	5.000	600	180-980	250-1.050	320-1.120	1.150	255	± 100	150	3	153	65	280	217
			180-1.180	250-1.250	320-1.320	1.350						66	278	236
			180-1.280	250-1.350	320-1.420	1.460						67	278	247
			180-1.380	250-1.450	320-1.520	1.550						67	277	255
			180-1.580	250-1.650	320-1.720	1.750					163	71	274	304
			180-1.680	250-1.750	320-1.820	1.850						72	273	315
6T466	6.000	600	260-1.060	350-1.150	440-1.240	1.350	330	± 100	150	4	176	72	367	329
			260-1.170	350-1.260	440-1.350	1.460						72	366	340
			260-1.360	350-1.450	440-1.540	1.650		± 160				73	365	362
			260-1.560	350-1.650	440-1.740	1.860						73	362	389
8T466	8.000	600	260-1.560	350-1.650	440-1.740	1.860	330	± 160	150	4	176	73	362	389
			260-1.760	350-1.850	440-1.940	2.060						73	360	409
			260-1.960	350-2.050	440-2.140	2.260						74	358	429
			260-2.060	350-2.150	440-2.240	2.400						74	357	440
10T466	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	A1	A2	B	C	S	suitable for max. fork width	ISO cl.	V	CofG Z	CofG _v Y	Weight kg
2T 466 BI	2.500	500	150-850	250-950	320-1.020	1.040	240	± 100	120	2	133	58	218	156
			150-950	250-1.050	320-1.120	1.150						58	217	163
2,5T 466BI	2.500	600	150-850	250-950	320-1.020	1.040	240	± 100	120	2	133	60	218	158
			150-950	250-1.050	320-1.120	1.150						60	217	165
3,5T 466BI	3.500	500	180-980	250-1.050	320-1.120	1.150	240	±100	130	3	138	61	267	173
			180-1.180	250-1.250	320-1.320	1.350						59	265	197
4,8T 466BI*	5.000	600	180-1.180	250-1.250	320-1.320	1.350	255	± 100	150	3	148	65	268	279
			180-1.360	250-1.430	320-1.500	1.550						62	266	319
6T 466BI	6.000	600	260-1.170	350-1.260	440-1.350	1.460	330	± 100	150	4	170	70	330	375
			260-1.360	350-1.450	440-1.540	1.650		± 160				65	352	435
			260-1.560	350-1.650	440-1.740	1.860						64	348	473
8T 466BI	8.000	600	260-1.560	350-1.650	440-1.740	1.860	330	± 160	150	4	170	64	348	473
			260-1.760	350-1.850	440-1.940	2.060						63	345	517
			260-1.960	350-2.050	440-2.140	2.260						63	345	547
			260-2.060	350-2.150	440-2.240	2.400						62	344	579
10T 466BI	8.000	1.100	260-1.760	360-1.860	460-1.960	2.060	370	± 160	200	4	244	104	323	909
			260-1.960	360-2.060	460-2.160	2.260						102	322	979
			260-2.060	360-2.160	460-2.260	2.400						102	322	1.014

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



T466



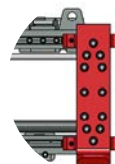
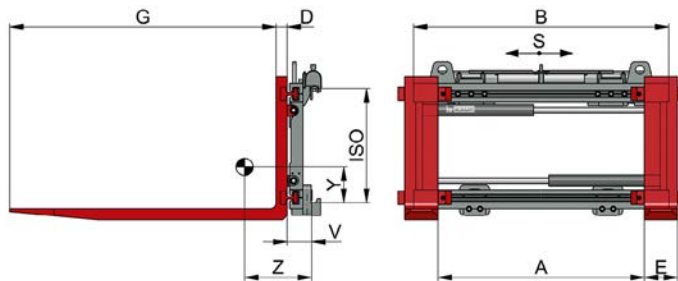
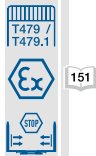
T466Z



T466BI



T466BIZ



T466ZA

Fork Positioner T466Z

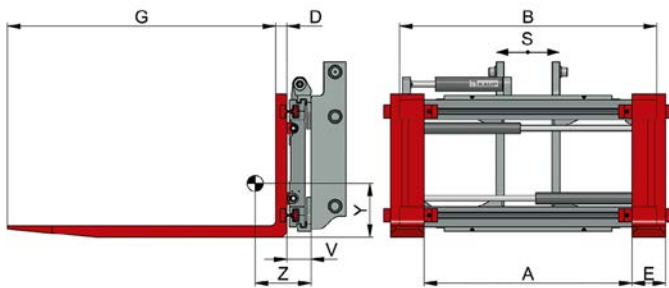
	Fork profile															
	Capacity	LCD	A	B	D	E	G	S	ISO	V	CofG _Z	CofG _Y	Weight			
Model	kg	mm	mm	mm	mm	mm	mm	mm	cl.	mm	mm	mm	kg			
1,5T466CZ	1.600	500	170-810	980	40	100	1.200	± 100	2	113	250	153	230			
			170-870	1.040							250	153	231			
			170-970	1.150							248	154	233			
2T466CZ	2.500	500	130-770	980	45	120	1.200	± 100	2	113	290	137	266			
			130-830	1.040							289	137	267			
			130-930	1.150							287	138	269			
			130-1.130	1.350						280	141	278				
2,5T466CZ	2.500	600	130-830	1.040	50	120	1.200	± 100	2	113	296	134	280			
			130-930	1.150							295	135	282			
3,5T466CZ	3.500	500	130-830	1.040	50	150	1.200	± 100	3	123	295	167	362			
			130-930	1.150							290	169	370			
			130-1.030	1.250							286	171	378			
			130-1.130	1.350							282	172	385			
			130-1.330	1.550							274	176	401			
			130-1.430	1.650							270	177	408			
4,5T466CZ	5.000	500	130-930	1.150	60	150	1.200	± 100	3	126	289	170	428			
			130-1.130	1.350							280	174	446			
			130-1.230	1.460							275	176	457			
			130-1.330	1.550							272	177	465			
			130-1.530	1.750							136	255	185	514		
			130-1.630	1.850					251	186	525					
4,8T466CZ*	5.000	600	130-930	1.150	60	150	1.200	± 100	3	126	289	170	428			
			130-1.130	1.350							280	174	446			
			130-1.230	1.460							275	176	457			
			130-1.330	1.550							272	177	465			
			130-1.530	1.750							136	255	185	514		
			130-1.630	1.850					251	186	525					
6T466Z	6.000	600	200-1.110	1.350	70	150	1.200	± 100	4	153	284	220	597			
			200-1.200	1.460							280	222	610			
			200-1.400	1.650				± 160			269	231	635			
			200-1.600	1.860				261			234	662				
8T466Z	8.000	600	200-1.600	1.860	70	150	1.200	± 160	4	153	261	234	662			
			200-1.800	2.060							256	237	682			
			200-2.000	2.260							250	239	702			
			210-2.060	2.400							248	240	713			
10T466Z	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			
10T466Z	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 _v 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						231	220	256
2T 466BIZ	2.500	500	130-830	1.040	45	120	1.200	± 100	108	275	204	284
			130-930	1.150						269	206	291
2,5T 466BIZ	2.500	600	130-830	1.040	50	120	1.200	± 100	108	282	202	298
			130-930	1.150						277	203	305
3,5T 466BIZ	3.500	500	130-930	1.150	50	150	1.200	± 100	108	295	228	353
			130-1.130	1.350						279	234	377
4,5T 466BIZ	5.000	500	130-1.130	1.350	60	150	1.200	± 100	121	262	249	485
			130-1.310	1.550						246	255	525
4,8T 466BIZ*	5.000	600	130-1.130	1.350	60	150	1.200	± 100	121	262	249	485
			130-1.310	1.550						246	255	525
6T 466BIZ	6.000	600	200-1.200	1.460	70	150	1.200	± 100	145	263	341	649
			200-1.400	1.650						244	365	709
			200-1.600	1.860						234	368	747
8T 466BIZ	8.000	600	200-1.600	1.860	70	150	1.200	± 160	145	234	368	747
			200-1.800	2.060						224	373	791
			200-2.000	2.260						218	376	821
			210-2.060	2.400						212	379	852
10T 466BIZ	8.000	900	160-1.790	2.060	70	200	1.200	± 160	211	244	374	1.230
			160-1.960	2.260						235	377	1.298
			160-2.060	2.400						231	379	1.335
10T 466BIZ	8.000	1.100	160-1.790	2.060	80	200	1.200	± 160	211	254	370	1.280
			160-1.960	2.260						245	373	1.347
			160-2.060	2.400						241	375	1.385

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

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

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

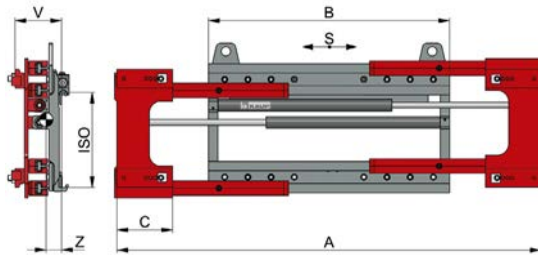
Larger models and different widths available upon request.

Model without sideshift available upon request.



Model T466BIZA with screw-on forks available upon request





Fork Positioner T410Z

Model	Capacity 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
4,8T410Z	5.000	600	± 100	580-2.280	1.550	240	3	253	112	526
				580-1.930	1.200				113	487
				540-1.980	1.330				112	501
5T410Z	6.200	600	± 160	570-2.170	1.460	260	4	260	111	517
				580-2.280	1.550				111	527
				530-2.160	1.550				99	610
				800-2.700 ¹⁾	1.550				102	670
				530-2.430	1.820				99	643

Preferential range

¹⁾ Transport of europallets lengthwise not possible.

Fork Positioner with cylinder- and sideshift protection upon request.

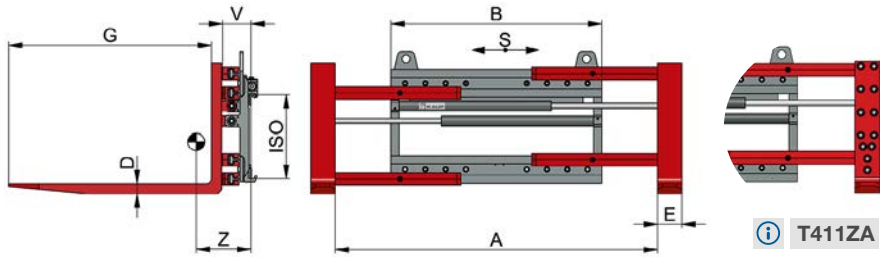
Fork Positioner without sideshift model T400Z.



1.6-2.5T410Z



T410Z



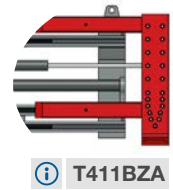
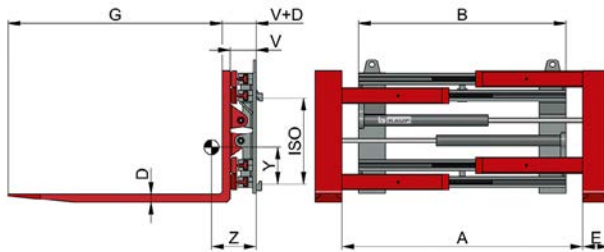
Fork Positioner T411Z

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

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

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





Fork Positioner, wide version T411BZ

Model	Capacity kg	LCD mm	A mm	B mm	D mm	E mm	G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG _v 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 ¹⁾	1.860				± 525			195	326	1.014
			310-2.510 ¹⁾	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 ¹⁾	1.860				± 525			225	319	1.229
6T 411BZ	8.000	600	200-3.800 ¹⁾	3.390	50	300	1.200	± 900	4	194	218	315	1.545
8T 411BZ	8.000	900	210-1.840 ¹⁾	1.550	70	200	1.200	± 407,5	4	230	230	333	1.435
			330-2.530 ¹⁾	2.000				± 550			219	339	1.564
			400-2.900 ¹⁾	2.400				± 625			211	344	1.672
8T 411BZ ²⁾	5.000	1.200	2.600-5.600 ¹⁾	4.500	70	200	1.200	± 750	4	230	135	380	2.515

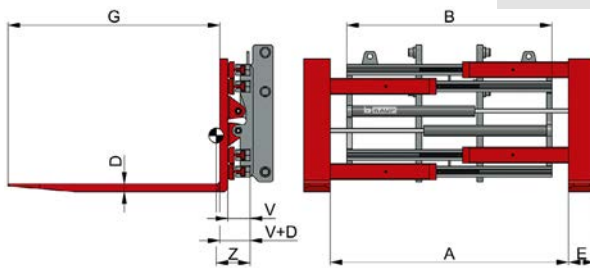
¹⁾ Transport of europallets lengthwise not possible.

²⁾ Alternatively available with third fork in the centre.

Also available without sideshift, model T401BZ.

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





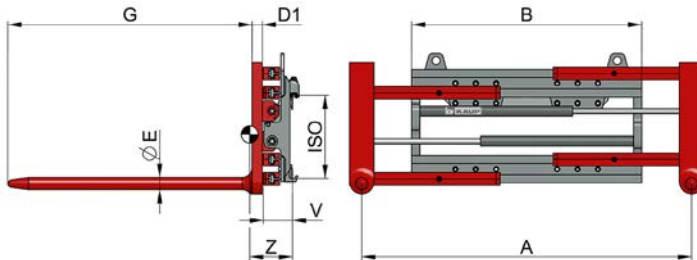
42 ⓘ T411BZIA



Fork Positioner, wide version, integrated T411BZI

Model	Capacity kg	LCD mm	A mm	B mm	D mm	E mm	G mm	VS max mm	V mm	CofG Z mm	Weight kg
4T 411BZI	4.500	500	330-2.530	2.030	60	120	1.200	± 550	139	138	848
5T 411BZI	6.300	600	220-1.850	1.550	60	150	1.200	± 407,5	159	193	840
			180-2.080	1.860				± 475		185	902
			380-2.480 ¹⁾	1.860				± 525		185	906
			310-2.510 ¹⁾	2.030				± 550		181	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		216	1.117
			330-2.430 ¹⁾	1.860				± 525		215	1.121
6T 411BZI	8.000	600	200-3.800 ¹⁾	3.390	50	300	1.200	± 900	169	208	1.437
8T 411BZI	8.000	900	330-2.530 ¹⁾	2.000	70	200	1.200	± 550	188	199	1.424
			400-2.900 ¹⁾	2.400				± 625		191	1.532

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



42 ⓘ T411ZRA



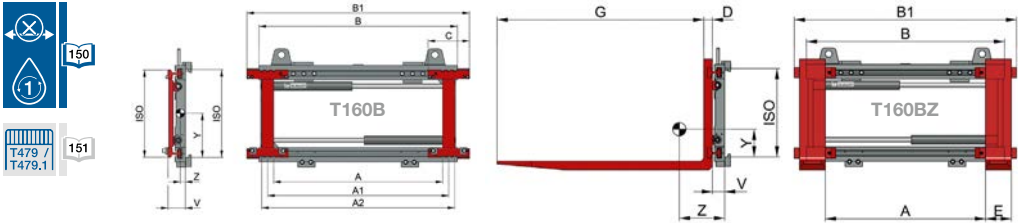
Fork Positioner with round forks T411ZR

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

Can be supplied without sideshift Model T401ZR.

Fork Positioners for Reach Trucks

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

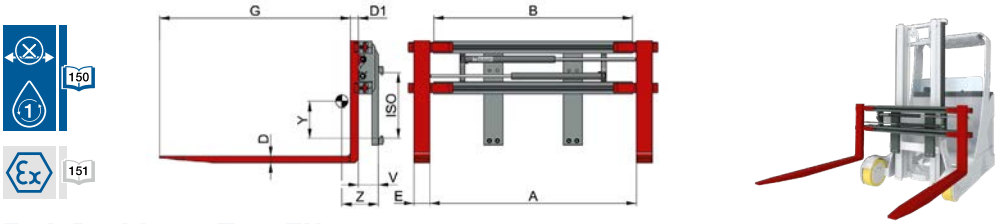


Fork Positioner T160B for reach trucks

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

Fork Positioner T160BZ for reach trucks

Model	Capacity kg	LCD mm	A mm	B mm	B1 mm	D mm	E mm	G mm	ISO Kl.	V mm	CofG Z mm	CofG _v 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 T 160BZ	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 _v 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.

T4111ZH / T4112H

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



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Multi Pallet Handlers
Customised options for specific handling tasks



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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

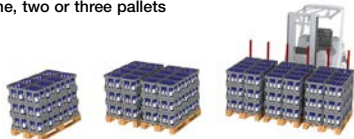
Criteria to choose the right KAUP attachment, the right truck capacity and the residual capacity
Q = Nominal Capacity of FLT, **LCD** = Load centre distance, **R** = Residual capacity

Handling task

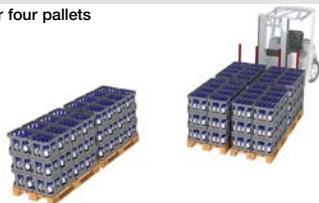
One or two pallets



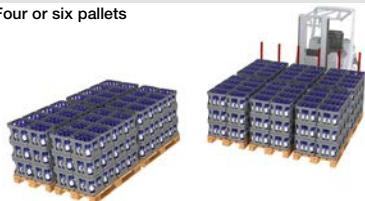
One, two or three pallets



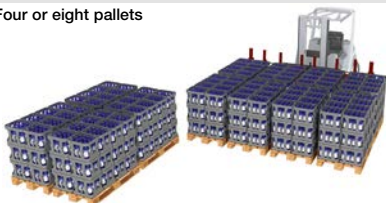
Two or four pallets



Four or six pallets



Four or eight pallets

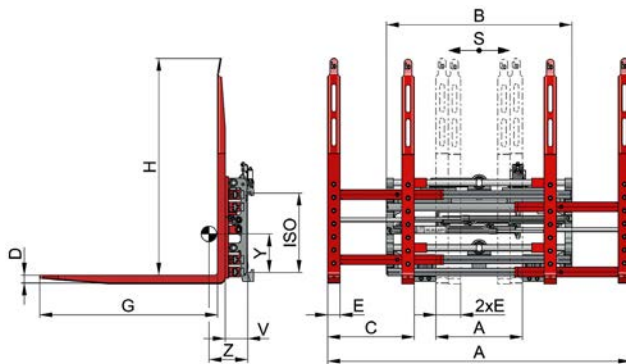


One or two pallets to the opposite side of a trailer
 One, two or three pallets to the opposite side of a trailer

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

ISO 3
ISO 4

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



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 ²⁾	2	145	216	245	470
2T 429C	2.500	600	± 100	560-1.960	1.200	50 ¹⁾	80	1.400	1.150 ²⁾	2	145	242	239	518
2T 429C	2.500	600	± 100	560-1.960	1.200	50 ¹⁾	80	1.400	1.150 ²⁾	3	145	238	246	527
2T 429C	2.500	600	± 100	560-2.160	1.400	50 ¹⁾	80	1.400	1.150 ²⁾	2	145	236	240	536
2T 429C	2.500	600	± 100	560-2.160	1.400	50 ¹⁾	80	1.400	1.150 ²⁾	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 ²⁾	3	145	256	241	572
3T 429C	3.200	600	± 100	560-2.160	1.400	60	80	1.400	1.150 ²⁾	3	145	250	243	590
3T 429C-2 ³⁾	5.000	600	± 100	560-1.960	1.200	60	80	1.400	1.150 ²⁾	3	180	246	287	720
3T 429C-2 ³⁾	5.000	600	± 100	560-1.960	1.200	60	80	1.400	1.150 ²⁾	4	183	238	288	749
3T 429C-2	5.000	600	± 100	560-1.960	1.400	60	80	1.400	1.150 ²⁾	3	180	240	289	748
3T 429C-2	5.000	600	± 100	560-1.960	1.400	60	80	1.400	1.150 ²⁾	4	183	233	290	777
3T 429C-4 ³⁾	2.500	1.200	± 100	560-1.960	1.200	60	80	1.400	2.400	3	180	578	220	910
3T 429C-4 ³⁾	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 ³⁾	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 ³⁾	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 ⁴⁾	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 ⁴⁾	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 ⁴⁾	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 ⁴⁾	6.000	1.200	± 250	560-1.960	1.920	75	90	1.400	2.400	4	218	530	205	1.410

Preferential range

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

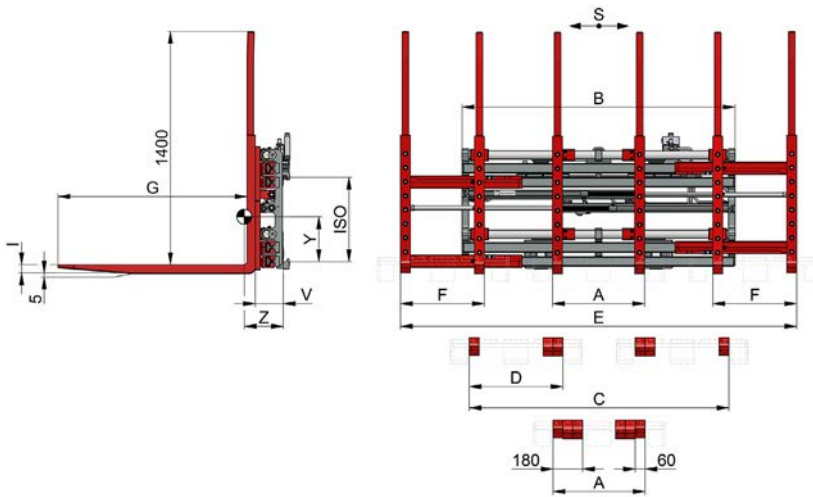
1) Optional with fork thickness 40 mm.

