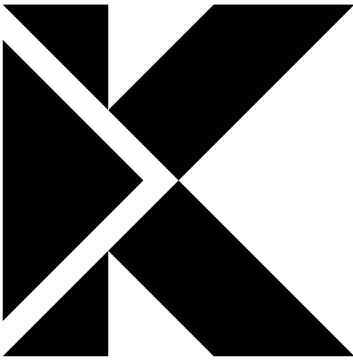




# Attachments for Loader Cranes

General Construction  
Landscaping  
Forestry  
Utilities, Oil and Gas  
Waste Management



# KINSHOFER GROUP COMPANY



23 companies, 11 brands, more than 4,000 products

The Kinshofer Group is one of the world's leading designers and manufacturers of attachments for construction machinery, such as excavator, backhoe loader, skidsteer loaders, knuckle boom cranes and forklift trucks. The Kinshofer Group is a One-Stop-Attachment-Shop to our customers around the globe.

Day in and day out, all year 'round, people's decisions and needs create demand for transport and infrastructure solutions. Without the type of product and services the Kinshofer Group provides, the societies, where many of us live, would not function.

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	page
<b>PREMIUM LINE</b> - our Bestsellers	4 et seqq.
<b>KINSHOFER Rotators, Accessories and Quick Change Devices</b>	10 et seqq.
<b>Brick Stack Grapples</b>	
KM 332 & KM 333	18
	19
KM 331	20
<b>Pallet Forks</b>	
KM 401	21
KM 401 H	22
KM 401T	23
KM 401 HT	24
KM 415	25
KM 414	26
KM 414T	27
KM 460	28
<b>Universal Fork: KM 461</b>	29
<b>Grapples with HPXdrive</b>	30 et seq.
<b>HPXdrive Standard</b> with exchangeable shells - overview for daily use	32 et seq.
KM 604HPX	34
KM 626HPX	35
KM 604U HPX	36
KM 613 HPX	37
KM 632 HPX	38
KM 641 HPX	39
<b>HPXdrive Heavy Duty</b> with exchangeable shells - overview for heavy duty tasks	40 et seq.
KM 605HPX	42
KM 605HPX-Z	43
KM 605U HPX	44
KM 605U HPX-Z	45
KM 613 HPX-HD	46
KM 632 HPX-HD	47
KM 641 HPX-HD	48
<b>Clamshell Buckets with Hydraulic Cylinder</b>	
KM 626 & KM 604	49 et seq.
KM 605 & KM 606	51 et seq.
KM 605U	53
KM 605U-Z	54
KM 602 & KM 622	55 et seq.
KM 603 & KM 603F	57 et seq.
KM 607	59
<b>Accessories for Clamshell Buckets</b>	60
<b>4-Grip for Clamshell Buckets</b>	61
<b>Orange Peel Grapples</b>	
KM 652-5 small	62
KM 650 large	63
KM 652/2	64
<b>Attachments for Telehandlers</b>	
KM 930P	65
<b>Logging Grapple: KM 634</b>	66
<b>Rail Grapples</b>	
KM 632HPX Rail	67
KM 632R	68
KM 632-2-R	69
<b>Hydraulic Load Hooks</b>	70 et seq.
<b>Container Discharge Units</b>	
KM 920-1 / KM 920-11	71 et seq.
KM 921	72
KM 920-12	73
KM 924	74
KM 920-31	75
<b>Manipulators</b>	
KM 931-1000	76
KM 930	77
KM 932MB	78
<b>Earth Drills and Augers</b>	
3000TC, 5500TC & 7000TC	79
S4 & S5	80 et seq.
<b>Notes</b>	82
<b>Contact</b>	83



# PREMIUMLINE

## Rotators

page

**KM 03 S Rotator with shaft**

11

**KM 04 S Rotator with shaft**

11

**KM 04 F Rotator with flange**

11

**KM 06 F Rotator with flange**

12



## Brick Stack Grapples

page

**KM 332V-1100 c Brick stack grapple - parallel grab**

*Complete package \* with rotator, short hoses, upper suspension and compression rails*

18

**KM 332-1000 c Brick stack grapple - parallel grab**

*Complete package \* with rotator, short hoses, upper suspension and compression rails*

18

**KM 331-1000 c Brick stack grapple - scissor grab**

*Complete package \* with rotator, short hoses, upper suspension, compression rails and 4 lifting hooks*

20

**KM 331-1200 c Brick stack grapple - scissor grab**

*Complete package \* with rotator, short hoses, upper suspension, compression rails and 4 lifting hooks*

20



\* basic tool individually available

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- ▷ Ready-to-Mount and Optimally Adapted Complete Packages



## Pallet Forks

page

### **KM 401H-2000-500 Pallet Fork**

*with hydraulic centre of gravity adjustment*

22

### **KM 401H-2000-600 Pallet Fork**

*with hydraulic centre of gravity adjustment*

22

### **KM 401-2000-500 Pallet Fork**

*with spring loaded centre of gravity adjustment*

21

### **KM 414-2000-500 Pallet Fork**

*with mechanical centre of gravity adjustment*

21

### **KM 414-2000-600 Pallet Fork**

*with mechanical centre of gravity adjustment*

26

### **KM 415-2000-500 Pallet Fork**

*with spring loaded centre of gravity adjustment*

26

## Universal Fork

page

### **KM 461-1500 c Universal Fork**

*Complete package \* with rotator, short hoses and upper suspension*

29

\* basic tool individually available



# PREMIUMLINE

## Clamshell Buckets with *HPXdrive Standard* page

**KM 604HPX-250 c Clamshell bucket with *HPXdrive SD*** 34  
*Complete package with teeth, rotator and upper suspension, 250 l volume*

**KM 604HPX-325 c Clamshell bucket with *HPXdrive SD*** 34  
*Complete package with teeth, rotator and upper suspension, 325 l volume*

**KM 604HPX-350 c Clamshell bucket with *HPXdrive SD*** 34  
*Complete package with teeth, rotator and upper suspension, 350 l volume*

**KM 604HPX-450 c Clamshell bucket with *HPXdrive SD*** 34  
*Complete package with teeth, rotator and upper suspension, 450 l volume*



## Clamshell Buckets with *HPXdrive Heavy Duty* page

**KM 605HPX-250 c Clamshell bucket with *HPXdrive HD*** 42  
*Complete package with teeth, rotator and upper suspension, 250 l volume*

**KM 605HPX-350 c Clamshell bucket with *HPXdrive HD*** 42  
*Complete package with teeth, rotator and upper suspension, 350 l volume*

**KM 605HPX-450 c Clamshell bucket with *HPXdrive HD*** 42  
*Complete package with teeth, rotator and upper suspension, 450 l volume*



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## Clamshell Buckets SD with Cylinder

page

### **KM 604-250 c Clamshell bucket for daily routine**

*Complete package \* with teeth, rotator, short hoses and upper suspension, 250 l volume*

50

### **KM 604-350 c Clamshell bucket for daily routine**

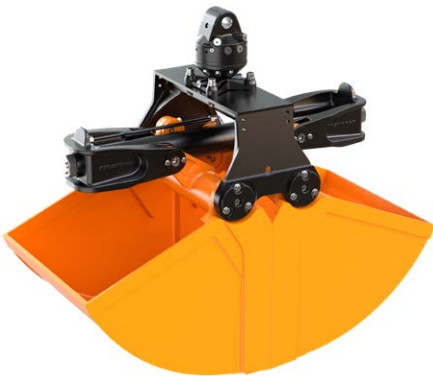
*Complete package \* with teeth, rotator, short hoses and upper suspension, 350 l volume*

50

### **KM 604-450 c Clamshell bucket for daily routine**

*Complete package \* with teeth, rotator, short hoses and upper suspension, 450 l volume*

50



## Clamshell Buckets HD with Cylinder

page

### **KM 605-250 c Clamshell bucket for heavy tasks**

*Complete package \* with teeth, rotator, short hoses and upper suspension, 250 l volume*

51

### **KM 605-350 c Clamshell bucket for heavy tasks**

*Complete package \* with teeth, rotator, short hoses and upper suspension, 350 l volume*

51



## Universal Clamshell Bucket

page

### **KM 605U-400 c Universal clamshell bucket**

*Complete package \* with wear plates, rotator, short hoses, upper suspension and welded hooks, 400 l volume*

53

\* basic tool individually available



# PREMIUMLINE

## High Volume Clamshell Buckets

page

### **KM 602-500 c High volume clamshell bucket**

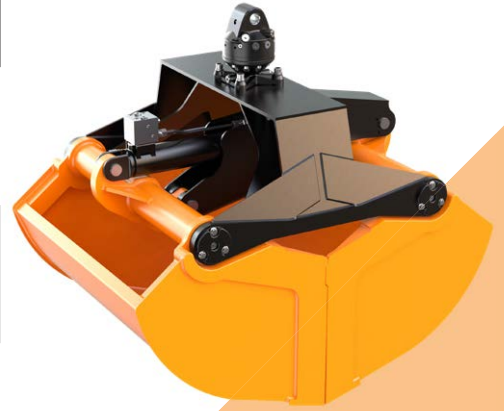
*Complete package \* with rotator, short hoses and upper suspension, 500 l volume*

56

### **KM 602-650 c High volume clamshell bucket**

*Complete package \* with rotator, short hoses and upper suspension, 650 l volume*

56



## High Volume Clamshell Buckets

page

### **KM 622-300 c High volume clamshell bucket**

*Complete package \* with rotator, short hoses and upper suspension, 300 l volume*

55

### **KM 622-400 c High volume clamshell bucket**

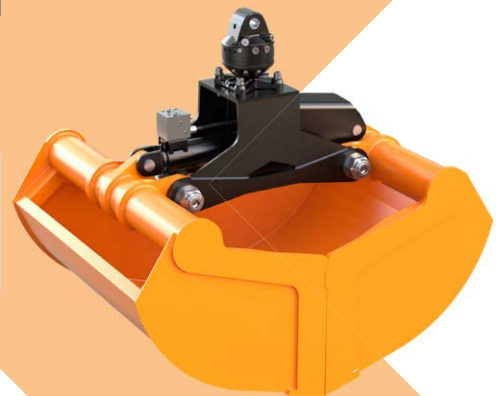
*Complete package \* with rotator, short hoses and upper suspension, 400 l volume*

55

### **KM 622-500 c High volume clamshell bucket**

*Complete package \* with rotator, short hoses and upper suspension, 500 l volume*

55



## Clamshell Buckets with Cylinders

page

### **KM 607-215 c Clamshell bucket**

*Complete package \* with teeth, rotator, short hoses and upper suspension, 215 l volume*

59

### **KM 607-255 c Clamshell bucket**

*Complete package \* with teeth, rotator, short hoses and upper suspension, 255 l volume*

59



\* basic tool individually available



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## Container Discharge Units

page

### KM 920-1Ac Container discharge unit

for container with ring system (load capacity 4,500 kg)

71

### KM 920-1Bc Container discharge unit

for container with ring system (load capacity 2,500 kg)

71

### KM 921 Container discharge unit

for container with KINSHOFER-mushroom or ring system

72



The safe operation of the container discharge unit KM 921 can only be guaranteed by KINSHOFER GmbH if the containers are equipped with ORIGINAL KINSHOFER HOIST AND FIXED DISKS and the specified spacing dimensions are complied with! Do not use fixed discs with locking ribs!



## Barrier Lifter

page

### KM 932MB-6/10 Barrier lifter

for concrete barriers and big blocks

78



## Earth Drills

page

### 3000TC Earth drill

for augers type S4 with diameters of 100 - 600 mm

79

### 5500TC Earth drill

for augers type S5 with diameters of 150 - 800 mm

79

### 7000TC Earth drill

for augers type S5 with diameters of 150 - 1,000 mm

79

**KINSHOFER** manufactures rotators for truck loaders, excavators and logging operations. Years of experience in designing rotators and hydraulic load handling equipment guarantee high efficiency, long lasting rotators, specially tailored to meet your requirements.

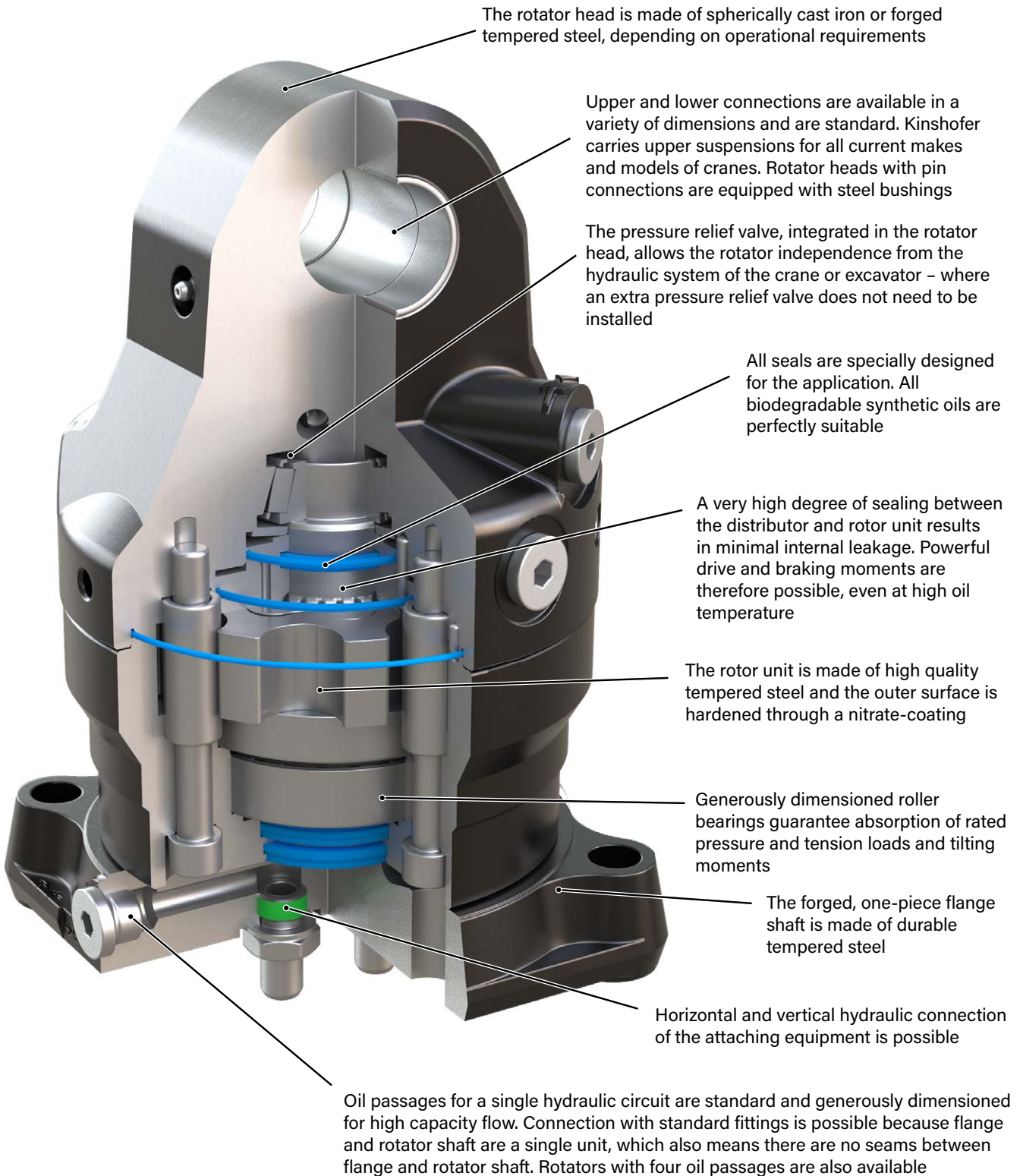
The gear-type design ensures a very compact and powerful rotator. The precision control and braking ability is especially appreciated by operators. A grapple does not rotate unexpectedly when digging, even under maximum load, and there is no need for stability compensation when handling longer lengths of timber...

These are only some of the many working situations where operators appreciate the advantages of using **KINSHOFER**-rotators.

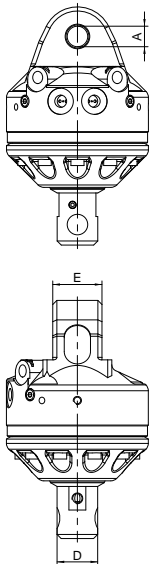


**KINSHOFER**-Rotators are the solution.

### Features of the **KINSHOFER**-Rotators



## Rotator with shaft up to 3,000 kg load capacity (incl. fittings)



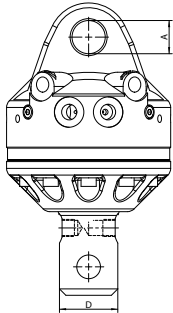
**KM 03 S**

Type	Load capacity (kg)	Shaft Ø D (mm)	Upper connection (Width E x Pin-Ø A)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
<b>KM 03 S*</b>	3,000	49.5	60 x 25	450	1,750	24

\* only for pallet forks

<b>Operating pressure:</b>	max. 37 MPa (370 bar)
<b>Oil flow rotate:</b>	max. 40 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min
<b>Hydraulic coupling in:</b>	G 3/8"
<b>Hydraulic coupling out:</b>	G 1/4"

## Rotators with shaft up to 4,500 kg load capacity (incl. fittings)



**KM 04 S**



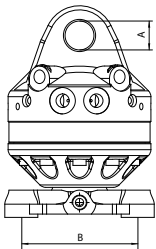
**KM 04 S69-30**

Type	Load capacity (kg)	Shaft Ø D (mm)	Upper connection (Width E x Pin-Ø A)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
<b>KM 04 S59-30</b>	4,500	59	84 x 30	850	3,000	26
<b>KM 04 S</b>	4,500	62	84 x 30	850	3,000	26
<b>KM 04 S63-30</b>	4,500	63	84 x 30	850	3,000	26
<b>KM 04 S68-30</b>	4,500	68	84 x 30	850	3,000	26
<b>KM 04 S68-30US*</b>	4,500	68	84 x 30	1,000	4,500	28
<b>KM 04 S69-30</b>	4,500	69	84 x 30	850	3,000	26

\* steel motor-head

<b>Operating pressure:</b>	max. 37 MPa (370 bar)
<b>Oil flow rotate:</b>	max. 40 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min
<b>Hydraulic coupling:</b>	M18 x 1,5

## Rotators with flange up to 4,500 kg load capacity (incl. fittings)



**KM 04 F**



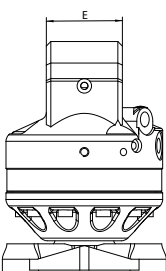
**KM 04 F**

Type	Load capacity (kg)	Hole pattern of flange B (mm)	Upper connection (Width E x Pin-Ø A)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
<b>KM 04 F</b>	4,500	□ 140	84 x 30	850	3,000	26
<b>KM 04 F140-30US*</b>	4,500	□ 140	84 x 30	1,000	8,500	31
<b>KM 04 F140-30V**</b>	4,500	□ 140	84 x 30	850	3,000	26

\* steel motor-head

\*\* additional vertical connection

<b>Operating pressure:</b>	max. 37 MPa (370 bar)
<b>Oil flow rotate:</b>	max. 40 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min
<b>Hydraulic coupling:</b>	M18 x 1,5



**KM 04 F140-30US**

## Rotators with shaft up to 6,000 kg load capacity (incl. fittings)

Type	Load capacity (kg)	Shaft Ø D (mm)	Upper connection (Width E x Pin-Ø A)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
KM 06 S68-40	6,000	68	84 x 40	1,000	4,500	32
KM 06 S69-40	6,000	69	84 x 40	1,000	4,500	32

<b>Operating pressure:</b>	max. 32 MPa (320 bar)
<b>Oil flow rotate:</b>	max. 40 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min
<b>Hydraulic coupling in:</b>	G 1/2"
<b>Hydraulic coupling out:</b>	M18 x 1,5



KM 06 S68-40

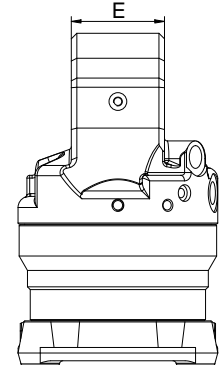
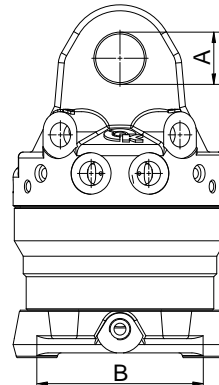
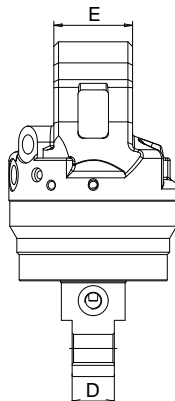
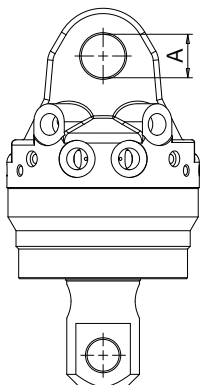
## Rotator with flange up to 6,000 kg load capacity (incl. fittings)

Type	Load capacity (kg)	Hole pattern of flange B (mm)	Upper connection (Width E x Pin-Ø A)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
KM 06 F140-40	6,000	□ 140	84 x 40	1,000	8,500	34

<b>Operating pressure:</b>	max. 32 MPa (320 bar)
<b>Oil flow rotate:</b>	max. 40 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min
<b>Hydraulic coupling in:</b>	G 1/2"
<b>Hydraulic coupling out:</b>	M18 x 1,5



## Technical drawings



KM 06 S68-40 / KM 06 S69-40

KM 06 F140-40

## Rotators with flange and 4 oil ducts to operate 2 different functions (incl. fittings)



**KM 06 F173-35-4**

Type	Load capacity (kg)	Hole pattern of flange B (mm)	Upper connection (Width E x Pin-Ø A) (mm)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
<b>KM 04 F140-30-4</b>	4,500	□ 140	84 x 30	850	3,000	40
<b>KM 06 F173-35-4</b>	6,000	Ø 173	81 x 35	1,000	8,500	45
<b>KM 10 F173-35-2/4</b>	10,000	Ø 173	81 x 35	2,000	12,000	72

	<b>KM 04 F</b>	<b>KM 06 F</b>	<b>KM 10 F</b>
<b>Operating pressure:</b>	max. 37 MPa (370 bar)	max. 32 MPa (320 bar)	max. 32 MPa (320 bar)
<b>Oil flow rotate:</b>	max. 40 l/min	max. 40 l/min	max. 75 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min	max. 75 l/min	max. 75 l/min
<b>Hydraulic coupling:</b>	M18 x 1,5	G 1/2"	G 1/2" & G 3/4"

## Rotators with flange for logging (incl. hose guard and fittings)

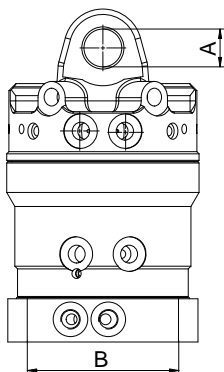


**KM 10 F173-45**

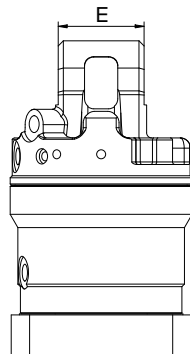
Type	Load capacity (kg)	Hole pattern of flange B (mm)	Upper connection (Width E x Pin-Ø A) (mm)	Torque (Nm)	Moment of deflection max. (Nm)	Self weight (kg)
<b>KM 06 F173-35</b>	6,000	Ø 173	81 x 35	1,000	8,500	45
<b>KM 10 F173-35/1</b>	10000	Ø 173	81 x 35	2,000	12,000	62
<b>KM 10 F173-35/2</b>	10,000	Ø 173	81 x 35	2,000	12,000	65
<b>KM 10 F173-45</b>	10,000	Ø 173	100 x 45	2,000	12,000	68

	<b>KM 06 F</b>	<b>KM 10 F</b>
<b>Operating pressure:</b>	max. 37 MPa (370 bar)	max. 32 MPa (320 bar)
<b>Oil flow rotate:</b>	max. 40 l/min	max. 75 l/min
<b>Oil flow feedthrough:</b>	max. 75 l/min	max. 75 l/min
<b>Hydraulic coupling:</b>	G 1/2"	G 1/2"

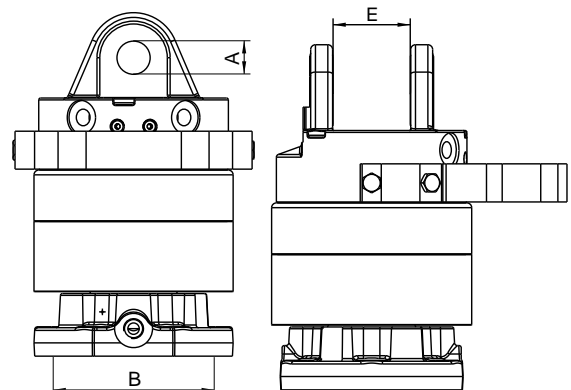
## Technical drawings



**KM 04 F140-30-4**



**KM 10 F173-35/1**



## KM 501 - Upper suspension between rotator and crane

An upper suspension is a cardan link between rotator and crane. It is available for all current makes and models of cranes. Please specify dimensions when ordering.

