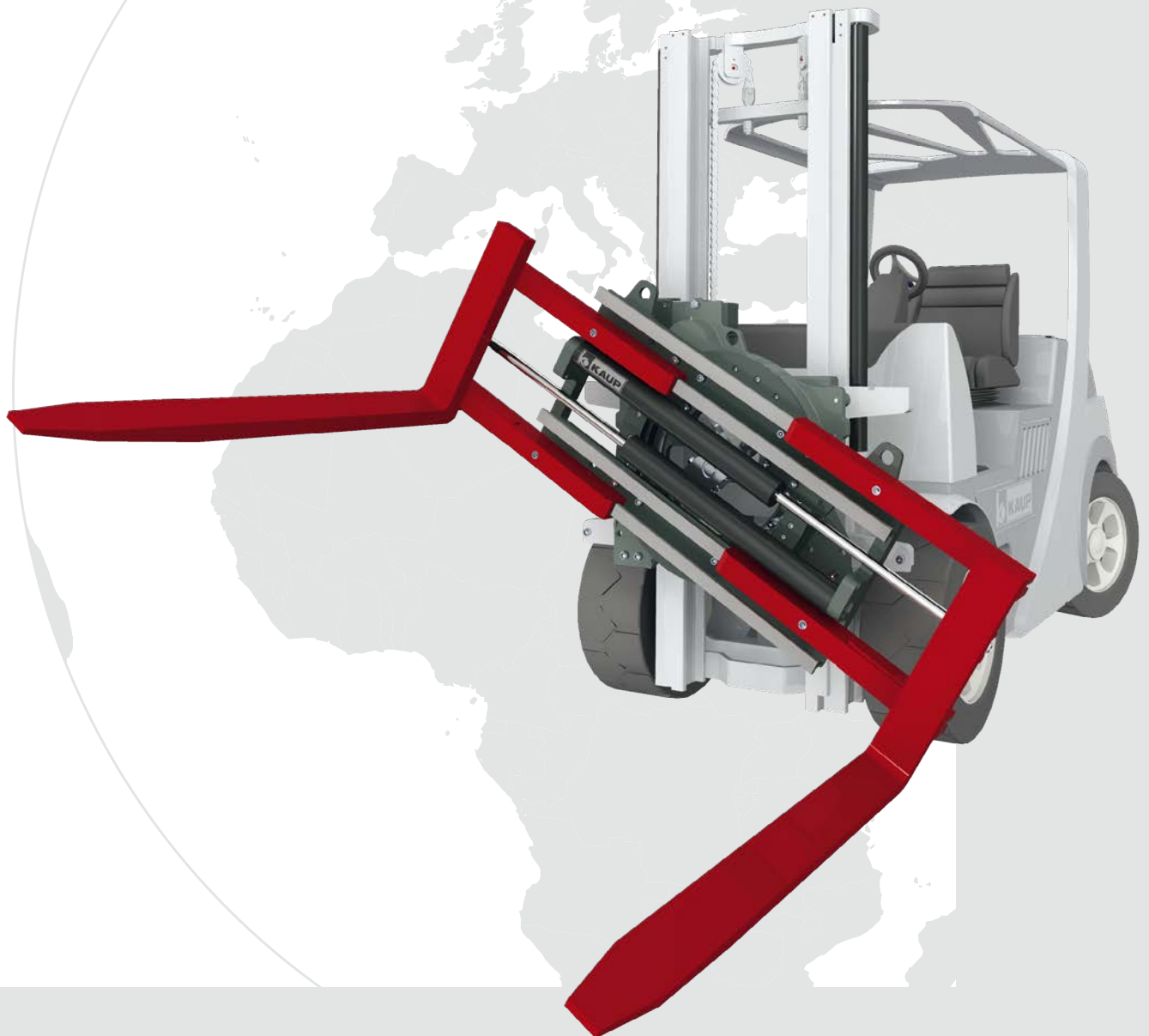




Helping hands for your Forklift truck

Rotating Fork Clamp T451/D
Pallet Turnover Clamp T451W/W180/WA
Rotating Bale Clamp T453
Rotating Fork Positioner T456Z



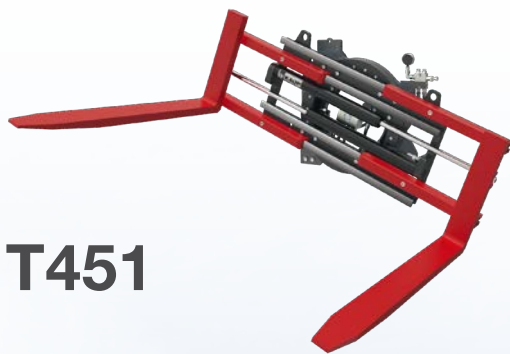
T451 · T453 · T456Z

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.