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

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

4) Standard with wider fork shanks.





Triple Pallet Handler T429B-1-2-3

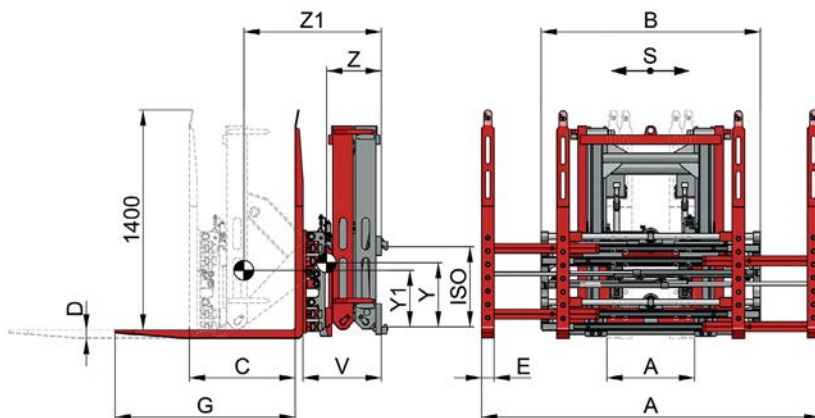
with bolt-on forks - for 1, 2 or 3 pallets side by side

Model	Pallet width x length	Capacity kg	LCD mm	for FLT max.	S mm	B mm	Opening range A mm	C mm	E mm	fork distance D mm	F mm	G mm	I mm	ISO cl.	V mm	CofG 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

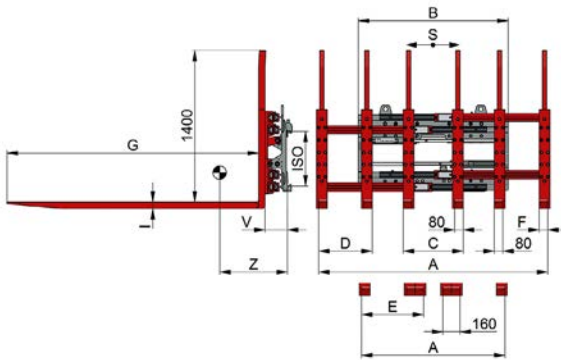
with bolt-on forks - for double deep loading and unloading of 1 or 2 pallets or e.g. of 1, 2 or 3 pallets.

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 _v Y mm	CofG _v 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

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



T429B-1-2-3 / T149Z

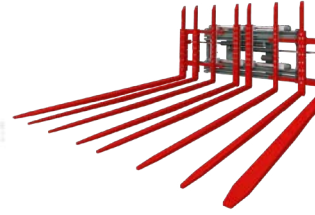
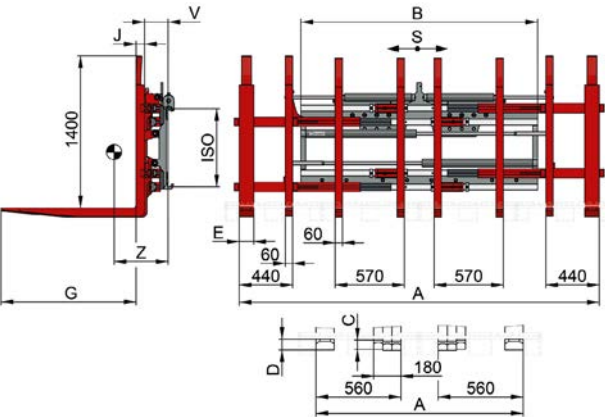


Six Pallet Handler T429-4-6

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

Model	Capacity 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.**



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

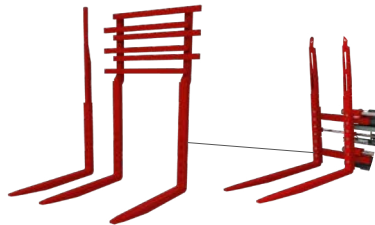
Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	D mm	E mm	J mm	G mm	ISO Kl.	V mm	CofG Z mm	Weight kg
4T 419-4-8 L	3.600	1.200	± 160	1.365-2.965	1.950	60	70	120	70	2.350	4	194	612	1.655
12T 419-4-8 L	8.000	1.200	± 160	1.365-2.965	2.500	80	70	150	80	2.400	Pin-Type	305	554	3.110
6T 419-2-4	4.800	600	± 160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

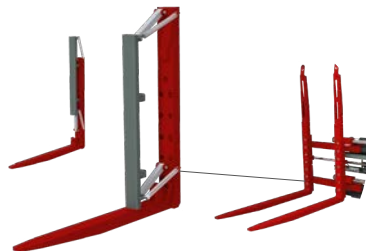
Forks and Load Backrests

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

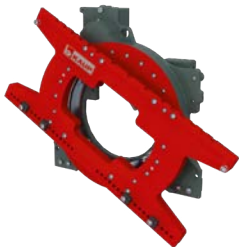


60

Recommended Oil flow rates, Pressures and Forklift truck capacities

Rotators - Ladle Tippers

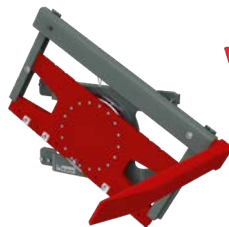
Attachment	Page	Oil flow rate (oil volume) [l/min]			Maximum operating pressure [bar]	Maximum capacity forklift truck / LCD [kg/mm]
		min.	optimum	max.		
0,8 T 351	55	15	20	25	200	1.200/500
1T 351 / T 391 (G)	55-58	15	20	25	200	2.000/500
2T 351 / T 391 (G/S)	55-58	15	20	25	200	2.500/500
2,5T 351 / T 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	



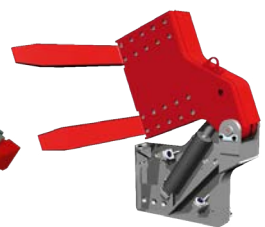
T351.1



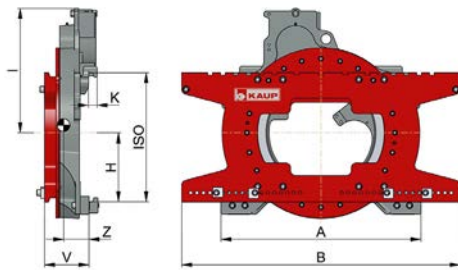
T351.2



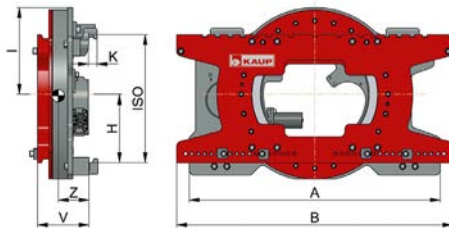
0.8T351.2-SG



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 ¹⁾	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

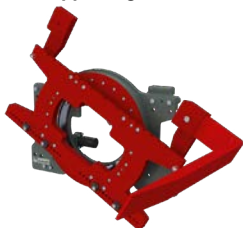
¹⁾ Fork carriage plate closed. Rotator 0,8T351.2-SG (see picture on page 54) available upon request.
Rotators with higher rotating speeds available upon request. Other fork carriage widths available upon request.

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

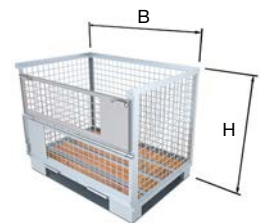


Removable

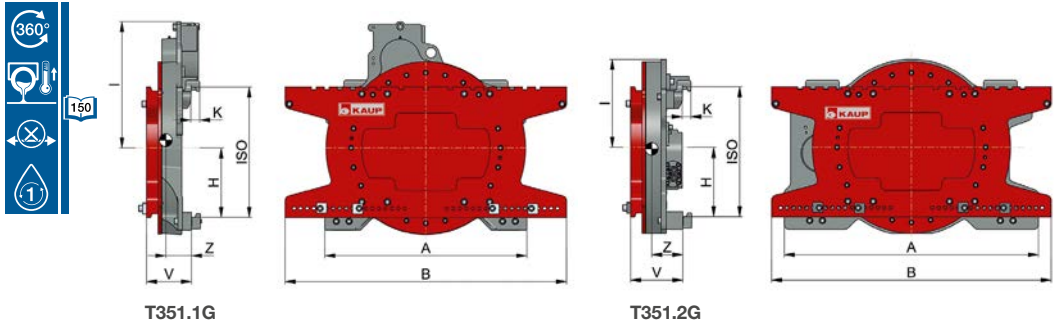


Removable and foldable

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

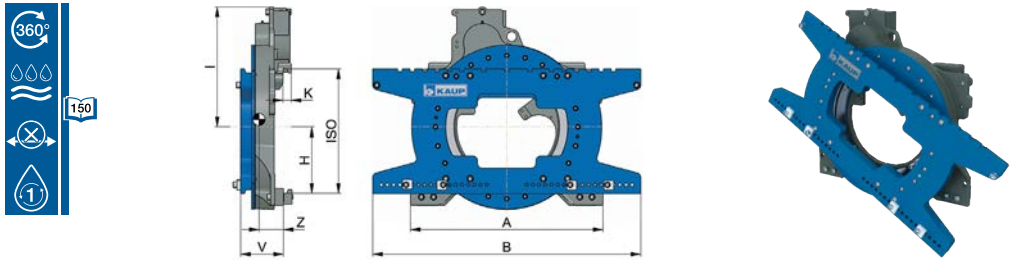


Rotator T351G - 360° endless - foundry version

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.

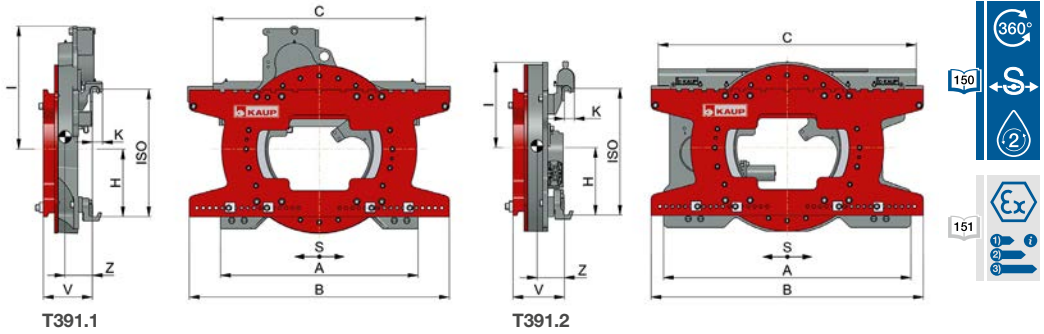


Rotator T351.1S / T351.1.3S - 360° endless - fishing version

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

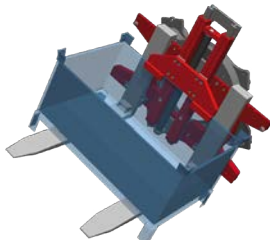
Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	H mm	I mm	K mm	ISO cl.	Torque Md Δp= 125 bar Nm	Oil volume required per rev. ltr.	V mm	CofG Z mm	Weight kg
1T 391.2	1.800	500	± 100	780	780	858	213	294	32	2	6.013	7,6	192	99	199
					890									101	205
2T 391.1	2.500	500	± 100	790	1.040	858	269	492	32	2	7.700	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	210	109	432
4,5T 391.1	5.000	500	± 160	1.110	1.350	940	378	675	49	4	14.823	17,4	229	123	595
5T 391.2	6.000	600	± 160	1.240	1.350	1.260	345	455	50	4	13.434	15,7	264	144	688
6T 391.2	6.500	600	± 160	1.260	1.350	1.260	345	455	50	4	17.157	20,7	264	138	790
8T 391.2	8.000	900	± 160	1.300	1.600	1.700	396	480	54	4	21.679	18,8	304	164	1.110

Preferential range

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

Optional

Lateral supporting fork - see page 55

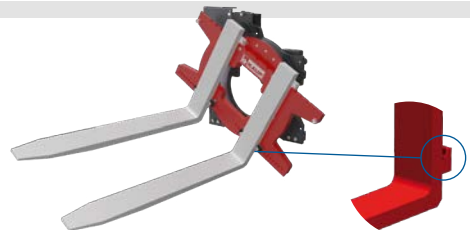


Downhold with gripping claw 1T - 3T167

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

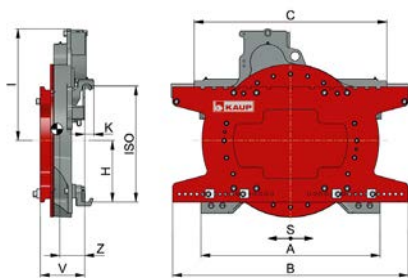
T391: incl. rotary conduit.

T391: incl. rotary conduit and solenoid valve.

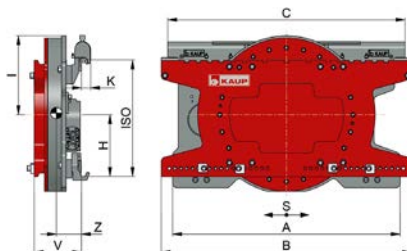


Forks for KAUP Rotators - lower brackets strengthened

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



T391.1G

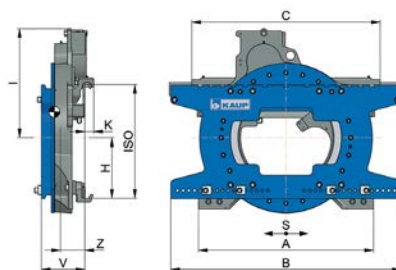


T391.2G

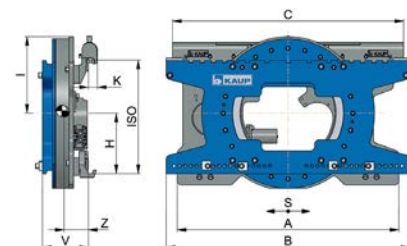
Rotator T391G - 360° endless - foundry version

Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	H mm	I mm	K mm	ISO	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	500	± 160	1.110	1.350	940	378	695	49	4	14.823	17,4	238	128	723
5T 391.2G	6.000	600	± 160	1.240	1.350	1.260	345	455	50	4	13.434	15,7	275	156	804
6T 391.2G	6.500	600	± 160	1.260	1.350	1.260	345	455	50	4	17.157	20,7	275	147	925
8T 391.2G	8.000	900	± 160	1.300	1.600	1.700	396	480	54	4	21.679	18,8	304	165	1.145

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



T391.1S

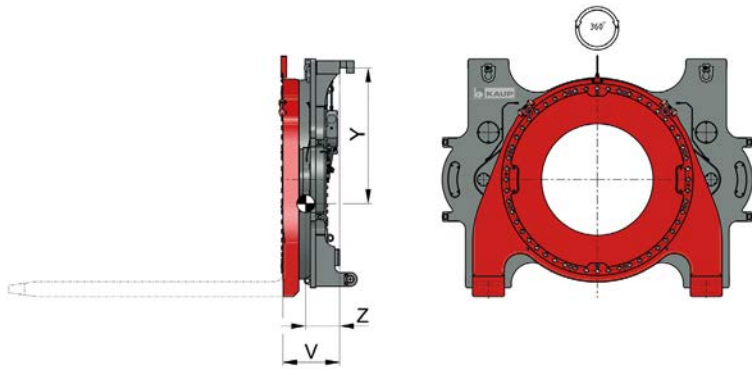


T391.2S

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

Model	Capacity kg	LCD mm	S mm	A mm	B mm	C mm	H mm	I mm	K mm	ISO	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

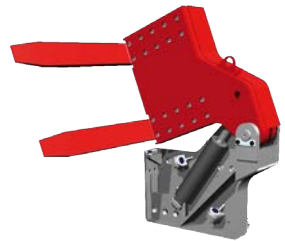
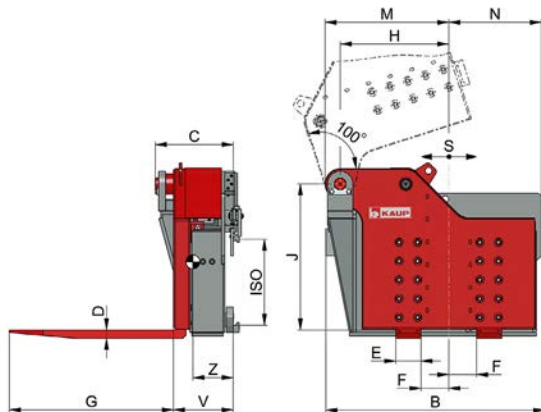
Model	Capacity kg	LCD mm	Torque Md Δp=125 bar Nm	Oil volume required per revolution ltr.	V mm	CofG ¹⁾ Z mm	CofG _v Y mm	Weight ¹⁾ kg
10T351	12.000	900	20.017	19	440	270	690	1.910
15T351	15.000	900	39.424	37	450	290	710	2.130
20T351	15.000	1.200	61.743	63	465	230	830	3.700
25T351	20.000	1.200	123.485	125	465	220	820	4.000
30T351	20.000	1.600	152.427	155	475	231	804	4.780
35T351	25.000	1.600	152.427	155	485	240	880	5.050
42T351	30.000	1.600	152.427	155	495	242	885	5.320
52T351	36.000	1.600	189.406	192	525	330	1.100	7.400
62T351	42.000	1.600	204.203	207	540	340	1.700	9.080

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

¹⁾ CofG and weight measurements do not take the forks into account.

i 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	± 100	820	40	100	1.000	150	297	320	465	150	365	2	250	220	295
2T 360	1.500	500	± 100	1.040	50	150	1.000	210	390	545	760	635	400	2	314	263	675
3T 360	2.500	500	± 160	1.285	50	150	1.000	330	460	645	900	735	550	3	356	239	1.085
5T 360	4.000	600	± 200	1.890	60	160	1.000	175	630	880	890	990	525	4	460	282	1.430
7T 360	6.000	600	± 200	1.890	70	200	1.000	195	630	880	890	990	525	4	470	315	1.780
10T 360	7.500	600	± 200	1.775	80	200	1.000	480	670	910	1.035	1.045	730	4	565	385	2.600
12T 360	9.000	700	± 275	1.975	90	200	1.400	350	748	895	950	1.015	870	-	620	415	3.300

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



Casting Device for Foundry Ladles T360G

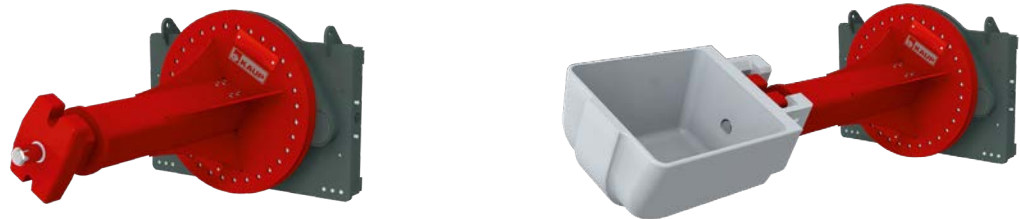
To empty ladles to both sides and forwards

Model	Capacity 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

Page

Fork Clamps, Harbour Clamps,
Fork Clamps with turnable Forks



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Slip-on Arms



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Block & Brick Clamps



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Bale Clamps,
Recycling Bale Clamps,
Foam Rubber Clamps