Type	Load capacity (kg)	Self weight (approx. kg)
KM 501 (3000)	up to 3,000	5
KM 501 (4500)	up to 4,500	10
KM 501 (6000)	up to 6,000	15
KM 501 (10000)	up to 10,000	25



## KM 511 - Upper suspension with pendulum damper between rotator and crane

A pendulum damper reduces the horizontal swing of the attachment. It can also be retrofitted to an existing upper suspension.

Type	Load capacity (kg)	Self weight (approx. kg)
KM 511 (4500)	up to 4,500	15
KM 511 (6000)	up to 6,000	20
KM 511 (10000)	up to 10,000	30



## KM 206 - Hose guard

The hose guard is a metal bow to be attached onto the rotator. It is designed to protect the hoses of the rotator from damage i.e. from protruding branches.

Type	Description	Self weight (approx. kg)
KM 206	hose guard for the rotator	3



## KM 502 - Reduction link between rotator and grapple

A reduction link adapts a shaft type rotator to an attachment with a standard hole pattern for a flange (KM 502).

Type	Load capacity (kg)	Self weight (approx. kg)
KM 502 (3000)	up to 3,000	2
KM 502 (4500)	up to 4,500	3
KM 502 (6000)	up to 6,000	4



## KM 460 - Accessories for Attaching Pallet Forks with shaft rotator

Type	Description	Type of rotator	Weight (approx. kg)
KM 460 03 (KM 03 S)	rigid suspension link with pin for all KINSHOFER shaft-type rotators	KM 03	8
KM 460 03 (KM 04 S)		KM 04	10
KM 460 08 (KM 03 S)	rigid hook for all KINSHOFER shaft rotators	KM 03	8
KM 460 08 (KM 04 S)		KM 04	9
KM 460 04 (KM 04 S)	non-rotating swinging hook for all KINSHOFER shaft rotators	KM 04	12
KM 460 04 (KM 06 S)		KM 06	15
KM 460 10	non-rotating swinging hook for all KINSHOFER flange rotators	KM 10 F173	25



KM 460 03



KM 460 04

## KM 505 - Quick change system for shaft-type rotators up to 4,000 kg load capacity

The quick change system enables an easy exchange between different attachments. The mechanical coupling and locking is achieved by the turning motion of the rotator. You simply disconnect the quick couplings and disengage the locking device manually. The upper element of the quick change system is available for all KM 04 - shaft rotators. The KM 505 system allows the easy exchange between pallet fork and brick stack grapple for example. Not suitable for heavy duty work.



KM 505 01



KM 505 02



KM 505 03

KM 505			
Type	Description	Hole pattern of flange (mm)	Self weight (kg)
KM 505	complete, incl. hydraulic couplings (KM 204 03)	4x Ø18 / □ 140	12
KM 505 01	upper element fitted to rotator incl. mobile and fixed parts		5
KM 204 01	mobile part of hydraulic quick coupling (2 pieces) for KM 505 01		
KM 505 02	lower element mounted to the attachment	4x Ø18 / □ 140	7
KM 505 03	rigid suspension link with non-rotating hook to connect to the KM 505 01 (e.g. for pallet forks)		7
KM 505 05	distance ring between KM 505 and KM 461 universal fork		5

## KM 505 HD - Heavy duty quick change system for shaft-type rotators

The quick change system enables an easy exchange between different attachments. The mechanical coupling and locking is achieved by the turning motion of the rotator. You simply disconnect the quick couplings and disengage the locking device manually. The upper element of the heavy duty quick change system is available for the KINSHOFER shaft rotators KM 04 S68-30US or KM 06 S68-40. The KM 505 system allows the easy exchange between pallet fork and clamshell bucket for example. Especially developed for the heavy duty task with clamshell buckets.



KM 505 01 HD



KM 505 02 HD



KM 505 03 HD

KM 505 HD			
Type	Description	Hole pattern of flange (mm)	Self weight (kg)
KM 505 HD	complete, incl. hydraulic couplings (KM 204 03)	4x Ø18 / □ 140	18
KM 505 01 HD	upper element HD fitted to rotator incl. mobile and fixed parts		7
KM 204 01	mobile part of hydraulic quick coupling (2 pieces) for KM 505 01 HD		
KM 505 02 HD	lower element HD mounted onto attachment	4x Ø18 / □ 140	11
KM 505 03 HD	rigid suspension link with non-rotating hook to connect to the KM 505 01 HD (e.g. for pallet forks)		14
KM 505 05	distance ring between KM 505 HD and KM 461 universal fork		5

**KM 507 HD - Heavy duty quick change system for Z-cranes and flange-type rotators**

The KM 507HD has been developed especially for heavy duty tasks with Z-cranes in combination with timber grabs, orange peel grabs and clamshell buckets.

The quick change device provides for an economic exchange between different attachments. The mechanical coupling and locking is achieved by the crane movement. As soon as the quick change device upper part has been positioned in the lower part, the system is closed automatically.

To unlock, the operator only has to open the locking device of the quick change system with the opening lever and then lift the crane to leave the lower part.

The upper part of the quick change device KM 507 HD has been designed for flange rotators with hole patterns 4 x 140 or 6 x 173 and can be mounted easily.

The exchange between a timber grab and a clamshell bucket, for example, can be realized fast and easy.

- ▷ Axial load capacity max. 10,000 kg – also suitable for 10t-rotators.
- ▷ Extremely light and flat construction.
- ▷ Additional protection against unintended unlocking thanks to automatic safety locking.
- ▷ Easily retrofittable system to existing components because it is purely mechanical.
- ▷ No preparation required on the crane.



**KM 507 HD**

Type	Description	Hole pattern of flange (mm)	Self weight (kg)
KM 507 HD	complete incl. HD upper and lower part with hydraulic couplings (KM 204 03)	4 x Ø18 / □140 6 x Ø18 / Ø173	27
KM 507 01 HD	upper element fitted to flange rotator incl. mobile and fixed parts	4 x M16 / □140 6 x M16 / Ø173	14
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)		
KM 507 02 HD	lower part HD to be mounted on attachment	4 x Ø18 / □140 6 x Ø18 / Ø173	13
KM 507 03 HD	lower part with load hook (load capacity 6t)		13



KM 507 01 HD



KM 507 02 HD



KM 507 03 HD

**KM 203 - Connecting hoses / KM 204 - Hydraulic quick change kit for hoses**

Type	Description
KM 203 01	short connecting hoses between rotator and attachment with standard fittings M 18 x 1,5 (2 pieces)
KM 203 03	long connecting hoses between rotator and crane. Please specify dimensions (4 pieces)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 02	fixed part of hydraulic quick coupling for rotator (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pieces each) mounted with adapters to rotator



KM 203 01



KM 204 03





The technically unique KM 332 brick stack grapple is a versatile tool for palletized and non-palletized materials.

- ▷ **Rigid or adjustable plunge depth** of parallel opening and closing clamping arms - hydraulically operated.
- ▷ **Versatile tool** with opening range of 400 mm to 1,400 mm i.e. for handling of single concrete products like curbstones, or handling of brick packs.
- ▷ **Handling of heavy loads** with reinforced version **KM 333**.
- ▷ **Adjustable plunge depth** of **KM 332V** and **KM 333V** can match the size of the stack-easy adaption with a mechanical latch.
- ▷ **Precise synchronisation of the arms** as a result of two in series double acting hydraulic cylinders.
- ▷ **Safety** through internal pressure relief valve (independent from crane pressure) and non-return valve (safe clamping force at pressure drop).
- ▷ **Long life** due to generously dimensioned bearings, integrated grease reservoir, automatic wear compensation of main bearing, spherical central bearing for the cylinders.
- ▷ **Easy to use** with durable and replaceable rubber inserts - simple to operate between the stacks.



**KM 332V**

### Packages brick stack grapple KM 332 c

Type	Plunge depth (mm)	Load capacity at plunge depth min./max. (kg)	Gripping A min./max. (mm)	Height (incl. rotator) (mm)	Self weight (kg)
<b>KM 332-1000 c</b>	1,000	2,000	400 - 1,400	1,415	310
<b>KM 332V-1100 c</b>	1,100 - 1,650	1,900 / 1,350	400 - 1,400	1,515 - 2,065	355

**Package consists of:** brick stack grapple, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), compression rails KM 381 29 (1000), pressure relief valve, non-return valve

**Please note:** compression rails will be KM 381 39 for packages in the UK. Other packages with different opening ranges available in the UK: KM 332-850c / KM 332-1000c / KM 332-1100c / KM 332-1200 / KM 332-1300c.

### Brick stack grapples KM 332 / KM 333

Type	Plunge depth (mm)	Load capacity at plunge depth min./max. (kg)	Gripping A min./max. (mm)	Height (w/o rotator) (mm)	Self weight (w/o rails) (kg)
<b>KM 332-850</b>	850	2,200	400 - 1,400	1,065	245
<b>KM 332-1000</b>	1,000	2,000	400 - 1,400	1,215	255
<b>KM 332-1300</b>	1,300	1,600	400 - 1,400	1,515	275
<b>KM 332V-850</b>	850 - 1,400	2,200 / 1,600	400 - 1,400	1,065 - 1,615	290
<b>KM 332V-1100</b>	1,100 - 1,650	1,900 / 1,350	400 - 1,400	1,315 - 1,865	340
<b>KM 333-850</b>	850	3,000	400 - 1,400	1,090	400
<b>KM 333-1000</b>	1,000	2,500	400 - 1,400	1,240	415
<b>KM 333V-1100</b>	1,100 - 1,650	2,300 / 1,600	400 - 1,400	1,340 - 1,890	490

The price does not include the compression rails.

Wider opening ranges 400 - 1,800 mm are available for KM 332 and KM 333

**Please note:** the load capacity listed in the table depends on the load (the surface conditions, the size of individual stones, stack size and kind of bundling). The capacity listed does not apply to stacks of low-profile and unbundled items.

### Accessories

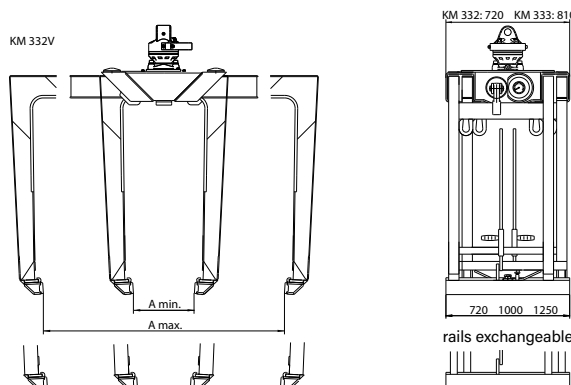
Type	Description
<b>KM 04 F</b>	recommended KINSHOFER rotator for KM 332 / KM 333

### Requirements of truck crane


#### Operating pressure at oil flow:

20 - 26 MPa (200 - 260 bar) at max. 75 l/min  
20 - 37 MPa (200 - 370 bar) at max. 40l/min

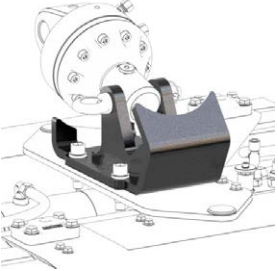


### Technical drawings



## Compression rails

	Type	Description	Length (mm)	Weight (kg)
 KM 381 29	KM 381 29 (720)	compression rails with smooth rubber inserts (2 pieces)	720	17
	KM 381 29 (1000)		1,000	24
	KM 381 29 (1250)		1,250	28
 KM 381 39	KM 381 39 (720)	compression rails with two rubber inserts, upper insert contoured, lower insert smooth (2 pieces each)	720	24
	KM 381 39 (1000)		1,000	33
	KM 381 39 (1250)		1,250	42
 KM 381 32	KM 381 32 (1000)	spring loaded rails with parallel-action teeth (2 pieces) fitted within seconds by locking lever	1,000	62
	KM 381 32 (1250)		1,250	76
 KM 381 09	KM 381 09 (720)	compression rails for adapter KM 381 38 (2 pieces)	720	17
	KM 381 09 (1000)		1,000	23
	KM 381 09 (1250)		1,250	28
	KM 381 38	<b>adapter for clamping arms</b> to take compression rails KM 381 09		40
	<b>Please note:</b>	additional lengths of compression rails are available on request.		

## Others

 KM 381 08S	<b>Non-standard opening range:</b>	all grapples are available with opening ranges not listed		
	<b>Non-standard plunge depth:</b>	all grapples are available with plunge depth not listed		
 KM 381 08 S KM 381 08 F	Type	Description		Weight (kg)
	KM 381 08 S KM 381 08 F	<b>tilting device</b> to reduce overall height of the equipment in transport	for shaft rotators for flange rotators	12 18
 KM 381 18	KM 381 18	<b>height reduction link</b> to reduce the overall height of the equipment in transport - for flange rotators		15
	KM 381 05 KM 381 06 KM 381 07 KM 381 31	<b>height stop</b> for quick adjustment of plunge depth <b>spring loaded guide rails</b> for stabilizing the top layer of the stack <b>spring loaded guide plates</b> for lateral stabilizing of the stack <b>adapter for concrete pipes</b> with diameters from 800 to 1,350 mm		8 --- --- 60

The robust brick stack grapple KM 331 handles loads up to 2,000 kg.

- ▷ **Fixed plunge depth** with pivot clamping arms - hydraulically operated.
- ▷ **Versatile tool** with opening range of 40 mm to 1,500 mm i.e. for handling of single concrete products like curbstones, or handling of palletized brick packs.
- ▷ **Synchronised function of clamping arms** due to sturdy gear-toothed quadrants.
- ▷ **Safety** through internal pressure relief valve (independent from crane pressure) and holding valve (safe clamping force at pressure drop).
- ▷ **Reduced overall height** in comparison to the plunge depth due to lower rotator position.
- ▷ **Compression rails** with durable and replaceable rubber inserts.



### Packages brick stack grapple KM 331 c

Type	Plunge depth A (mm)	Load capacity (kg)	Gripping D (min./max.) (mm)	Height C (mm)	Self weight (kg)
KM 331-1000 c	1,000	2,000	220 - 1,420	1,565	353
KM 331-1100 c	1,100	2,000	160 - 1,450	1,665	360
KM 331-1200 c	1,200	1,800	98 - 1,475	1,765	365
KM 331-1300 c	1,300	1,600	40 - 1,500	1,865	372

**Package consists of:** brick stack grapple, KINSHOFER rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), compression rails KM 381 40 (1000), pressure relief valve, holding valve, lifting hooks KM 685 06 hook set 4

**Please note:** the load capacity listed in the table depends on the load (the surface conditions, the size of individual stones, stack size and Type of banding). The grapple is not suitable for stacks of low-profile and unbundled items.

Full plunge depth is only suitable up to opening range of 1100 mm (see technical drawings).

### Accessories

Type	Description	Self weight (kg)
KM 511 (4500)	upper suspension with pendulum damper	15
KM 381 40 (1000)	compression rails - 1,000 mm (2 pieces)	40
KM 381 40 (1250)	compression rails - 1,250 mm (2 pieces)	52

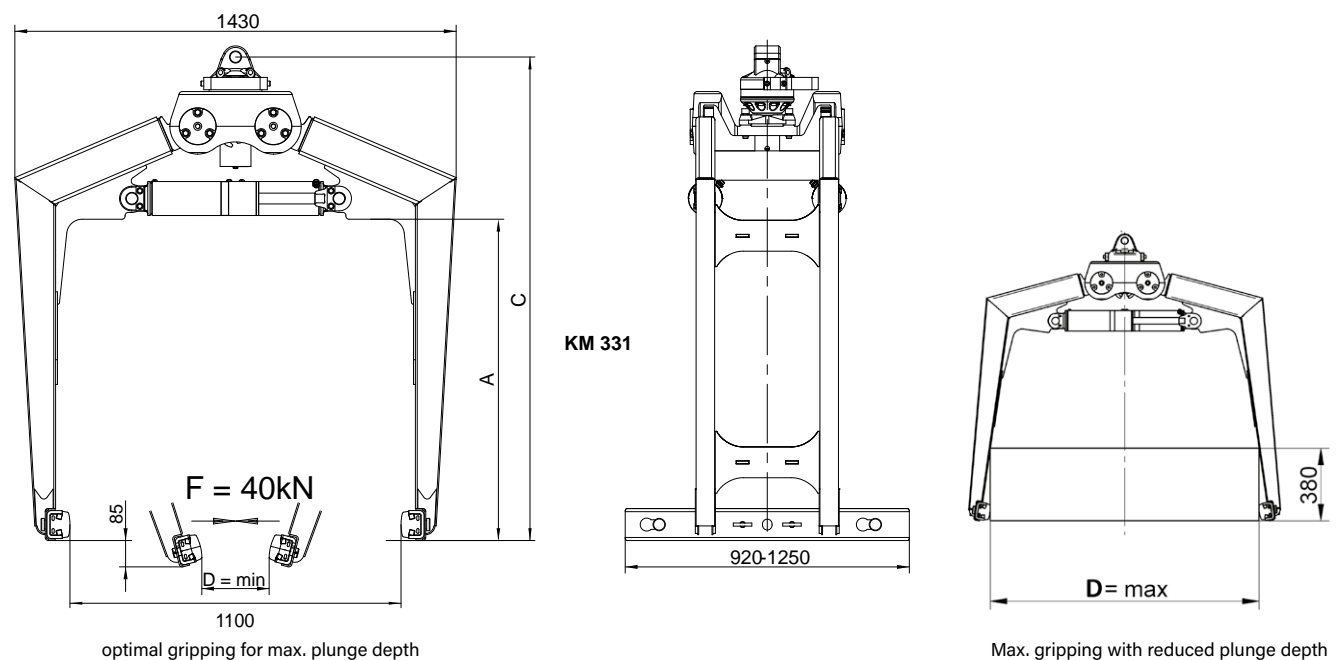
### Requirements of truck crane

#### Operating pressure at oil flow:

20 - 26 MPa (200 - 260 bar) at max. 75 l/min

20 - 37 MPa (200 - 370 bar) at max. 40 l/min

### Technical drawings



The efficient pallet fork KM 401 with a spring loaded centre of gravity can easily be adapted to different loads with adjustable plunge depth and adjustable tine spread.

- ▷ **Efficient handling** of many different kinds of loads like stone or brickstack, protection trellis or other general cargo is possible due to the easy adjustment with a stainless steel-plastic-sliding guide in the upper part.
- ▷ **Versatile height** from 1,050 mm to 1,650 mm adjustable in three steps with a lock pin.
- ▷ **Versatile width** of tines from 475 mm to max. 835 mm adjustable with a smooth running, stainless spindle.
- ▷ **Easy to use** due to the dimensions of the pallet fork. Since no part of the pallet fork is wider than a standard pallet, a second row can be loaded and loads close to walls can also be handled without problems.



## Pallet fork KM 401

Type	Load capacity (kg)	Throat height N (min./max.) (mm)	Tine length L (mm)	Tine spread Z (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight* (kg)
KM 401-2000-500	2,000	1,050 - 1,650	980	495 - 835	100 x 35	500	150
KM 401-2500-500	2,500	1,050 - 1,650	980	475 - 815	90 x 40	500	210
KM 401-2000-600	2,000	1,050 - 1,650	1,150	475 - 815	90 x 40	600	205
KM 401-2500-600	2,500	1,050 - 1,650	1,150	485 - 825	100 x 45	600	230

**Package consists of:** pallet fork, protection chain KM 460 01, 2 chain elements for suspension

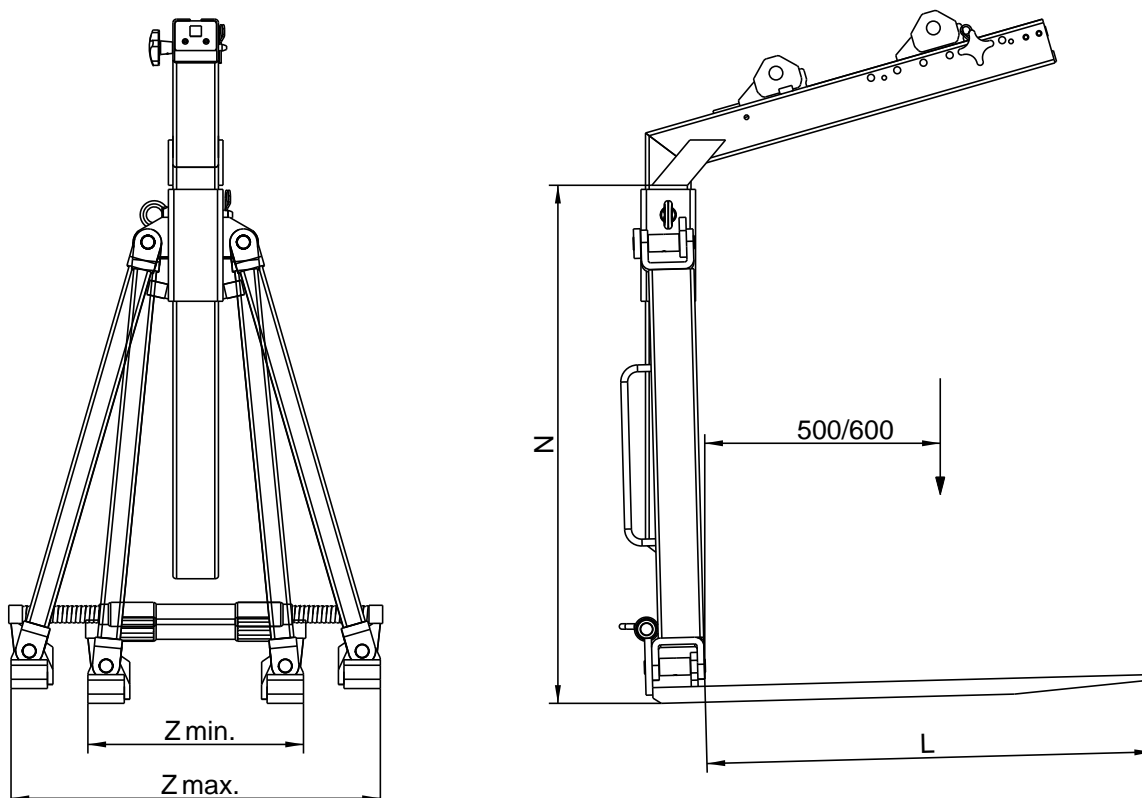
\* weight without protection chain

**Please note:** a protection trellis or net is mandatory for loose material (EN 13155). Spring loaded centre of gravity functions with a min. pack weight of approx. 250 to 500 kg.