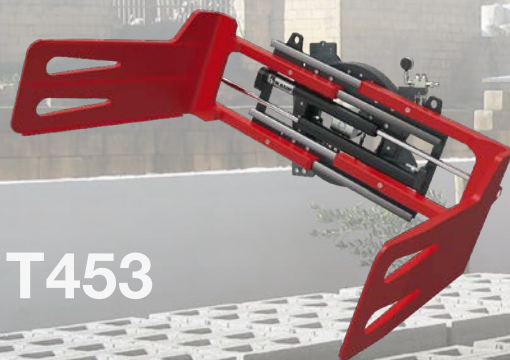
The modular principle systematically adopted by KAUP means that a very limited number of basic components is necessary to create the complete, highly versatile range of rotary attachments and clamps offered by the company. In turn, stocks of replacement parts can be kept small but are still adequate when need arises.



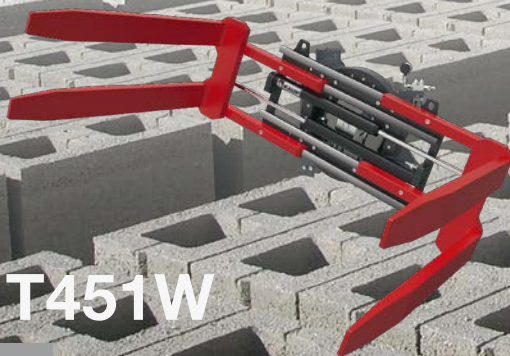
T451



T451A



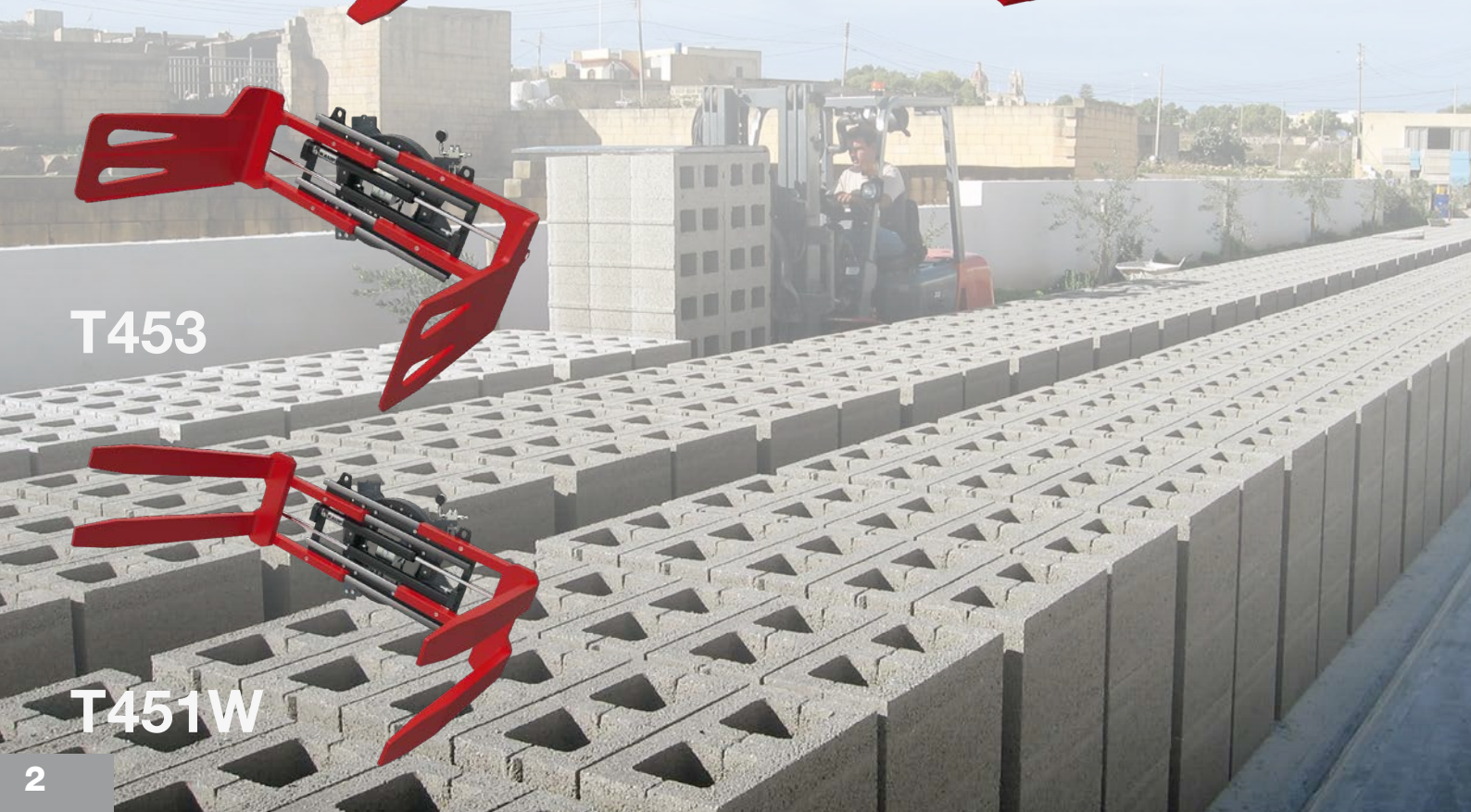
T453

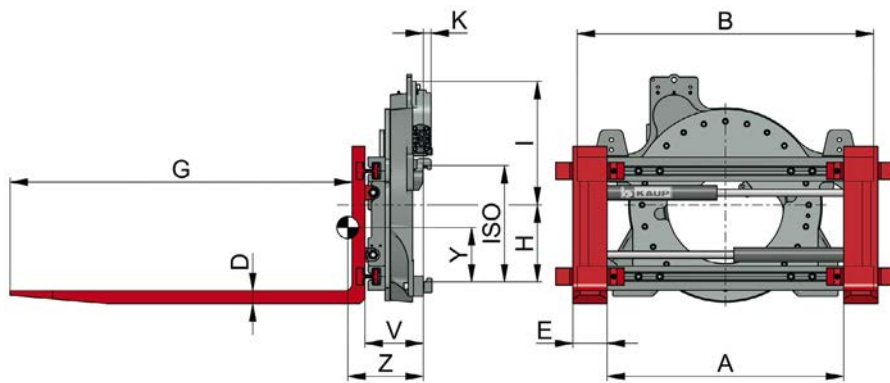


T451W



T456BZ





T456BZA