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Appliance- / Carton Clamps



78 - 83

Drum Clamps,
Drum Tipping Clamps



84 - 87

Cask Handler

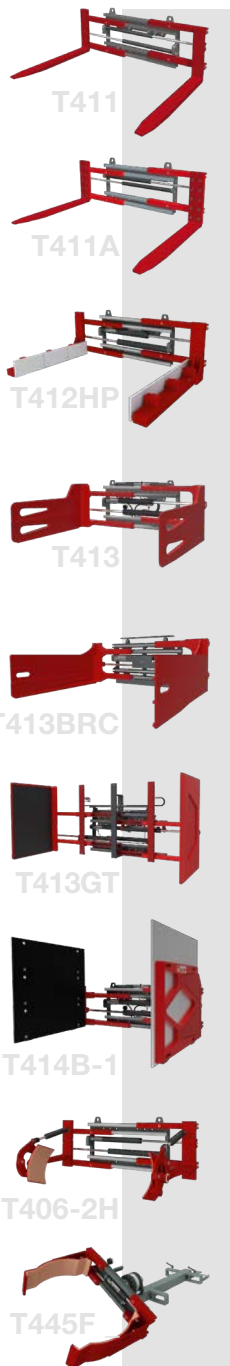


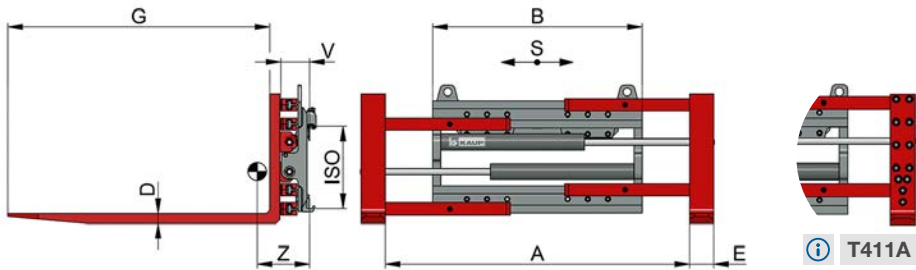
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Recommended Oil flow rates and Pressures

Clamps

Attachment	Page	Oil flow rate (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
1,5T 401	2.300	1.250	500	without	310-1.710	1.200	45	120	1.200	2	126	270	339
					260-1.260	850						260	300
					280-1.380	970						262	384
					320-1.820	1.330						250	412
2T 411	2.800	2.000	500	± 100	320-1.620	1.130	50	120	1.200	2/3	143	257	396
					70-1.120	1.130						259	391
					120-1.420	1.330						252	408
					320-1.820	1.330						250	412
2T 401	2.800	2.000	500	without	300-1.300	850	50	120	1.200	2/3	136	282	339
					260-1.560	1.130						245	510
					260-1.760	1.330						249	529
					130-1.630	1.460						245	539
3T 411	3.600	2.500	500	± 100	260-1.890	1.460	50	150	1.200	3	152	245	541
					260-1.560	1.130						245	572
					260-1.760	1.330						240	591
					130-1.630	1.460						237	603
4T 411	4.150	2.900	500	± 100	260-1.890	1.460	50	150	1.200	3	162	236	606
					230-1.480	1.200						253	689
					250-1.650	1.330						248	709
					120-1.520	1.460						245	725
4,5T 411	5.000	3.500	500	± 100	220-1.720	1.460	60	150	1.200	3	188	244	728
					260-1.890	1.550						241	744
					230-1.480	1.200						249	677
					250-1.650	1.330						245	695
4,5T 411.1	5.000	3.500	500	± 100	220-1.720	1.460	60	150	1.200	3	178	242	711
					260-1.890	1.550						239	724
					230-1.480	1.200						249	677
					250-1.650	1.330						245	695
4,8T411	5.000	3.200	600	± 100	220-1.720	1.460	60	150	1.200	3	178	242	711
					260-1.890	1.550						239	724
					230-1.480	1.200						249	677
					250-1.650	1.330						245	695
5T 411	6.200	3.500	600	± 160	240-1.740	1.460	70	150	1.200	4	176	244	855
					280-1.910	1.550						242	868
					550-2.450	1.550						234	933
					280-2.180	1.820						236	905
6T 411B	8.000	4.800	600	± 160	180-1.810	1.550	60	200	1.200	4	219	238	1.410
					140-2.040	1.860						229	1.499
					340-2.440	1.860						229	1.506
					310-2.510	2.200						232	1.820
8T 411B	8.000/900*	6.500	600	VSS	310-2.510	2.200	70	200	1.200	4	258	232	1.820

Preferential range

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

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

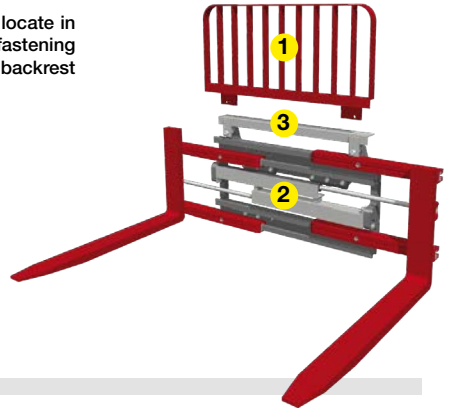


Accessories for Clamps

Options for retrofitting or upgrading for every transportation task

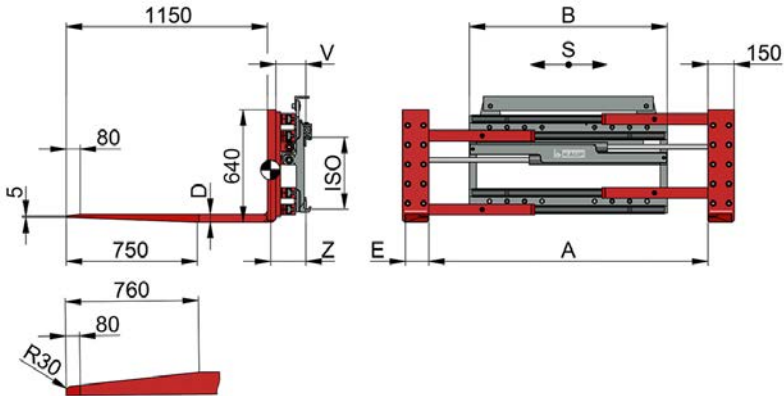
Load Backrest T479

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



Heavy Duty

KAUP Clamps can be individually fitted for the most demanding tasks. A cylinder protection (2), cylinder and piston rod protection 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.



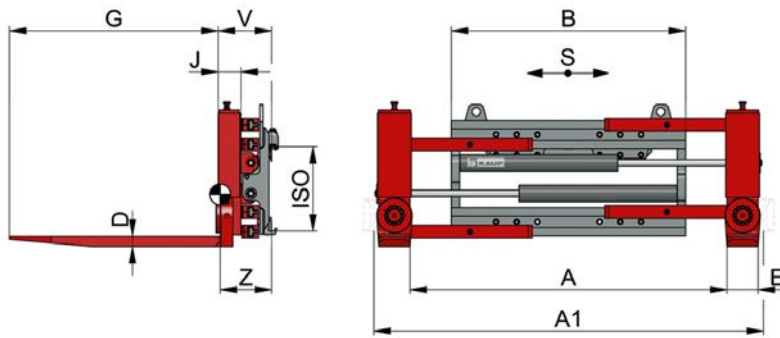
Harbour Clamp T411AH - with bolt-on forks - fork length 1.150 mm

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 _v 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° 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	± 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	± 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	± 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	± 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° 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° , 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.

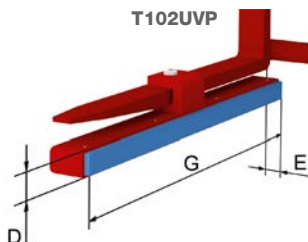
As slip-on arms are customised to your requirements and applications the following examples only show part of the extensive KAUP product range for slip-on arms.

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

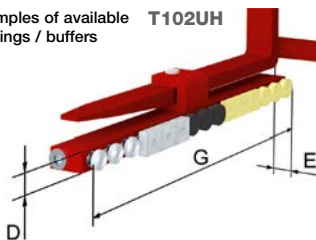
Model	Length G* mm	Reduction of opening		Weight per pair kg	
		Height D* mm	range per side E mm		
2T 102 UH	1.265	60/75/80	50	170	

*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 (11), 1.019 (12), 1.101 (13), 1.183 (14), 1.265 (15)

Examples of available coatings / buffers



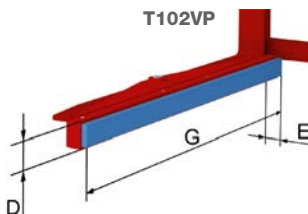
Block Arms T102VP

slip-on version with vulcollan linings

Model	Length 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 ¹⁾	1.200	150	105	108	
2T 102 VP ¹⁾	1.200	150	110	108	
3T 102 VP ¹⁾	1.200	150	110	108	

Preferential range

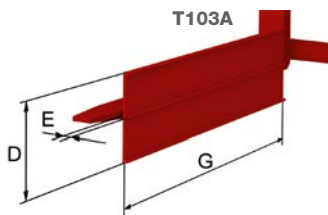
¹⁾ Double high arms



Bale Arms T103A

slip-on version

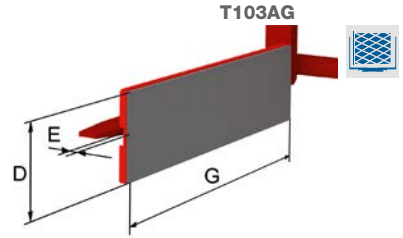
Model	Length G mm	Reduction of opening		Weight per pair kg	
		Height D mm	range per side E mm		
1T 103 A	700	200	25	36	
2T 103 A	800	400	25	62	
3T 103 A	800	400	25	64	



Bale Arms T103AG

gripping nap strap coated, slip-on version

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



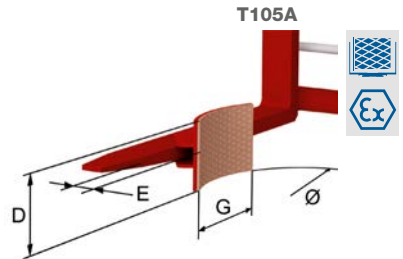
Drum Arms T105A

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

Model	Number 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.

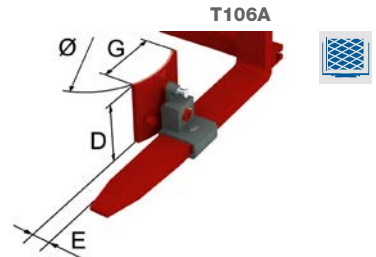


Rotating Drum / Roll Arms T106A

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.

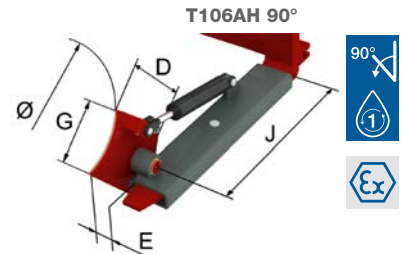


Rotating Drum / Roll Arms T106AH 90°

slip-on version - hydraulically tiltable up to 90°

Model	No. of hydr. arms	for Ø mm	Length G mm	Height D mm	E ¹⁾ mm	J ²⁾ 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	

¹⁾ Arm-overhang per side. ²⁾ Minimum distance to fork shank.

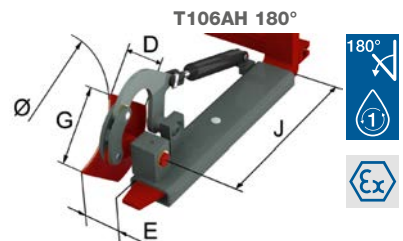


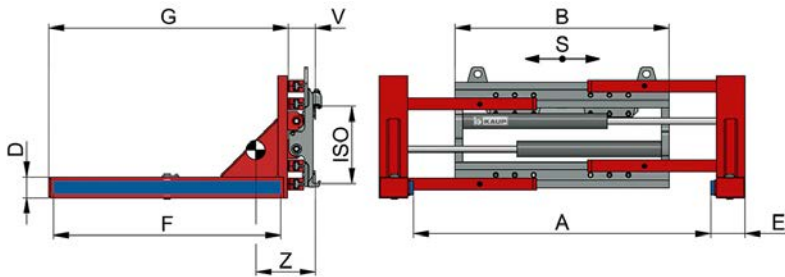
Rotating Drum / Roll Arms T106AH 180°

slip-on version - hydraulically tiltable up to 180°

Model	No. of hydr. arms	for Ø mm	Length G mm	Height D mm	E ¹⁾ mm	J ²⁾ 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	

¹⁾ Arm-overhang per side. ²⁾ Minimum distance to fork shank.



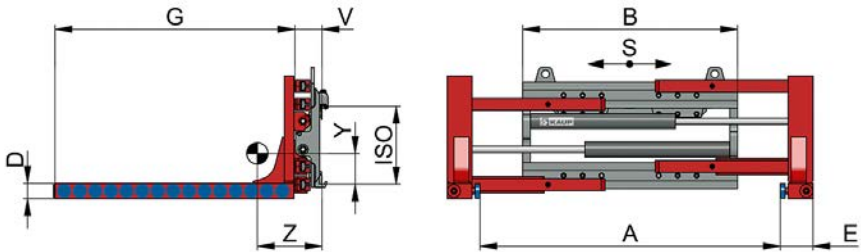


Block Clamp T412V - with polyurethane lining and parallel compensation

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 ¹⁾ mm	ISO cl.	V mm	CofG Z mm	CofG _v 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

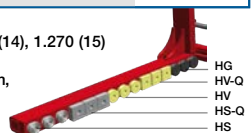
Preferential range Also available without sideshift, model T402H.

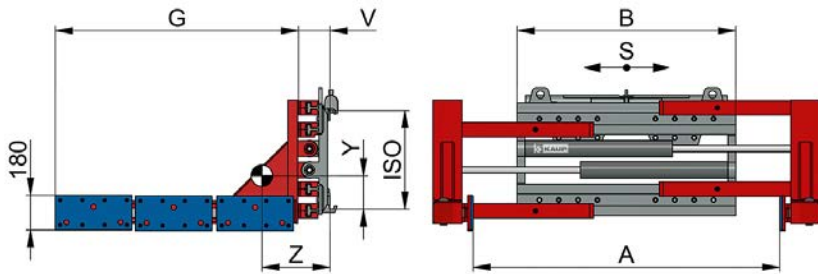
¹⁾ Fig. G depends on the number of pistons (), available arm length 942 (11), 1.024 (12), 1.106 (13), 1.188 (14), 1.270 (15)

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

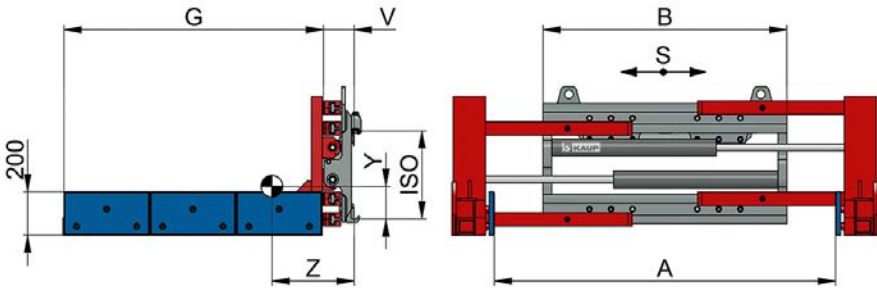




Block Clamp T412V-3 - with mechanical equilibration plates with Vulcollan coating

Model	Capacity kg	LCD mm	S mm	A mm	B mm	G mm	ISO cl.	V mm	CofG Z mm	CofG _v 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

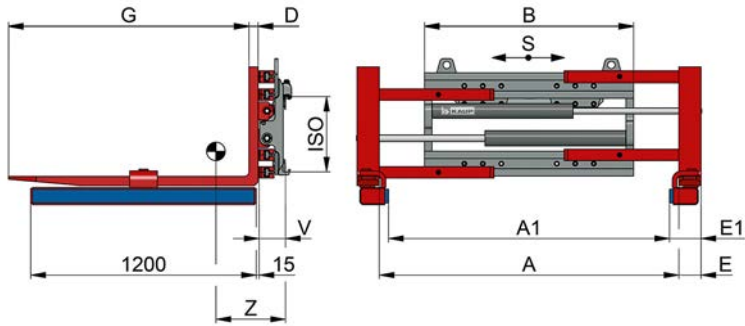
Each of the arms consists of three mechano-hydraulic equilibration plates (400 x 200 mm). Typically they are manufactured from bulb plate, thus the clamp is excellently suited for handling 400 x 200 x 200 mm blocks. Depending on the particular application, polyurethane coated contact surfaces are available.

Model	Capacity kg	LCD mm	S mm	A mm	B mm	G mm	ISO cl.	V mm	CofG Z mm	CofG _v 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 ¹⁾	300-1.600	1.300	1.200	4	211	285	293	1.212

Preferential range

Also available without sideshift - model T402HP.

¹⁾ VSS = Valveblock sideshift dependent on opening range (see page 13).



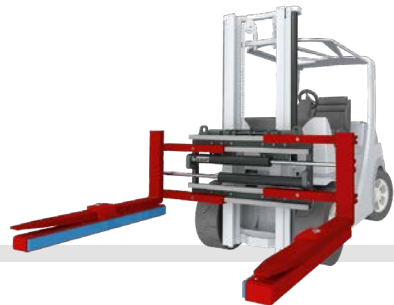
Block Clamp T412UVP - with slip-on underslung arms - to handle building material

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

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

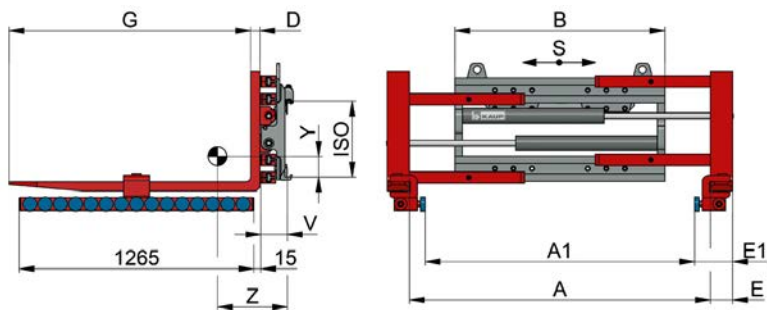
Preferential range

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



T412 UVP





Block & Brick Clamp T412UH

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

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

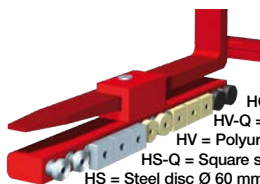
Model	Capacity of forks kg	Capacity as clamp kg	LCD mm	S mm	A1 mm	A mm	B mm	D mm	E mm	E1 mm	G mm	ISO cl.	V mm	CofG Z mm	CofG Y mm	Weight kg
1,5T 412UH	2.300	1.250	500	± 100	140-1.320	320-1.500	970	45	120	210	1.200	2	133	456	74	500
2T 412UH	2.800	2.000	500	± 100	140-1.440	320-1.620	1.130	50	120	210	1.200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

Preferential range

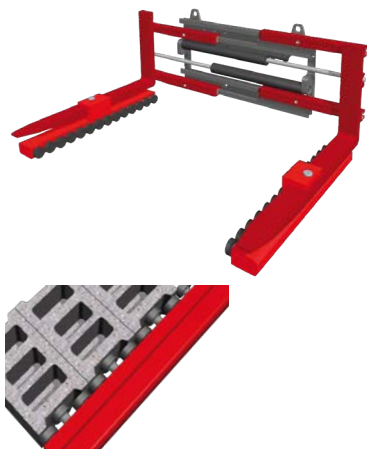
*Capacity of forks 5.000 kg at LCD 500 mm.
Also available without sideshift, model T402UH.