## Accessories

Type	Description
KM 04 S	KINSHOFER shaft rotator - up to 4,500 kg load capacity
KM 460 03 (KM 04 S)	rigid suspension link with pin for rotator KM 04 S

## Technical drawings



The efficient hydraulic pallet fork KM 401H with hydraulically compensating centre of gravity can easily be adapted to different loads with adjustable plunge depth and adjustable tine spread and provides a more comfortable use.

- ▷ **Efficient handling** of many different kinds of loads like stone or brickstack, protection trellis or other general cargo is possible due to the hydraulic shifting.
- ▷ **Precise positioning** of the loads is no problem in combination with the KINSHOFER rotator – continuous rotation, precise start and braking ability.
- ▷ **Versatile height** from 1,050 mm to 1,650 mm adjustable in three steps with a lock pin.
- ▷ **Versatile width** of tines from 475 mm to max. 835 mm adjustable with a smooth running, stainless spindle.
- ▷ **Easy to use** due to the dimensions of the pallet fork. Since no part of the pallet fork is wider than a standard pallet, a second row can be loaded and loads close to walls can also be handled without problems.



### Package pallet fork KM 401 H-1500 c

Type	Load capacity (kg)	Throat height N (mm)	Tine length L (mm)	Tine spread Z (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight* (kg)
KM 401 H-2000 c	2,000	1,050 - 1,650	980	495 - 835	100 x 35	500	225

**Package consists of:** pallet fork, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), protection chain KM 460 01

### Pallet fork KM 401H

Type	Load capacity (kg)	Throat height N (mm)	Tine length L (mm)	Tine spread Z (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight* (kg)
KM 401 H-2000-500	2,000	1,050 - 1,650	980	495 - 835	100 x 35	500	175
KM 401 H-2500-500	2,500	1,050 - 1,650	980	475 - 815	90 x 40	500	230
KM 401 H-2000-600	2,000	1,050 - 1,650	1,150	475 - 815	90 x 40	600	230
KM 401 H-2500-600	2,500	1,050 - 1,650	1,150	485 - 825	100 x 45	600	250

**Package consists of:** pallet fork, protection chain KM 460 01

\* weight without rotator and protection chain

**Please note:** a protection trellis or net is mandatory for loose material (EN 13155)

### Accessories

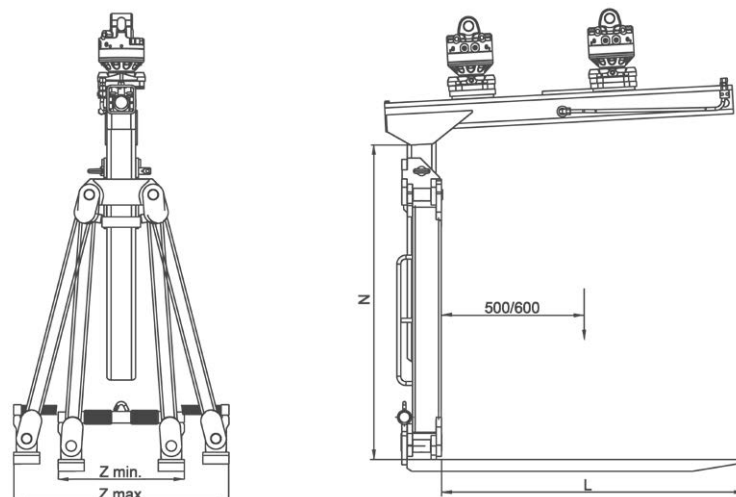
Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 401 H
KM 04 S	KINSHOFER shaft rotator – up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotators
KM 502 (4500)	reduction link between rotator and grapple

### Requirements of truck crane

#### Operating pressure at oil flow:

max. 20 MPa (200 bar) at 20 - max. 40 l/min **Mind the pressure!**

### Technical drawings



The telescopic pallet fork KM 401T with spring loaded centre of gravity is based on the regular KM 401, but additionally features the possibility to extend to a height of up to 2,500 mm.

- ▷ **Efficient handling** of overheight loads such as insulating material – thanks to the adjustable height of up to 2,500 mm and the easy adjustment with a stainless steel-plastic-sliding guide in the upper part.
- ▷ **Versatile height** from 1,200 mm to 2,500 mm adjustable in steps with a lock pin.
- ▷ **Versatile width** of tines from 475 mm to max. 835 mm adjustable with a smooth running, stainless spindle.
- ▷ **Easy to use** due to the dimensions of the pallet fork. Since no part of the pallet fork is wider than a standard pallet, a second row can be loaded. As no part of the pallet fork is wider than the tines, loads close to walls can be handled without problems.



## Telescopic pallet fork KM 401T

Type	Load capacity (kg)	Throat height N (min./max.) (mm)	Tine length (mm)	Tine spread (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight* (kg)
KM 401T-2000-500	2,000	1,200 – 2,500	980	495 – 835	100 x 35	500	165
KM 401T-2500-500	2,500	1,200 – 2,500	980	475 – 815	90 x 40	500	230
KM 401T-2000-600	2,000	1,200 – 2,500	1,150	475 – 815	90 x 40	600	225
KM 401T-2500-600	2,500	1,200 – 2,500	1,150	485 – 825	100 x 45	600	250

**Package consists of:** telescopic pallet fork, protection chain KM 460 01, 2 chain elements for suspension

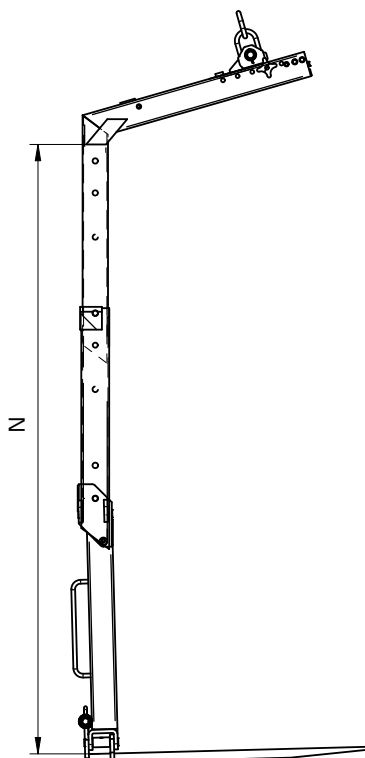
\* weight without rotator and protection chain

**Please note:** protection trellis or net is mandatory for loose material (EN 13155). Automatic compensation of centre of gravity functions with a min. pack weight of approx. 250 to 500 kg.

## Accessories

Type	Description
KM 04 S	KINSHOFER shaft rotator – up to 4,500 kg load capacity
KM 460 03 (KM 04 S)	rigid suspension link with pin for rotator KM 04 S

## Technical drawings



The telescopic pallet fork KM 401 HT with hydraulically compensating centre of gravity is based on the regular KM 401 H, but additionally features the possibility to extend to a height of up to 2,500 mm and provides a more comfortable use than the mechanical version.

- ▷ **Efficient handling** of overheight loads such as insulating material – thanks to the adjustable height of up to 2,500 mm and the hydraulic shifting (KM 401HT).
- ▷ **Precise positioning** of the loads is no problem in combination with the KINSHOFER rotator – continuous rotation, precise start and braking ability.
- ▷ **Versatile height** from 1,200 mm to 2,500 mm adjustable in steps with a lock pin.
- ▷ **Versatile width** of tines from 475 mm to max. 835 mm adjustable with a smooth running, stainless spindle.
- ▷ **Easy to use** due to the dimensions of the pallet fork. Since no part of the pallet fork is wider than a standard pallet, a second row can be loaded. As no part of the pallet fork is wider than the tines, loads close to walls can be handled without problems.



### Telescopic pallet fork KM401 HT

Type	Load capacity (kg)	Throat height N (mm)	Tine length (mm)	Tine spread (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight* (kg)
KM 401 HT-2000-500	2,000	1,200 - 2,500	980	495 - 835	100 x 35	500	190
KM 401 HT-2500-500	2,500	1,200 - 2,500	980	475 - 815	90 x 40	500	250
KM 401 HT-2000-600	2,000	1,200 - 2,500	1,150	475 - 815	90 x 40	600	250
KM 401 HT-2500-600	2,500	1,200 - 2,500	1,150	485 - 825	100 x 45	600	270

**Package consists of:** telescopic pallet fork, protection chain KM 460 01

\* weight without rotator and protection chain

**Please note:** protection trellis or net is mandatory for loose material (EN 13155)

### Accessories

Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 401 HT
KM 04 S	KINSHOFER shaft rotator – up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotators
KM 502 (4500)	reduction link between rotator and grapple

### Requirements of truck crane

#### Operating pressure at oil flow:

max. 20 MPa (200 bar) at 20 - max. 40 l/min **Mind the pressure!**

### Technical drawings





The robust pallet fork KM 415 with spring loaded centre of gravity compensation can easily be adapted to different loads with adjustable plunge depth and adjustable tine spread.

- ▷ **Efficient handling** of many different kinds of loads in an economic, one-man operation is possible due to the automatic shifting of the KM 415 to a preset position. Compression springs return slide to initial position.
- ▷ **Throat height adjustable in steps** from 1,050 mm to 1,650 mm with a lock pin.
- ▷ **Tine spread adjustable in steps** from 345 mm to max. 975 mm with a lock pin.



## Pallet fork KM 415

Type	Load capacity (kg)	Throat height N (min./max.) (mm)	Tine length L (mm)	Tine spread Z (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
KM 415-2000-500	2,000	1,050 - 1,650	980	345 - 940	100 x 35	500	155
KM 415-2500-500	2,500	1,050 - 1,650	980	355 - 945	90 x 40	500	180
KM 415-2000-600	2,000	1,050 - 1,650	1,150	355 - 945	90 x 40	600	200
KM 415-2500-600	2,500	1,050 - 1,650	1,150	385 - 975	100 x 45	600	225

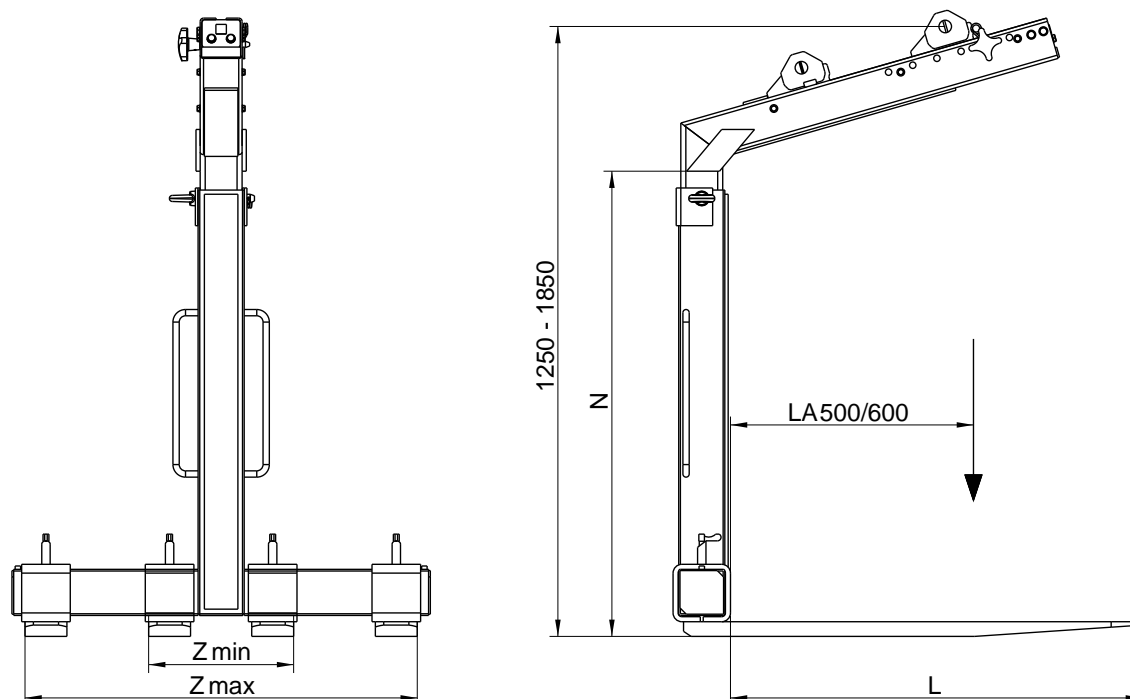
**Package consists of:** pallet fork, protection chain KM 460 01, 2 chain elements for suspension

**Please note:** protection trellis or net is mandatory for loose material (EN 13155). Automatic compensation of centre of gravity functions with a min. pack weight of approx. 250 to 500 kg.

## Accessories

Type	Description
KM 04 S	KINSHOFER shaft rotator - up to 4,500 kg load capacity
KM 460 03 (KM 04 S)	rigid suspension link with pin for rotator KM 04 S

## Technical drawings



The robust pallet fork KM 414 with manual centre of gravity compensation is an economic alternative.

- ▷ **Manual change of position of shifting collar** by the operator.
- ▷ **Suspension Ring** for KINSHOFER flange or shaft rotator, or for a crane hook is included in the package.
- ▷ **Throat height adjustable in steps** from 1,050 mm to 1,650 mm with a lock pin.
- ▷ **Tine spread adjustable in steps** from 345 mm to max. 975 mm with a lock pin.



Pallet fork KM 414							
Type	Load capacity	Throat height N (min./max.) (mm)	Tine length (mm)	Tine spread Z (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
KM 414-2000-500	2,000	1,050 - 1,650	980	345 - 940	100 x 35	500	150
KM 414-2500-500	2,500	1,050 - 1,650	980	355 - 945	90 x 40	500	175
KM 414-2000-600	2,000	1,050 - 1,650	1,150	355 - 945	90 x 40	600	205
KM 414-2500-600	2,500	1,050 - 1,650	1,150	385 - 975	100 x 45	600	220

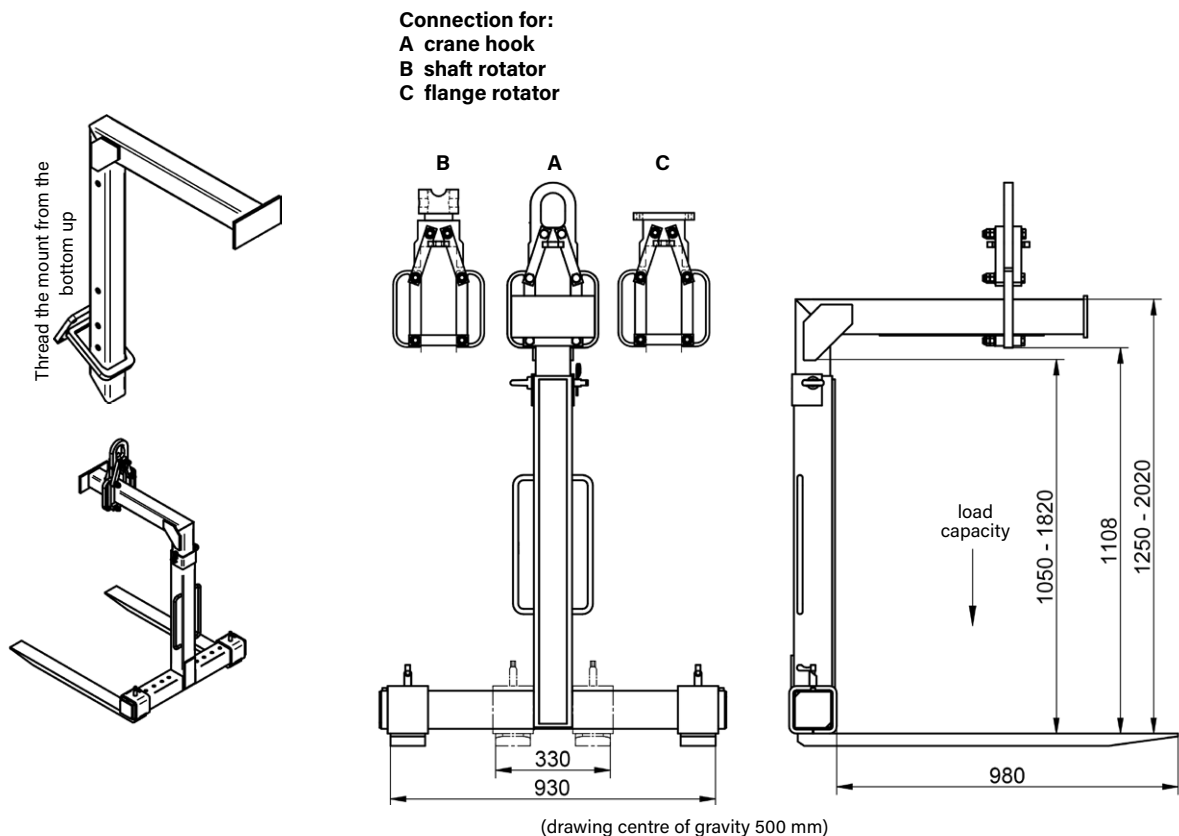
**Package consists of:** pallet fork, protection chain KM 460 01

**Please note:** a protection trellis or net is mandatory for loose material (EN 13155)

### Accessories

Type	Description
KM 04 F	KINSHOFER flange rotator for precise positioning of the load - up to 4,500 kg load capacity
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load - up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotators
KM 502 (4500)	reduction link between rotator and grapple
KM 460 04 (KM 04 S)	non-rotating hook for rotator KM 04 S

### Technical drawings



The robust telescopic pallet fork KM 414T with manual centre of gravity compensation is an economic alternative due to its versatility. Besides the properties of the regular KM 414 pallet fork, the KM 414T additionally features the possibility to extend to a height of up to 2,500 mm.

- ▷ **Manual change of position of shifting collar** by the operator.
- ▷ **Suspension Ring** for KINSHOFER flange or shaft rotator, or for a crane hook is included in the package.
- ▷ **Throat height adjustable in steps** from 1,100 mm to 2,500 mm with a lock pin.
- ▷ **Tine spread adjustable in steps** from 365 mm to max. 975 mm with a lock pin.



## Telescopic pallet fork KM 414T

Type	Load capacity (kg)	Throat height N (min./max.) (mm)	Tine length (mm)	Tine spread Z (min./max.) (mm)	Tine dimensions (width x height) (mm)	Centre of gravity (mm)	Weight* (kg)
<b>KM 414T-2000-500</b>	2,000	1,100 – 2,500	980	365 – 950	100 x 35	500	165
<b>KM 414T-2500-500</b>	2,500	1,100 – 2,500	980	370 – 960	90 x 40	500	200
<b>KM 414T-2000-600</b>	2,000	1,100 – 2,500	1,150	370 – 960	90 x 40	600	230
<b>KM 414T-2500-600</b>	2,500	1,100 – 2,500	1,150	385 – 975	100 x 45	600	245

**Package consists of:** telescopic pallet fork, protection chain KM 460 01

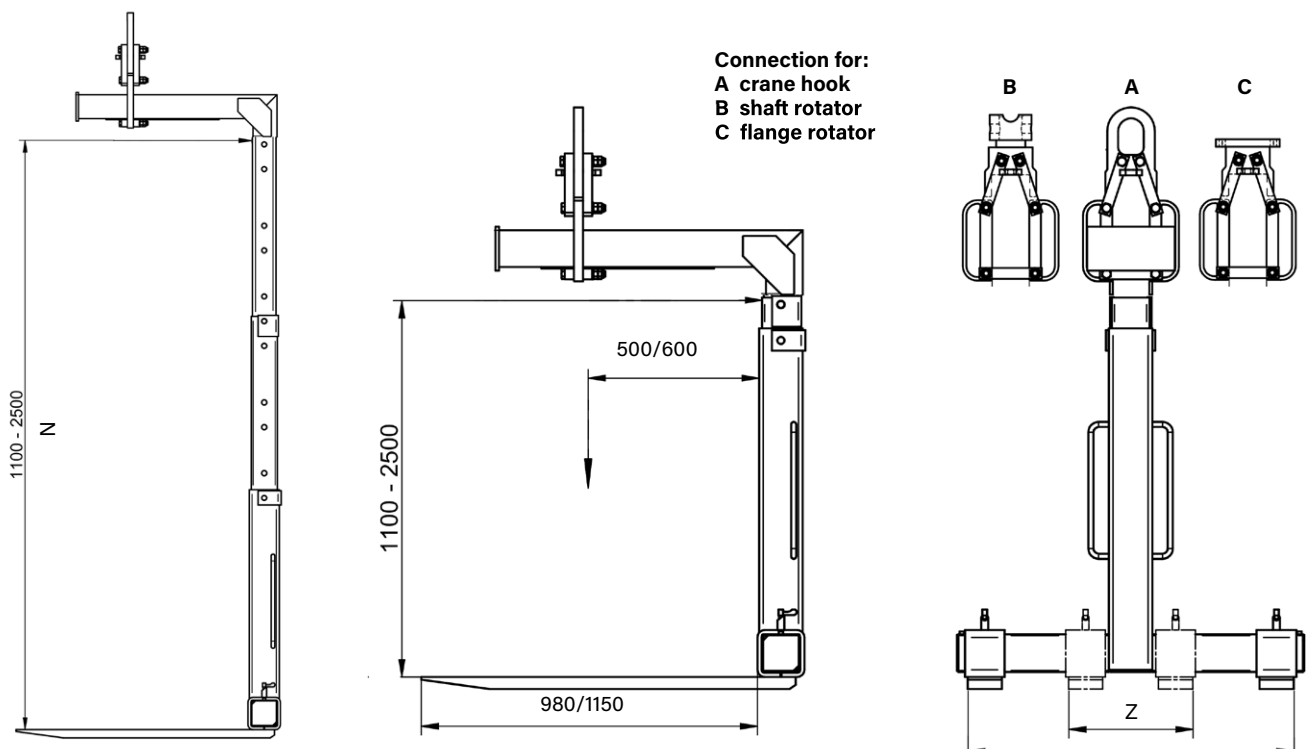
\* weight w/o rotator w/suspension ring for crane hook

**Please note:** a protection trellis or net is mandatory for loose material (EN 13155)

## Accessories

Type	Description
<b>KM 04 F</b>	KINSHOFER flange rotator for precise positioning of the load – up to 4,500 kg load capacity
<b>KM 04 S</b>	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
<b>KM 505</b>	quick change system for shaft-type rotators
<b>KM 502 (4500)</b>	reduction link between rotator and grapple
<b>KM 460 04 (KM 04 S)</b>	non-rotating hook for rotator KM 04 S

## Technical drawings



Thanks to the universal extensions for the pallet forks KM 401 (H), KM 414 and KM 415, the throat height of each of these types can be extended by 750 mm or 1,200 mm respectively.

