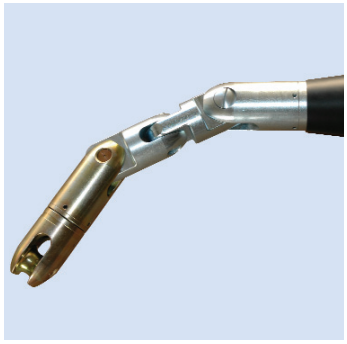
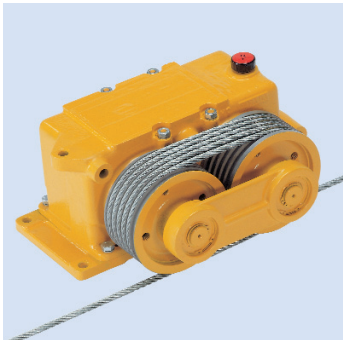
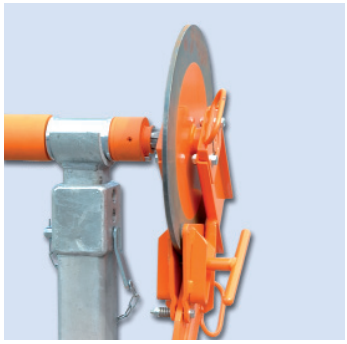
Cable laying and mounting devices for 110-550 kV cables







Vetter GmbH
Kabelverlegetechnik

Cable mounting and fixing systems 110-550 kV

Cable pulling heads for cable from 110-550 kV

Cable pulling and feeding machinery for high voltage cables

Cable drum winding machines for drums 20-55 t

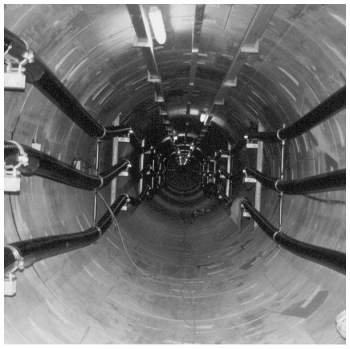
Cable drum shafts to winding machines 20-55 t

Cable drum brakes to winding machines

Cable drum drives to cable winding machines

Cable drum jacks hydraulic, for drums up to 55 t

Cable drum shafts and accessory for drums up to 55 t

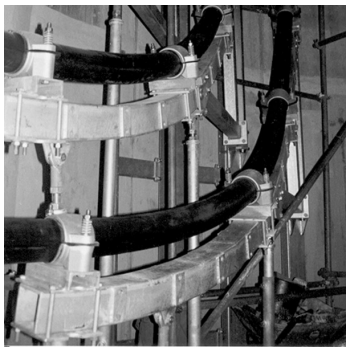


Cable mounting and fixing systems

Cable mounting and fixing systems of high voltage cables 110-520 kV. We design complete cable plants in tunnels and power station. For this we supply:

- Engineering and complete mounting and fixing equipment.
- The cable pull calculation and the procedure of the cable laying.
- The complete program of machinery and tools.
- References: Berlin, London, China, Taiwan, Merowe-reservoir dam and others.
- Please provide us with techn. details of cable, tunnel and laying design.
- If you send us plans you will get a first layout.

Code	Type	Tunnel	Cable	kg
287000	Tunnel	D 3 m, length 13 km	380 kV	0,00



Cable mounting in angles

Cable mounting and fixing in angles for safe guiding the cable during pulling from vertical in horizontal direction.

- This mounting system allows pulling of heaviest cables with relatively low forces.
- Big cable lengths of 1000 m and more can be pulled in through a ball bearing roller system.
- Immediately after cable pulling the cables is situated in the final fixing position.

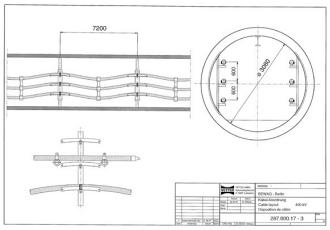
Code	Type	Bows	Radius	kg
287000	Bows	in each angle	from 2-4 m	0,00

Cable mounting in slopes

Cable mounting in slopes. This system offers in steep slopes an ideal cable fixing through the long saddle supports.

- Especially for slope channel calculations and constructions are necessary.