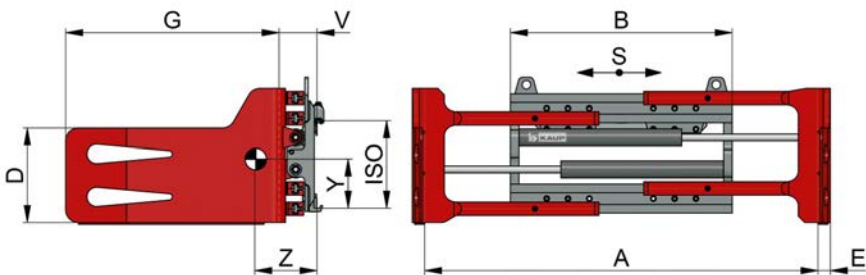
Examples of available coatings / buffers - the armlength depends on the number of pistons (see model T102UH on page 66):



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



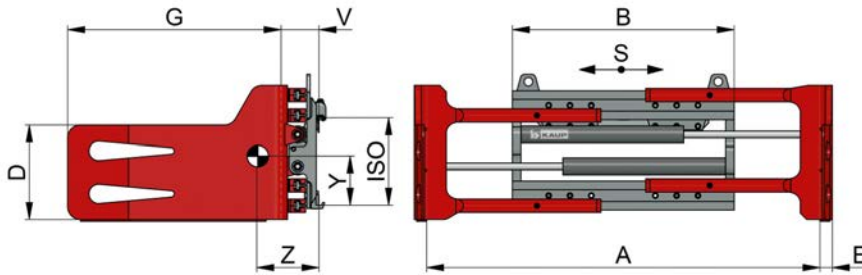
Clamping scheme for mechano-hydraulic equilibration



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 _v 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
								1.000			290	228	467
2T 413	2.100	500	± 100	485-1.785	1.130	440	42	1.000	2/3	178	290	228	467
								1.200			360	228	525
								1.000			283	229	482
2T 413	2.100	500	± 100	485-1.985	1.330	440	42	1.000	2/3	178	283	229	482
								1.200			352	229	540
								1.000			267	231	520
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
								1.000			271	248	582
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 _y 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.

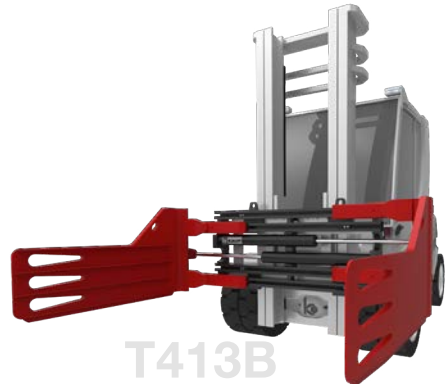
Bale clamps with higher capacities available upon request (see page 75).

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

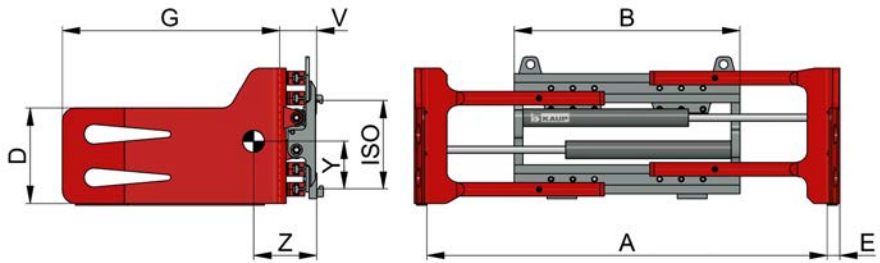
Special version for Big Bags, based on the KAUP Bale Clamp, are also available.



T413



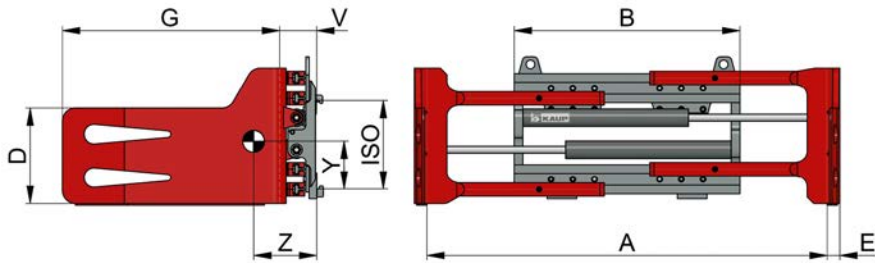
T413B



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





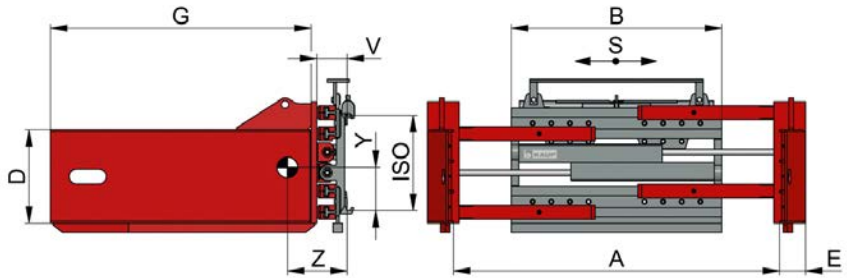
Bale Clamp, Pulp Bale Clamp T413

Model	Capacity kg	LCD mm	A mm	B mm	D mm	E mm	G mm	VS max mm	ISO cl.	V mm	CofG Z mm	CofG _v 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
	2.630	800	565-2.195	1.460	470	52	1.600	± 407,5	3	211	425	277	985
4,8T 413	2.330	900	565-2.195				1.800				496	274	1.065
5T 413	2.900	800	545-2.175	1.550	470	52	1.600	± 407,5	4	211	419	269	1.066
	2.600	900	545-2.175				1.800				484	261	1.133
	2.900	800	545-2.445	1.820	470	52	1.600	± 475	4	211	409	270	1.101
5,5T 413B	2.600	900	545-2.445				1.800				472	263	1.169
	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
	4.000	800	565-2.465	1.860	470	57	1.600	± 475	4	259	394	285	1.474
6T 413B	3.300	1.000	565-2.465				1.800				459	282	1.566
	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
	6.000	800	565-2.465	1.860	470	57	1.600	± 475	4	269	388	286	1.531
6,5T 413B	4.000	1.000	565-2.465				1.800				453	282	1.582
	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	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.

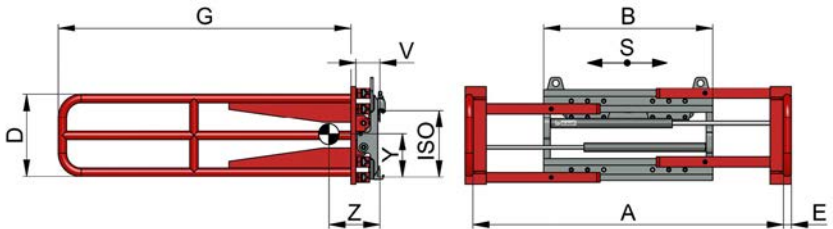
Also available with 1 arm oscillating, model T413B-1. Bale Clamps with higher capacities available upon request. Variations in width, opening ranges and arm dimensions available upon request. Special version for Big Bags, based on the KAUP Bale Clamp, are also available.



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

Also available without sideshift, model T403RC.

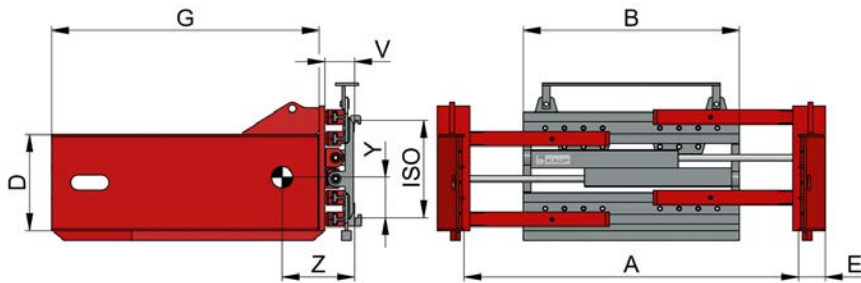


Foam Rubber Clamp T413R

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

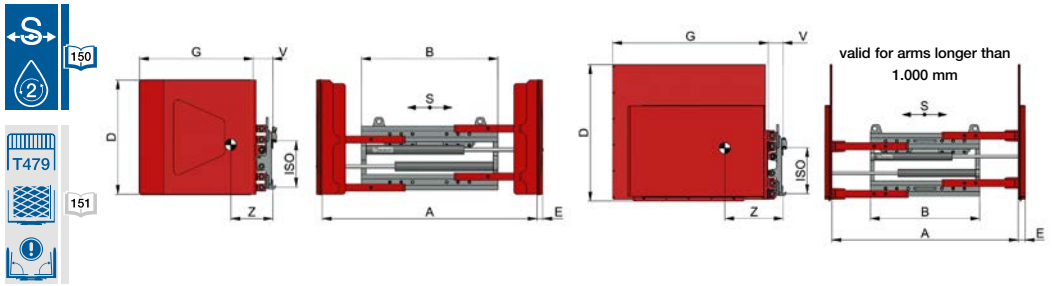


Recycling Bale Clamp T413RC

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 _v 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.



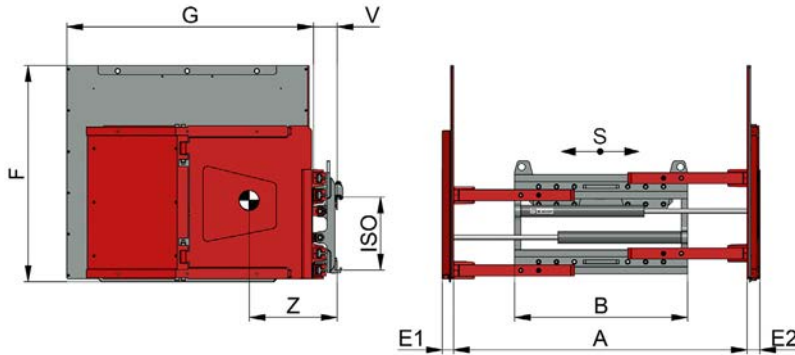


Appliance Clamp T413G - rubber coated arms - both arms fix

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 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

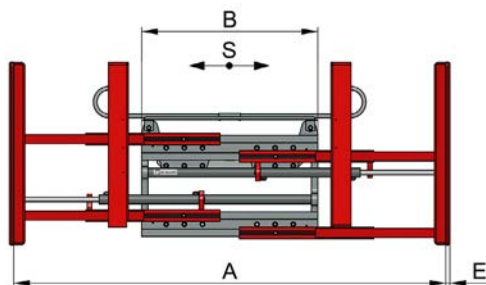
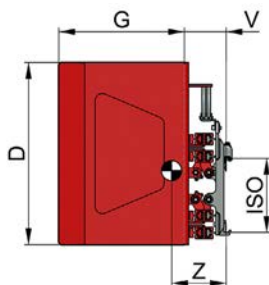
Preferential range

Also available without sideshift, model T403G-1L.

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

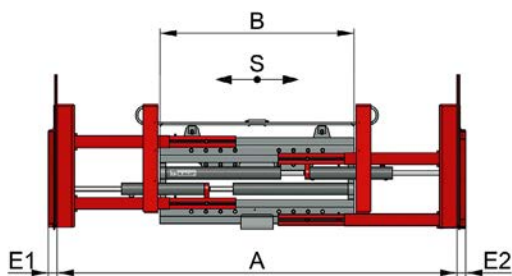
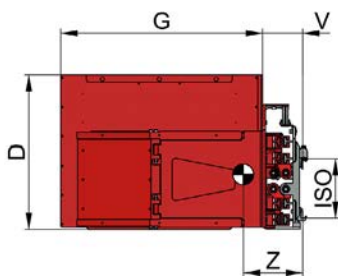


Clamp available with **Smart Load Control (SLC)**, an autonomous system for controlling the clamp force (Models 2T after design adaptation). Available without sideshift model T403G-1L/099H and with sideshift, model T413G-1L/099H.



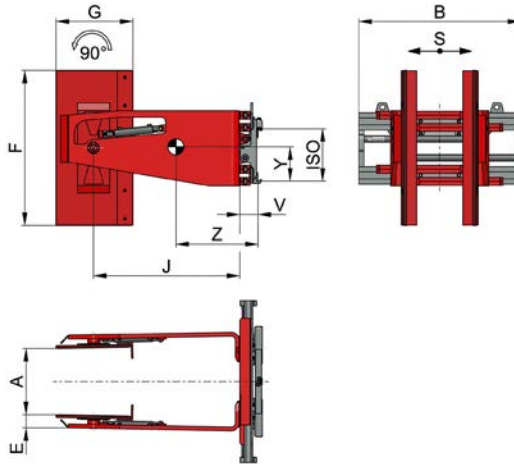
	Capacity	LCD	S	A	B	D	E	G	ISO	V	CoFG	Weight
Model	kg	mm	mm	mm	mm	mm	mm	mm	cl.	mm	Z mm	kg
1T 413 GT	700	500	± 100	380-2.380	970	1.000	28	690	2	232	270	435
1,5T 413 GT	1.250	500	± 100	440-2.440	970	1.000	28	690	2	242	285	470
1,5T 413 GT	1.250	500	± 100	410-2.610	1.200	1.000	28	690	2	242	285	486
1,5T 413 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

SLC 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.



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

SLC 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.

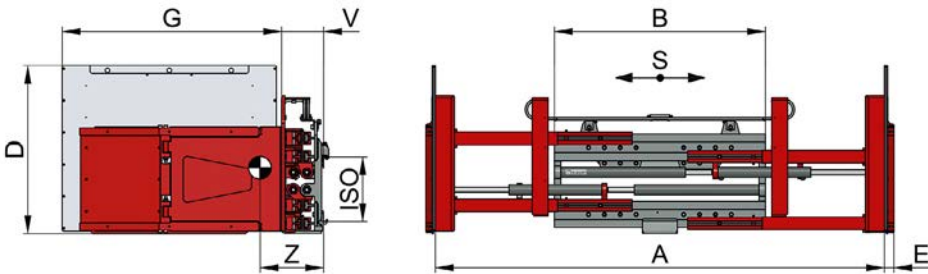


Appliance Clamp tiltable 2T413G-2H - rubber coated arms

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 _v 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.

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).

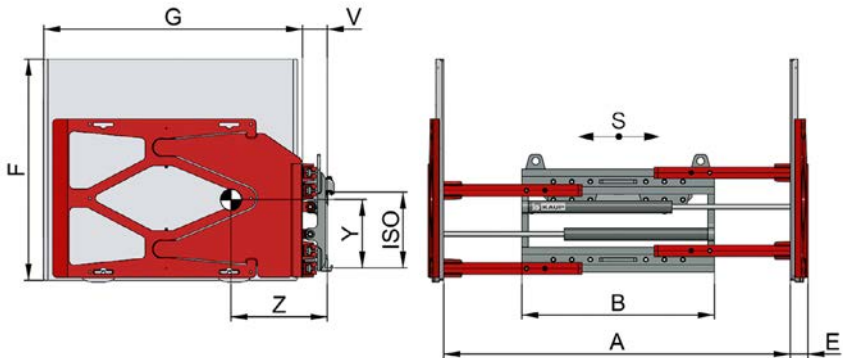


Telescopic Appliance- / Carton Clamp T414GT-1L - rubber coated arms - both arms swivelling

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 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

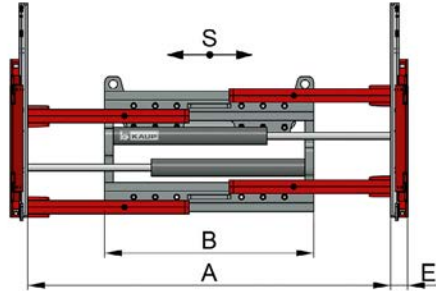
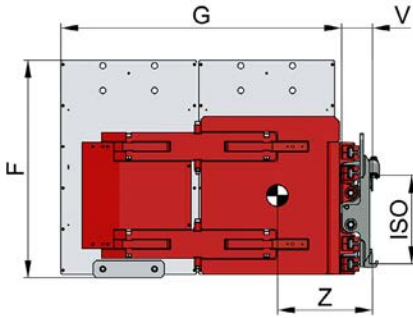
Model	Capacity kg	LCD mm	S mm	A mm	B mm	E mm	F mm	G mm	ISO cl.	V mm	CofG Z mm	CofG _v Y mm	Weight kg
1,5T 414B-1	1.250	500	± 100	480-1.660	970	55	1.000	1.000	2	133	392	333	534
							1.000	1.200			467	338	592
							1.200	1.200			476	360	611
							1.200	1.380			530	362	654
1,5T 414B-1	1.250	500	± 100	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

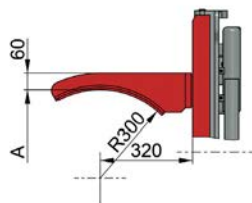
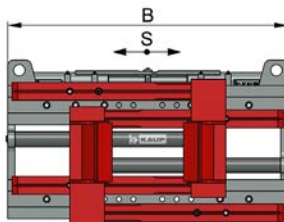
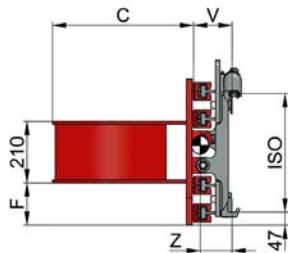
Model	Capacity kg	LCD mm	S mm	A mm	B mm	E mm	F mm	G mm	ISO cl.	V mm	CofG Z mm	Weight kg
1,5T 414-2L	1.250	500	± 100	480-1.660	970	60	1.000	1.000	2	133	345	495
							1.000	1.200			401	535
							1.200	1.200			472	599
							1.200	1.380			492	647
1,5T 414-2L	1.250	500	± 100	330-1.430	1.040	60	1.000	1.000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



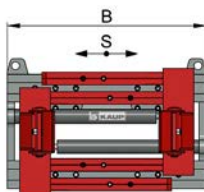
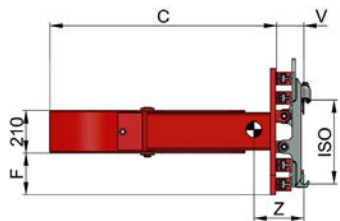
Drum Clamp T415-1 - for cylindrical steel drums

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.



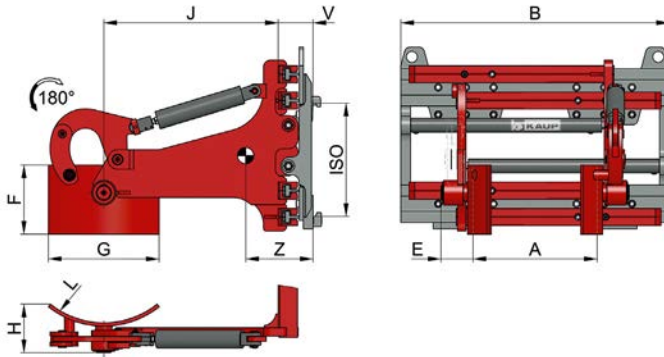
Drum Clamp T415-2 - for cylindrical steel drums

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 _v Y mm	Weight kg
1,5T 415-2	2-4	1.250	630	± 100	370-1.550	970	1.105	195	2/3	133	255	266	310
2T 415-2	2-4	2.000	630	± 100	370-1.670	1.130	1.105	195	2/3	143	245	264	350

Also available without sideshift, model T405-2.

Available with arms for plastic drums.



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

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

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

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

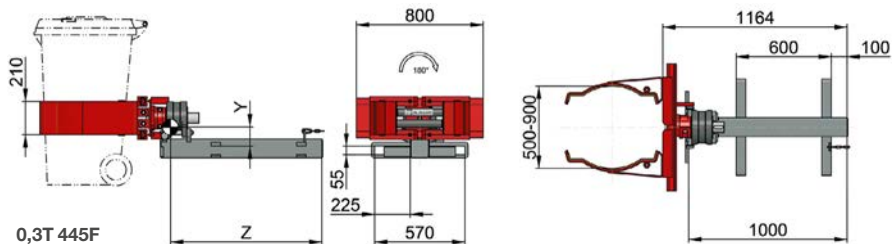
With one tilt cylinder drums can only be handled in vertical position.
With two cylinders drums can be handled in vertical or horizontal position.

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

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

Available with arms for plastic drums.



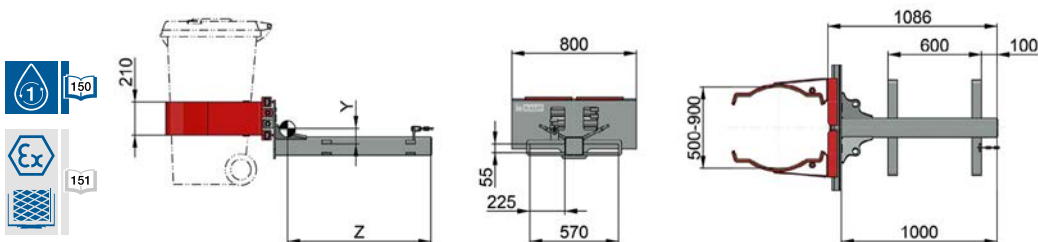


Mini Drum Clamp T445F - slip-on version - for cylindrical steel drums and garbage bins

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

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

Available with arms for plastic drums.