- ▷ **Fast mounting** due to easy positioning of the extension by lock pin between upper and lower part of the respective pallet fork.
- ▷ **Throat height adjustable in steps** with a lock pin. The general throat height can be extended by the extension but also removed easily.
- ▷ **Adjustable tine spread** and all other functions of the pallet forks remain untouched.
- ▷ **Ideally adjusted** to the respective load capacity/centre of gravity of the pallet fork.
- ▷ **Two lengths available:** 750 mm or 1,200 mm.

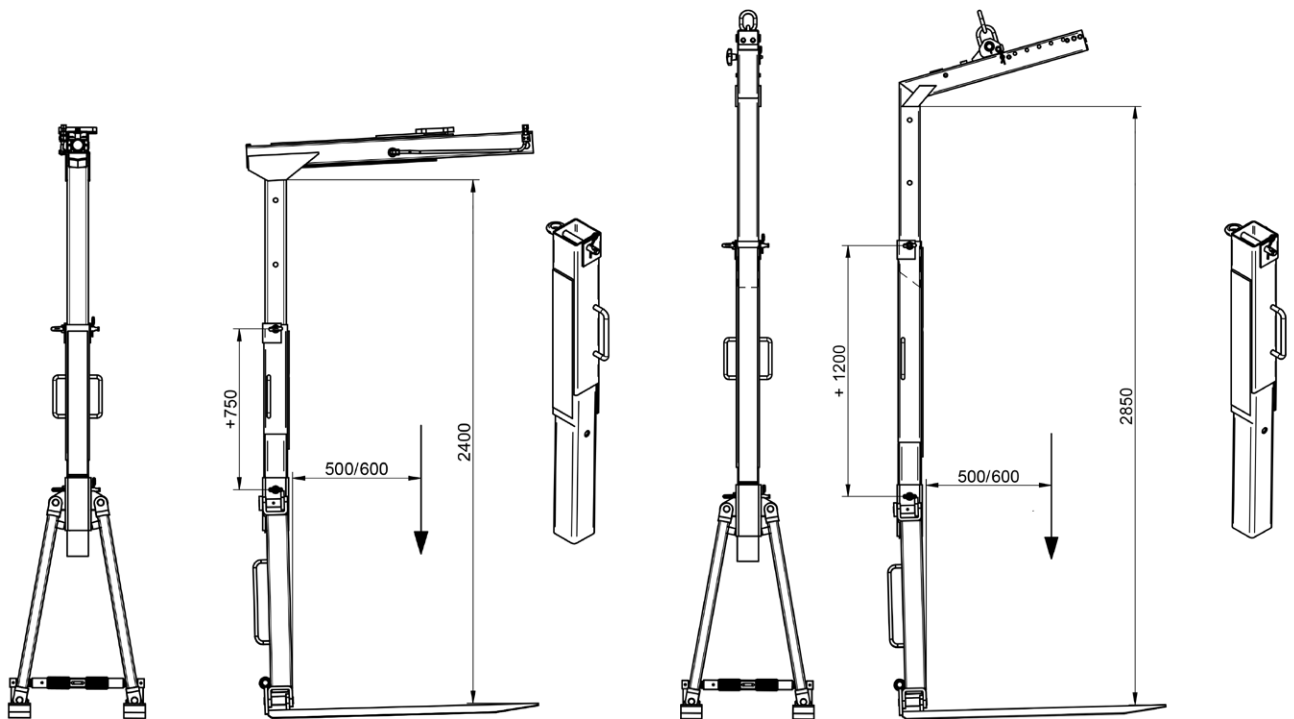


### Extensions for pallet forks KM 460

Type	for Pallet forks KM 401 (H) / KM 414 / KM 415 load capacities / centres of gravity (kg/mm)	Extension for throat height by (mm)	Weight (only extension) (kg)
KM 460-750-500	2,000/500	750	26
KM 460-750-600	2,000/600 2,500/500 / 2,500/600	750	35
KM 460-1200-500	2,000/500	1,200	35
KM 460-1200-600	2,000/600 2,500/500 / 2,500/600	1,200	49

**Package consists of:** extension, lock pin

### Technical drawings



Extension by 750 mm on KM 401 H (w/o rotator)

Extension by 1,200 mm on KM 401

The universal fork KM 461 for loader cranes handles wallboards and other lying building materials up to a size of 1,250 height and 460 mm depth.

- ▷ **Different tine spreads** depending on the sheets that have to be handled.
- ▷ **Safe transport** of sheets of wallboard in the hinged lower section. The boards can be lifted and folded into a vertical position and clamped between the tines and frame, preventing them from sliding during handling.
- ▷ **Protection of the sheets** during unloading through semi-tapered forged tines, equipped with rollers and pads. A standard centre slide gives an additional support point for your loads.
- ▷ **Security** is assured even in case of a drop in pressure due to the integrated counterbalance valve that prevents the fork from opening unintentionally. The hydraulic cylinder is equipped with a pressure relief valve to prevent overload.
- ▷ **Accurate positioning** of the load is ensured by the tilt cylinder and the rotator.
- ▷ **The special version of the universal fork, the KM 461A** with a second suspension point on the main beam enables the unloading of lying boards through narrow openings in the wall.
- ▷ **Optional piston rod protection** for versions with 1,500kg and 2,000kg load capacity, also retrofittable.



### Package universal fork KM 461-1500 c

Type	Load capacity (kg)	Tine spread Z (min./max.) (mm)	Height of load max. (mm)	Depth of load max. (mm)	Weight (kg)
KM 461-1500 c	1,500	640 – 1,830	1,250	460	410

**Package consists of:** universal fork, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, counterbalance valve

### Universal fork KM 461

Type	Load capacity (kg)	Tine spread Z (min./max.) (mm)	Height of load max. (mm)	Depth of load max. (mm)	Weight (kg)
KM 461-800	800	600 – 1,000	1,250	460	265
KM 461-1000	1,000	640 – 1,600	1,250	460	340
KM 461-1500/1600	1,500	640 – 1,600	1,250	460	380
KM 461-1500/1830		640 – 1,830	1,250	460	390
KM 461-1500/2130	2,000	640 – 2,130	1,250	460	395
KM 461-2000/1600		640 – 1,600	1,250	460	390
KM 461-2000/1830	2,000	640 – 1,830	1,250	460	400
KM 461-2000/2130		640 – 2,130	1,250	460	405
KM 461-2500/1600	2,500	640 – 1,600	1,250	460	400
KM 461-2500/1830		640 – 1,830	1,250	460	410
KM 461-2500/2130		640 – 2,130	1,250	460	415

**Please note:** max. dimensions of the load are 1,250 x 460 mm (height x depth). The max. width of the load is depending on the tine spread. KM 461-800 is delivered with an integrated rack and an upper suspension for a shaft rotator

KM 461A: special version of Universal Fork KM 461-1500/1600 is delivered with 2nd suspension point on the main beam

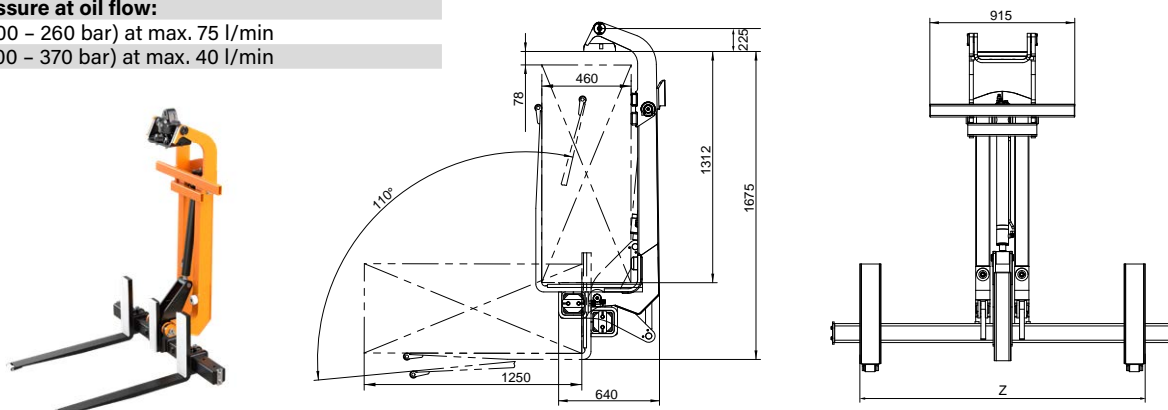
### Accessories

Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 461 (for load capacity over 1,000 kg)
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 S68-30US	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 505 + KM 505 05	quick change system for KM 04 S with distance ring (for load capacity over 1,000 kg, <b>not</b> with KM 461-800)
KM 502 (4500)	reduction link between rotator and grapple
KM 461 08	adjustable clamping device to secure single sheets of smaller packs (for load capacity over 1,000 kg)
KM 461 09	rack for safe and easy storage of folded universal fork (for load capacity over 1000 kg)
KM 461 10	piston rod protection for 1,500kg and 2,000kg

### Requirements of truck crane

**Operating pressure at oil flow:**  
 20 - 26 MPa (200 – 260 bar) at max. 75 l/min  
 20 - 37 MPa (200 – 370 bar) at max. 40 l/min

### Technical drawings



The hydraulic drive unit **HPXdrive**, characterized by its constant closing force, is optimally suited for daily operations in general construction, civil engineering and landscaping.

In contrast to conventional hydraulic grabs, with the **HPXdrive** the torque is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. The force is delivered to two shafts, on which the shells are mounted.

These advantages of the **HPXdrive** - technology provide an extended service life and higher efficiency.

The compact design of the **HPXdrive** without open greasing points allows for operations in water protection areas, as no lubricant can be washed out.

# HPXdrive

Setting **THE** Standard for Innovative Grab Technology for more than 15 years!

**VAST LIFESPAN EXTENSION  
COMPARED TO CONVENTIONAL  
CYLINDER GRABS AT EXTREMELY LOW  
COST OF OWNERSHIP**

**CONSTANT CLOSING FORCE  
DURING THE COMPLETE  
CLOSING CYCLE**

**NO PROTRUDING  
COMPONENTS**

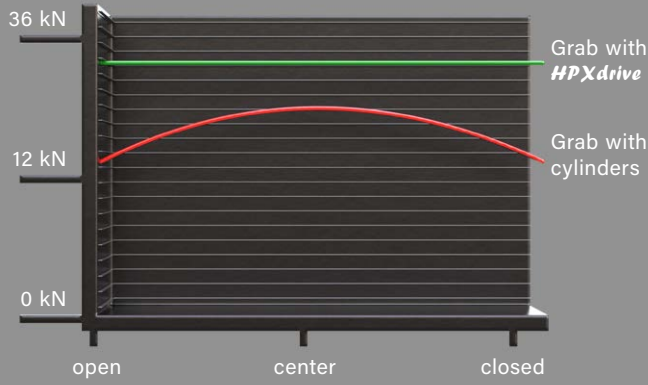
**LOW MAINTENANCE**

**ABSOLUTE SHELL  
SYNCHRONISATION WITHOUT  
COMPENSATION RODS!**

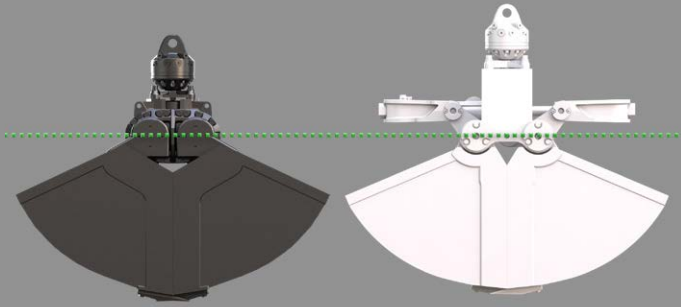
**PRESSURE RELIEF VALVE &  
NON-RETURN VALVE FOR  
SECURE WORKING**



## COMPARISON OF CLOSING FORCES IN kN



## COMPACT DESIGN



HOMEMADE BY KINSHOFER!  
WE DEVELOP AND PRODUCE EVERYTHING  
IN-HOUSE – FROM ROTATOR TO DRIVE UNIT  
AND GRAB!

**NO GREASE POINTS!  
IDEAL FOR WORKS IN WATER  
PROTECTION AREAS AND  
UNDER WATER!**

ROTATOR WITH DIRECT  
CONNECTION TO  
THE **HPXdrive**

OPTIMAL WEIGHT &  
COMPACT DESIGN

The bucket shells are bolted to the shafts and therefore easy to replace by another set. Different types of shells for diverse applications can be refitted onto the driving unit, e.g. clamshell bucket with or without open shells, multi purpose grab and rock and timber grab.

## EASY SHELL EXCHANGE IN LESS THAN 10 MINUTES!



Shells mounted



Loosen 4 bolts  
on each side



Remove connecting pieces one after  
another



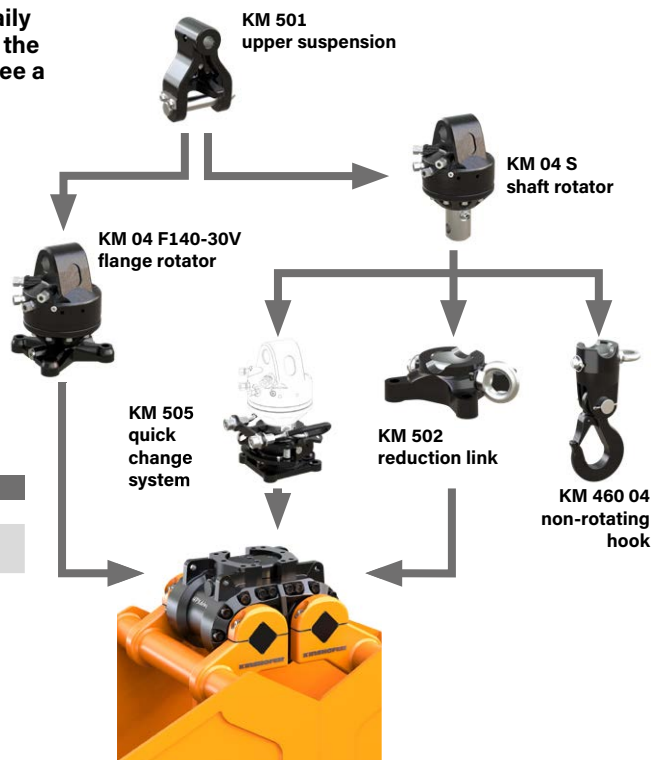
**HPXdrive** loosened



Lift **HPXdrive** for  
exchange of shells

The **HPXdrive Standard** as an allround unit is perfect for the daily routine jobs. The advantages of the **HPXdrive**-technology like the constant high closing force and the compact design, guarantee a long life and reliability.

The standard rotator of the **HPXdrive Standard** is the **KINSHOFER** rotator with flange KM 04 F140-30V. In case a quick change to a non-rotating hook is necessary, the **HPXdrive** can be delivered with the **KINSHOFER** shaft rotator KM 04 S in combination with either the quick change system KM 505 or the reduction link KM 502.



### Technical information **HPXdrive Standard**:

**Torque (at 26 MPa):** 12,000 Nm

**Operating pressure at oil flow:** 26 MPa (260 bar) at max. 75 l/min  
26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### **HPXdrive Standard with flange rotator HPX-SD-04F-30V**

**Package consists of:** upper suspension KM 501 (4500), rotator KM 04 F140-30V, drive unit **HPXdrive Standard** with pressure relief valve and non-return valve

**Self weight:** 160 kg

**Height:** 480 mm



### **HPXdrive Standard/502 with shaft rotator and reduction link HPX-SD-502**

**Package consists of:** upper suspension KM 501 (4500), rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, drive unit **HPXdrive Standard** with pressure relief valve and non-return valve

**Self weight:** 165 kg

**Height:** 535 mm



### **HPXdrive Standard/505 with shaft rotator and quick change system HPX-SD-505**

**Package consists of:** upper suspension KM 501 (4500), rotator KM 04 S, quick exchange system KM 505, connecting hoses KM 203 01, drive unit **HPXdrive Standard** with pressure relief valve and non-return valve

**Self weight:** 170 kg

**Height:** 575 mm

**Note:** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with KM 04 S68-30US

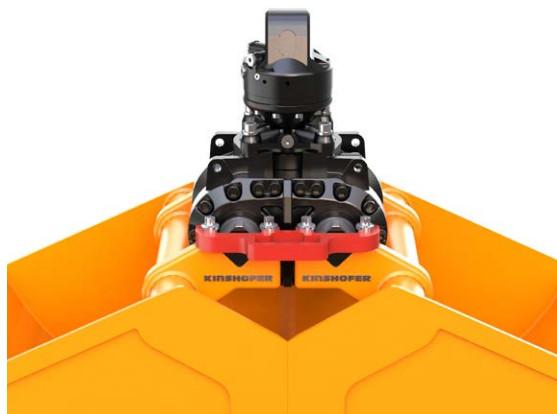


The drive unit **HPXdrive Standard** can only be used in combination with **KINSHOFER** rotator and shells.



The bucket shells of the **HPXdrive Standard** are bolted to the shafts, and therefore it is very easy to replace them with another set of shells. Different types of shells for different applications can be refitted onto the driving unit, e.g. clamshell bucket, rock grapple, timber grapple, hay and forestry grapple and multi purpose clamshell. Other types of shells are available on request.

The interchangeable shells are delivered with an exchange aid that guarantees the **HPXdrive Standard** can be positioned with ease.



**Package consists of:** exchangeable shells, bolt-on teeth (for KM 604HPX, KM 626HPX), exchange aid kit

Type	Volume (litre)	Width (mm)	Opening max. (mm)	Number of teeth/tines	Self weight (kg)
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### Shells for clamshell bucket - KM 604HPX



<b>KM 604HPX-200S</b>	200	400	1,395	4	130
<b>KM 604HPX-250S</b>	250	500	1,395	4	145
<b>KM 604HPX-325S</b>	325	600	1,395	6	160
<b>KM 604HPX-350S</b>	350	650	1,395	6	165
<b>KM 604HPX-450S</b>	450	800	1,395	6	180

### Shells for small clamshell bucket - KM 626HPX



<b>KM 626HPX-95S</b>	95	400	900	4	90
<b>KM 626HPX-100S</b>	100	450	900	4	95
<b>KM 626HPX-150S</b>	150	600	900	6	120

### Shells for clamshell bucket with open shells - KM 604U HPX



<b>KM 604U HPX-250S</b>	250	570	1,595	-	215
<b>KM 604U HPX-300S</b>	300	670	1,595	-	235
<b>KM 604U HPX-400S</b>	400	820	1,595	-	255
<b>KM 604U HPX-500S</b>	500	1,020	1,595	-	285

### Tines for rock grapple - KM 613HPX



<b>KM 613HPX-0,16S</b>	0.16 m <sup>2</sup>	400	1,230	-	75
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### Tines for timber grapple - KM 632HPX



<b>KM 632HPX-0,16S</b>	0.16 m <sup>2</sup>	400	1,225	-	75
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### Tines for hay and forestry grapple - KM 641HPX



<b>KM 641HPX-0,2S</b>	0.20 m <sup>2</sup>	670	1,200	7	95
<b>KM 641HPX-0,4S</b>	0.40 m <sup>2</sup>	940	1,695	7	160

The drive unit **HPXdrive Standard** can only be used in combination with **KINSHOFER** rotator and shells.

An allround clamshell bucket using the *HPXdrive Standard* for digging and handling, the KM 604HPX is ideal for the daily routine work. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** by different types of shells that can easily be refitted onto the unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (19 kN at 26 MPa operating pressure) over the entire opening and closing process.



### Packages clamshell bucket KM 604HPX with **KINSHOFER** flange rotator

Type	Volume (litre)	Width E (mm)	Height (w/rotator) (mm)	Opening A max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 604HPX-200 c	200	400	1,020	1,390	4	290	19	3,000
KM 604HPX-250 c	250	500	1,020	1,390	4	305	19	3,000
KM 604HPX-325 c	325	600	1,020	1,390	6	320	19	3,000
KM 604HPX-350 c	350	650	1,020	1,390	6	325	19	3,000
KM 604HPX-450 c	450	800	1,020	1,390	6	340	19	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F140-30V, upper suspension KM 501 (4500), pressure relief valve, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 604HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height (w/rotator) (mm)	Opening A max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 604HPX-200/502 c	200	400	1,075	1,390	4	295	19	3,000
KM 604HPX-250/502 c	250	500	1,075	1,390	4	310	19	3,000
KM 604HPX-325/502 c	325	600	1,075	1,390	6	325	19	3,000
KM 604HPX-350/502 c	350	650	1,075	1,390	6	330	19	3,000
KM 604HPX-450/502 c	450	800	1,075	1,390	6	345	19	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

### Accessories

Type	Description
KM 680 01	scraper
KM 685 05	adapters for compression rails (load capacity max. 250 kg, without compression rails)
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)
KM 685 08 HPX-450	extension for excavating e.g. trenches (for canal and civil engineering) – 450 mm (30 kg)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

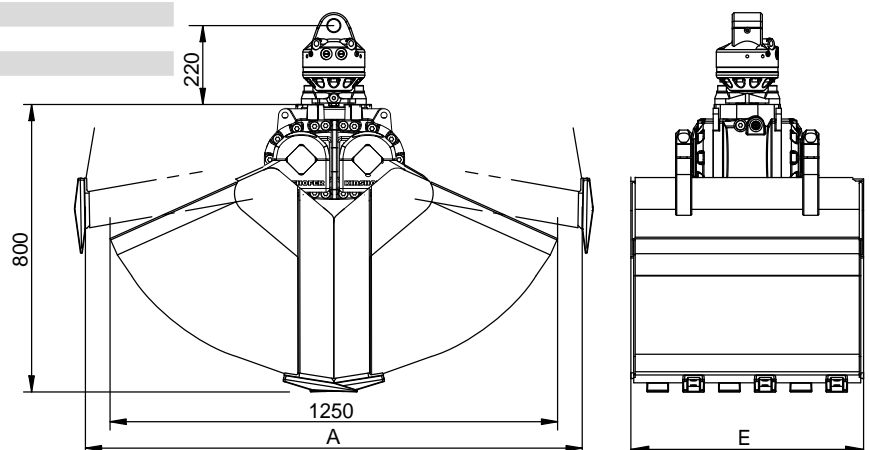
### Requirements of truck crane

#### Operating pressure at oil flow:

26 MPa (260 bar) at max. 75 l/min

26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



The KM 626HPX with the *HPXdrive* for digging and handling, is due to its size ideal for small cranes. The revolutionary *HPXdrive* technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the ! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the .
- ▷ **Rotator** with shaft is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (31 kN at 26 MPa operating pressure) over the entire opening and closing process.