Code	Type	Plants with slopes	kg
287000	Slopes	Done up to a slope of 23°	0,00

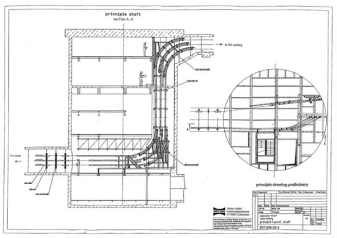


Cable pulling and fixing

Cable pulling is realized directly into the final cable saddle system.

- Fixing of the system, of the brackets and saddles is simple and fast.
- Cable saddles of antimagnetic stainless steel, all other parts of steel hot galvanized.
- Side moving or any other movements of the cables is not necessary after the cable pull.
- For this the cables will be handled very carefully.
- The final mounting costs are strongly reduced.

Code	Type	Cable saddle	Saddle lengths	kg
287000	Saddles	for Cable-D 90-160 mm	400-800 mm	0,00



Cable mounting in vertical shafts

Vertical shafts are a special challenge in cable laying and fixing especially in vertical shafts.

- In vertical channels many angles are three-dimensional.
- The roller bows are the solution for pulling and afterward for fastening.

Code	Type	Plants vertical	kg
287000	Verticals	Done down to 180 m.	0,00

Cable pulling heads

Cable pulling heads for single-conductor cables. Mounted directly on the conductor, for this much higher pulling forces are possible compared with cable grips acting on the cover. For high voltage cables 110-550 kV, from 800-3200 mm². Easy mounting procedure on cable manufacturers place or in the field within 2-3 minutes. This pulling heads are reusable continuously.

Please ask for offer indicating exact techn. details of the cable.

- Before dispatch of the cable one needs: 1 cable sleeve, 1 taper key, 1 cap.
- Before pulling the cable the cap will be unscrewed and the fork head screwed on the sleeve.
- Before cable pulling a cardan link and a swivel must be mounted on the pulling head.

Code	Type	Needed parts	kg
243600	KZK-Kombi	See description above	0,00

Cable jointing sleeves

Cable jointing sleeves for cable pulling-heads for pre-mounting on the conductor of high voltage cables.

- For high voltage cables 110-550 kV with CU- or AL-conductor of 400-2500 mm²
- Easy and fast mounting in the factory or on the working site in approx. 2-3 minutes.
- These pulling heads can be re-used many times.
- kN = Minimum Breaking Load

Code	Type	Cross section	Cond.-D	OD	kN	kg
243911	KZH 06-630	630 mm²	30-32	65 mm	125	1,50
243922	KZH 08-1200	800-1200 mm²	34-44	76 mm	240	2,50
243941	KZH 12-1600	1200-1600 mm²	44-53	86 mm	320	4,00
243956	KZH 20-2500	2000-2500 mm²	53-66	100 mm	500	5,60
2439562	KZH 25-3200	2500-3200 mm²	66-74	115 mm	500	6,00

Fork head

Fork heads for screwing on cable jointing sleeves immediately before pulling the cable in.

- On the site 1-2 fork heads will be enough.
- kN = Minimum Breaking Load

Code	Type	Cross section	Sleeve-D	Fork	Bolt	kN	kg
243912	GAB 06-630	630 mm²	65 mm	26	24	300	1,60
243923	GAB 08-1200	800-1200 mm²	76 mm	30	27	320	2,50
243942	GAB 12-1600	1200-1600 mm²	86 mm	35	30	400	3,10
243957	GAB 20-2500	2000-2500 mm²	100 mm	38	36	500	5,50
2439572	GAB 25-3200	2500-3200 mm²	115 mm	38	36	500	7,00

Hollow cone taper key

Hollow cone taper key for cable pulling heads for segmented conductors.

- Segment conductors with a centre rope need hollow taper keys.
- Exact conductor diameter is needed for an offer
- Also diameter of the centre core is needed.

Code	Type	Cross section	Cond.-D	kg
243926	KEIH 43-1200	1200-1400 mm²	42,0-43,3	0,17
243943	KEIH 46-1400	1200-1400 mm²	44,0-46,7	1,00
243945	KEIH 50-1600	1200-1600 mm²	48,0-50,3	0,70
243947	KEIH 53-1600	1400-1600 mm²	51,0-53,0	0,30
243950	KEIH 55-2000	1400-1600 mm²	53,2-56,5	0,35
243958	KEIH 57-2500	2000-2500 mm²	56,6-59,0	1,40
2439601	KEIH 60-2000	2000-2500 mm²	58,5-60,5	1,03
243961	KEIH 59-2500	2000-2500 mm²	59,0-63,0	1,00

243960	KEIH 63-2500	2000-2500 mm²	63,0-66,0	0,70
2439612	KEIH 66-3200	2500-3200 mm²	66,1-68,5	1,00
2439614	KEIH 68-3200	2500-3200 mm²	68,6-71,2	1,00

Solid cone taper key

Solid cone taper key for cable pulling heads for round conductors.