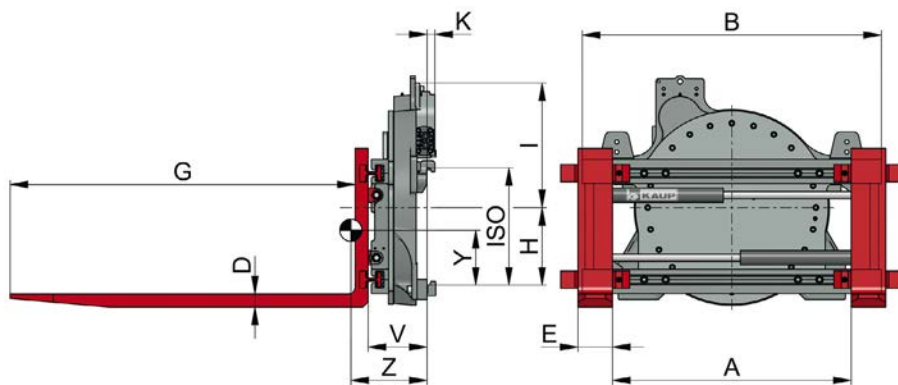


Rotating Fork Positioner T456BZ - Rotation 360° continuous

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

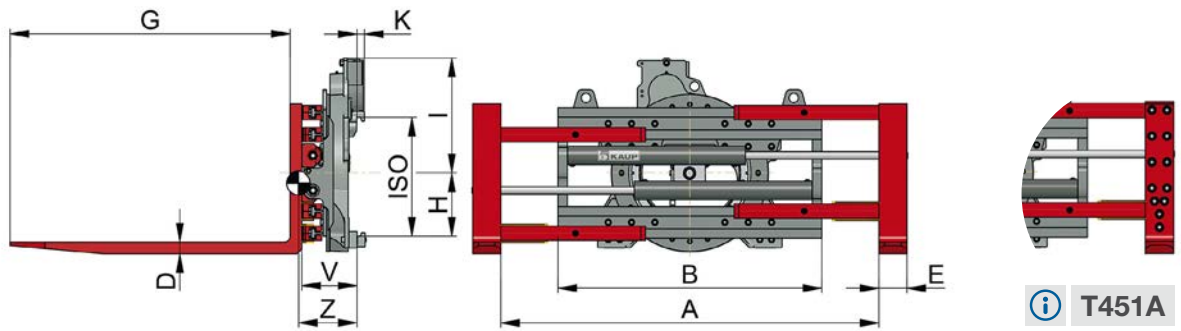
1) Md: Torque $\Delta P = 125$ bar. 2) Oil volume required per rev

Also available with sideshift, model T496ZG.

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

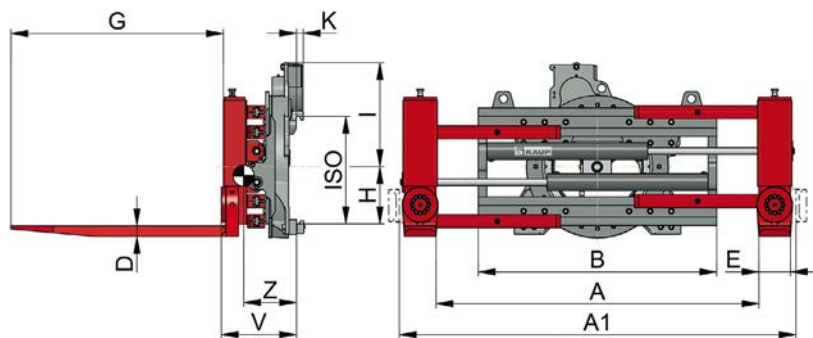
Fork length 'G' = 1.200 mm. Also available with sideshift, model T491.

1) Handling of europallets lengthwise not possible. 2) Md: Torque Δ P = 125 bar. 3) Oil volume required per rev.