### Packages clamshell bucket KM 626HPX with **KINSHOFER** flange rotator

Type	Volume (litre)	Width E (mm)	Height (mm)	max. Opening A (mm)	Number of teeth	Self weight (kg)	Closing Closing (kN)	Load capacity (kg)
<b>KM 626HPX-95 c</b>	95	400	770	890	4	250	31	2,000
<b>KM 626HPX-100 c</b>	100	450	770	890	4	255	31	2,000
<b>KM 626HPX-150 c</b>	150	600	770	890	6	280	31	2,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F140-30V, upper suspension KM 501 (4500), pressure relief valve, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 626HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height (mm)	max. Opening A (mm)	Number of teeth	Self weight (kg)	Closing Closing (kN)	Load capacity (kg)
<b>KM 626HPX-95/502 c</b>	95	400	825	890	4	255	31	2,000
<b>KM 626HPX-100/502 c</b>	100	450	825	890	4	260	31	2,000
<b>KM 626HPX-150/502 c</b>	150	600	825	890	6	285	31	2,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

### Accessories

Type	Description
<b>KM 680 02</b>	scraper
<b>KM 685 06 hook set 2</b>	welded hooks (2 pieces)
<b>KM 685 07 set</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>KM 204 01</b>	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>KM 204 03</b>	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

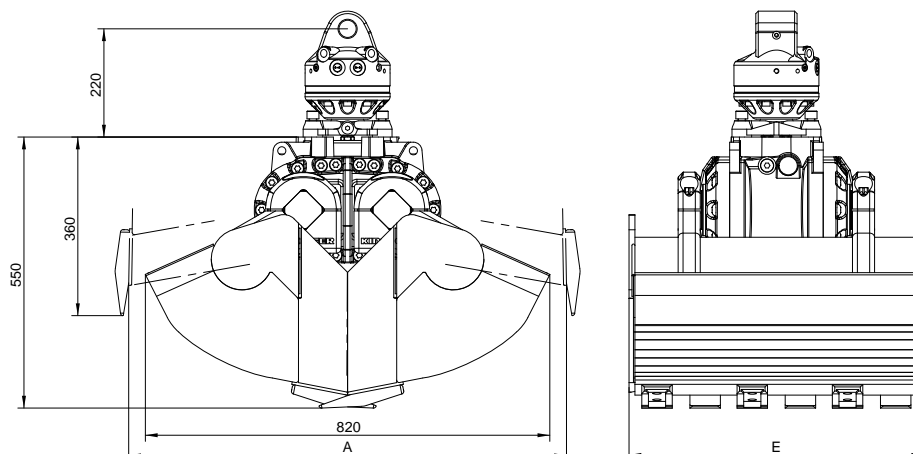
### Requirements of truck crane

#### Operating pressure at oil flow:

26 MPa (260 bar) at max. 75 l/min

26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



The KM 604U HPX is a clamshell bucket using the *HPXdrive Standard* for handling and easy digging tasks. The open shells enable the handling of bulky materials. Non-return valve, pressure relief valve, welded hooks and reversible wear plates are delivered on each grapple. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (17 kN at 26 MPa operating pressure) over the entire opening and closing process.



### Packages clamshell bucket KM 604U HPX with **KINSHOFER** flange rotator

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening A max. (mm)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 604U HPX-250 c	250	570	1,100	1,590	375	17	3,000
KM 604U HPX-300 c	300	670	1,100	1,590	395	17	3,000
KM 604U HPX-400 c	400	820	1,100	1,590	415	17	3,000
KM 604U HPX-500 c	500	1,020	1,100	1,590	445	17	3,000

**Package consists of:** clamshell bucket, rotator KM 04 F140-30V, upper suspension KM 501 (4500), wear plates KM 685 07 set, welded hooks KM 685 06 hook set 2, pressure relief valve, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 604U HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening A max. (mm)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 604U HPX-250/502 c	250	570	1,155	1,590	380	17	3,000
KM 604U HPX-300/502 c	300	670	1,155	1,590	395	17	3,000
KM 604U HPX-400/502 c	400	820	1,155	1,590	420	17	3,000
KM 604U HPX-500/502 c	500	1,020	1,155	1,590	450	17	3,000

**Package consists of:** clamshell bucket, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), wear plates KM 685 07, welded hooks KM 685 06 hook set 2, pressure relief valve, non-return valve

### Accessories

Type	Description
KM 685 05	adapters for compression rails (load capacity max. 250 kg, without compression rails)
KM 381 09 (720)	compression rails – length 720 mm (2 pieces)
KM 381 09 (1000)	compression rails – length 1,000 mm (2 pieces)
KM 685 09 C	side plates to screw onto the grapple for easy digging tasks (4 pieces)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

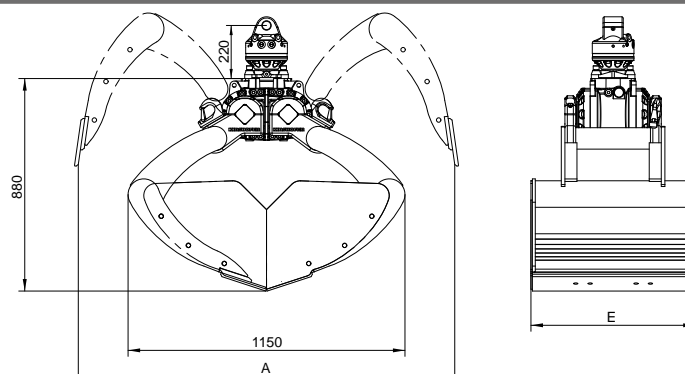
### Requirements of truck crane

#### Operating pressure at oil flow:

26 MPa (260 bar) at max. 75 l/min

26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



The KM 613HPX with *HPXdrive Standard* for positioning and handling natural stones, curbstones etc. is an ideal tool for landscaping architecture. A non-return valve secures constant pressure even in case of unexpected pressure drop. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (18 kN at 26 MPa operating pressure) over the entire opening and closing process.



### Package rock grapple KM 613HPX with **KINSHOFER** flange rotator

Type	Capacity (m <sup>2</sup> )	Width E (mm)	Height (mm)	max. Opening (mm)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 613HPX-0.16 c	0.16	400	1,000	1,200	235	18	1,000

**Package consists of:** rock grapple, rotator KM 04 F140-30V, upper suspension KM 501 (4500), pressure relief valve, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Package rock grapple KM 613HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Capacity (m <sup>2</sup> )	Width E (mm)	Height (mm)	max. Opening (mm)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 613HPX-0.16/502 c	0.16	400	1,055	1,200	240	18	1,000

**Package consists of:** rock grapple, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

### Accessories

Type	Description
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

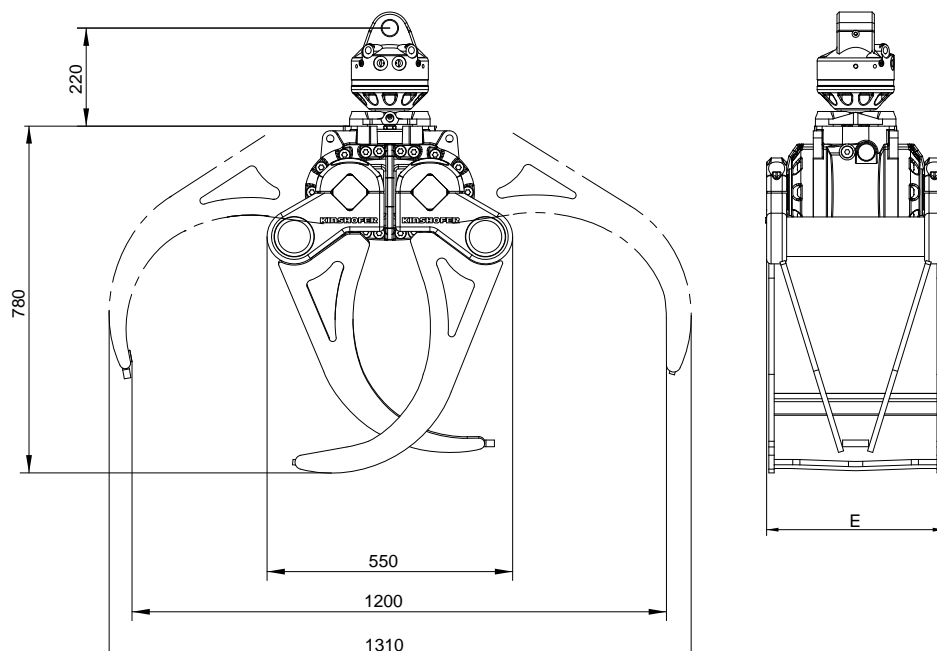
### Requirements of truck crane

#### Operating pressure at oil flow:

26 MPa (260 bar) at max. 75 l/min

26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



The KM 632HPX with *HPXdrive Standard* for loading short logs, shrubbery, branches etc. A non-return valve secures constant pressure even in case of unexpected pressure drop. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (18 kN at 26 MPa operating pressure) over the entire opening and closing process.



### Package timber grapple KM 632HPX with **KINSHOFER** flange rotator

Type	Capacity	Width E	Height	Log-Ø min.	Opening max.	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 632HPX-0.16 c</b>	0.16	400	1,000	170	1,220	235	18	1,000

**Package consists of:** timber grapple, rotator KM 04 F140-30V, upper suspension KM 501 (4500), pressure relief valve, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Package timber grapple KM 632HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Capacity	Width E	Height	Log-Ø min.	Opening max.	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 632HPX-0.16/502 c</b>	0.16	400	1,055	170	1,220	240	18	1,000

**Package consists of:** timber grapple, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

### Accessories

Type	Description
<b>KM 204 01</b>	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>KM 204 03</b>	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

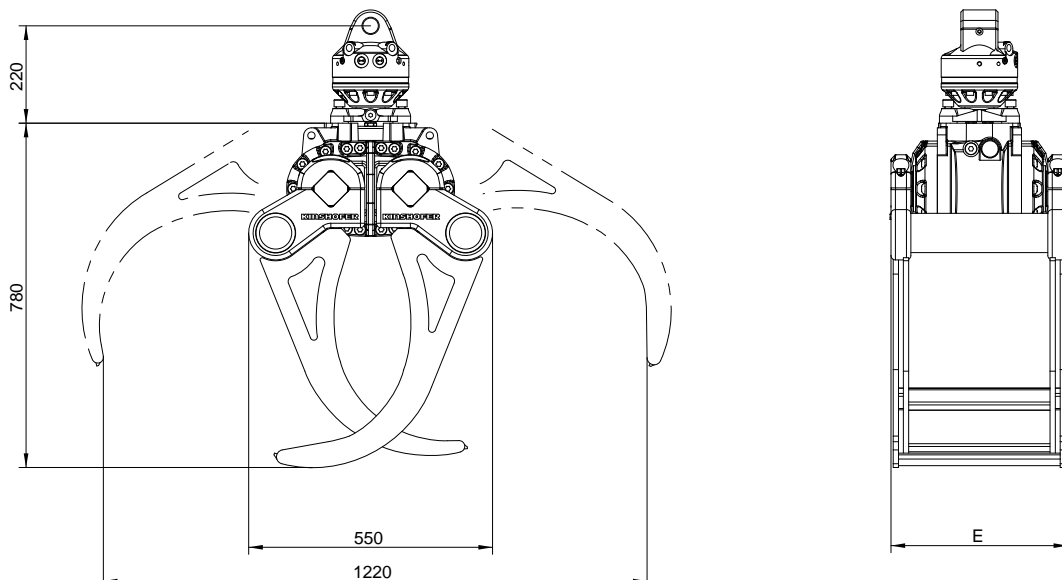
### Requirements of truck crane

#### Operating pressure at oil flow:

26 MPa (260 bar) at max. 75 l/min

26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



The hay and forestry grapple KM641HPX using the *HPXdrive Standard* is ideal for handling hay, brush-wood, compost or manure - often used for municipal operations and road work. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (18 kN/14 kN at 26 MPa operating pressure) over the entire opening and closing process.



### Package hay and forestry grapple KM 641HPX with **KINSHOFER** flange rotator

Type	Capacity (m <sup>2</sup> )	Width E (mm)	Height C (+ rotator) (mm)	Opening max. A (mm)	Number of tines	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>KM 641HPX-0.2 c</b>	0.20	670	950	1,190	7	255	18	1,000
<b>KM 641HPX-0.4 c</b>	0.40	940	1,190	1,630	7	320	14	2,000

**Package consists of:** hay and forestry grapple, rotator KM 04 F140-30V, upper suspension KM 501 (4500), pressure relief valve, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Package hay and forestry grapple KM 641HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Capacity (m <sup>2</sup> )	Width E (mm)	Height C (+ rotator) (mm)	Opening max. A (mm)	Number of tines	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>KM 641HPX-0.2/502 c</b>	0.20	670	1,005	1,200	7	260	18	1,000
<b>KM 641HPX-0.4/502 c</b>	0.40	940	1,245	1,695	7	325	14	2,000

**Package consists of:** hay and forestry grapple, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

### Accessories

Type	Description
<b>KM 204 01</b>	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>KM 204 03</b>	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

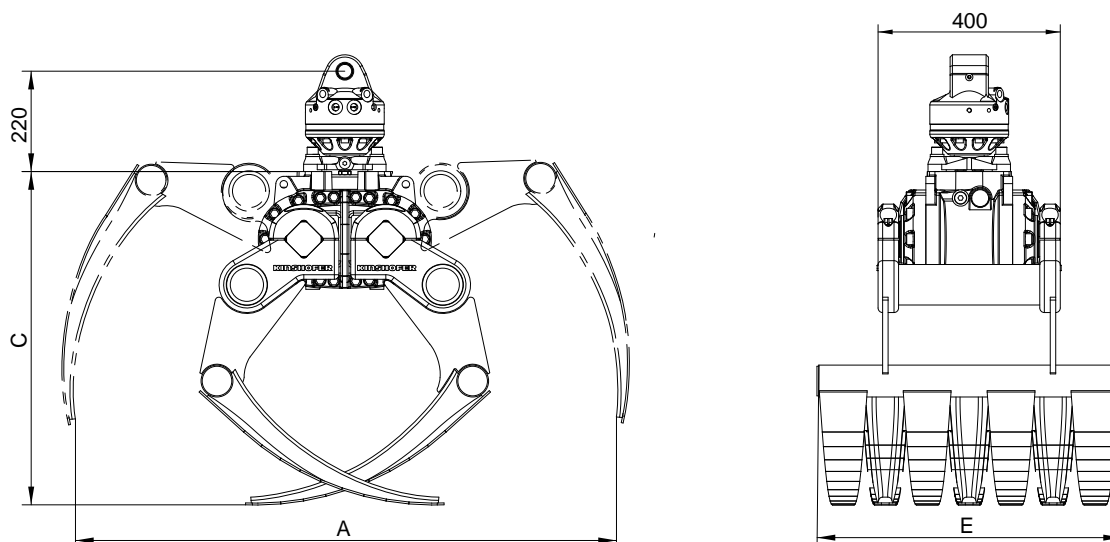
### Requirements of truck crane

#### Operating pressure at oil flow:

26 MPa (260 bar) at max. 75 l/min

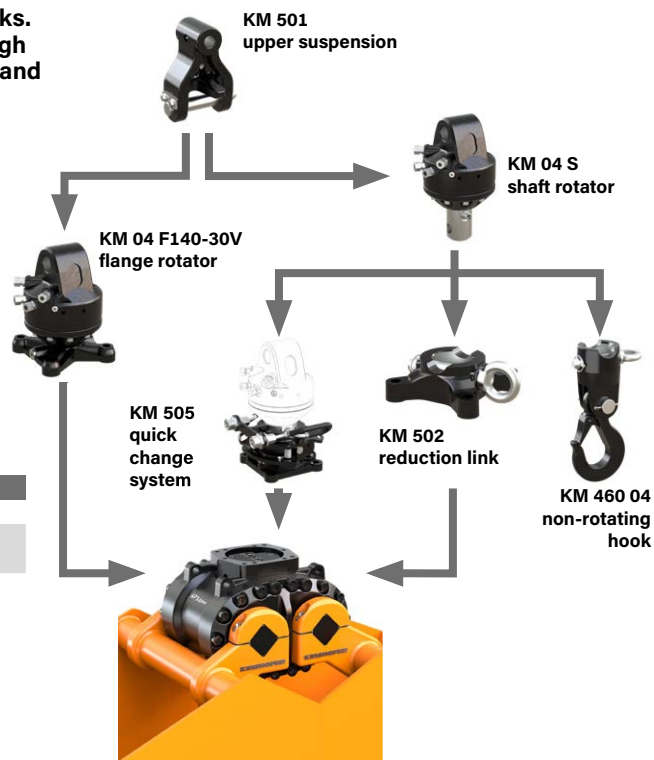
26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



The **HPXdrive Heavy Duty** is a powerful version for difficult tasks. The advantages of the **HPXdrive**-technology – the constant high closing force and the compact design – guarantee a long life and reliability.

The standard rotator of the **HPXdrive Heavy Duty** is the **KINSHOFER** rotator with flange KM 04 F140-30V. In case a quick change to a non-rotating hook is necessary, the **HPXdrive** can be delivered with the **KINSHOFER** shaft rotator KM 04 S in combination with the quick change system KM 505 or the reduction link KM 502.



### Technical information **HPXdrive Heavy Duty**:

**Torque (at 32 MPa):** 21,000 Nm

**Operating pressure at oil flow:** max. 32 MPa (320 bar) at 40 - max. 90 l/min  
**Mind the pressure!**

### **HPXdrive Heavy Duty** with flange rotator HPX-HD-04F-30V

**Package consists of:** upper suspension KM 501 (4500), rotator KM 04 F140-30V, drive unit **HPXdrive Heavy Duty** with non-return valve

**Self weight:** 195 kg

**Height:** 510 mm



### **HPXdrive Heavy Duty/502** with shaft rotator and reduction link HPX-HD-502

**Package consists of:** upper suspension KM 501 (4500), rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, drive unit **HPXdrive Heavy Duty** with non-return valve

**Self weight:** 200 kg

**Height:** 565 mm



### **HPXdrive Heavy Duty/505** with shaft rotator and quick change system HPX-HD-505

**Package consists of:** upper suspension KM 501 (4500), rotator KM 04 S, quick change system KM 505, short connecting hoses KM 203 01, drive unit **HPXdrive Heavy Duty** with non-return valve

**Self weight:** 205 kg

**Height:** 605 mm

**Note:** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with KM 04 S68-30US



The drive unit **HPXdrive Heavy Duty** can only be used in combination with **KINSHOFER** rotator and shells.



The bucket shells of the **HPXdrive Heavy Duty** are bolted to the shafts, and therefore it is very easy to replace them with another set of shells. Different types of shells for different applications can be refitted onto the driving unit, e.g. clamshell bucket, rock grapple, timber grapple, hay and forestry grapple. Other types of shells are available on request.

The interchangeable shells are delivered with an exchange aid that guarantees the **HPXdrive Heavy Duty** can be positioned with ease.



**Package consists of:** exchangeable shells, bolt-on teeth (for KM 605HPX), exchange aid kit

Type	Volume (litre)	Width (mm)	Opening max. (mm)	Number of teeth / tines	Self weight (kg)
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### Shells for heavy duty clamshell bucket - KM 605HPX

<b>KM 605HPX-200S</b>	200	400	1,420	4	140
<b>KM 605HPX-250S</b>	250	500	1,420	4	170
<b>KM 605HPX-350S</b>	350	650	1,420	6	200
<b>KM 605HPX-450S</b>	450	800	1,420	6	225
<b>KM 605HPX-550S</b>	550	1,000	1,420	8	265



### Shells for heavy duty clamshell bucket for Z-cranes - KM 605HPX-Z

<b>KM 605HPX-Z-240S</b>	240	500	1,420	-	180
<b>KM 605HPX-Z-300S</b>	300	650	1,420	-	210
<b>KM 605HPX-Z-370S</b>	370	800	1,420	-	235
<b>KM 605HPX-Z-460S</b>	460	1,000	1,420	-	275



### Shells for heavy duty clamshell bucket with open shells - KM 605U HPX

<b>KM 605U HPX-300S</b>	300	670	1,545	-	240
<b>KM 605U HPX-400S</b>	400	820	1,545	-	260
<b>KM 605U HPX-450S</b>	450	920	1,545	-	275
<b>KM 605U HPX-500S</b>	500	1,020	1,545	-	295



### Shells for heavy duty clamshell bucket with open shells for Z-cranes - KM 605U HPX-Z

<b>KM 605U HPX-Z-400S</b>	400	820	1,545	-	275
<b>KM 605U HPX-Z-450S</b>	450	920	1,545	-	285
<b>KM 605U HPX-Z-500S</b>	500	1,020	1,545	-	300
<b>KM 605U HPX-Z-600S</b>	600	1,220	1,545	-	335



### Tines for heavy duty rock grapple - KM 613HPX-HD

<b>KM 613HPX-HD-0,35S</b>	0.35 m <sup>2</sup>	400	1,705	-	135
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### Tines for heavy duty timber grapple - KM 632HPX-HD

<b>KM 632HPX-HD-0,16S</b>	0.16 m <sup>2</sup>	400	1,290	-	90
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### Tines for heavy duty hay and forestry grapple - KM 641HPX-HD

<b>KM 641HPX-HD-0,4S</b>	0.40 m <sup>2</sup>	940	1,720	7	195
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The drive unit **HPXdrive Heavy Duty** can only be used in combination with **KINSHOFER** rotator and shells.

A powerful clamshell bucket with the *HPXdrive Heavy Duty* manages even difficult tasks thanks to its high closing force - ideal for digging and handling. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (34 kN at 32 MPa operating pressure) over the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.