- For stranded conductors plane solid keys are used.
- Exact conductor diameter is needed for an offer

Code	Type	Cross section	Cond.-D	kg
243924	KEIV 35-800	800-1200 mm²	32,0-34,8	0,40
2439241	KEIV 37-800	800-1200 mm²	34,9-36,9	0,34
243925	KEIV 39-1000	800-1200 mm²	37,0-39,3	0,28
2439251	KEIV 41-1000	800-1200 mm²	39,5-41,5	0,21
2439254	KEIV 44-1000	800-1200 mm²	41,6-43,5	0,15
2439255	KEIV 46-1000	1200-1600 mm²	43,6-45,5	0,20
2439256	KEIV 48-1000	1200-1600 mm²	45,6-47,5	0,20
243959	KEIV 56-2300	2000-2500 mm²	55,5-58,0	1,50
2439591	KEIV 67-3200	2500-3200 mm²	65,5-67,4	1,66

Mounting tool

Mounting tool for all cable pulling heads for segment conductors with central rope. Made of special high quality steel, for beating in round taper keys.

Code	Type	Cross section	Central rope	Dimension	kg
243997	KMB 12-1600	1200-1600 mm²	D 11 mm	D 22x200	0,80
243998	KMB 20-2500	2000-2500 mm²	D 17 mm	D 28x200	0,90
243999	KMB 25-3200	2500-3200 mm²	D 20 mm	D 34x200	1,00

Cardan joint

Cardan joint for flexible connection of the cable pulling heads with the pulling rope-swivels.

- Together with the swivels it functions like a globe joint.
- Important for pulling the cable through curves in different directions.
- kN = Minimum Breaking Load

Code	Type	To pulling head	Swivel	kN	kg
243976	KKG 06-630	OD 65 mm	V 55 D	180	2,60
243978	KKG 08-1200	OD 76 mm	V 65 D	280	4,10
243982	KKG 12-1600	OD 86 mm	V 75 D	500	6,45

243985	KKG 20-2500	OD 100-115 mm	V 75 D	500	6,70

Swivels

Swivels with friction bearings, turnable connector between winch rope and cable grip. The friction bearing guarantees that the swivel reduces rotation and torsion with increasing pulling force. Not suitable for pulling overhead lines.

- Swivels for underground cables must be equipped only with friction bearings.
- With increasing pulling force friction bearings twist harder and thus avoid the untwisting of the pulling rope
- Ball bearings let untwist the ropes and leads to destruction.
- kN = Minimum Breaking Load

Code	Type	Cross section	D	L	Fork	Bolt.	kN	kg
243140	V 50 D	300 mm²	50	187	18	16	165	1,90
243150	V 55 D	630 mm²	55	190	20	18	180	2,30
243180	V 65 D	800-1200 mm²	65	235	26	24	300	3,50
243190	V 75 D	1200-2500 mm²	75	270	30	27	320	6,70
243200	V 85 D	1200-2500 mm²	85	315	34	30	400	9,50
243220	V 100 D	1200-2500 mm²	100	350	38	36	500	14,60

Closing cap

Closing cap with eye nut for screwing on the cable jointing sleeves.

- With the caps screwed on the cones the cable ends can be fixed on the drum.
- For pulling the cable, the cap will be unscrewed and replaced by the fork head.
- In no case must be pulled cables using this cap.

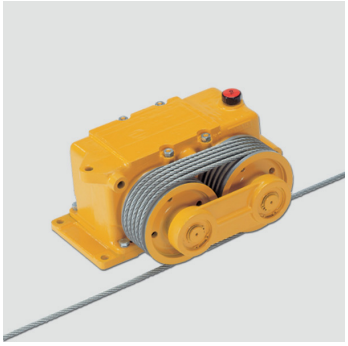
Code	Type	For sleeve-D	daN	kg
243965	ADK 65-630	65 mm	not for cable pulling	1,10
243968	ADK 76-1200	76 mm	not for cable pulling	0,90
243970	ADK 86-1600	86 mm	not for cable pulling	1,20
243972	ADK 100-2500	100 mm	not for cable pulling	1,40
2439722	ADK 115-3200	115 mm	not for cable pulling	1,40

Cable guiding cones

Cable guiding cones of polyamide for soft running through the rollers of cable pulling heads.