Mini Drum Clamp T405

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

Model	Capacity kg	LCD mm	Opening range mm	CofG Z mm	CofG _v Y mm	Weight kg
0,3T 405	300	320	520 - 920	921	95	155

Available with arms for plastic drums.





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

Available with arms for plastic drums.



Model without sideshift T405B.



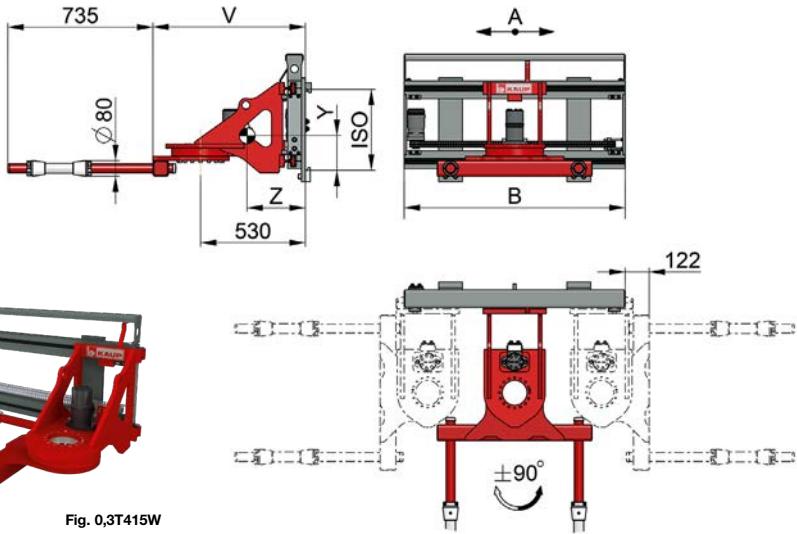


Fig. 0,3T415W

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 _v 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



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Rotating Fork Clamps
Rotating Fork Clamps with Turnable Forks



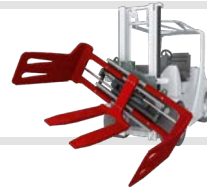
92

Pallet Turnover Clamps



93, 95

Rotating Bale Clamps



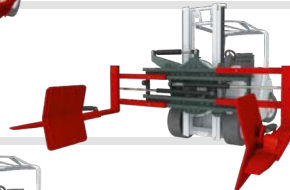
94

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



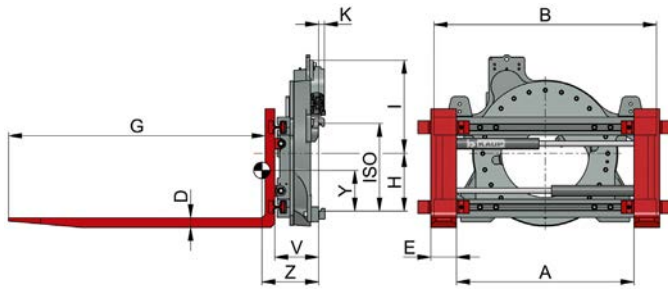
Rotating Clamps

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.



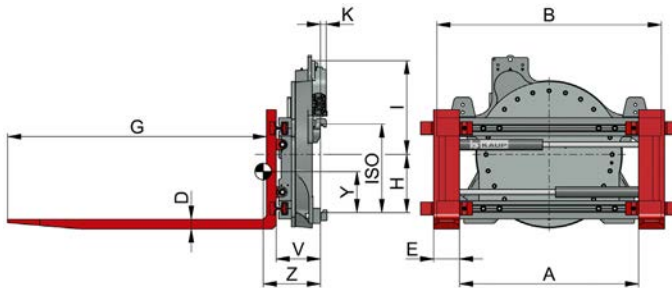
T456BZA



Rotating Fork Positioner T456BZ - Rotation 360° continuous

Model	Capa- city kg	LCD mm	A mm	B mm	D mm	E mm	G mm	H mm	I mm	K mm	Md ¹⁾ Nm	Vol ²⁾ ltr.	ISO cl.	V mm	CofG Z mm	CofG Y 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



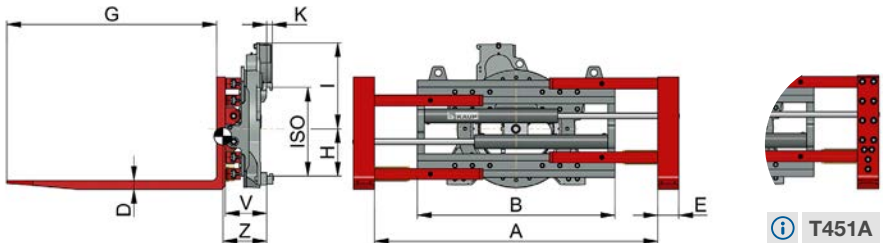
Rotating Fork Positioner T456ZG - Rotation 360° continuous - foundry version

Model	Capa- city kg	LCD mm	A mm	B mm	D mm	E mm	G mm	H mm	I mm	K mm	Md ¹⁾ Nm	Vol ²⁾ ltr.	ISO cl.	V mm	CofG Z mm	CofG Y 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





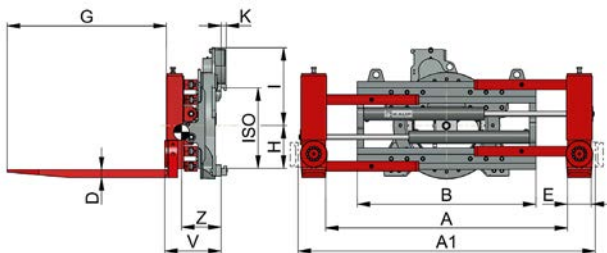
T451A

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 ²⁾ Nm	Vol ³⁾ 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 ¹⁾	1.550										328	1.301
				280-2.180	1.820										326	1.279
6T 451 B	6.000	4.200	600	490-2.390 ¹⁾	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.
¹⁾ Handling of europallets lengthwise not possible. ²⁾ Md: Torque $\Delta P = 125$ bar. ³⁾ Oil volume required per rev.

T451A - Version with screw-on forks

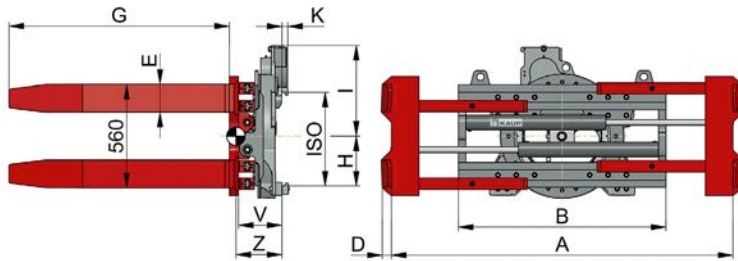


Rotating Fork Clamp with Turnable Forks T451D

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

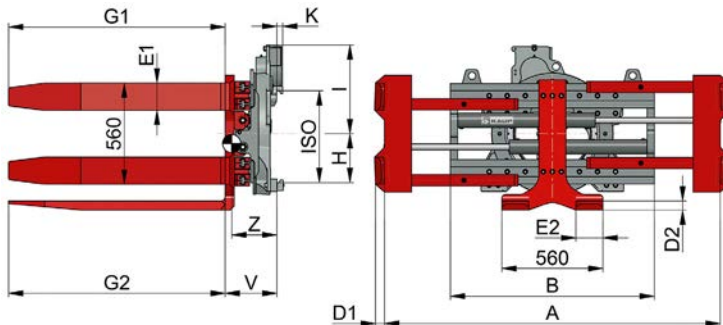
Preferential range ¹⁾ Md: Torque $\Delta P = 125$ bar. ²⁾ Oil volume required per rev. Fork length 'G' = 1.200 mm. Also available with sideshift, model T491D, see page 90.



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 ¹⁾ Nm	Vol ²⁾ ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1,5T451W	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.

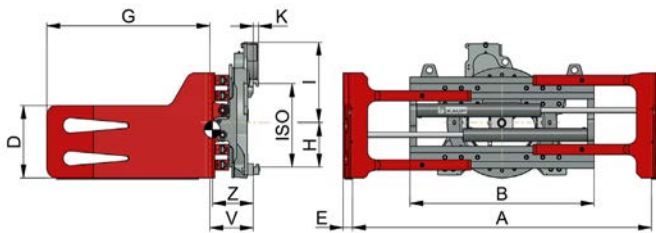


Pallet Turnover Clamp T451W/180

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 ¹⁾ Nm	Vol ²⁾ ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1,5T 451W/180	1.250	500	540-1.720 530-1.930	970 1.200	E1 mm	D1 mm	G1 mm	E2 mm	D2 mm	G2 mm	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

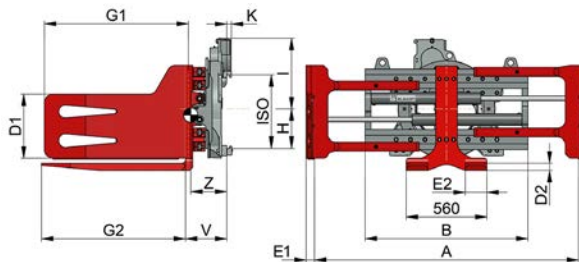
Attention: Additional forks exclusively possible with underclearance according to ISO class »B« version. 1) Md: Torque $\Delta P = 125$ bar. 2) Oil volume required per rev. Also available with sideshift, model T491W/180, see page 90. **Note:** Container must have suitable insertion slots.



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

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

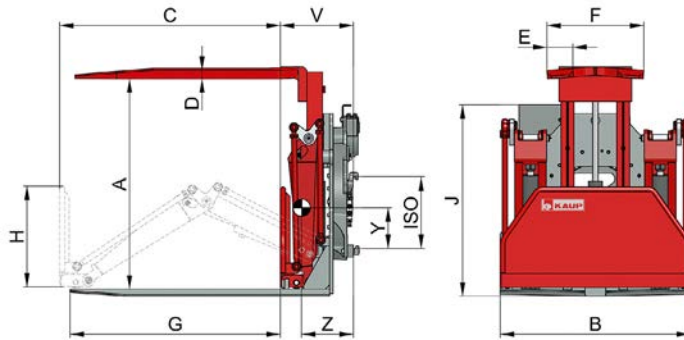


Rotating Bale Clamp T453/180

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 ¹⁾ Nm	Vol ²⁾ ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1,5T453/180	1.250	500	655-1.755 655-2.005	970 1.200	440	37	1.200	125	45	1.200	6.013	7,6	2B	267	427 420	652 668
2T453/180	2.000	500	575-1.875 585-1.985 585-2.185	1.040 1.130 1.330	440	42	1.200	150	50	1.200	7.700	9,7	2/3B	285	411 409 405	863 871 886
3T453/180	2.500	500	695-2.095 675-2.175	1.130 1.330	470	47	1.200	150	50	1.200	8.950	11,3	3B	304	409 406	1.084 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 T493/180, see page 90. **Note:** Container must have suitable insertion slots.

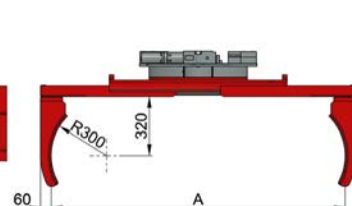
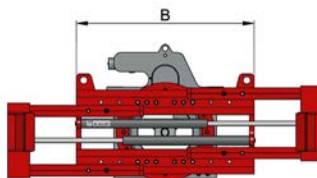
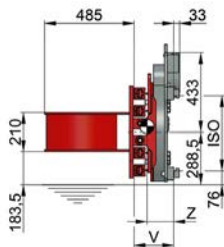


Pallet Turnover Clamp with Pusher T451WA 360° rotation continuous

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.



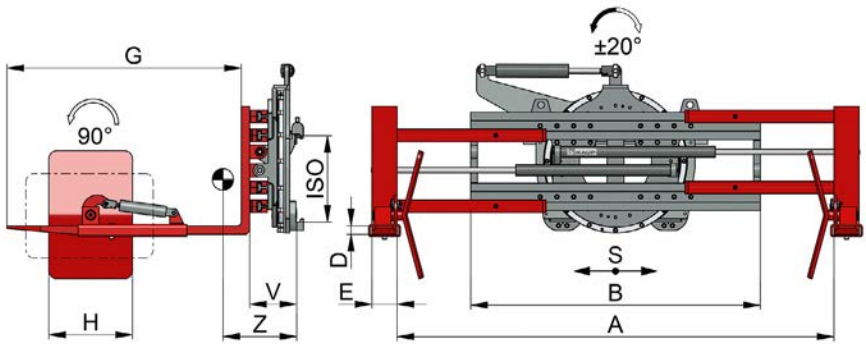
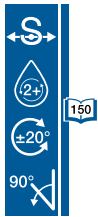
Rotating Drum Clamp T455-1

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.

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

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

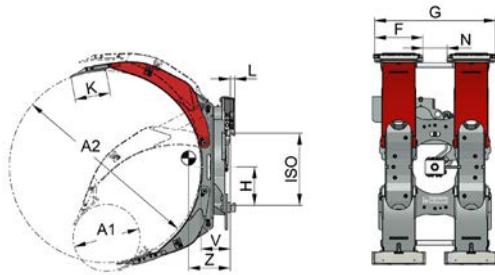
Terminal West / Pin-Type mounting available upon request.

Pads ± 90° tiltable available upon request.

Tyre Handler in various capacities and versions upon request.



Fig. Tyre Handler 20T221SV

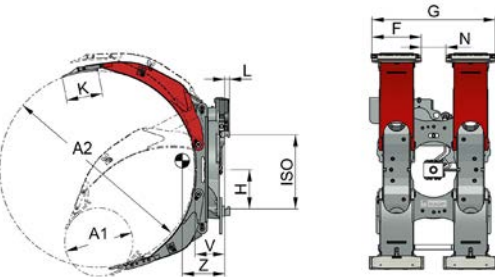


Rotating Roll Clamp T458BC 360° rotation continuous - short arm fixed

Model	Capacity 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
1T458BC	1.200	440-1.350	300	700	211	250	31	100	3.760	4,8	2	195	302	417
1,5T458BC	1.550	440-1.350	300	700	211	250	31	100	3.760	4,8	2	195	301	419
1,5T458BC	1.500	470-1.450	300	700	211	250	31	100	3.760	4,8	2	195	315	426
2T458BC	2.400	430-1.350	340	850	270	250	31	170	4.810	6,1	2*/3	203	348	541
2T458BC	2.000	460-1.600	340	850	270	250	31	170	4.810	6,1	2*/3	203	361	579
2T458BC	1.750	510-1.830	340	850	270	250	31	170	4.810	6,1	2*/3	203	365	602
3T458BC	3.200	450-1.350	340	850	338	250	34	170	5.590	7,1	3	207	245	669
3T458BC	2.800	500-1.600	340	850	338	250	34	170	5.590	7,1	3	207	269	713
3T458BC	2.500	650-1.830	340	850	338	250	34	170	5.590	7,1	3	207	292	752
4T458BC	4.200	480-1.350	420	1.000	384	300	41	160	8.800	10,3	3*/4	268	311	1.035
4T458BC	3.500	570-1.600	420	1.000	384	300	41	160	8.800	10,3	3*/4	268	328	1.058
4T458BC	3.400	670-1.830	420	1.000	384	300	41	160	8.800	10,3	3*/4	268	353	1.124
5T458BC	3.900	810-2.000	420	1.000	350	300	46	160	10.560	12,9	4	318	406	1.261
6T458BC	4.600	940-2.200	420	1.000	350	300	45	160	17.590	20,7	4	318	408	1.471

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

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

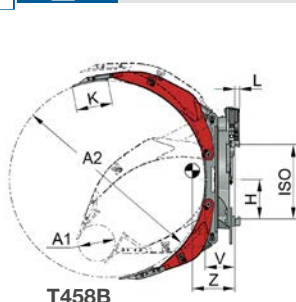


Rotating Roll Clamp T458BC-2 360° rotation continuous - short arm fixed

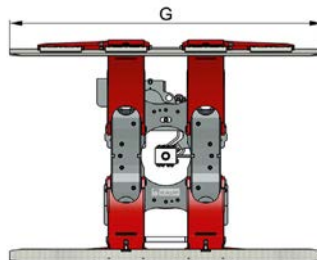
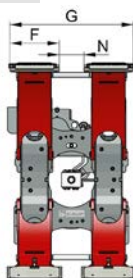
Model	Capacity kg	A1-A2 mm	F mm	G mm	H mm	K mm	L mm	N mm	Torque $\Delta p = 125$ bar Nm	Oil volume required per rev. ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1T458BC-2	1.200	440-1.350	300	700	211	250	31	100	3.760	4,8	2	195	301	418
1,5T458BC-2	1.550	440-1.350	300	700	211	250	31	100	3.760	4,8	2	195	300	419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

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

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



T458B



T458BR

Rotating Roll Clamp T458B

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

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

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

Rotating Tyre Clamp T458BR

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

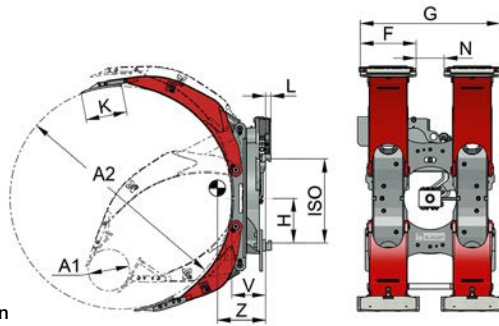
Model	Capacity kg	A1-A2 mm	G mm	H mm	K mm	L mm	Torque $\Delta p = 125$ bar Nm	Oil volume required per rev. ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1T 458 BCR ¹⁾	1.200	450 - 1.350	1.200	208	250	33	3.760	4,8	2	185	318	423
1T 458 BCR ¹⁾	1.100	500 - 1.450	1.200	208	250	33	3.760	4,8	2	185	322	439
1,5 T458 BR	1.150	200 - 1.350	2.000	208	250	33	3.760	4,8	2	185	369	476
1,5 T458 BR	800	250 - 1.600	2.000	208	250	33	3.760	4,8	2	185	410	517
2T 458 BR	2.400	200 - 1.350	2.000	270	250	33	4.810	6,1	2 ² /3	207	360	647
2T 458 BR	2.000	220 - 1.600	2.000	270	250	32	4.810	6,1	2 ² /3	207	399	697
2T 458 BR	1.700	350 - 1.830	2.000	270	250	32	4.810	6,1	2 ² /3	207	442	743

¹⁾ 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



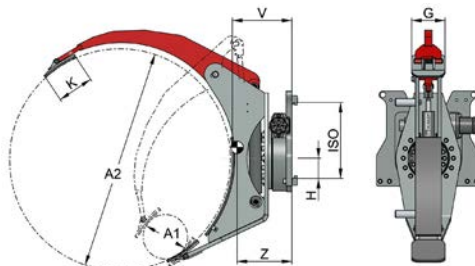
Model	Capacity kg	A1-A2 mm	F mm	G mm	H mm	K mm	L mm	N mm	Torque $\Delta p =$ 125 bar Nm	Oil volume required per rev. ltr.	ISO cl.	V mm	CofG Z mm	Weight kg
1T458B-2	1.200	200 - 1.350	300	700	211	250	31	100	3.760	4,8	2	195	300	421
1T458B-2	1.100	200 - 1.450	300	700	211	250	31	100	3.760	4,8	2	195	278	427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

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

Rotating

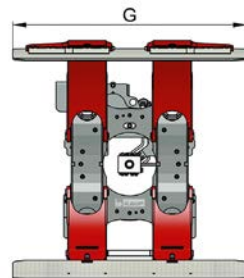
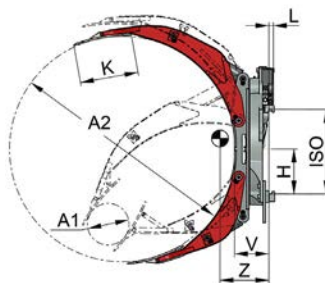
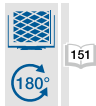
Roll Clamp T458S

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



Model	Capacity 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.