### Packages clamshell bucket KM 605HPX with **KINSHOFER** flange rotator

Type	Volume (litre)	Width E (mm)	Height C max. (mm)	Opening A max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605HPX-200 c	200	400	1,035	1,420	4	335	34	3,000
KM 605HPX-250 c	250	500	1,035	1,420	4	360	34	3,000
KM 605HPX-350 c	350	650	1,035	1,420	6	390	34	3,000
KM 605HPX-450 c	450	800	1,035	1,420	6	420	34	3,000
KM 605HPX-550 c	550	1,000	1,035	1,420	8	455	34	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve  
**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 605HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height C max. (mm)	Opening A max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605HPX-200/502 c	200	400	1,090	1,420	4	340	34	3,000
KM 605HPX-250/502 c	250	500	1,090	1,420	4	365	34	3,000
KM 605HPX-350/502 c	350	650	1,090	1,420	6	395	34	3,000
KM 605HPX-450/502 c	450	800	1,090	1,420	6	425	34	3,000
KM 605HPX-550/502 c	550	1,000	1,090	1,420	8	460	34	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

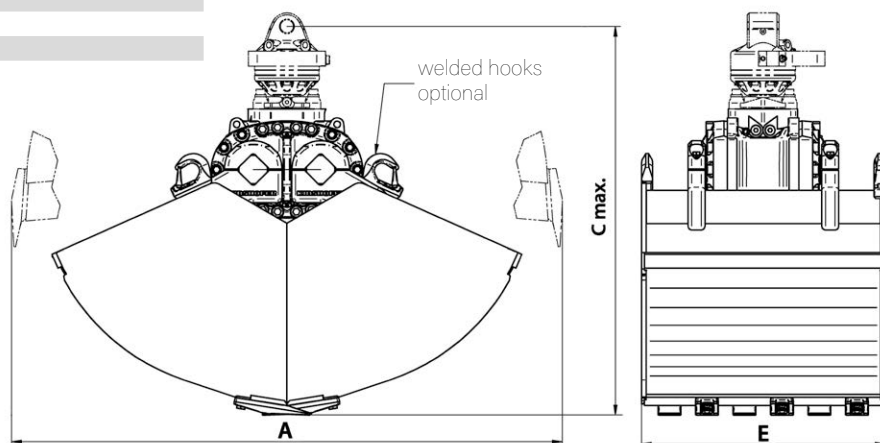
### Accessories

Type	Description
KM 680 01	scraper
KM 685 05	adapters for compression rails (load capacity max. 250 kg, without compression rails)
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)
KM 685 08 HPX-450	extension for excavating e.g. trenches (for canal and civil engineering) - 450 mm (30 kg)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane

**Operating pressure at oil flow:**  
 max. 32 MPa (320 bar) at 40 - max. 90 l/min  
**Mind the pressure!**

### Technical drawings



The KM 605 HPX-Z universal grapple with integrated flap rests flat and safe against the crane arm in its transport position. The special flap at the shell carrier allows to transport a large universal grapple, whereat the grapple does not protrude the carrier machine's width (2,55 m)\* - without any loss in loading volume. The flap is secured automatically by a robust pressure piece with rubber bump.

- ▷ **Reliability** of the **HPXdrive**. The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication**: The drive unit runs in a permanent oil bath. The compact design makes the **HPXdrive** resistant to dirt and debris.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the **HPXdrive**.
- ▷ **Constant closing force** (34 kN at 32 MPa operating pressure) over the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.



\* depending on crane kinematics and mounting

### Packages clamshell bucket KM 605HPX-Z with KINSHOFER flange rotator

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening A max. (mm)	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605HPX-Z-240 c	240	500	1,010	1,420	370	34	3,000
KM 605HPX-Z-300 c	300	650	1,010	1,420	400	34	3,000
KM 605HPX-Z-370 c	370	800	1,010	1,420	430	34	3,000
KM 605HPX-Z-460 c	460	1,000	1,010	1,420	465	34	3,000

**Package consists of:** clamshell bucket with flap, bolt-on teeth, rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 605HPX-Z/502 with KINSHOFER shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening A max. (mm)	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605HPX-Z-240/502 c	240	500	1,065	1,545	375	34	3,000
KM 605HPX-Z-300/502 c	300	650	1,065	1,545	405	34	3,000
KM 605HPX-Z-370/502 c	370	800	1,065	1,545	435	34	3,000
KM 605HPX-Z-460/502 c	460	1,000	1,065	1,545	465	34	3,000

**Package consists of:** clamshell bucket with flap, bolt-on teeth, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), pressure relief valve, non-return valve

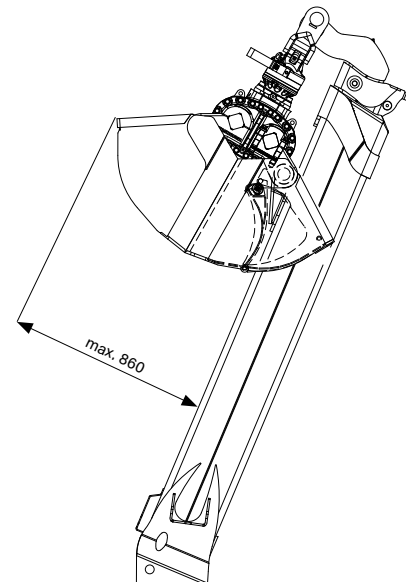
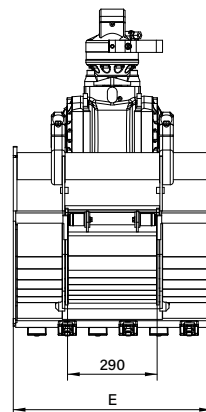
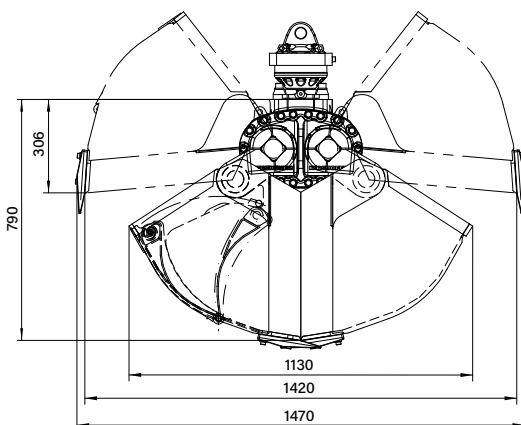
### Accessories

Type	Description
KM 685 05	adapters for compression rails (load capacity max. 250 kg, without compression rails)
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane and technical drawings

#### Operating pressure at oil flow:

max. 32 MPa (320 bar) at 40 - max. 90 l/min **Mind the pressure!**



The KM 605U HPX is a powerful clamshell bucket using the for handling and easy digging tasks. The open shells enable the handling of bulky materials. Non-return valve, welded hooks and reversible wear plates are delivered on each grapple. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the ! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the resistant to dirt and debris.
- ▷ Versatility with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the .
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (28 kN at 32 MPa operating pressure) over the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.



### Packages clamshell bucket KM 605U HPX with **KINSHOFER** flange rotator

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening max. (mm)	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605U HPX-300 c	300	670	1,115	1,545	430	28	3,000
KM 605U HPX-400 c	400	820	1,115	1,545	455	28	3,000
KM 605U HPX-450 c	450	920	1,115	1,545	470	28	3,000
KM 605U HPX-500 c	500	1,020	1,115	1,545	485	28	3,000

**Package consists of:** clamshell bucket, rotator KM 04 F140-30V, upper suspension KM 501 (4500), wear plates KM 685 07 set, welded hooks KM 685 06 hook set 2, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 605U HPX/502 with **KINSHOFER** shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening max. (mm)	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605U HPX-300/502 c	300	670	1,170	1,545	435	28	3,000
KM 605U HPX-400/502 c	400	820	1,170	1,545	460	28	3,000
KM 605U HPX-450/502 c	450	920	1,170	1,545	475	28	3,000
KM 605U HPX-500/502 c	500	1,020	1,170	1,545	490	28	3,000

**Package consists of:** clamshell bucket, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), wear plates KM 685 07, welded hooks KM 685 06 hook set 2, non-return valve

### Accessories

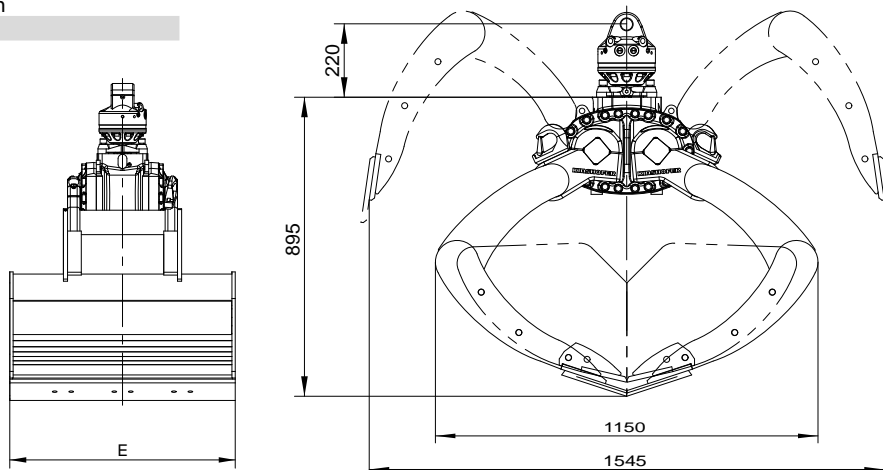
Type	Description
KM 685 05	adapters for compression rails (load capacity max. 250 kg, without compression rails)
KM 381 09 (720)	compression rails – length 720 mm (2 pieces)
KM 381 09 (1000)	compression rails – length 1,000 mm (2 pieces)
KM 685 09 C	side plates to screw onto the grapple for easy digging tasks (4 pieces)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 32 MPa (320 bar) at 40 - max. 90 l/min

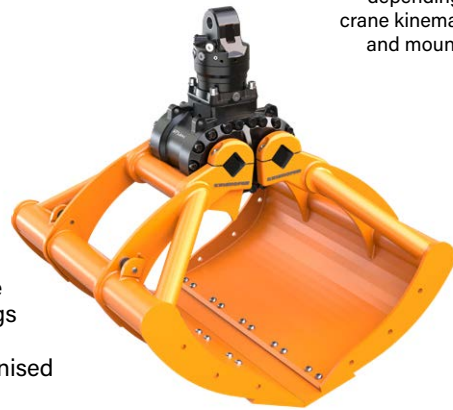
**Mind the pressure!**

### Technical drawings



The KM 605U HPX-Z universal grapple with integrated flap rests flat and safe against the crane arm in its transport position. The special flap at the shell carrier allows to transport a large universal grapple, whereat the grapple does not protrude the carrier machine's width (2,55 m)\*, without any loss in loading volume. The flap is secured automatically by a robust pressure piece with rubber bump.

- ▷ **Reliability** of the **HPXdrive**. The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication**: The drive unit runs in a permanent oil bath. The compact design makes the **HPXdrive** resistant to dirt and debris.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Versatility** by different types of shells that can easily be refitted onto the driving unit.
- ▷ **Constant closing force** (28 kN at 32 MPa operating pressure) over the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the **HPXdrive**.



\* depending on crane kinematics and mounting

### Packages clamshell bucket KM 605U HPX-Z with KINSHOFER flange rotator

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening max. A (mm)	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605U HPX-Z-400 c	400	820	1,145	1,545	465	28	3,000
KM 605U HPX-Z-450 c	450	920	1,145	1,545	480	28	3,000
KM 605U HPX-Z-500 c	500	1020	1,145	1,545	495	28	3,000
KM 605U HPX-Z-600 c	600	1,220	1,145	1,545	525	28	3,000

**Package consists of:** clamshell bucket with flap, rotator KM 06 F140-40, upper suspension KM 501 (6000), wear plates KM 685 07 set, non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Packages clamshell bucket KM 605U HPX-Z/502 with KINSHOFER shaft rotator and reduction link

Type	Volume (litre)	Width E (mm)	Height (mm)	Opening max. A (mm)	Self weight (kg)	Closing force (kN at 32 MPa)	Load capacity (kg)
KM 605U HPX-Z-400/502 c	400	820	1,215	1,545	470	28	3,000
KM 605U HPX-Z-450/502 c	450	920	1,215	1,545	485	28	3,000
KM 605U HPX-Z-500/502 c	500	1,020	1,215	1,545	500	28	3,000
KM 605U HPX-Z-600/502 c	600	1,220	1,215	1,545	530	28	3,000

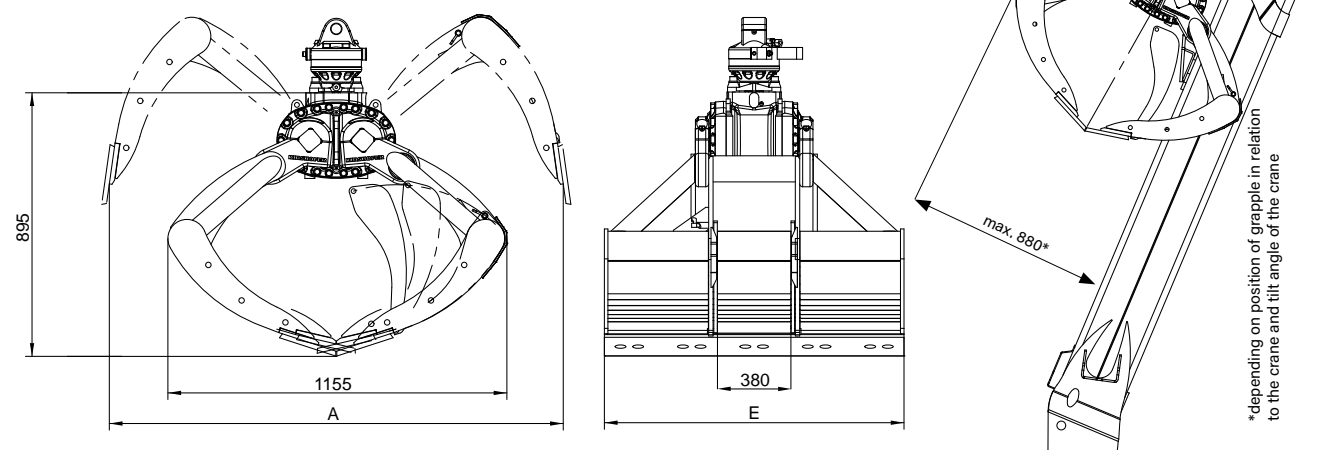
**Package consists of:** clamshell bucket with flap, rotator KM 06 S, upper suspension KM 501 (6000), reduction link KM 502 (6000), short hoses KM 203 01, wear plates KM 685 07, non-return valve

### Accessories

Typ	Description
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 09 C	side plates to screw onto the grapple for easy digging tasks (4 pieces)
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane and technical drawings

**Operating pressure at oil flow:**  
max. 32 MPa (320 bar) at 40 - max. 90 l/min **Mind the pressure!**



The KM 613HPX-HD with *HPXdrive Heavy Duty* for positioning and handling natural stones, curbstones etc. A non-return valve secures constant pressure even in case of unexpected pressure drop. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (22 kN at 32 MPa operating pressure) over the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.



### Package rock grapple KM 613HPX-HD with KINSHOFER flange rotator

Type	Capacity	Width E	Height C	Opening max.	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(kg)	(kN at 32 MPa)	(kg)
<b>KM 613HPX-HD-0.35 c</b>	0.35	400	1,260	1,710	335	22	2,000
<b>Package consists of:</b>	rock grapple, rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve						
<b>HPX-KM 505 add</b>	also available with a shaft rotator and quick change system KM 505						
<b>HPX-KM 505 HD add</b>	for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US						

### Package rock grapple KM 613HPX-HD/502 with KINSHOFER shaft rotator and reduction link

Type	Capacity	Width E	Height C	Opening max.	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(kg)	(kN at 32 MPa)	(kg)
<b>KM 613HPX-HD-0.35/502 c</b>	0.35	400	1,315	1,710	340	22	2,000
<b>Package consists of:</b>	rock grapple, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve						

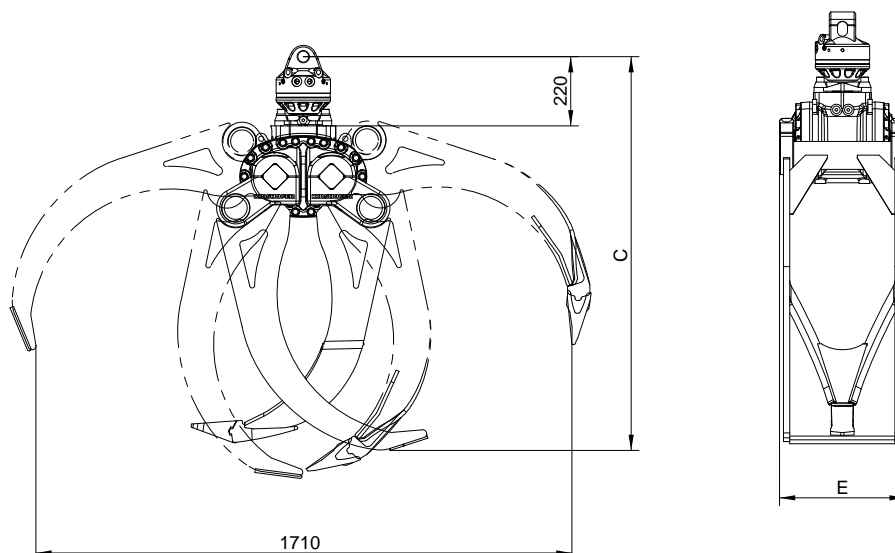
### Accessories

Type	Description
<b>KM 685 06 hook set 2</b>	welded hooks (2 pieces)
<b>KM 204 01</b>	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>KM 204 03</b>	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 32 MPa (320 bar) at 40 - max. 90 l/min **Mind the pressure!**

### Technical drawings



The KM 632HPX with *HPXdrive Heavy Duty* for loading short logs, shrubbery, branches etc. A non-return valve secures constant pressure even in case of unexpected pressure drop. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (31 kN at 32 MPa operating pressure) for the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.



### Package timber grapple KM 632HPX-HD with KINSHOFER flange rotator

Type	Capacity	Width E	Height C	Log-Ø D min.	Opening max.	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN at 32 MPa)	(kg)
<b>KM 632HPX-HD-0.16 c</b>	0.16	400	1,010	170	1,290	285	31	2,000

**Package consists of:** timber grapple, rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve

**HPX-KM 505 add** also available with a shaft rotator and quick change system KM 505

**HPX-KM 505 HD add** for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US

### Package timber grapple KM 632HPX-HD/502 with KINSHOFER shaft rotator and reduction link

Type	Capacity	Width E	Height C	Log-Ø D min.	Opening max.	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN at 32 MPa)	(kg)
<b>KM 632HPX-HD-0.16/502 c</b>	0.16	400	1,065	170	1,290	290	31	2,000

**Package consists of:** timber grapple, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

### Accessories

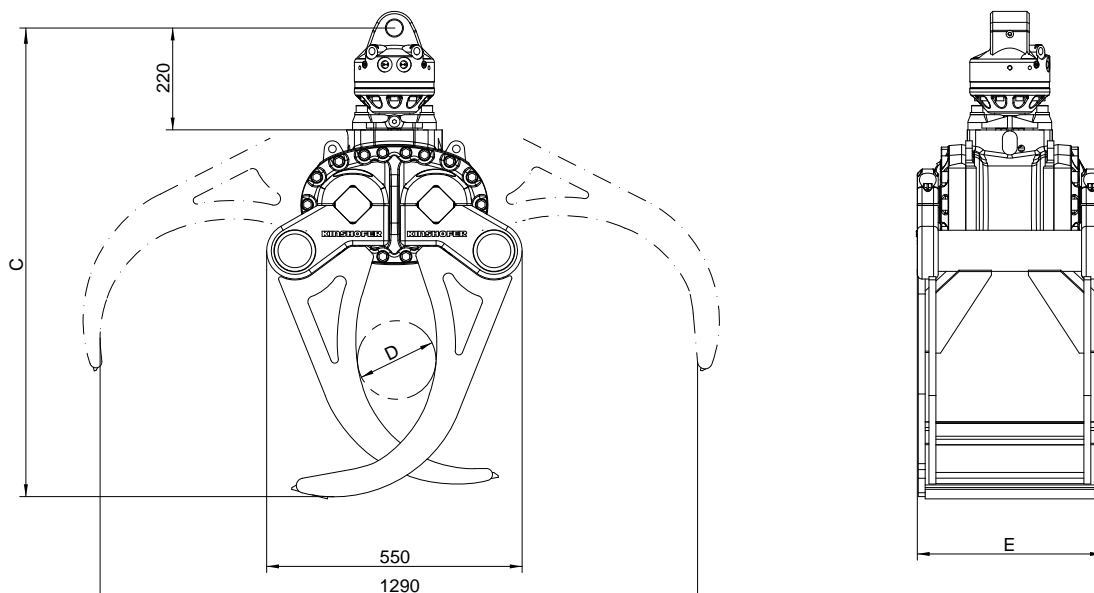
Type	Description
<b>KM 204 01</b>	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>KM 204 03</b>	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane

#### Operating pressure at oil flow:

max. 32 MPa (320 bar) at 40 - max. 90 l/min **Mind the pressure!**

### Technical drawings



The hay and forestry grapple KM 641HPX-HD using the *HPXdrive Heavy Duty* is ideal for handling hay, brushwood, compost or manure – often used for municipal operations and road work. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinders!
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Precise handling** with the gear-type KINSHOFER rotator and shells synchronised by the single piston turning both shafts of the *HPXdrive*.
- ▷ **Rotator with shaft** is available as an alternative, in case a quick change to a non-rotating hook is favoured.
- ▷ **Constant closing force** (23 kN at 32 MPa operating pressure) over the entire opening and closing process; high efficiency provided by hydro static bearings of the axes.



### Package hay and forestry grapple KM 641HPX-HD with **KINSHOFER** flange rotator

Type	Capacity	Width E	Height C	Opening max.	Number of tines	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)		(kg)	(kN at 32 MPa)	(kg)
<b>KM 641HPX-HD-0.4 c</b>	0.40	940	1,200	1,720	7	390	23	2,000
<b>Package consists of:</b>	hay & forestry grapple, rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve							
<b>HPX-KM 505 add</b>	also available with a shaft rotator and quick change system KM 505							
<b>HPX-KM 505 HD add</b>	for heavy duty tasks we recommend the quick change system KM 505 HD in combination with the KINSHOFER rotator KM 04 S68-30US							

### Package hay and forestry grapple KM 641HPX-HD/502 with **KINSHOFER** shaft rotator and reduction link

Type	Capacity	Width E	Height C	Opening max.	Number of tines	Self weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)		(kg)	(kN at 32 MPa)	(kg)
<b>KM 641HPX-HD-0.4/502 c</b>	0.40	940	1,255	1,720	7	395	23	2,000
<b>Package consists of:</b>	hay and forestry grapple, rotator KM 04 S, reduction link KM 502 (4500), short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve							

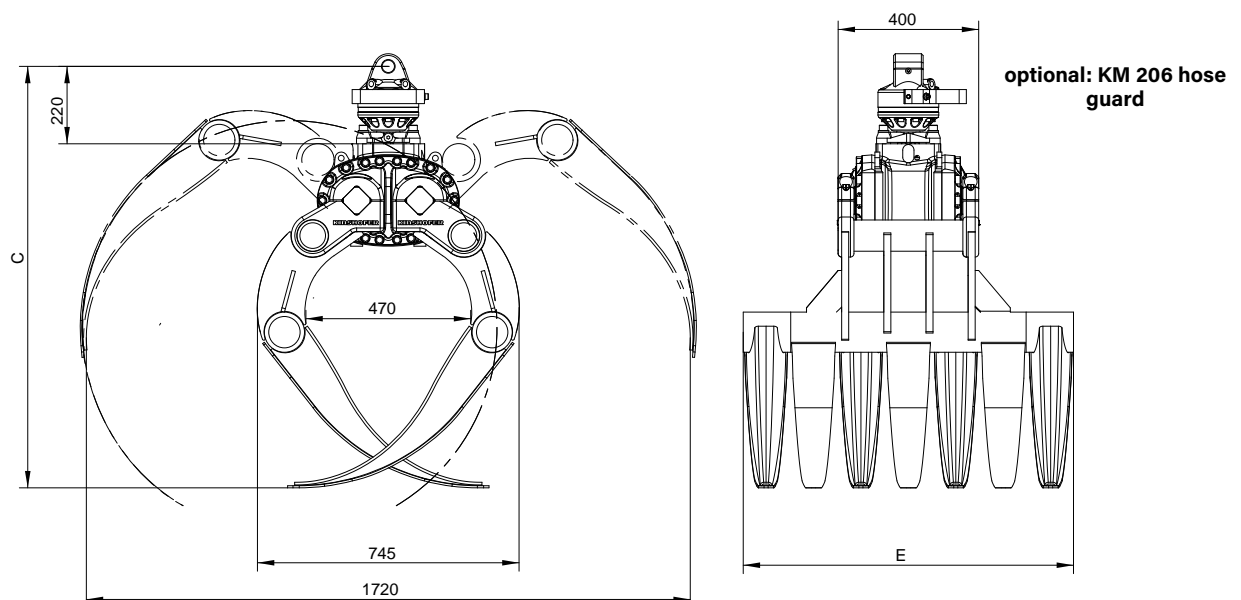
### Accessories

Type	Description
<b>KM 204 01</b>	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>KM 204 03</b>	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 32 MPa (320 bar) at 40 - max. 90 l/min **Mind the pressure!**

### Technical drawings





The KM 626 is the ideal solution for light weight loader cranes in daily routine work - robust, effective, budget priced.