- The cones should be used if the cable is much bigger than the pulling head.
- This combination guarantees a friction-free rolling of the cable through all parts of the roller line.

Code	Type	Polyamide-D	For sleeve-D	kg
24399126	KFK 76-130	76/130/110	76 mm	0,57
24399250	KFK 86-130	86/130x130	86 mm	0,44
24399445	KFK 100-140	100/140x130	100 mm	0,46

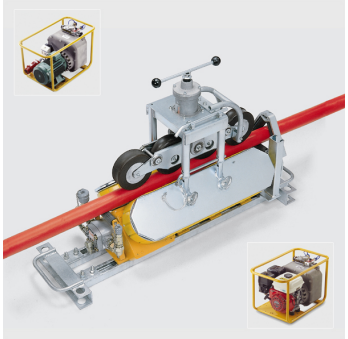


Cable capstan winches 40-50 kN

Cable capstan winches with hydraulic drive. Please select digital pull recorder or dynamometer as accessory to your need. A swivel with friction bearing is included. All other techn. details and accessory see below.

- Without rope, Cap. m/mm: 1100/12, 1300/11 or 950/13.
- Diesel engine Lamborghini, 33 kW, pay out speed 0-93 m/min.
- Easy pay out of the rope without energy due to automatic unwinding of the drum.
- Mounted on one axle trailer with height adjustable draw bar with overrun brake with eye coupling
- With swing out canopy. Winch furnishing RAL 1007 yellow.

Code	Type	Engine	Pull 1: m/min.	Pull 2: m/min.	kg
446241	TL 4041 DRHZ	Diesel 10 kW	40 kN / 0-23	10 kN / 0-115	1.480,00
446491	TL 5041 DRHZ	Diesel 10 kW	50 kN / 0-19	10 kN / 0-93	1.485,00

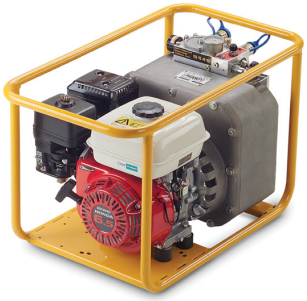


Cable feeders, hydraulic, 600 daN

Cable feeders, hydraulic with adjustable pushing and pulling force and speed. High performance reduces significantly the pulling forces of the cable winch especially in long cable lines with many curves. Included hydraulic power pack, hoses and valves. Can be driven alternatively with petrol engine or electro motor hydraulic power pack. Hydr. power pack flow 8 l/min., 250 bar. Tank volume 13 l. Hose set 7 m. Pushing and pulling speed progressively adjustable from 4-18 m/min. One loading device is included which size you can select acc. to your cable-diameter ranges. See table below.

- Pushing force 600 daN, what reduces winch pulling even more in winding lines.
- Can be driven outside with petrol power pack and inside with electro power pack.
- Light fractional weights of max. 60 kg, can be handled and be placed of 2 persons.
- Control with hoses, 7 m. Procedure easy to control from above ground.
- Dimension cable feeder 1170x380x700 mm, small for fixing in trenches, shafts or cable trays.
- Dimension hydr. power pack 770x480x500 mm, weight 65 kg.

Code	Type	C-D	Load device	Hydr. Unit	kg
425750	DF 6-90 HB	28-130	28-90	Petrol 5,9 kW	166,00
425752	DF 6-130 HB	28-130	45-130	Petrol 5,9 kW	168,00
425800	DF 6-90 HE	28-130	28-90	Electro 4,0 kW	161,00
425802	DF 6-130 HE	28-130	45-130	Electro 4,0 kW	165,00
425755	DF 6-160 HB	55-160	55-160	Petrol 5,9 kW	175,00
425805	DF 6-160 HE	55-160	55-160	Electro 4,0 kW	171,00



Hydraulic power packs mobile

Hydraulic power packs for cable feeders and drum drives without hoses and valves. Tank 13 Litre, oil flow 14 l/min.