T451A - Version with screw-on forks



2T451EX



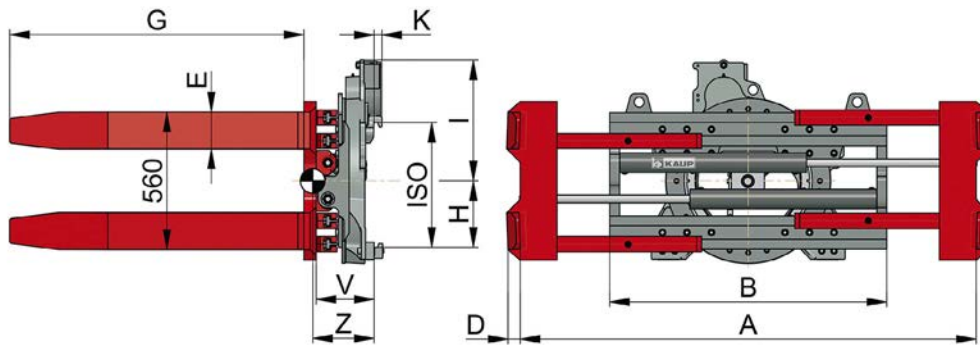
Rotating Fork Clamp with Turnable Forks T451D

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
2T 451 D	2.300	2.000	500	130-1.330	1.130	50	150	510-1.710	457	32	269	7.700	9,7	2/3	356	312	602	
				230-1.530	1.130			610-1.910									312	605
				230-1.730	1.330			610-2.110									308	620

¹⁾ Md: Torque Δ P = 125 bar. ²⁾ Oil volume required per rev. Fork length 'G' = 1.200 mm. Also available with sideshift, model T491D.