- ▷ **Maximum loading height** is achieved through the compact design with the horizontal double-cylinder.
- ▷ **Synchronized opening and closing** through sturdy compensation bar.
- ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
- ▷ **Good digging behaviour** through the closely positioned shell pivots.
- ▷ **Excellent digging characteristics** are a result of high closing forces (27 kN at 26 MPa operating pressure).
- ▷ **Long life** is ensured through the use of 500 HB steel in the manufacture of the cutting edges.
- ▷ **Reduced wear out** due to a generously dimensioned bearing system; service-friendly design.



### Packages clamshell bucket KM 626 c

Type	Volume (litre)	Width E (mm)	Opening A max. (mm)	Number of teeth	Weight (kg)	Closing force (kN)	Capacity (kg)
KM 626-95 c	95	400	825	4	125	27	3,000
KM 626-100 c	100	450	825	4	130	27	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

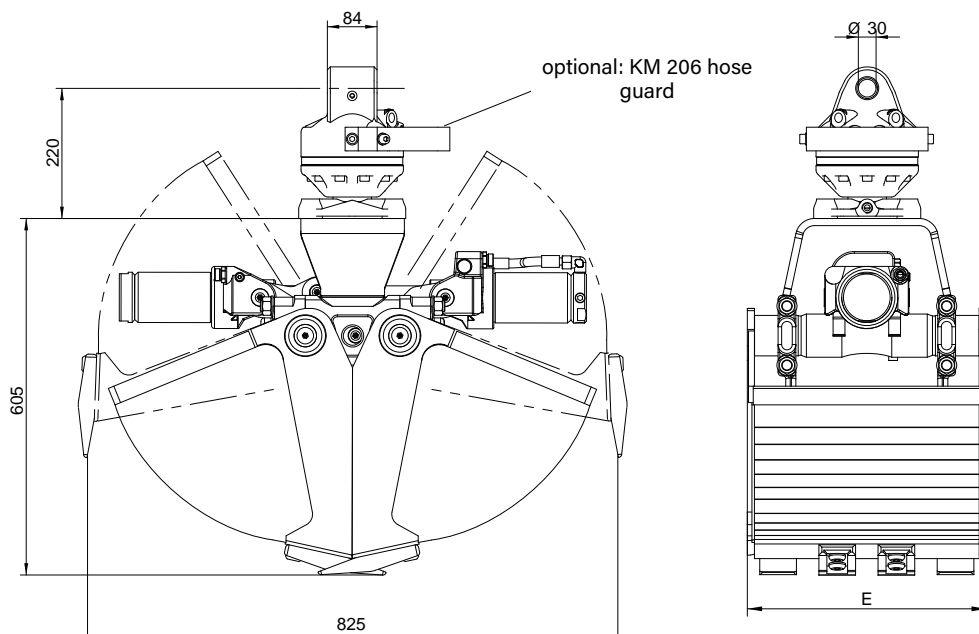
### Accessories

Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 626
KM 03 S	KINSHOFER shaft rotator for precise positioning of the load - up to 3,000 kg load capacity
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load - up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks - up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotator KM 04 S
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (3000)	reduction link between rotator and grapple for KM 03 S
KM 502 (4500)	reduction link between rotator and grapple for KM 04 S
KM 680 02	scraper
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 eye set 2	welded eyes (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 26 MPa (260 bar) at 25 - max. 75 l/min **Mind the pressure!**

### Technical drawings



The KM 604 is the ideal solution for light weight loader cranes in daily routine work – robust, effective, budget priced.

- ▷ **Maximum loading height** is achieved through the compact design with the horizontal hydraulic cylinder.
- ▷ **Long life** is ensured through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- ▷ **Synchronized opening and closing** through sturdy compensation bar.
- ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
- ▷ **Excellent digging characteristics** are a result of high closing forces (20 kN at 26 MPa operating pressure).



### Packages clamshell bucket KM 604 c

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 604-250 c	250	500	1,390	5	255	20	3,000
KM 604-350 c	350	650	1,390	5	275	20	3,000
KM 604-450 c	450	800	1,390	9	310	20	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500) and non-return valve

### Clamshell bucket KM 604 incl. teeth

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 604-150	150	325	1,390	3	185	20	3,000
KM 604-200	200	400	1,390	3	195	20	3,000
KM 604-250	250	500	1,390	5	220	20	3,000
KM 604-325	325	600	1,390	5	235	20	3,000
KM 604-350	350	650	1,390	5	240	20	3,000
KM 604-450	450	800	1,390	9	275	20	3,000

### Accessories

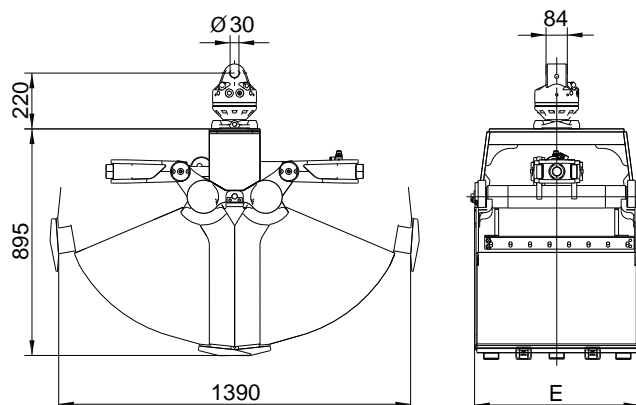
Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 604
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotator KM 04 S
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 680 01	scraper
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 eye set 2	welded eyes (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)
KM 685 05	adapters for compression rails (Load capacity max. 250 kg, without compression rails)
KM 381 09 (720)	compression rails – length 720 mm (2 pieces)
KM 381 09 (1000)	compression rails – length 1,000 mm (2 pieces)

### Requirements of truck crane

#### Operating pressure at oil flow:

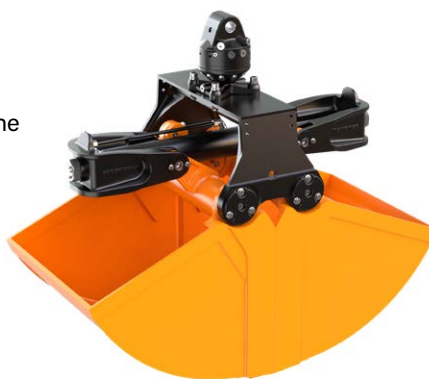
26 - 32 MPa (260 - 320 bar) at 40 - max. 75 l/min

### Technical drawings



The rugged clamshell bucket KM 605 is recognized as successful synthesis of form, function and performance.

- ▷ **Maximum loading height** is achieved through the compact design with the horizontal hydraulic cylinder.
- ▷ **Long life is ensured** through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- ▷ **Synchronized opening and closing** through sturdy compensation bar.
- ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
- ▷ **Excellent digging characteristics** are a result of high closing forces (30 kN at 26 MPa operating pressure).



### Packages clamshell bucket KM 605 c

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 605-250 c	250	500	1,430	3	320	30	3,000
KM 605-350 c	350	650	1,430	5	345	30	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

### Clamshell bucket KM 605 incl. teeth

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 605-200	200	400	1,430	3	265	30	3,000
KM 605-250	250	500	1,430	5	285	30	3,000
KM 605-350	350	650	1,430	5	310	30	3,000
KM 605-450	450	800	1,430	9	340	30	3,000
KM 605-550	550	1,000	1,430	9	375	30	3,000
KM 605-650	650	1,200	1,430	9	410	30	3,000

### Accessories

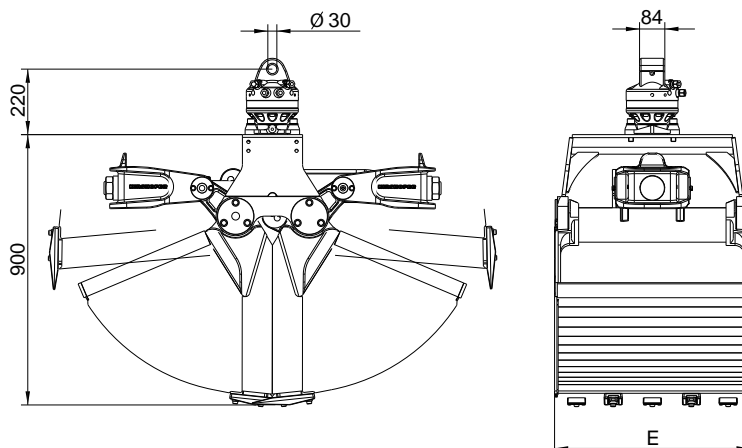
Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 605
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load - up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks - up to 4,500 kg load capacity
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 680 01	scraper
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 eye set 2	welded eyes (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)
KM 685 05	adapters for compression rails (Load capacity max. 250 kg, without compression rails)
KM 381 09 (720)	compression rails - length 720 mm (2 pieces)
KM 381 09 (1000)	compression rails - length 1,000 mm (2 pieces)

### Requirements of truck crane

#### Operating pressure at oil flow:

26 - 32 MPa (260 - 320 bar) at 40 - max. 75 l/min

### Technical drawings



The rugged clamshell bucket KM 606 is the reinforced version of the KM 605. The cutting edges, shells and shell frame are reinforced.

- ▷ **Maximum loading height** is achieved through the compact design with the horizontal hydraulic cylinder.
- ▷ **Long life is ensured** through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- ▷ **Synchronized opening and closing** through sturdy compensation bar.
- ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
- ▷ **Excellent digging characteristics** are a result of high closing forces (30 kN at 26 MPa operating pressure).



Heavy Duty clamshell bucket KM 606 incl. teeth

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 606-200	200	400	1,430	3	315	30	3,000
KM 606-250	250	500	1,430	5	335	30	3,000
KM 606-350	350	650	1,430	5	365	30	3,000

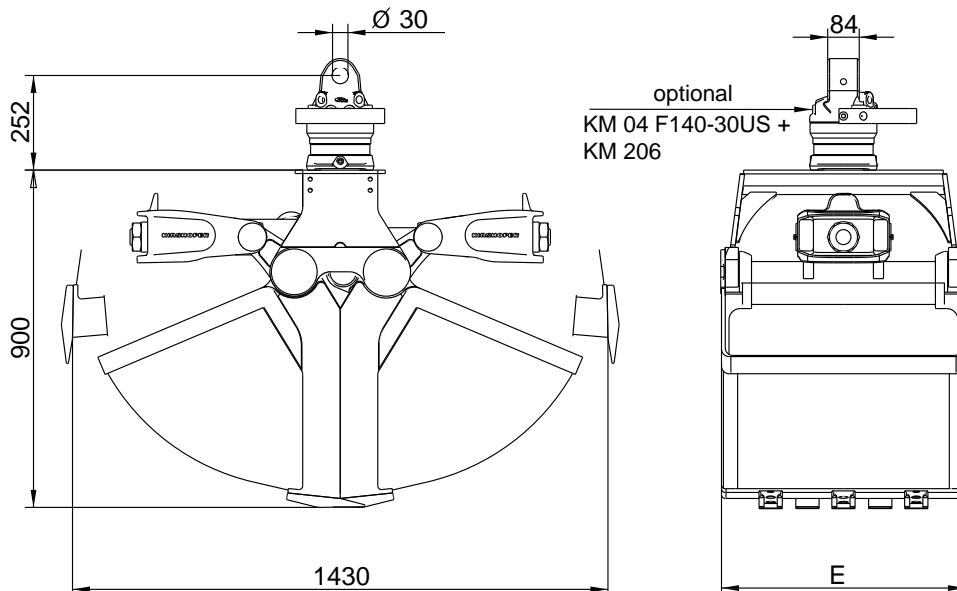
Accessories

Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 606 – depending on application
KM 04 F140-30US	recommended KINSHOFER rotator for KM 606 – depending on application
KM 06 F140-40	recommended KINSHOFER rotator for KM 606 – depending on application
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 680 01	scraper
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 eye set 2	welded eyes (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)
KM 685 05	adapters for compression rails (Load capacity max. 250 kg, without compression rails)
KM 381 09 (720)	compression rails – length 720 mm (2 pieces)
KM 381 09 (1000)	compression rails – length 1,000 mm (2 pieces)
KM 203 01	short connecting hoses

Requirements of truck crane

**Operating pressure at oil flow:**  
26 - 32 MPa (260 - 320 bar) at 40 - max. 75 l/min

Technical drawings



The KM 605U is a robust clamshell bucket and versatile tool for handling all kinds of refuse material. The open sides of the grapple enables the grab of bulk material.

- ▷ **Compact design** with a horizontal hydraulic cylinder achieves a maximum loading height.
- ▷ **Long life** due to the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- ▷ **Synchronized opening and closing** through sturdy compensation bar.
- ▷ **Safety** is assured in the event of an unexpected pressure drop due to the integrated non-return valve.
- ▷ **Wear plates** (reversible) and **welded hooks** are delivered on each grapple.
- ▷ **Powerfull operation** due to high closing force (28 kN at an operating pressure of 26 MPa).



### Packages clamshell bucket KM 605U c

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 605U-300 c	300	670	1,545	5	390	28	3,000
KM 605U-400 c	400	820	1,545	7	415	28	3,000

**Package consists of:** clamshell bucket, rotator KM 04 F, upper suspension KM 501 (4500), wear plates KM 685 07 set, welded hooks KM 685 06 hook set 2, short connecting hoses KM 203 01, non-return valve

### Clamshell bucket KM 605U

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
KM 605U-250	250	570	1,545	5	340	28	3,000
KM 605U-300	300	670	1,545	5	355	28	3,000
KM 605U-400	400	820	1,545	7	380	28	3,000
KM 605U-450	450	920	1,545	7	390	28	3,000
KM 605U-500	500	1,020	1,545	9	410	28	3,000
KM 605U-600	600	1,220	1,545	9	440	28	3,000

### Accessories

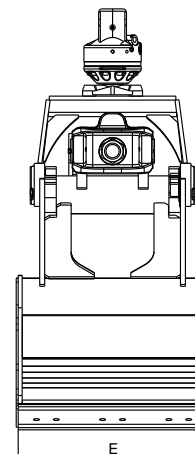
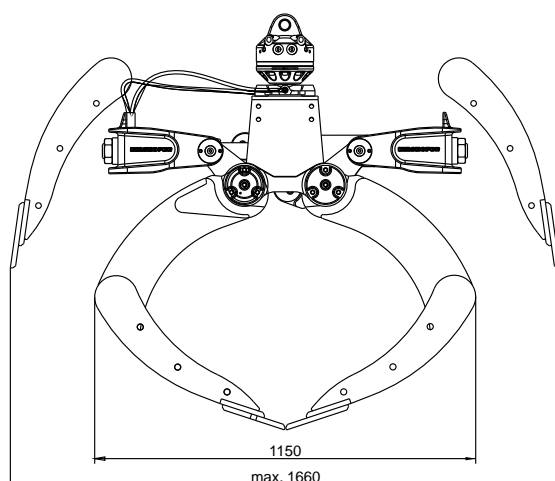
Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 605U
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 685 05	adapters for compression rails (load capacity max. 250 kg, without compression rails)
KM 381 09 (720)	compression rails – length 720 mm (2 pieces)
KM 381 09 (1000)	compression rails – length 1,000 mm (2 pieces)
KM 685 09 C	side plates to screw onto the grapple for easy digging tasks (4 pieces)

### Requirements of truck crane

#### Operating pressure at oil flow:

26 - 32 MPa (260 - 320 bar) at 40 - max. 75 l/min

### Technical drawings



The KM 605U-Z universal grapple for Z-cranes rests flat and safe against the crane arm in its transport position. The special gap at the shell carrier allows to transport a large universal grapple, whereat the grapple does not protrude the carrier machine's width (2,55 m)\* - without any loss in loading volume.

- ▷ **Maximum loading height** is achieved through the compact design with horizontal hydraulic cylinders.
- ▷ **Long life is ensured** through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- ▷ **Synchronized opening and closing** through sturdy compensation bar.
- ▷ **Safety** is assured in the event of an unexpected pressure drop due to the integrated non-return valve.
- ▷ **Wear plates** (reversible) and **welded hooks** are delivered on each grapple.
- ▷ **Powerfull operation** due to high closing force (29 kN at an operating pressure of 26 MPa).



\* depending on crane kinematics and mounting

### Package universal grapple KM 605U-Z c

Type	Volume	Width E	Height C (w/o rotator)	Opening A max.	Weight	Closing force	Load capacity
	(litre)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 605U-Z-500 c</b>	500	1,020	1,060	1,605	487	29	3,000

**Package consists of:** clamshell bucket with gap, rotator KM 04 F, upper suspension KM 501 (4500), wear plates KM 685 07 set, welded hooks KM 685 06 hook set 2, short connecting hoses KM 203 01, non-return valve

### Universal grapple KM 605U-Z single

Typ	Volume	Width E	Height C (w/o rotator)	Opening A max.	Weight	Closing force	Load capacity
	(litre)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 605U-Z-500</b>	500	1,020	1,060	1,605	458	29	3,000

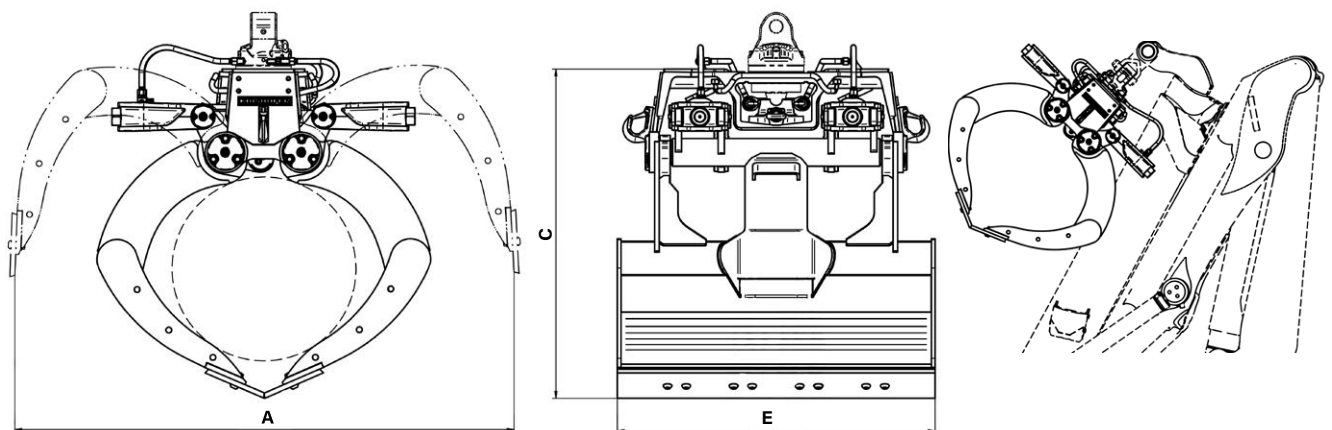
### Accessories

Type	Description
<b>KM 04 F140-30US</b>	recommended KINSHOFER rotator for KM 605U-Z for heavy duty tasks
<b>KM 04 S</b>	KINSHOFER rotator with shaft - up to 4,500 kg load capacity
<b>KM 04 S68-30US</b>	recommended KINSHOFER shaft rotator for heavy duty tasks - up to 4,500 kg load capacity
<b>KM 505 HD</b>	quick change system HD for shaft-type rotator KM 04 S68-30US
<b>KM 502 (4500)</b>	reduction link between shaft rotator and attachment
<b>KM 685 05</b>	adapters for compression rails (load capacity max. 250 kg, without compression rails)
<b>KM 381 09 (720)</b>	compression rails - length 720 mm (2 pieces)
<b>KM 381 09 (1000)</b>	compression rails - length 1,000 mm (2 pieces)
<b>KM 685 09 C</b>	side plates to screw onto the grapple for easy digging tasks (4 pieces)

### Requirements of truck crane

**Operating pressure at oil flow:**  
26 MPa (260 bar) at 25 - max. 90 l/min

### Technical drawings



The high volume clamshell bucket KM 622 has a significant narrow frame and can therefore fulfill small digging tasks besides the handling.

- ▷ **Suitable for digging** due to the narrow frame.
- ▷ **Compact design** due to the narrow frame enables manual filling of the bucket without obstacles.
- ▷ **Practically no „left overs“** of the material to be picked up as the working edges are vertical when the buckets are open and allow a deep plunge into a pile of material.
- ▷ **High stability** through reinforced buckets, torsion-free frame, generously dimensioned bearing system and the use of 500 HB steel in the manufacture of cutting edges.
- ▷ **Combination of compensator mechanism and cylinder guard** has many advantages: parallel action, longer life for piston rod and seals, significant weight savings.
- ▷ **Efficient handling** with high closing forces (20 kN at 26 MPa operating pressure).