Code	Type	Suitable for	Motor kW	Pressure	L/W/H mm	kg
425302	HB 210	Feeders + Drum drives	Petrol 6,3	210 bar	778/490/500	70,00
425312	HD 210	Feeders + Drum drives	Diesel 5,0	210 bar	790/510/565	85,00
425351	HE 210	Feeders + Drum drives	Electro 4,0	210 bar	733/405/433	67,00

Hydraulic hose set

Hydraulic hose set 7 m, with volume governor for hydraulic power packs.

Code	Type	Length	Flow governor	kg
425380	SL 7	7 m	up to 30 l/min	13,50

Cable winding units stationary

Cable winding and unwinding stands, stationary or for mounting on lorries etc. For drums from 20-50 t. See accessories like drum drives, drum brakes etc. Techn. details see table below. Please ask for our more extensive offers.

- Possible configurations:
- Drum flange brakes, one or both sides, breaking force 1250 resp. 2500 daN at cable.
- With an additional pre- and emergency brake braking forces up to 5000 daN are possible.
- Drive of the brakes per manual hydraulic pump or by electro-hydraulic drive
- Drum drives one-side or double sides, pulling force 1600 daN resp. 3200 daN
- Adjustable on the site to any drum width.

Code	Type	Cap.	Drum-D	Int. width	kg

331736	KTU 20 ST	20 t	2000-3700	any adjustable	1.870,00
331738	KTU 20 ST	20 t	2800-4300	any adjustable	1.880,00
331740	KTU 25 ST	25 t	3600-5100	any adjustable	1.945,00
331750	KTU 50 ST	50 t	3600-5100	any adjustable	1.980,00
331752	KTU 55 ST	55 t	4300-6000	any adjustable	1.980,00

Drum shafts for KTU 20-55

Drum shafts for KTU 20-55. The height adjustable drum supports are equipped with ball bearing rollers in which the drum shafts turn easily. The stand can be adapted to any drum width. Drum shafts are available in length from 3000 to 5000 mm in partition of any 500 mm. The shaft must be of min. 1 m longer than the widest drum width. In standard it is equipped with 4 clamps for fixing the shaft and the drum. Centring bushes have to be ordered separately according to the drum shaft diameter and the bore diameter of the drums. See below.

Code	Type	D/L mm	SWL	Drum width	kg
031483334	KSR 10122	101/4000	16 t	max. 3000	187,00
031483344	KSR 10825	108/4000	20 t	max. 3000	221,00
031483354	KSR 11417	114/4000	20 t	max. 3000	184,00
031483364	KSR 12120	121/4000	24 t	max. 3000	219,00
031483374	KSR 12714	127/4000	22 t	max. 3000	178,00
031483384	KSR 12725	127/4000	30 t	max. 3000	273,00
031483424	KSR 13917	139/4000	31 t	max. 3000	231,00
031483454	KSR 13930	139/4000	38 t	max. 3000	348,00
031483464	KSR 15925	159/4000	54 t	max. 3000	355,00
031483466	KSR 15925	159/4500	54 t	max. 3500	397,00
031483476	KSR 15930	159/4500	59 t	max. 3500	454,00
031483478	KSR 15930	159/5000	59 t	max. 4000	502,00

Centring bushes for drum shafts D 101-159

Centring bushes for drum shafts to fit with the drum bore, see table below. Also available in other diameters.

Code	Type	Shaft-D	Drum bore	kg
315765	ZB 101/125	101 mm	D 125 mm	10,00
315780	ZB 101/140	101 mm	D 140 mm	12,00
315815	ZB 108/145	108 mm	D 145 mm	15,00
315818	ZB 108/200	108 mm	D 200 mm	9,00
315850	ZB 114/150	114 mm	D 150 mm	15,00
315880	ZB 114/200	114 mm	D 200 mm	15,00
315920	ZB 121/200	121 mm	D 200 mm	15,00
315945	ZB 127/150	127 mm	D 150 mm	4,00
315952	ZB 127/200	127 mm	D 200 mm	12,00
315978	ZB 139/200	139 mm	D 200 mm	12,00
315987	ZB 159/185	159 mm	D 185 mm	16,00

315989	ZB 159/200	159 mm	D 200 mm	18,00

Drum brakes for KTU 20-55

Drum brakes for KTU 20-55, operated by hand pump or electro-hydraulic pump by separate hydraulic power pack. Per drum flange 1 brake shoe in front and behind. The drum can be braked on one or on both flanges. If high braking forces are required, e.g. at cable lowering in shafts etc. the pre- and emergency brake with independent hand pump should be installed. Electric power packs for one or two flange brakes have to be ordered separately.