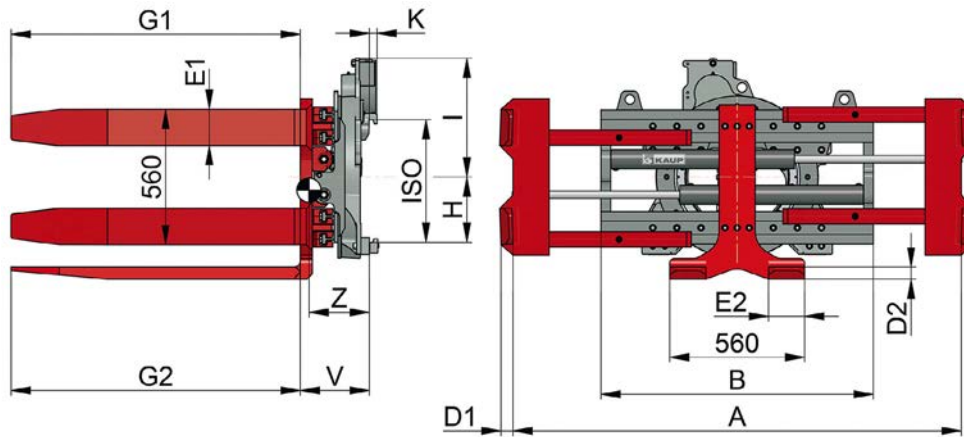


Pallet Turnover Clamp T451W - Rotation 360° continuous - with two movable fork pairs

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
1,5 T451W	1.250	500	540-1.720	970	45	125	1.200	213	432	33	6.013	7,6	2	216	383	531
			530-1.930	1.200											376	547
2T 451W	2.000	500	560-1.860	1.130	50	150	1.200	269	515	33	7.700	9,7	2/3	232	385	725
			560-2.060	1.330											381	740
3T 451W	2.500	500	560-1.860	1.130	50	150	1.200	338	395	40	8.950	11,3	3	279	373	869
			560-2.060	1.330											369	888
4T 451W	2.900	500	560-2.060	1.330	60	160	1.200	338	395	40	8.950	11,3	3	289	380	1.029
			560-2.190	1.460											378	1.041
4,5T 451W	2.900	500	560-2.060	1.330	60	160	1.200	328	675	36	14.823	17,4	4	291	364	1.155
			560-2.180	1.460											362	1.169
5T 451W	3.500	600	580-2.210	1.550	60	200	1.200	345	455	40	13.434	15,7	4	360	412	1.442
			850-2.750	1.550											407	1.505