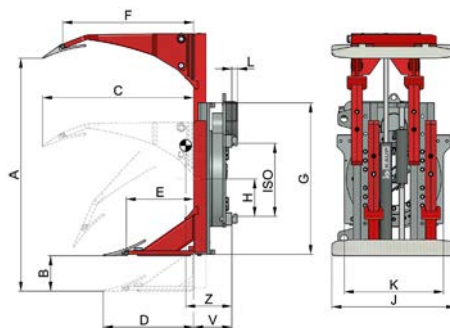
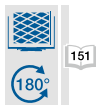


Rotating Tissue Roll Clamp T458BT 360° rotation continuous

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 ¹⁾	1.200	450 - 1.350	850	208	300	33	3.760	4,8	2	185	293	407
1T 458 BCT ¹⁾	1.100	500 - 1.450	850	208	300	33	3.760	4,8	2	185	296	423
2T 458 BCT ¹⁾	2.000	650 - 1.600	1.400	270	300	33	4.810	6,1	2 2/3	207	385	679
2T 458 BT	2.000	220 - 1.600	1.400	270	300	33	4.810	6,1	2 2/3	207	388	685
2T 458 BT	1.700	350 - 1.830	1.400	270	300	33	4.810	6,1	2 2/3	207	431	731
3T 458 BT	2.500	300 - 1.830	1.400	338	300	36	8.950	11,3	3	242	426	876
3T 458 BT	2.100	800 - 2.200	1.400	338	300	36	8.950	11,3	3	242	485	968
4T 458 BT	3.400	350 - 1.830	1.800	383	350	36	12.591	11,2	3 3/4	255	470	1.286
4T 458 BT	2.800	800 - 2.200	1.800	383	350	36	12.591	11,2	3 3/4	255	533	1.350
5T 458 BT	3.700	500 - 2.000	1.800	350	350	40	12.591	11,2	4	315	536	1.402
5T 458 BT	3.100	650 - 2.400	1.800	350	350	40	12.591	11,2	4	315	565	1.491

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

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

OTHER ATTACHMENTS

Overview Other Attachments

Page

Reach Fork
Pantograph



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Telescopic Fork
Fork Positioner with Telescopic Fork
Conveyer Belt Forks



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Pusher
Push-Pull



107 - 109

Tipping Carriage
Drum Tipping Device
Loading Bucket



110 - 111

Load Stabilizer with Sideshift
Load Stabilizer, Telescopic Load Stabilizer



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



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



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Load Backrest
Contact pad coatings
Accessories for KAUP Attachments



125 - 131

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



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

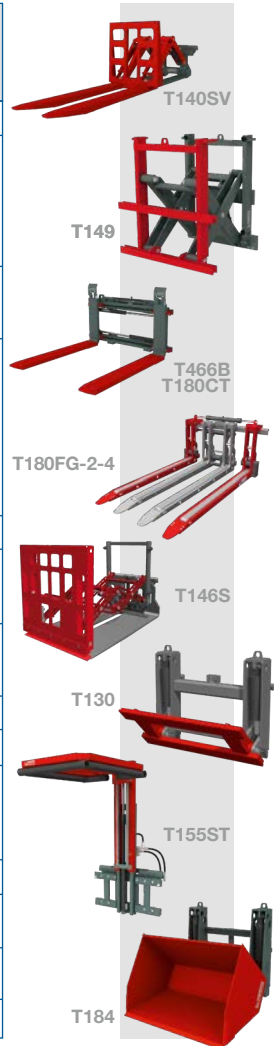


140 - 146

Recommended Oil flow rates and Pressures

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

Attachment	Page	Oil flow rate (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
6T 180 CT / .1	104	25	40	50	150
8T 180 CT / .1	104	30	50	60	150
2T/2,5T 466 C / 2,5T 180 CT	105	15	25	30	150
2T/2,5T 466 C / 2,5T 180 CT.1	105	15	25	30	150
4,8T 466 C / 3,5T 180 CT	105	15	25	30	150
4,8T 466 C / 3,5T 180 CT.1	105	15	25	30	150
4,8T 466 C / 4,5T 180 CT	105	15	25	30	150
4,8T 466 C / 4,5T 180 CT.1	105	15	25	30	150
6T 466 / 6T 180 CT	105	15	25	30	150
6T 466 / 6T 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.

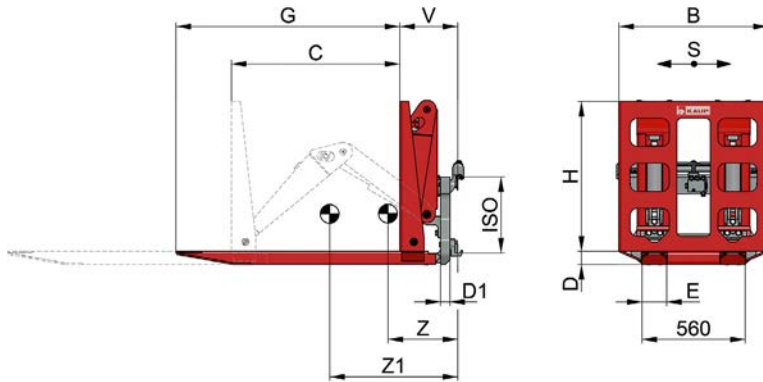
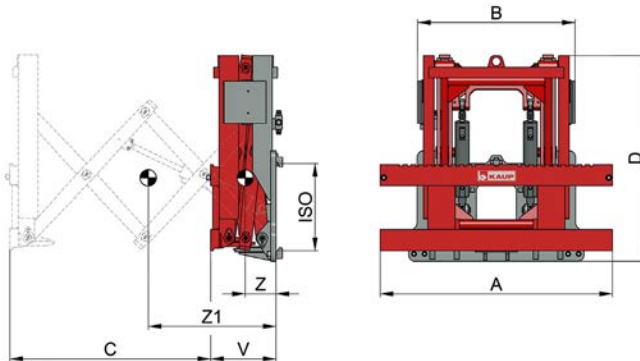


Fig. T140

Reach Fork T140SV - fix pair distance

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

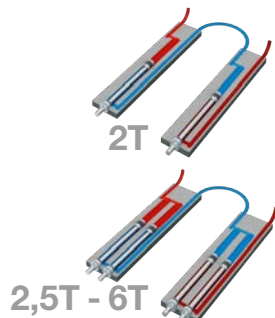
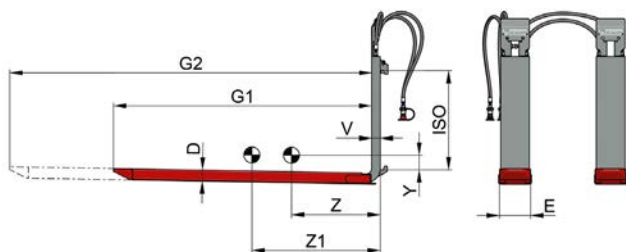
Preferential range Max. distance from fork tip to mast = $G + V + C$ + thickness of FLT carriage.
Also available without sideshift, model T140. In this case the lost load center is reduced by approx. 30 mm.



Pantograph T149/T149Z

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

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



Telescopic Forks T180CT with parallel movement

Model	Capacity (kg) at a LCD (mm)			E** mm	D mm	G1 mm	G2 mm	ISO cl.*	V mm	CofG Z mm	CofG Z1 mm	CofG _y 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 A	50	427	618	89	277
6T180CT	6.000	2.500	---	163	67	1.200	2.050	4	55	373	520	94	280
6T180CT.1	6.000	2.500	2.050	163	67	1.350	2.350	4 A	55	436	617	82	300
8T180CT	8.000	3.300	---	215	68	1.200	2.050	4	55	376	535	92	370
8T180CT.1	8.000	3.300	2.750	215	68	1.350	2.350	4 A	55	439	633	81	398

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

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

Accessories

Wear and tear bar

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



Load Stop A1, A2 and A3

Pallet stop A1

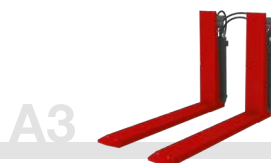
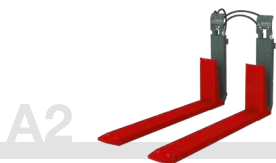
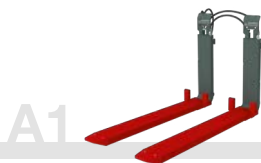
to confine the useable length of the forks for pick up of one pallet. In retracted position the pallet stop A1 is flush with the fork shank.

Load stop A2

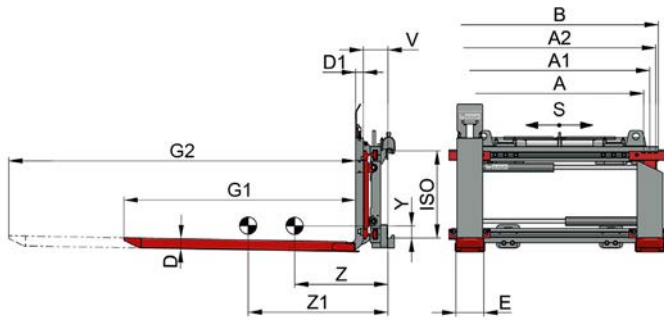
to confine the useable length of the forks. Use of the load stop reduces the useable length of the forks by at least 50 mm. Height of load stop A2 is 400 mm.

Load backrest A3

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



Additional accessories for telescopic forks upon request.



Fork Positioner with Telescopic Forks T466/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	CofG V mm	Weight kg
	600	1.450	1.750															
2T466C /2,5T180CT	2.500	1.030	---	320-1.020	1.040	163	57	45	1.200	2.050	100	2	138	348	440	140	336	
				320-1.120	1.150									345	437	142	339	
				320-1.320	1.350									336	425	145	350	
2T466C /2,5T180CT.1	2.500	1.030	860	320-1.020	1.040	163	57	45	1.350	2.350	100	2	138	397	529	133	352	
				320-1.120	1.150									394	525	135	355	
				320-1.320	1.350									385	511	138	366	
4,8T466C /3,5T180CT	3.500	1.600	---	320-1.120	1.150	163	58	45	1.200	2.050	100	3	153	301	391	194	438	
				320-1.320	1.350									291	377	197	458	
				320-1.500	1.550									282	365	201	478	
4,8T466C /3,5T180CT.1	3.500	1.600	1.350	320-1.120	1.150	163	58	45	1.350	2.350	100	3	153	343	457	186	455	
				320-1.320	1.350									332	441	189	475	
				320-1.500	1.550									322	426	193	495	
4,8T466C /4,5T180CT	4.500	1.850	---	320-1.120	1.150	163	58	45	1.200	2.050	100	3	153	301	391	194	438	
				320-1.320	1.350									291	377	197	458	
				320-1.500	1.550									282	365	201	478	
4,8T466C /4,5T180CT.1	4.500	1.850	1.550	320-1.120	1.150	163	58	45	1.350	2.350	100	3	153	343	457	186	455	
				320-1.320	1.350									332	441	189	475	
				320-1.500	1.550									322	426	193	495	
4,8T466C /4,8T180CT	5.000	2.070	---	320-1.120	1.150	163	63	50	1.200	2.050	100	3	153	314	402	189	459	
				320-1.320	1.350									305	388	193	479	
				320-1.500	1.550									295	376	196	499	
4,8T466C /4,8T180CT.1	5.000	2.070	1.710	320-1.120	1.150	163	63	50	1.350	2.350	100	3	153	358	469	181	478	
				320-1.320	1.350									347	453	185	498	
				320-1.500	1.550									337	439	188	518	
6T466B /6T180CT	6.000	2.500	---	440-1.350	1.460	163	67	55	1.200	2.050	100	4	176	284	349	254	633	
				440-1.540	1.650									277	339	258	656	
6T466B /6T180CT.1	6.000	2.500	2.050	440-1.350	1.460	163	67	55	1.350	2.350	100	4A	176	321	404	244	653	
				440-1.540	1.650									313	393	248	676	

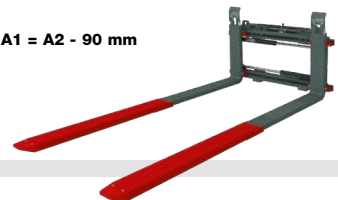


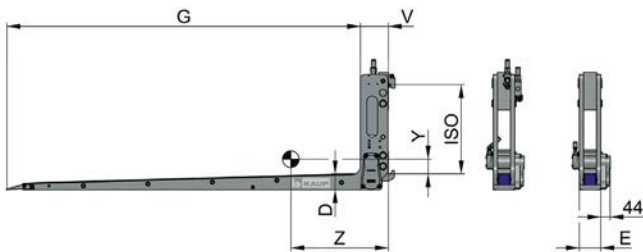
A2* | up to 4,8T: A = A2 - 140 mm / A1 = A2 - 70 mm | from 6T: A = A2 - 180 mm / A1 = A2 - 90 mm



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

Load stop see accessories for telescopic forks on page 104.

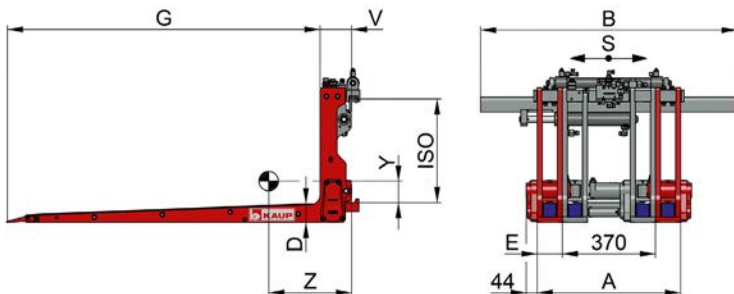




Conveyor Belt Forks T180FG

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

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



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

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

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

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



T180FG

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



T180FG-2-4S

with independent sideshift and with hydraulically adjustable forks



T180FG-4

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

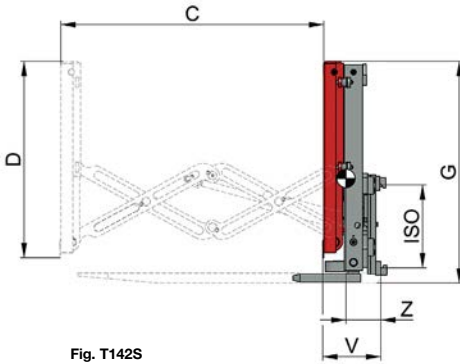
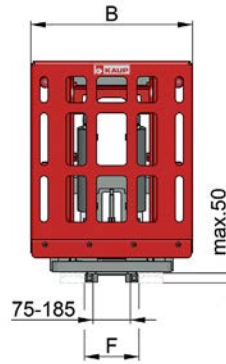


Fig. T142S



T141S/180

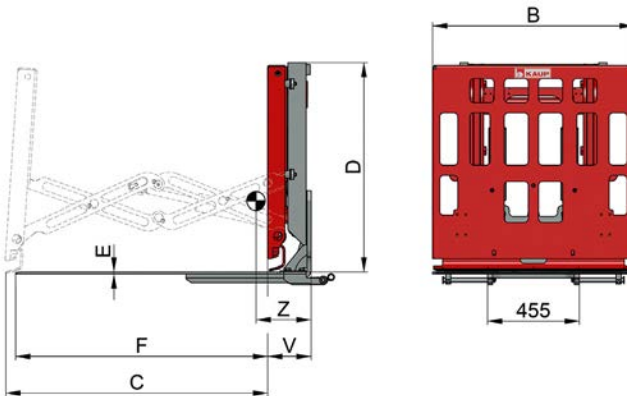
Multi-fork pusher available upon request

Pusher T141S - 1 hydraulic function

Pusher with pallet retainer T142S 2 hydraulic functions

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

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



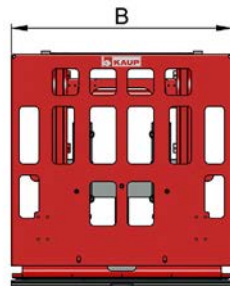
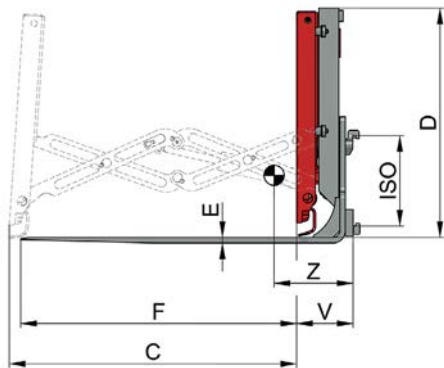
Push-Pull T143SA - slip-on-fork version

Push-Pull with sheet saver T145SA

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

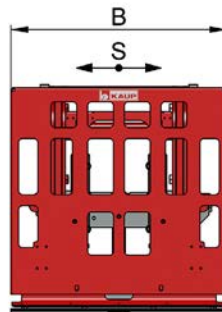
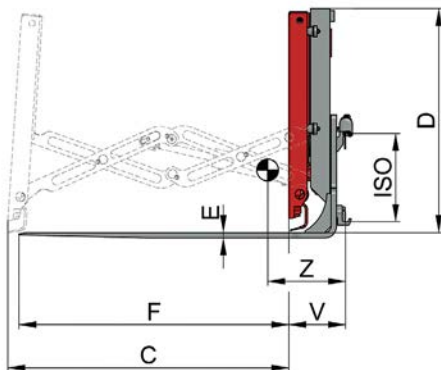
Model	Capacity kg	LCD mm	B mm	C mm	D mm	E mm	F mm	V mm	CofG Z mm	Weight kg
2T 143 SA	1.700	600	1.000	1.300	1.035	10	1.250	215	275	450
2T 145 SA	1.700	600	1.000	1.300	1.035	10	1.250	225	265	500

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



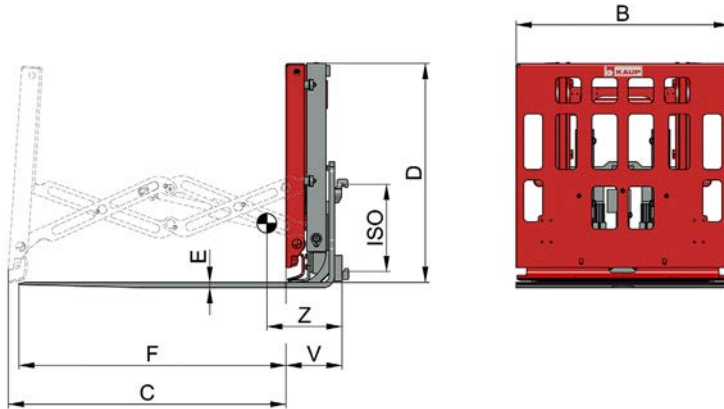
Push-Pull T143S

Model	Capacity 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

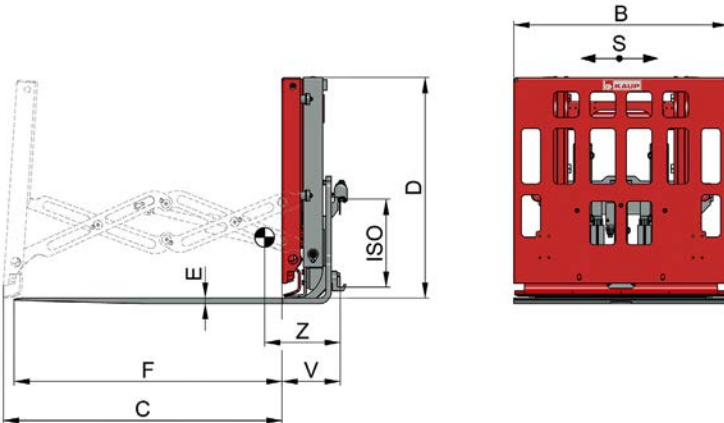


Push-Pull with sheet saver T145S

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).