• Drum flange brake on one or both sides, 1250 resp. 2500 daN braking force on the cable.
• Hydraulic by hand pump or by electro-motor-hydraulic.

Code	Type	Drum-D	Brake	Braking force	kg
331753	TRB 3701	2000-3700	one-side	min. 12,5 kN	135,00
331754	TRB 4301	2800-4300	one-side	min. 12,5 kN	135,00
331756	TRB 5101	3600-5100	one-side	min. 12,5 kN	136,00
3317561	TRB 6001	4300-6000	one-side	min. 12,5 kN	149,00
3317564	TRB 3702	2000-3700	both-sides	min. 25,0 kN	250,00
331757	TRB 4302	2800-4300	both-sides	min. 25,0 kN	270,00
331758	TRB 5102	3600-5100	both-sides	min. 25,0 kN	270,00
3317581	TRB 6002	4300-6000	both-sides	min. 25,0 kN	270,00

Drum brake shoes for drum brakes to KTU 20-55

Drum brake shoes to KTU 20-55. Each brake shoe is suitable for a certain range of drum diameter, see table below. They can easily be replaced by bigger or smaller ones. They are equipped by high performance brake linings of a long service life and can simply be changed by screwing right on the field.

For drum brakes one-side there are 2 brake shoes necessary, for brakes both-sides 4 brake shoes.

Code	Type	Drum-D	Radius	kg
331798	TBS 2400	2000-2400	1120	17,00
331799	TBS 2800	2400-2800	1320	17,00
331800	TBS 3200	2800-3200	1520	17,00
331804	TBS 3600	3200-3600	1720	17,00
331808	TBS 4100	3600-4100	1920	17,00
331812	TBS 4600	4100-4600	2170	17,00
331816	TBS 5100	4600-5100	2420	17,00
331818	TBS 5600	5100-5600	2670	17,00
331820	TBS 6100	5600-6100	2920	17,00

Accessory without photo

Drum pre-and emergency brake to KTU 20-55

Drum pre-and emergency brake to KTU 20-55, operated by an independent hand pump. The drum is braked from the bottom with two brake shoes on both flanges, when lowering cables in shafts etc. The brake shoes according to drum diameter have to be ordered separately.

• Drum flange brakes on both sides, min. 2500 daN braking force on the cable.
• Hydraulic only by hand pump.

Code	Type	Drum-D	Brake	Braking force	kg
3317584	TRV 3702	2000-3700	both-sides	min. 25,0 kN	213,00
331759	TRV 4302	2800-4300	both-sides	min. 25,0 kN	213,00
331760	TRV 5102	3600-5100	both-sides	min. 25,0 kN	213,00
331761	TRV 6002	4300-6000	both-sides	min. 25,0 kN	213,00

Drum drives for KTU 20-55

Drum drives for KTU 20-55, for electro-hydraulic drives of separate hydraulic power packs. Per drum flange there are 1 tandem rubber drive rollers in front and 1 behind. With this drive the drum can be driven or braked with the same force, see table below. If high braking forces are required, e.g. at cable lowering in shafts etc. the pre- and emergency brake with independent hand pump should be installed. Electric power packs for one or two flange drives have to be ordered separately.

• Drum drives, on one side or both sides, breaking force at the cable min. 800 resp. 1600 daN
• Hydraulic drive by electro-motor, continuous control.
• The drive is able to brake, braking forces are equal to the drum drive forces.

Code	Type	Drum-D	Drive	Force max./min.	m/min.	kg
331764	TAH 0802	2000-3700	one-side	16/8 kN	8/16	265,00
331765	TAH 1604	2000-3700	both-sides	32/16 kN	8/16	450,00
331766	TAH 0802	2800-4300	one-side	16/8 kN	8/16	260,00
331768	TAH 1604	2800-4300	both-sides	32/16 kN	8/16	530,00
331770	TAH 0802	3600-5100	one-side	16/8 kN	8/16	260,00
331772	TAH 1604	3600-5100	both-sides	32/16 kN	8/16	535,00
331773	TAH 0802	4300-6000	one-side	16/8 kN	8/16	260,00
3317732	TAH 1604	4300-6000	both-sides	32/16 kN	8/16	530,00

Hand pump hydraulic for drum brakes

Hand pump hydraulic for drum brakes for KTU 20-55. The drum can be braked on one or on both flanges.