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





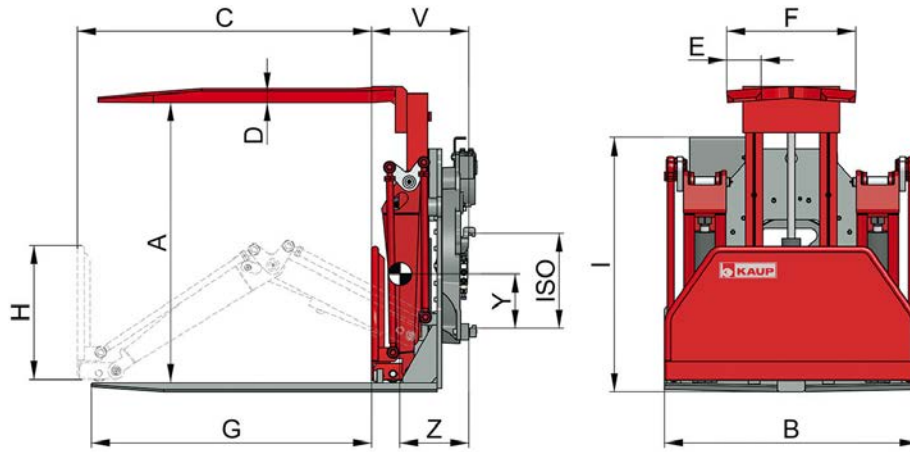
Pallet Turnover Clamp T451W/180

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

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

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





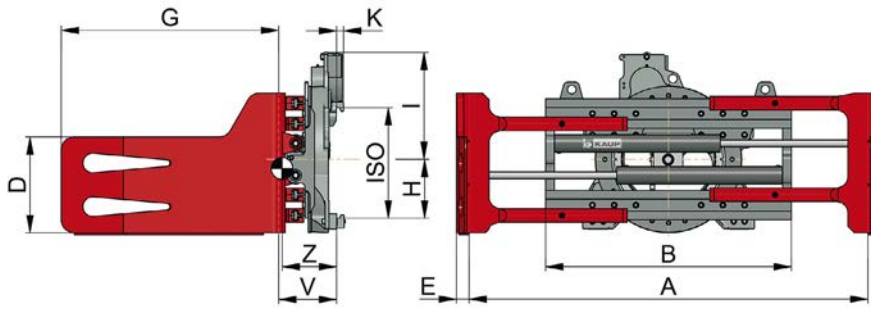
Pallet Turnover Clamp with Pusher T451WA 360° rotation continuous

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. Increased sideshift for container stuffing upon request. Lateral supporting plate upon request.



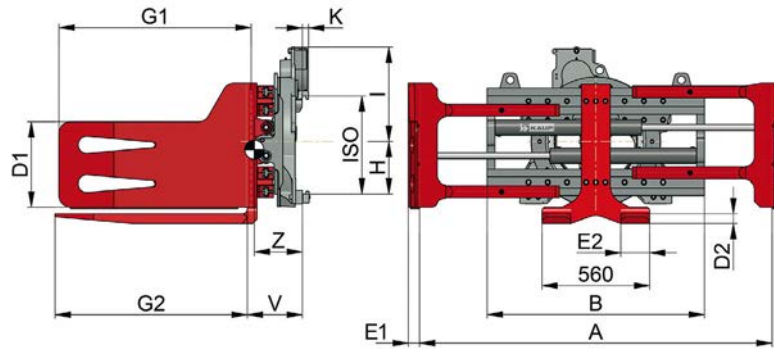
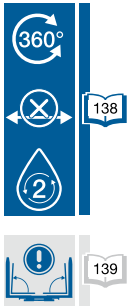


Rotating Bale Clamp T453 - 360° rotation continuous

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	970	440	37	1.000	213	478	33	6.013	7,6	2	246	312	462
			475-1.725	1.040											308	475
			465-1.865	1.200											305	485
2T 453	2.000	500	575-1.875	1.040	440	42	1.000	269	457	32	7.700	9,7	2/3	266	304	606
			675-2.075	1.040											303	609
			485-1.785	1.130											303	611
			585-1.985	1.130											302	614
			485-1.985	1.330											300	627
			595-2.395	1.520											291	667
2,5T 453	2.300	500	475-1.775	1.130	500	47	1.000	269	457	32	7.700	9,7	2/3	280	318	761
			475-1.975	1.330											314	780
3T 453	2.500	500	475-1.775	1.130	500	47	1.000	338	395	40	8.950	11,3	3	319	326	854
			475-1.975	1.330											323	873
			475-2.105	1.460											322	886
4T 453	2.900	500	375-1.775	1.330	500	47	1.000	338	395	40	8.950	11,3	3	329	314	928
			475-1.975	1.330											314	930
			605-2.235	1.330											314	933
			475-2.105	1.460											313	943
			385-2.105	1.550											312	991
4,8T 453	3.500	500	465-1.865	1.330	500	52	1.000	338	395	40	8.950	11,3	3	359	313	1.089
			695-2.325	1.330											313	1.096
			565-2.195	1.460											311	1.112

1) Md: Torque Δ P=125 bar. 2) Oil volume required per rev. Also available with sideshift, model T493. Variations in width, opening ranges and arm dimensions available upon request.