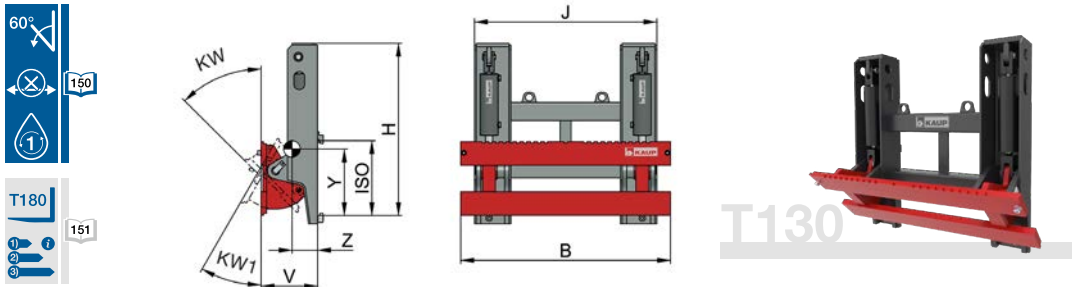


Push-Pull with sideshift and sheet saver T146S

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

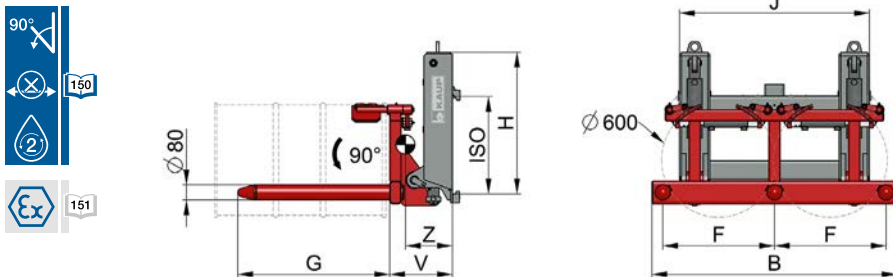
Lifting heights of more than 3.750 mm require a mast cable routing or an electric spring cable drum (see page 130 - 131).



Tipping Carriage T130

Model	Capacity kg	LCD mm	B mm	H mm	J mm	Tilting angle KW degrees	Tilting angle KW1 degrees	ISO cl.	V mm	CofG Z mm	Weight kg
2T 130	2.000	600	1.100	725	1.000	60°	0°	2	280	170	250
3T 130	2.400	600	1.100	725	1.000	60°	0°	3	290	185	270
4T 130	3.600	600	1.100	725	1.000	60°	0°	3	290	170	410
5T 130	4.600	600	1.100	820	1.050	60°	0°	4	422	240	500
6T 130	6.900	600	1.100	820	1.050	60°	0°	4	422	250	580

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

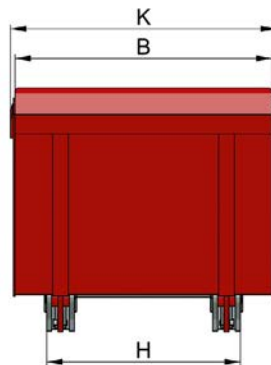
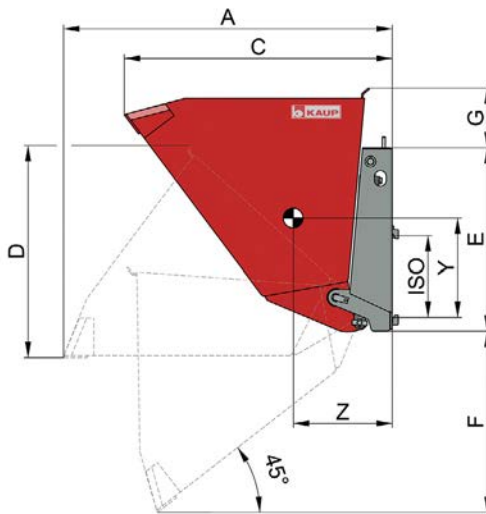


Drum Tipping Device T130F - rubber coated flaps - for cylindrical steel drums

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

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





T184

Loading Bucket T184

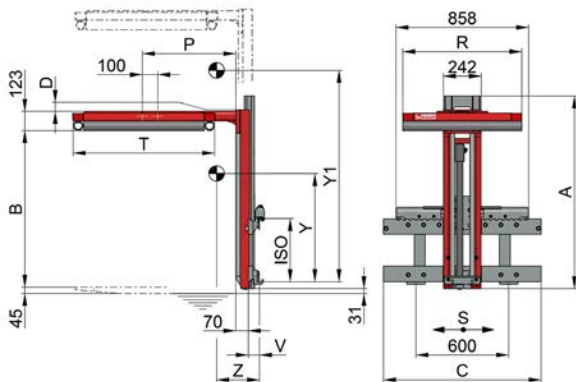
Loose goods such as sand, gravel, coal, grain, fertilizer, cement, clay, concrete etc. can be transported with the Loading Bucket (see approx. specific weights in table below). The Loading Bucket is tilted forward to the ground by means of hydraulic cylinders.

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

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

A few specific weights of loads (kg/m³)

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				



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 N	ISO cl.	S mm	V mm	CofG Z mm	CofG _v Y mm	CofG _v Y1 mm	Weight kg
1T 155ST	2.500	500	1.240	960-1.970	890	80	605	800	1.000	3.700	2 ± 100	± 100	82	208	577	1.041	236
1T 155.1ST	2.500	500	1.240	960-1.770	890	10	605	800	1.000	3.700	2 ± 100	± 100	82	210	567	935	232
1T 155.2ST	2.500	500	920	760-1.350	890	10	605	800	1.000	3.700	2 ± 100	± 100	82	221	470	740	214
1T 155.3ST	2.500	500	1.495	960-2.170	890	280	605	800	1.000	3.700	2 ± 100	± 100	82	200	623	1.178	251
1T 155.4ST	2.500	500	1.240	1.070-2.080	890	10	605	800	1.000	3.700	2 ± 100	± 100	82	207	606	1.072	237
1T 155.5ST	2.500	500	1.495	1.200-2.210	890	10	605	800	1.000	3.700	2 ± 100	± 100	82	201	674	1.138	250

Preferential range

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

T155



T155



T129S



T129



T129



T124

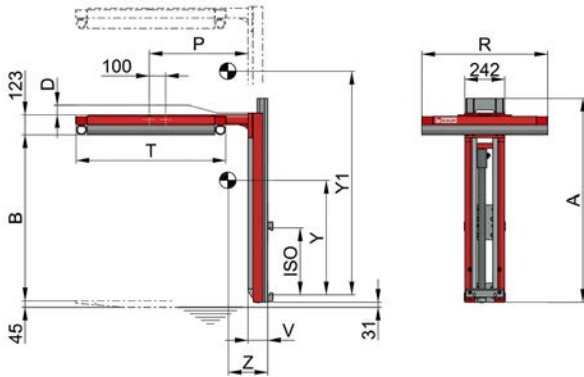


T124



T124





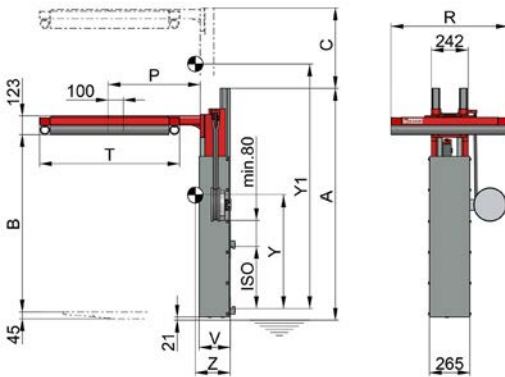
1T129

Load Stabilizer T129ST

Model	A 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 _V Y mm	CofG _V 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.

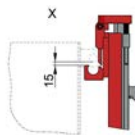
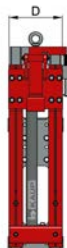
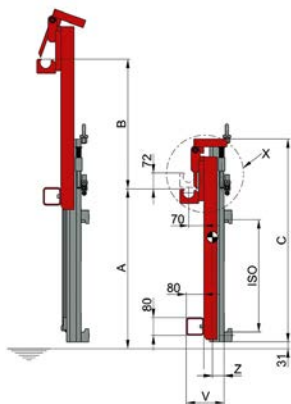


1T124

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 _V Y mm	CofG _V 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.

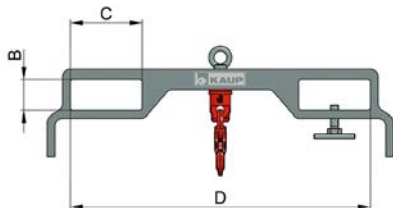


T167C

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

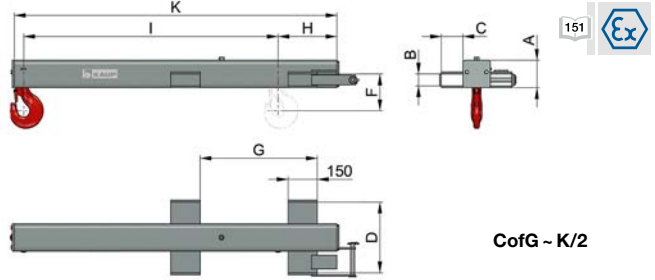
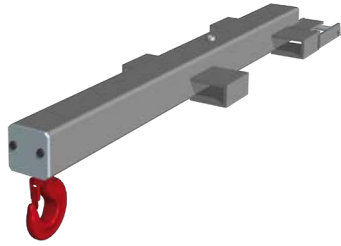
Model	Capacity kg	B mm	C mm	D mm	K mm	Weight kg
1T 183 G/S	1.500	60	140	585	100	23
2T 183 G/S	2.500	60	140	585	100	29
3T 183 G/S	3.500	60	140	585	100	32
5T 183 G/S	5.000	70	170	580	120	41



T183HTM

T183G

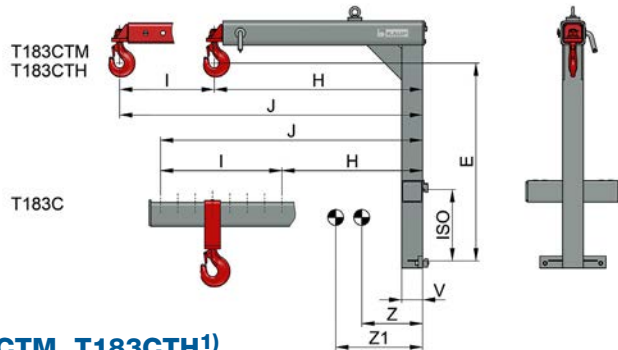




CofG ~ K/2

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

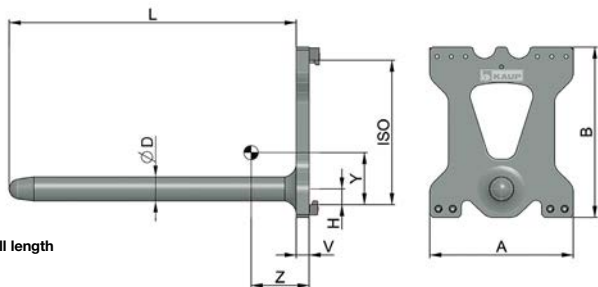


Crane Jib T183C, T183CTM, T183CTH¹⁾

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

¹⁾ T183C = hook manually adjustable
T183CTM = mechanical telescope
T183CTH = hydraulic telescope - 1 hydraulic function

Higher capacities upon request.



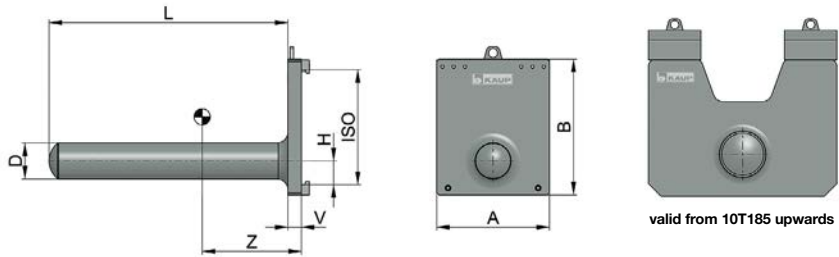
Ram length to be at least $\frac{2}{3}$ of roll length

Carpet Carrying Ram T185BT

Model	D mm	A mm	B mm	H mm	L mm	Capacity in kg at mm LCD								ISO cl.	V mm	Z mm	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

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

Terminal West / Pin-Type mounting available upon request.

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

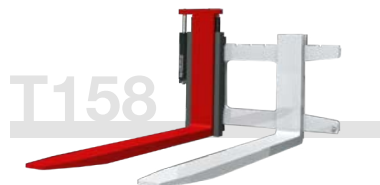
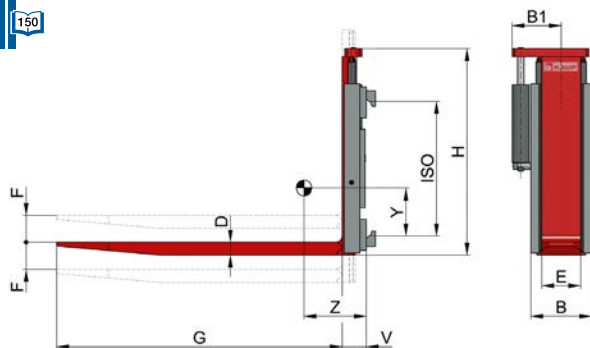


T185T



T185





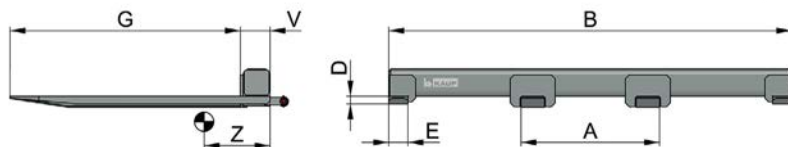
Height adjustable Fork T158 - standard fork for ISO carriage

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 _v 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.

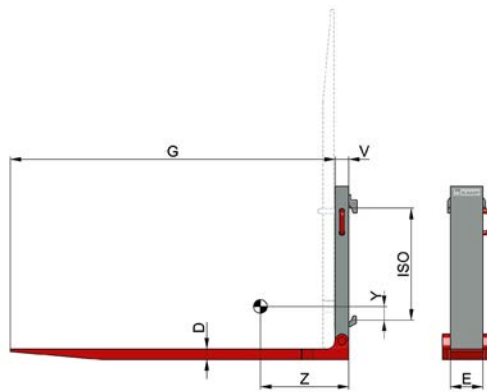


Cross Girder T180LA - slip-on-fork version

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.

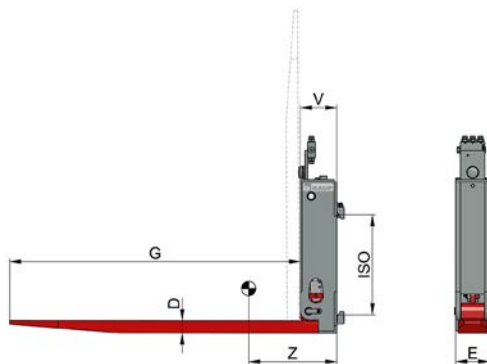
Secured by safety pins behind the fork shank as standard.



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 _v 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.

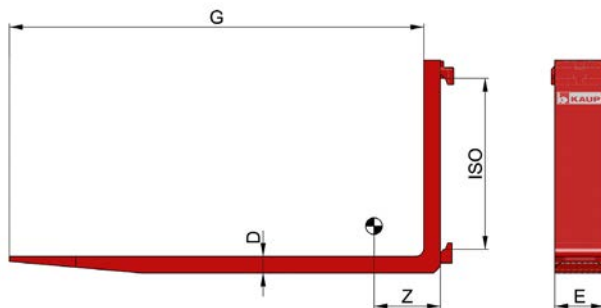


Foldable Fork T180KH - for mounting on ISO fork carriage - hydraulically foldable

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



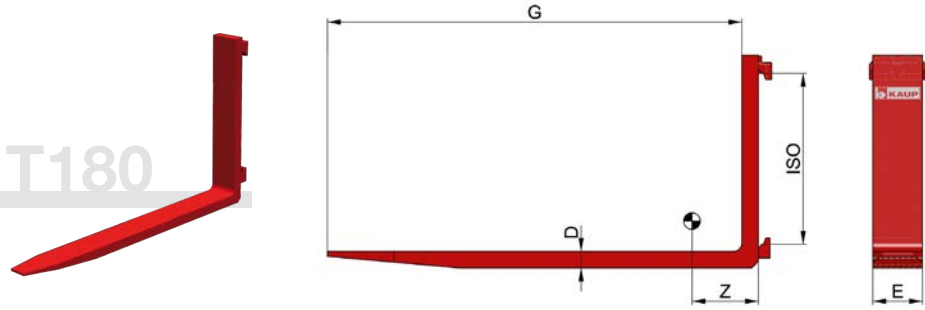
Hook-on Fork T180 - standard forks for ISO carriage

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).

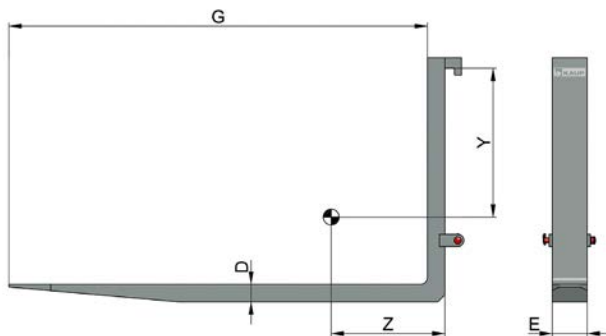
T180



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	
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.

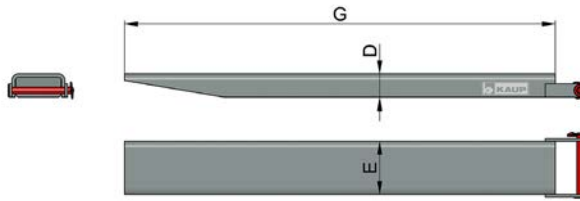


Hook-on Fork T180TW - with quick release system 'Terminal West'

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

Other capacities available upon request.





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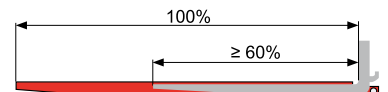


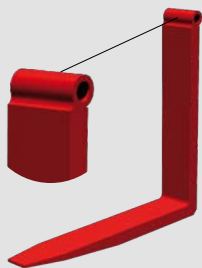
Fork Extension T181G - closed version - for KAUP Attachments

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

Other dimensions available upon request.

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

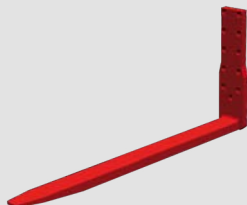




Pin-Type Forks

shaft mounting

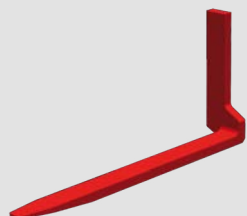
KAUP offers nearly every type of Pin-Type forks (shaft guided forks). As the dimensions are not standardized, and as these are mounted on a wide variety of high capacity forklift trucks and construction machines, we require detailed information before quoting such forks.



Bolt-on (screw-on) Forks

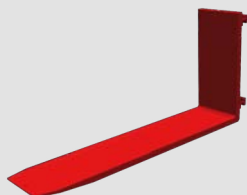
for attachments with bolt-on plates

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



Special Forks

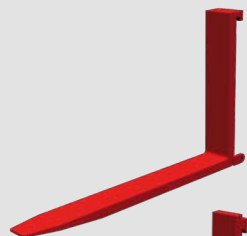
KAUP's programme includes nearly every type of special fork available on the market e.g. forks with offset shank, knife forks (full taper), folding forks, inverted forks, double forks (fork pairs), etc.



Forks with special dimensions

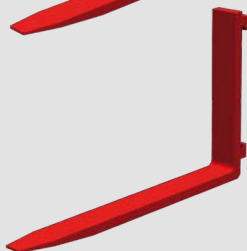
KAUP forks are available with fork sections ranging from 80 x 40 mm up to 400 x 120 mm.

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



Forks with quick release system 'Terminal West'

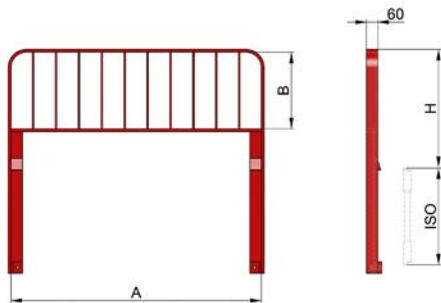
Model code T180TW - see page 122.



Forks for Rotators

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

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



Load Backrest T179

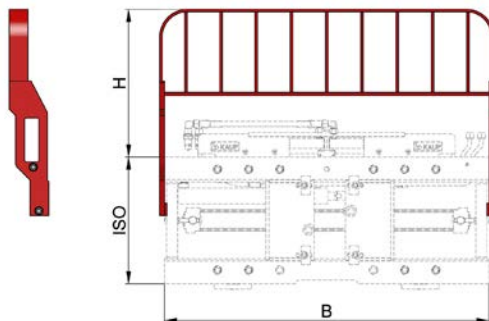
for fork carriages and sideshifter - bracket mounted version

Model	A 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 sideshifters see pages 16 to 25.
Maximum height H = 1.000 mm, otherwise upon request.