Code	Type	Drive	Brake	Force max./min.	kg
331776	THH 4501	Hand pump	one-side	16/8 kN	29,00
331778	THH 4502	Hand pump	both-sides	32/16 kN	29,00

Electro-hydraulic for drum brakes

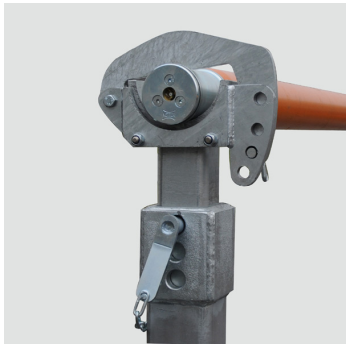
Electro-hydraulic for drum brakes for KTU 20-55. The drum can be braked on one or on both flanges.

Code	Type	Drive	Brake	Force max./min.	E-Motor	kg
331782	TEH 4501	Electro hydraulic	one-side	16/8 kN	5,5 kW	65,00
331784	TEH 4502	Electro hydraulic	both-sides	32/16 kN	11,0 kW	62,00

Electro-hydraulic for drum drives

Electro-hydraulic for drum drives for KTU 20-55. The drum can be driven on one or on both flanges.

Code	Type	Drive	Drive	Force max./min.	E-Motor	kg
331786	TTH 0802	Electro hydraulic	one-side	16/8 kN	5,5 kW	137,00
331788	TTH 1604	Electro hydraulic	both-sides	32/16 kN	11,0 kW	137,00



Cable drum hydraulic jacks

Cable drum hydraulic jacks, with height adjustable central claw support for heaviest and biggest drums. Big triangular base. Steel construction hot galvanized.

Below mentioned capacity is per pair. Two are required

- Base and top telescope tube adjustable to drum sizes.
- Hydraulic lift by hand pump 150 mm
- THV 20/30 accessory, shaft closing clamp, if jacks are on soft grounds or on lorries or boats

Code	Type	Cap.	Drum-D	Triangle base	kg
312471	THD 20/25	40 t	1800-2500	1500/550	128,00
312500	THD 20/37	40 t	2500-3700	1500/550	140,00
312520	THD 20/42	40 t	3000-4200	1500/550	150,00
312521	THD 20/44	40 t	3200-4400	1500/550	155,00
312522	THD 20/46	40 t	3400-4600	1500/550	158,00
312544	THD 30/50	50 t	3600-5000	2000x1000	271,00
312561	THV 20/30	Closing clamp	--	--	2,30

Tubular steel drum shafts, rotating

Tubular steel drum shafts, rotating with friction bearings, without clamps, for heavy drum weights and wider drums. Shaft length must be 500 mm longer than the drum width. Especially for application with the THD hydraulic jacks. The load capacities are corresponding to the widest possible drum, for reduced width the capacity decreases significantly. Static calculations are available.

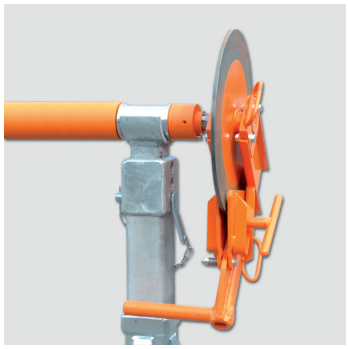
Code	Type	D/L mm	Seat	SWL	kg
031481428	KSDL 11417	114/2500	D 96x115	to 24 t	119,00
031481432	KSDL 11417	114/2800	D 96x115	to 24 t	10,50
031481440	KSDL 11417	114/3000	D 96x115	to 24 t	140,00
031481448	KSDL 11417	114/3200	D 96x115	to 24 t	148,00
031481456	KSDL 11417	114/3300	D 96x115	to 24 t	152,00
031481832	KSDL 12714	127/2800	D 116x115	to 28 t	150,00
031481844	KSDL 12714	127/3000	D 116x115	to 28 t	158,00
031481852	KSDL 12714	127/3200	D 116x115	to 28 t	166,00
031481856	KSDL 12714	127/3300	D 116x115	to 28 t	170,00
031482044	KSDL 12725	127/2800	D 116x115	to 38 t	194,00
031482052	KSDL 12725	127/3000	D 116x115	to 38 t	206,00
031482064	KSDL 12725	127/3200	D 116x115	to 38 t	219,00
031482068	KSDL 12725	127/3600	D 116x115	to 38 t	244,00
031482072	KSDL 12725	127/4020	D 116x115	to 38 t	270,00
031482651	KSDL 13925	139/3200	D 116x115	to 48 t	241,00
031483256	KSDL 15930	159/3200	D 116x115	to 55 t	315,00
031483260	KSDL 15930	159/3500	D 116x115	to 55 t	344,00
031483270	KSDL 15930	159/4900	D 116x115	to 55 t	487,00