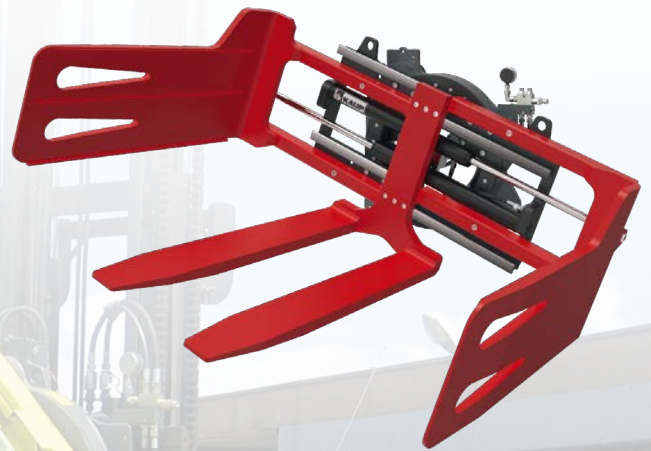


Rotating Bale Clamp T453/180

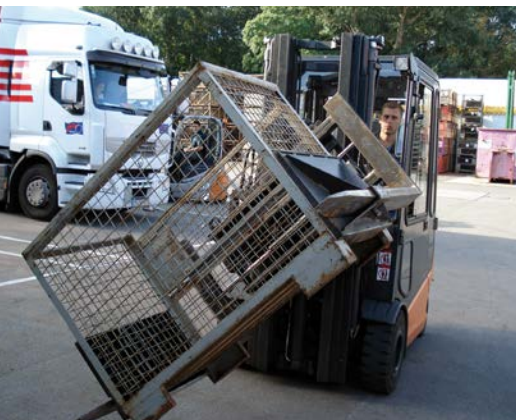
Rotation 360° continuous - with additional pair of forks to empty various boxes

Model	Capacity as clamp		LCD		Arm dimensions		Add forks			Md ¹⁾ Nm	Vol ²⁾ ltr.	ISO cl.	V mm	CofG Z mm	Weight kg			
	kg	mm	A mm	B mm	D1 mm	E1 mm	G1 mm	E2 mm	D2 mm							G2 mm		
1,5T 453/180	1.250	500	655-1.755	970	440	37	1.200	125	45	1.200	6.013	7,6	2B	267	427	652		
			655-2.005	1.200													420	668
2T 453/180	2.000	500	575-1.875	1.040	440	42	1.200	150	50	1.200	7.700	9,7	2/3B	285	411	863		
			585-1.985	1.130													409	871
			585-2.185	1.330													405	886
3T 453/180	2.500	500	695-2.095	1.130	500	47	1.200	150	50	1.200	8.950	11,3	3B	328	421	1.133		
			675-2.175	1.330													418	1.150

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



Rotating Fork Clamp T451



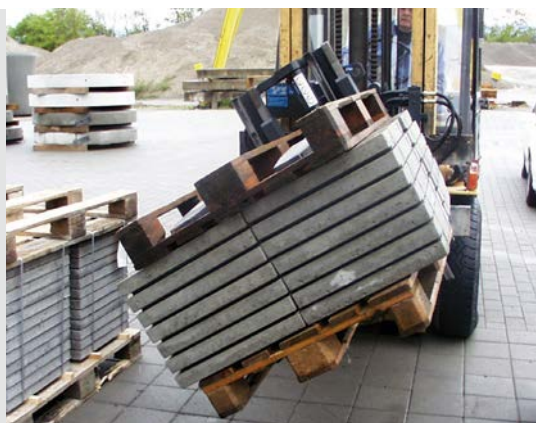
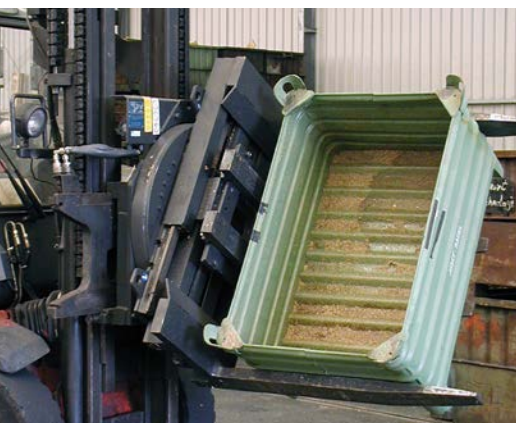
Rotating Fork Clamp with Turnable Forks T451D



Pallet Turnover Clamp T451W



Pallet Turnover Clamp T451W/180



Rotating Bale Clamp T453



Rotating Bale Clamp T453/180



Rotating Bale Clamp T453G · T493 · T453S



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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