T179



Load Backrest T173

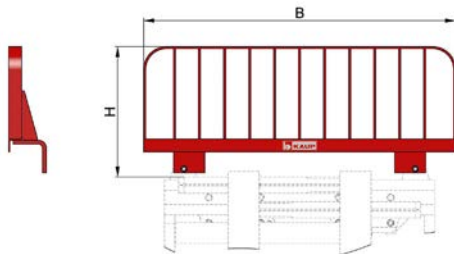
for fork positioners T156 and T163N/SN - screw-on-carriage version

Model	B 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.



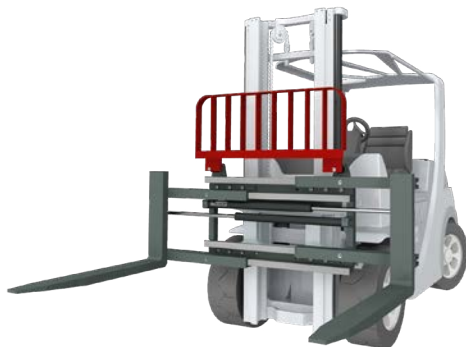
T173



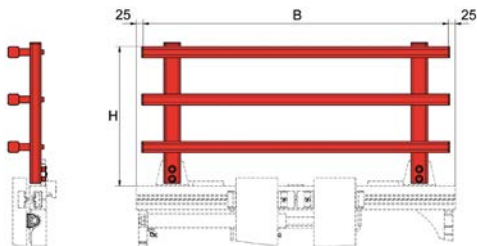
Load Backrest T479 - screw-on-body version
for KAUP ranges T160, T410Z, T411, T411Z, T411ZR, T411D,
T412, T413, T414, T415, T406, T466

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

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



T479



Load Backrest T479.1

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

Model	B 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 32 to 39 (T160B, T466B). Maximum height H = 1.000 mm.

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

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



T479.1

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

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



Cast contact pads

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



Bulb plate pads

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



Metal spray surface

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



SIC surface

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



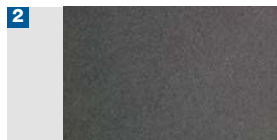
Polyurethane coating Poly-1 (light)

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



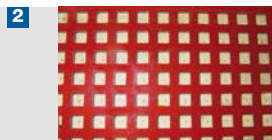
Polyurethane coating Poly-2 (dark)

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



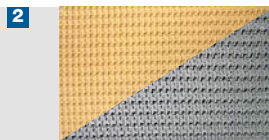
Rubber lining

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



Secutex lining

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



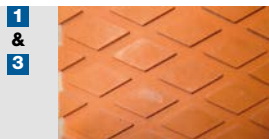
Gripping nap strap coating

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



Grooved profile rubber (RPG)

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



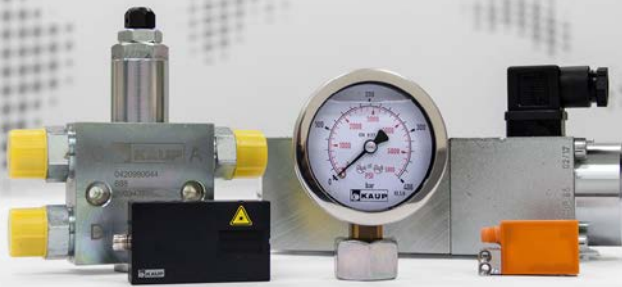
Remagrip coating

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

1 for use on KAUP Roll Clamps T458 - T498.

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

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



Accessories for KAUP Attachments

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

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

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

Accessories mechanical

Quick release bottom hooks

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

For attachments with sideshift

Part Number	ISO class	
012 020 5401	ISO class 2	
012 022 1901	ISO class 3	
012 022 4801	ISO class 3 (4T)	
012 022 4701	ISO class 4	



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



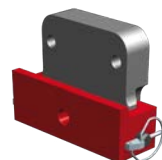
Version for attachments
with sideshift
ISO class 2 and 3
(cl. 3 only 3T version)

For attachments without sideshift (for clamps)

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

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

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



Version for attachments
without sideshift

Accessories hydraulic

Part Number	Name of the item	
048 099 0040 re	Double hose reel	Length 2.800 mm
048 099 0041 li	nominal hose diameter DN 10	2.800 mm
048 000 3001 re	nominal pressure PN 225 bar	4.500 mm
048 000 3002 li		4.500 mm
048 000 3003 re		5.500 mm
048 000 3004 li		5.500 mm
048 000 3005 re		6.500 mm
048 000 3006 li		6.500 mm
048 099 0007	Quadruple Hose Reel Δp 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	Solenoid valve for further circuits, DN 12	80 Volt
042 021 0061		12 Volt
042 098 0020		24 Volt

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

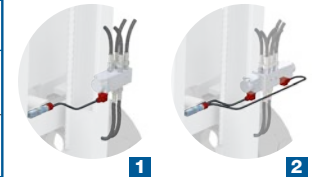
Part Number	Name of the item	
1 026 008 1001 026 008 1002	Cable routing in pipe system Mast cable routing for lifting heights up to 5.600 mm Mast cable routing for lifting heights up to 8.000 mm	
2 026 008 1003 026 008 1004	Guiding with reverse roller pulley Mast cable routing for lifting heights up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



 ¹⁾ 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	
1 026 008 2001	Attachment connection for single solenoid valve ¹⁾	
2 026 008 2002	Attachment connection for double solenoid valve ¹⁾	



 ¹⁾ The solenoid valve is not part of the delivery.

Predefined sets for choosing the most suitable Electrical Assembly Kit

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

Accessories electrical

Electric Spring Cable Drum for electricity feed over Triplex mast

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



Radio controlled solenoid valve for wireless control of hydraulic functions

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



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

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



Optical / audible sensor

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



Sensor technology for

Appliance- and Large Surface Clamps

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



Forkylevel assistance system

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

Part Number of the set: 026 072 0601

Check device for

Appliance- and Large Surface Clamps / Roll Clamps

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



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



KAUP-eop: attachments - electrically operated

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

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

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

Precise, flexible, economical and smart



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



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



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



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



Sideshifter 1.7T151 eop

with bidirectional CAN bus communication for precise sideshift function



Capacity: 1.700 kg at 600 mm l.c.

Construction width: 880 mm

ISO class 2A



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

Rated current: 10 A

Rated power: 240 W



Fork Positioner 2T160B eop

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



Capacity: 1.500 kg at 500 mm l.c.

Construction width: 1.040 mm

ISO class 2A



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

Rated current: 20 A

Rated power: 480 W



Double Pallet Handler 1.5T429 eop

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



Capacity: 1.600 kg at 600 mm l.c.

Construction width: 930 mm

ISO class 2A



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

Rated current: 20 A

Rated power: 480 W



Rotator 1T351 eop

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



Rotation range: 360° endless

Torque: 2.000 Nm

Rotation speed: 2,5 min⁻¹

Capacity: 1.200 kg at 600 mm l.c.

Construction width: 930 mm

ISO class 2A



Supply voltage: 48 V DC (24V)

Rated current: 20 A

Rated power: 960 W



KAUP Fork Positioner with SmartFork®

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

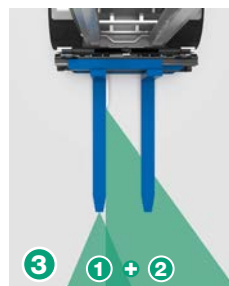
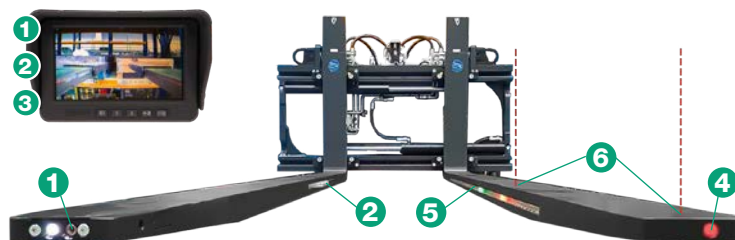
KAUP Fork Positioners with hook-on forks as well as with bolt-on forks can be supplied with SmartFork® sensors. We will be happy to advise you and configure the optimum system for your application.

SmartFork® - the advantages

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

The SmartFork® applications at a glance

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



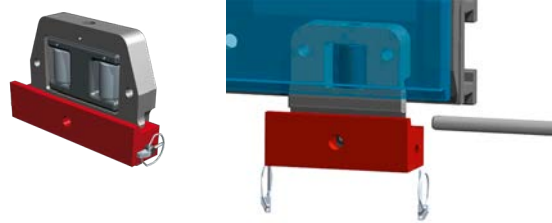
KAUP-Quick-coupling systems

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

Quick release bottom hooks

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

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



Quick coupler systems T013SW

locked hydraulically (T013SWH) or manually (T013SWM)

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

Further technical details available upon request.



PowerMount



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



Integrated or hook-on version



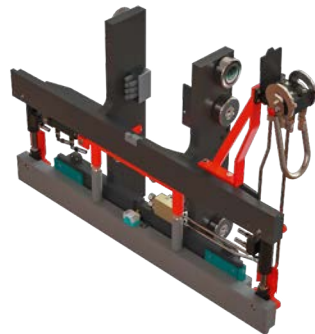
Capacity from 2.500 kg to 8.000 kg



Carriage sizes available in Class 2, 3 and 4



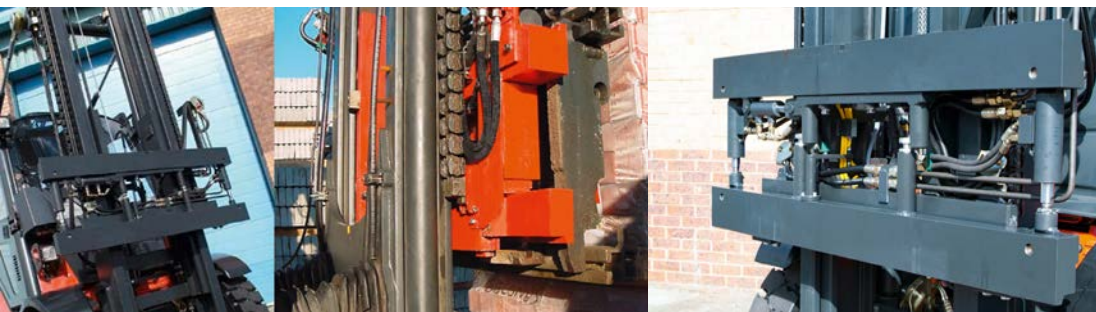
Quick release coupler system with up to
4 hydraulic connections available and
1 seven pin electrical supply to attachments.



PowerMount - key points

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

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





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

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



BlockMaster - the product range

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

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





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

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

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



FMYL545



FMOP900



C2LY545



C2OF900



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



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

LayerMaster - the advantages



Adjusted for a wide range of products:

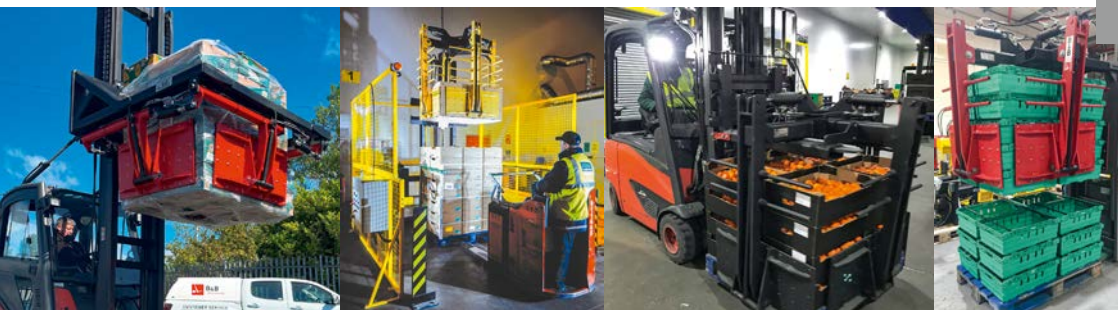
- Boxed and frozen goods
- Glass
- Plastics containers
- Tinned products
- Plastic trays
- ...



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

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

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





KAUP- forklift spreader for container handling

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

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

Durable and low maintenance



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



Camera systems.
LED work lights.



Highly flexible design allows handling of even damaged containers.

Options available



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



Tropical or seawater-resistant version available.



Large and individual customised telescoping ranges.



Separate (independent) sideshift.



Reach & slew function for precise positioning.



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

Fixed Top Lift Spreader T192E

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



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



1 hydraulic function



Capacity (SWL) from 1.000 kg to 45.000 kg



Top Lift Spreader T192E telescopic version

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



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



2 hydraulic functions



Capacity (SWL) from 1.000 kg to 45.000 kg



Top Lift Spreader T192E double telescopic version

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



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



2 hydraulic functions and solenoid valve



Capacity (SWL) from 1.000 kg to 12.000 kg



Fixed Side Lift Spreader T193

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



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



1 hydraulic function



Capacity (SWL) from 1.000 kg to 12.000 kg



Optionally available with independant sideshift



Optionally available with hydraulically adjustable bottom support



Side Lift Spreader T193 telescopic version

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



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



2 hydraulic functions



Capacity (SWL) from 1.000 kg to 12.000 kg



Optionally available with independent sideshift



Optionally available with hydraulically adjustable bottom support



End Lift Spreader T193L

For lateral handling of empty containers



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



1 hydraulic function



Capacity (SWL) from 1.000 kg to 8.000 kg



Rotating End Lift Spreader T193LD 360° rotation continuous

For lateral handling and turning empty containers.



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



2 hydraulic functions



Capacity (SWL) from 1.000 kg to 8.000 kg



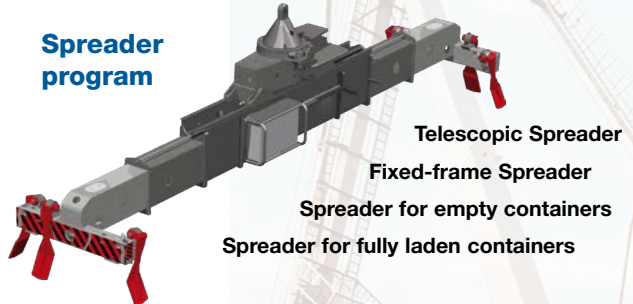
KAUP Container Spreaders

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

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



Spreader program



Telescopic Spreader

Fixed-frame Spreader

Spreader for empty containers

Spreader for fully laden containers

For operation on

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

Technical options available

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

Project planning:

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

Contact us! We analyse your material handling needs.

KAUP Stationary Material Handling Equipment

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



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

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

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

Contact us! We analyse your material handling needs.

20T251W/099 - Inverter for steel sheets



Optimise your material flow with KAUP system solutions



25T251W/099 - Inverter for steel sheets



1,6T451W/099 - Pallet Inverter



1,6T451W/099 - Pallet changer

Residual capacity calculation for forklift trucks with attachments

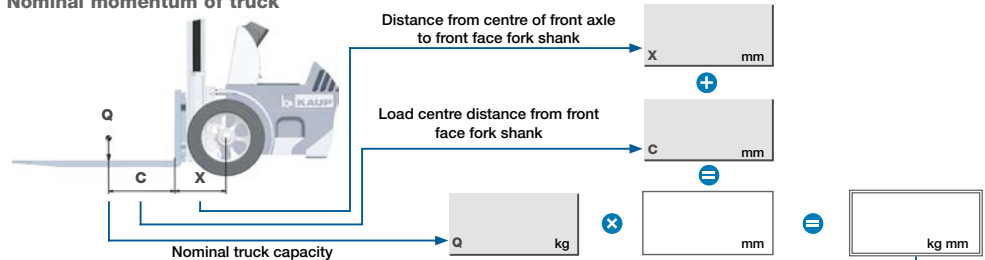
Please consider that a calculation according to this form will only show you an estimated residual capacity. Various factors influencing the residual capacity, such as extreme lift heights or load centre distances are not considered in this calculation. Please contact your forklift truck supplier for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

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

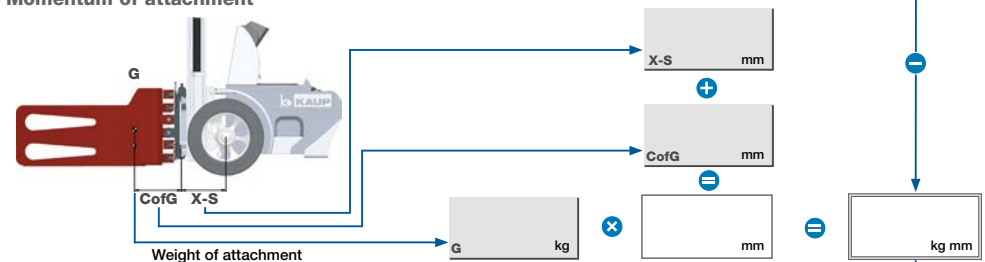
¹⁾ Please consider additionally measurement „V“ acc. to our indexes the thickness of the shank of clamping arms or forks.

Calculation scheme

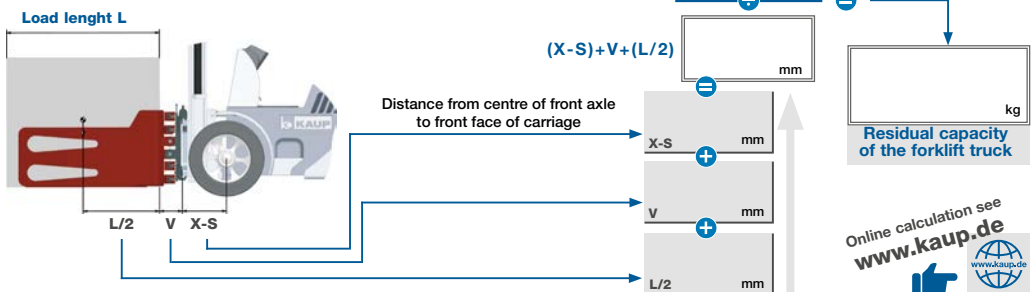
Nominal momentum of truck



Momentum of attachment



Residual capacity of the forklift truck



Online calculation see
www.kaup.de



SIDESHIFTERS



T151P2



T151P2



T253B-L/Q



T255

FORK POSITIONERS



T156



T163S



T163SN



T160BI

FORK POSITIONERS



T411BZ



T160BIZ



T466BIZ



T410Z

MULTI PALLET HANDLERS



T429C



T429C



T429C



T429-129

MULTI PALLET HANDLERS



T429B-1-2-3



T429-4-6



T429-4-6



T419-4-8

ROTATORS · LADLE TIPPERS



T351



T391



T351-T167S



0.8T351.2-SG

ROTATORS · LADLE TIPPERS



T351



T391



T360



T360G

FORK CLAMPS



T411I



T411



T411DH



T411-T106A-2H

BLOCK & BRICK CLAMPS



T412H



T412UHV



T412V-3



T412HP

BALE CLAMPS



T413B



T413B



T413



T413B

APPLIANCE- / CARTON CLAMPS



T413G-T180TM



T413G/099H SLC



T414B-1/099H SLC



T414GT-1L

ROTATING CLAMPS



T453-180



T451



T491



T451D

ROTATING ROLL CLAMPS



T458



T458BC-2



T498B



T458B

TELESCOPIC FORKS · CONVEYER BELT FORKS · PUSH PULLS · PANTOGRAPHS



T180CT



T180FG



T143SA



T149

CRANE JIBS · CARRYING RAMS · SPECIAL SOLUTIONS



T183C



T185



T136



T0991



What do the blue icons indicate?

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



Sideshift function

additional information given on page 



Attachment has **separate sideshift** serially. The maximum allowable sideshift stroke (e.g. ± 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 



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 



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 



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

Rotating function



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



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



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

Tilting function



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



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



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

Multi Pallet Handling



For 1 or 2 pallets next to each other.



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



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



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



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



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



What do the grey icons indicate?

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



Accessories, options and important information

Load backrests



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

found on page 125



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

found on page 125



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

can be found on page 126

Important information



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

model T180 are available. See from page 120



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

the forks.
Clamps can be found from page 61



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

range. Additional information can be found on page 11



Please note the additional information below the data table.

Contact pad coatings and sensor technology



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

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



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



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

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

Special versions



Attachment is available for operation in explosion hazardous areas.

Additional information can be found on page 11



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



Attachment is available restricted to 180° rotation.



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



Helping hands for your Forklift truck

Forklift Truck Attachments Stationary Handling Equipment Container Spreaders



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



Helping hands for your Forklift truck

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