Tubular steel drum shafts, for disc brake

Tubular steel drum shafts, rotating with friction bearings, without clamps, for heavy drum weights and wider drums. Shaft length must be 500 mm longer than the drum width. The load capacities are corresponding to the widest possible drum, for reduced width the capacity decreases significantly. Especially for application with the THD hydraulic jacks. On one or both ends there is an adapter for one or two disc brakes STBT 400. Static calculations are available.

- Shaft length must be 500 mm longer than biggest drum width.
- The capacities correspond to the widest drum, for reduced widths the cap. decreases.
- Any other length or dimension available.
- Static drum shaft calculation available on request..

Code	Type	D/L mm	Seat	SWL	Braking	kg
031481436	KSDK 11417	114/2900	D 96x115	to 24 t	3200 Nm	143,00
031481642	KSDK 12120	121/2800	D 96x115	to 28 t	3200 Nm	154,00
031481836	KSDK 12714	127/2800	D 116x115	to 28 t	3200 Nm	152,00
031482649	KSDK 13925	139/3000	D 116x115	to 48 t	3200 Nm	230,00

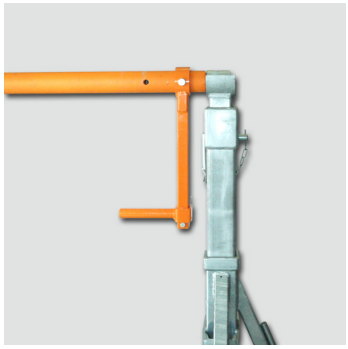


Cable drum disc brake

Cable drum disc brake without drum fork, to order separately, for controlled unwinding of cable or line drums from the hydraulic drum jacks THD 20/35-20/46. Suitable for all a.m. cable drum shafts. One complete set as shown left consists of:

- 1 steel shaft type KSDK, see above, to select acc. to capacity and width of the drum
- 1 disc brake STBT 400
- 1 drum fork suitable in diameter to the drum shaft, see below
- 2 clamps fitting the drum shaft see below
- 2 Centric cones fitting the drum shaft and the drum bore diameter, see below

Code	Type	Operation	Braking	At the cable	kg
350862	STBT 400	mechanic	3200 Nm	approx. 400 daN	37,00



Drum fork

Drum fork suitable for a.m. drum disc brake together with the tubular steel drum shafts.

Code	Type	Shaft-D	kg
0333701164	TMK 076	76 mm	10,00
033370118	TMK 095	95 mm	8,00
033370121	TMG 114	114 mm	10,00
033370122	TMG 121	121 mm	13,00
033370123	TMG 127	127 mm	13,00

Clamps for drum shafts

Clamp hinged, for drum shafts for lateral fixing of the cable drum on drum shafts of steel or alu. Hinged version, steel galvanized. Width 61 mm.

Code	Type	Shaft-D	kg
315360	KLS 114	114-115 mm	3,00
315380	KLS 127	127-130 mm	3,40
315384	KLS 135	135-137 mm	4,00
315385	KLS 139	139-140 mm	3,60
315390	KLS 159	159-160 mm	3,90

Centring bushes

Centring bushes, cylindrical for drum shafts-D and D of the drum bore, see table below. Other combinations are available.

Code	Type	Shaft-D	Drum bore	kg
315840	ZB 114/140	114 mm	D 140 mm	11,00
315880	ZB 114/200	114 mm	D 200 mm	15,00
315940	ZB 127/140	127 mm	D 140 mm	4,00
315952	ZB 127/200	127 mm	D 200 mm	12,00
315978	ZB 139/200	139 mm	D 200 mm	12,00
315987	ZB 159/185	159 mm	D 185 mm	16,00
315989	ZB 159/200	159 mm	D 200 mm	18,00