### Packages high volume clamshell bucket KM 622 c

Type	Volume (litre)	Width (mm)	Opening A max. (mm)	Number of teeth (optional)	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 622-300 c	300	640	1,670	5	360	20	3,000
KM 622-400 c	400	800	1,670	9	390	20	3,000
KM 622-500 c	500	1,000	1,670	9	415	20	3,000

**Package consists of:** high volume clamshell bucket, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

**Note:** UK package of KM 622-400c/-500c incl. KM 04 F, KM 501, KM 203 01, KM 685 06 eye set 2, KM 685 07 set

### High volume clamshell bucket KM 622

Type	Volume (litre)	Width (mm)	Opening A max. (mm)	Number of teeth (optional)	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 622-300	300	640	1,670	5	315	20	3,000
KM 622-400	400	800	1,670	9	345	20	3,000
KM 622-500	500	1,000	1,670	9	370	20	3,000

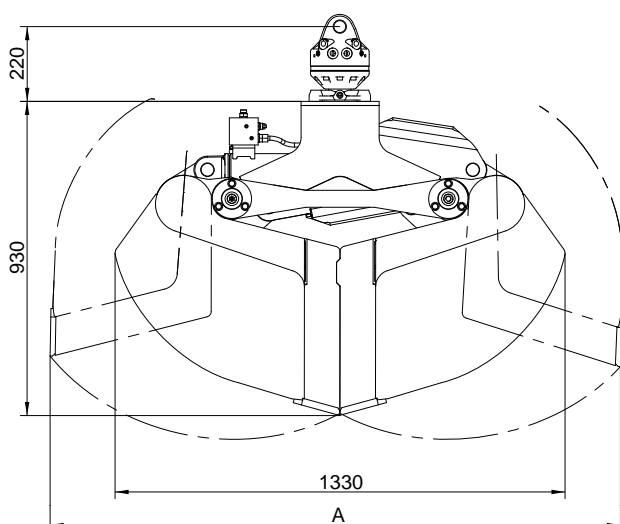
### Accessories

Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 622
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)

### Requirements of truck crane

**Operating pressure at oil flow:**  
26 MPa (260 bar) at max. 75 l/min / 26 - 37 MPa (260 - 370 bar) at max. 40 l/min

### Technical drawings



**A robust clamshell bucket for handling loose material as sand, gravel, soil - perfectly matched to heavy duty work on vehicle mounted cranes.**

- ▷ **Excellent filling characteristics** of the rugged grapple due to the special shape of the buckets and the wide separation between their axes that enables wide opening.
- ▷ **Practically no "left overs"** of the material to be picked up as the working edges are vertical when the buckets are open and allow a deep plunge into a pile of material.
- ▷ **High stability** through reinforced buckets, torsion-free frame, generously dimensioned bearing system and the use of 500 HB steel in the manufacture of cutting edges.
- ▷ **Combination of compensator mechanism and cylinder guard** has many advantages: parallel action, longer life for piston rod and seals, significant weight savings.
- ▷ **Efficient handling** with high closing forces (28 kN at an operating pressure of 26 MPa).



**Packages high volume clamshell bucket KM 602 c**

Type	Volume (litre)	Width E (mm)	Opening max. A (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>KM 602-400 c</b>	400	800	1,830	9	490	28	3,000
<b>KM 602-500 c</b>	500	1,000	1,830	9	535	28	3,000
<b>KM 602-650 c</b>	650	1,200	1,830	9	595	28	3,000

**Package consists of:** high volume clamshell bucket, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

**Note:** UK packages of KM 602 includes KM 04 F, KM 501, KM 203 01, KM 685 06 eye set 2, KM 685 07 set

**High volume clamshell bucket KM 602**

Type	Volume (litre)	Width E (mm)	Opening max. A (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>KM 602-300</b>	300	500	1,830	5	360	28	3,000
<b>KM 602-400</b>	400	800	1,830	9	425	28	3,000
<b>KM 602-500</b>	500	1,000	1,830	9	465	28	3,000
<b>KM 602-650</b>	650	1,200	1,830	9	515	28	3,000
<b>KM 602-1000</b>	1,000	1,200	2,190	9	585	23	3,000

**Accessories**

Type	Description
<b>KM 04 F</b>	recommended KINSHOFER rotator for KM 602
<b>KM 04 S68-30US</b>	recommended KINSHOFER shaft rotator for heavy duty tasks - up to 4,500 kg load capacity
<b>KM 505 HD</b>	quick change system HD for shaft-type rotator KM 04 S68-30US
<b>KM 502 (4500)</b>	reduction link between rotator and grapple
<b>KM 685 06 hook set 2</b>	welded hooks (2 pieces)
<b>KM 685 06 eye set 2</b>	welded eyes (2 pieces)
<b>KM 685 07 set</b>	wear plates to protect horizontal cutting edges (2 pieces)

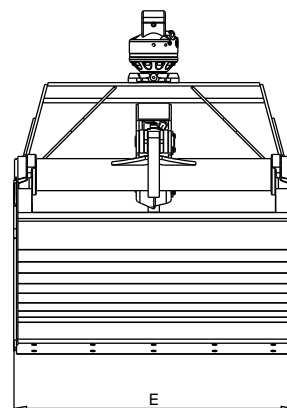
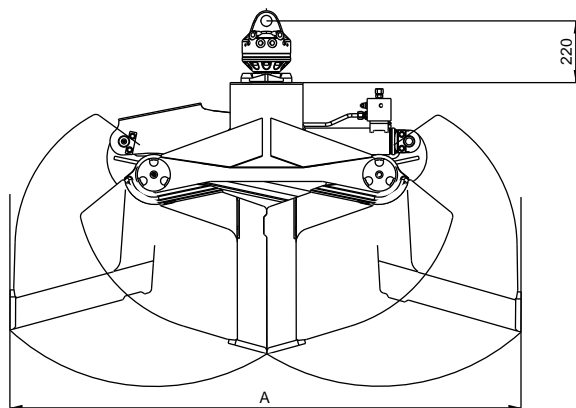
**Requirements of truck crane**

**Operating pressure at oil flow:**

26 MPa (260 bar) at max. 75 l/min

26 - 37 MPa (260 - 370 bar) at max. 40 l/min

**Technical drawings**





The KM 603 is a proven grapple for daily routine work - ideal for excavating foundations, trenches and other similar applications in civil engineering. The closely positioned shell pivots ensure good digging behaviour and high closing pressure.

- ▷ **Good digging behaviour** through the closely positioned shell pivots.
- ▷ **Longevity** is ensured through the use of 500 HB steel in the manufacture of cutting edges and the generously dimensioned bearing system. The enclosed hydraulic cylinder (in a hub unit) and short hydraulic connection hoses lower the risk of damage and down-time.
- ▷ **Maximum loading height** is achieved through the compact design.
- ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
- ▷ **Excellent digging characteristics** are the result of high closing forces (20 kN at an operating pressure of 26 MPa).



→ Alternatively to the KM 603 the KM 604HPX can be used with an extension for excavating

### Packages clamshell bucket KM 603 c

Type	Volume (litre)	Width E (mm)	Opening A max. (mm)	Number of teeth	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 603-250 c	250	500	1,390	5	330	20	3,000
KM 603-350 c	350	650	1,390	5	355	20	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

### Clamshell bucket KM 603 incl. teeth

Type	Volume (litre)	Width E (mm)	Opening A max. (mm)	Number of teeth	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 603-150	150	325	1,390	3	260	20	3,000
KM 603-200	200	400	1,390	3	275	20	3,000
KM 603-250	250	500	1,390	5	295	20	3,000
KM 603-325	325	600	1,390	5	315	20	3,000
KM 603-350	350	650	1,390	5	320	20	3,000
KM 603-450	450	800	1,390	9	355	20	3,000

### Accessories

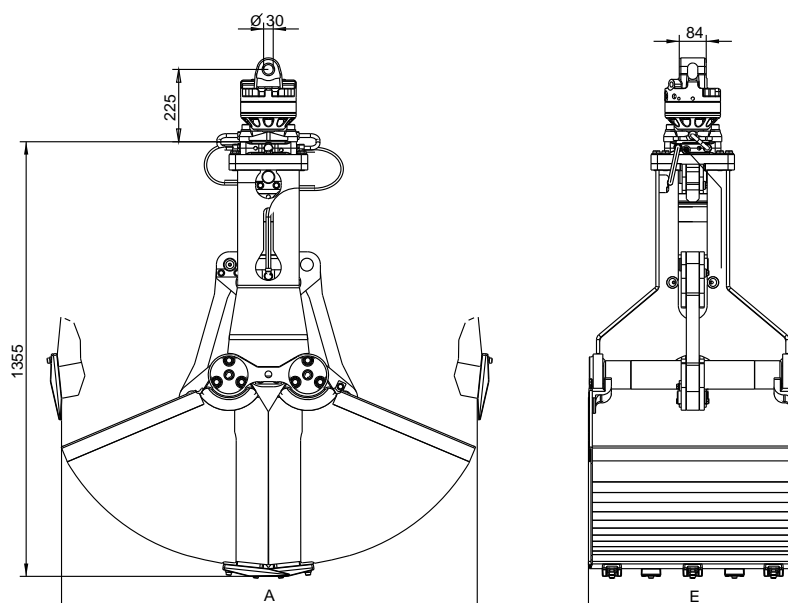
Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 603
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load - up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks - up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotator KM 04 S
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 680 01	scraper
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 eye set 2	welded eyes (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 26 MPa (260 bar) at 25 - max. 75 l/min

**Mind the pressure!**

### Technical drawings



The KM 603F is a special clamshell bucket with vertical cylinder for the daily routine work and has been constructed especially for the excavation of foundations and graves and includes a scraper.

- ▷ **Good digging behaviour** through the closely positioned shell pivots.
- ▷ **Longevity** is ensured through the use of 500 HB steel in the manufacture of cutting edges and the generously dimensioned bearing system. The enclosed hydraulic cylinder (in a hub unit) and short hydraulic connection hoses lower the risk of damage and down-time.
- ▷ **Synchronization of shells** due to largely dimensioned push rods between carrier and shells.
- ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
- ▷ **Excellent digging characteristics** are the result of high closing forces (30 kN at an operating pressure of 26 MPa).



KM 603F here with rotator

### Special clamshell bucket KM 603F (incl. scraper)

Type	Volume (litre)	Width E (mm)	Opening A max. (mm)	Number of teeth	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 603F-190	190	760	1,000	7	305	30	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, scraper

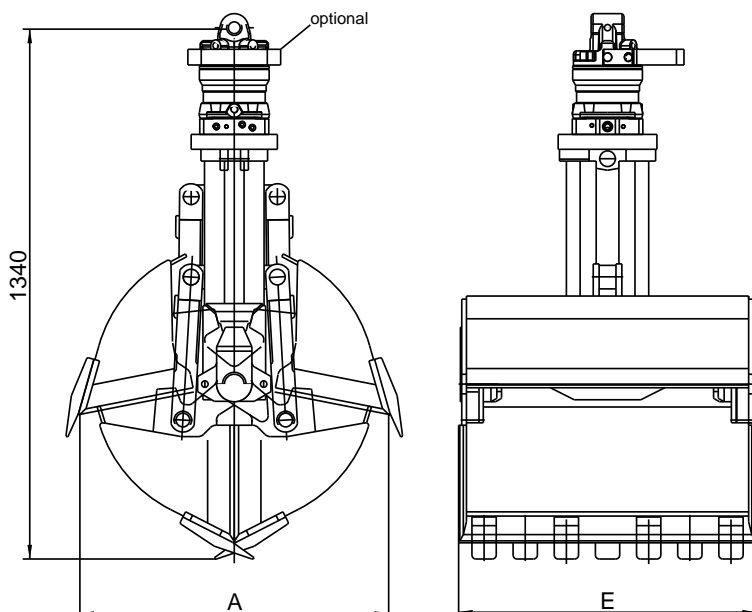
### Accessories

Type	Description
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 F140-30US	recommended KINSHOFER rotator
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotator KM 04 S
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 4500	reduction link between rotator and grapple
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 hook set 4	welded hooks (4 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 26 MPa (260 bar) at 25 - max. 75 l/min  
**Mind the pressure!**

### Technical drawings



The powerful clamshell bucket KM 607 with two vertical hydraulic cylinders is ideal for heavy digging work in grown soil.

- ▷ **Good digging behaviour** due to good plunge behaviour and proven shell geometry.
  - ▷ **Long life** is ensured through the use of 500 HB steel in the manufacture of cutting edges and the generously dimensioned bearing system. Piston rod protection for the vertical hydraulic cylinders are standard.
  - ▷ **Synchronised bucket movements** due to sturdy compensation rods.
  - ▷ **Bolt-on digging teeth** are delivered with each clamshell bucket.
  - ▷ **Excellent digging characteristics** are the result of high closing forces (32 kN at an operating pressure of 26 MPa).
- **Alternatively to the KM 607 the KM 605HPX can be used with an extension for excavating.**



### Packages clamshell bucket KM 607 c

Type	Volume (litre)	Width E (mm)	Opening max. (mm)	Number of teeth	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 607-215 c	215	500	1,295	5	320	32	3,000
KM 607-255 c	255	600	1,295	5	335	32	3,000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

### Clamshell bucket KM 607 incl. teeth

Type	Volume (litre)	Width E (mm)	max. Opening (mm)	Number of teeth	Weight (kg)	Closing force (kN)	Load capacity (kg)
KM 607-135	135	325	1,295	3	260	32	3,000
KM 607-170	170	400	1,295	3	270	32	3,000
KM 607-215	215	500	1,295	5	285	32	3,000
KM 607-255	255	600	1,295	5	300	32	3,000
KM 607-340	340	800	1,295	9	385	32	3,000

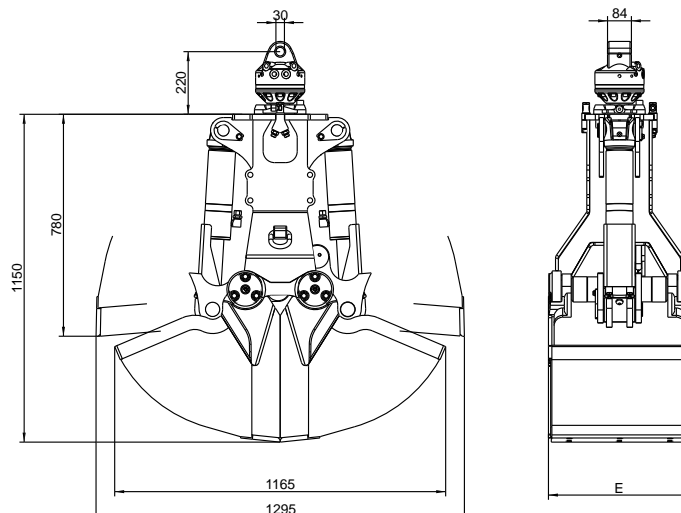
### Accessories

Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 607
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 680 01	scraper (not for width 800 mm)
KM 685 06 hook set 2	welded hooks (2 pieces)
KM 685 06 eye set 2	welded eyes (2 pieces)
KM 685 07 set	wear plates to protect horizontal cutting edges (2 pieces)

### Requirements of truck crane

**Operating pressure at oil flow:**  
max. 26 MPa (260 bar) at 25 - max. 75 l/min **Mind the pressure!**

### Technical drawings



# Accessories for Clamshell Buckets

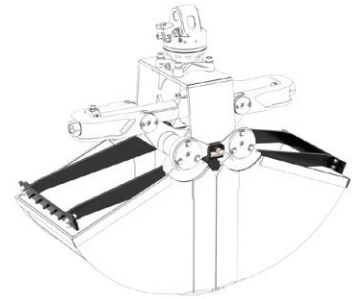
## KM 680 - Scrapers

Scrapers for clamshell buckets with narrow widths clear the inside of the shells of sticky materials such as clay, during each opening. The design varies depending on the grapple.

Type	For clamshell bucket
<b>KM 680 01</b>	KM 603/604 / 604HPX/605 / 605HPX / 606/607
<b>KM 680 02</b>	KM 626HPX / KM 626
<b>KM 505 04</b>	link-set for KM 604HPX/605HPX/626HPX in combination with KM 505 / KM 505 HD and scraper KM 680



link for the combination  
KM 505 (HD) + **HPXdrive** + scraper

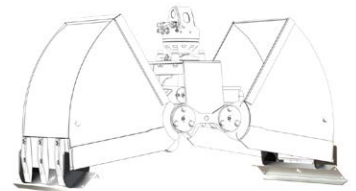


## KM 685 05 - Adapter for compression rails and compression rails

Adapters enable mounting of compression rails or support for concrete rings, for handling paving slabs, curbstones, concrete rings etc. The adapters can only be used with a **non-return valve**. They are not suitable for the use with a scraper.

Type	Description
<b>KM 685 05</b>	adapters for compression rails (Load capacity max. 250 kg)
<b>KM 381 09 (720)</b>	compression rails – length 720 mm (2 pieces)
<b>KM 381 09 (1000)</b>	compression rails – length 1,000 mm (2 pieces)

The adapters for compression rails are available for the following clamshell buckets:  
KM 603/ 604/ 604HPX/ 604U HPX/ 605/ 605U/ 605HPX/ 605U HPX/ 606



## KM 685 06 - Central lifting devices for HPXdrive, welded hooks and welded eyes

The central lifting device for **HPXdrive**, welded eyes or welded hooks suit lifting chains or slings. The max. capacity per eye or hook is 1,000 kg.

Type	Description
<b>KM 685 06 HPX SD</b>	to suit lifting chain or sling, 1 piece
<b>KM 685 06 HPX HD</b>	to suit lifting chain or sling, 1 piece
<b>KM 685 06 hook</b>	to suit lifting chain or sling, 1 piece
<b>KM 685 06 hook set 2</b>	to suit lifting chain or sling, 2 pieces
<b>KM 685 06 hook set 4</b>	to suit lifting chain or sling, 4 pieces
<b>KM 685 06 eye</b>	to suit lifting chain or sling, 1 piece
<b>KM 685 06 eye set 2</b>	to suit lifting chain or sling, 2 pieces



central lifting device  
**HPXdrive**

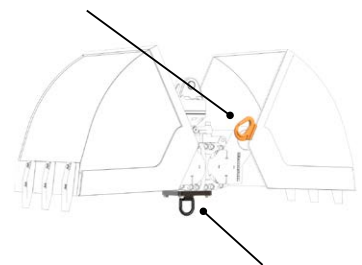


welded hook



welded eye  
(not for HPX)

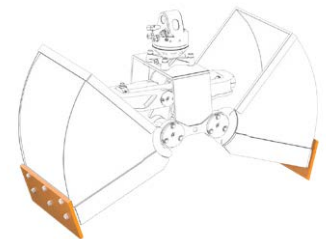
**KM 685 06 hook**



**KM 685 06 HPX**

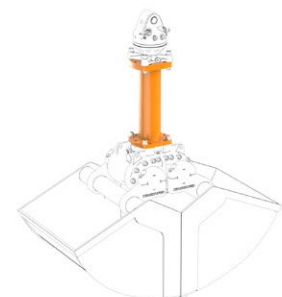
## KM 685 07 - Wear plates (2 pcs.)

Type	Description
<b>KM 685 07 set</b>	Wear plates, 2 pieces, to protect horizontal cutting edges



## KM 685 08 - Extension for excavation works with the HPXdrive Standard or the HPXdrive Heavy Duty

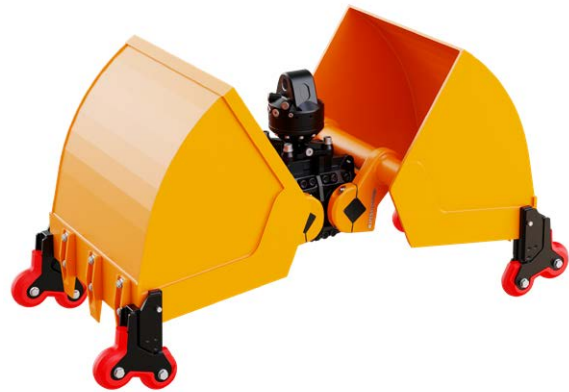
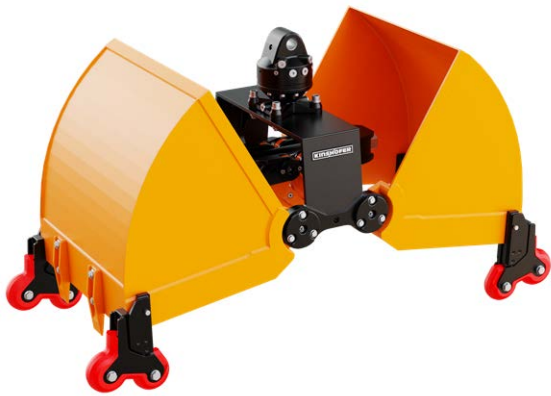
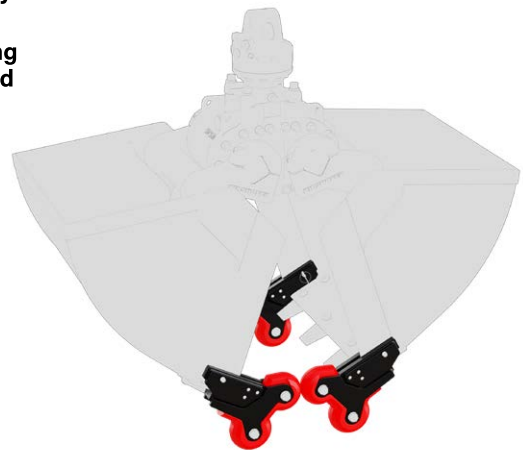
Type	Description
<b>KM 685 08 HPX-450</b>	<b>HPXdrive</b> extension for excavating e.g. trenches (for canal and civil engineering) – 450 mm (30 kg)



The device is simply attached to the bottom of the shells and you can grip concrete parts, curbs, etc. precisely, safely and without damage. The 4-Grip is simply plugged onto the grab shells and secured with a folding pin. The gripper teeth must not be removed, which significantly reduces assembly time.

Thanks to its special kinematics you can grab items not only when closing the shells but also when opening. Shaft rings can be loaded and unloaded fast and easy without damaging them!

- ▷ **Economic solution**, as it is only an accessory that increases the flexibility of your attachment.
- ▷ **Robuste design**.
- ▷ **Plastic compression rolls** avoid damage of the material to be gripped.
- ▷ **Fast and easy mounting and removal** on site.
- ▷ **Low additional weight**: only 28 kg in total.
- ▷ **High load capacity of 900 kg**.



**Precise gripping of very narrow objects**



**Careful gripping of plain, slippery surfaces**



**Safe inside gripping without retooling**



The small orange peel grapple KM 652-5 small for the handling of bulky scrap is available with five tines and three different volumes (120l, 180l, 240l).

- ▷ The KM 652-5 small is available with 5 half closing tines for handling swarf, scrap, rubbish, waste paper etc.
- ▷ **Long life** due to a solid design: the hydraulic cylinder pistons are protected by the gripping arms and the hydraulic hoses, connections and oil distributor are positioned in the robust centre section. Special wear resistant materials used in the production of the gripping arms and oversized bearings ensure a long service life for these sturdy grapples.
- ▷ **A lifting-eye** on the centre section acts as an additional stop.
- ▷ **Powerful operation** with high closing force (11 kN to 13 kN at an operating pressure of 26 MPa).



here with optional rotator

### Orange peel grapple KM 652-5 small

Type	Number of tines	Volume (litre)	Opening A (mm)	Width E (mm)	Height C (mm)	Self weight (w/o rotator) (kg)	Load capacity (kg)	Closing force (kN)
KM 652-5-120	5	120	1,360	1,065	800	300	2,000	13
KM 652-5-180	5	180	1,450	1,070	850	305	2,000	12
KM 652-5-240	5	240	1,720	1,125	985	340	2,000	11

Package consists of: orange peel grapple, non-return valve

### Accessories

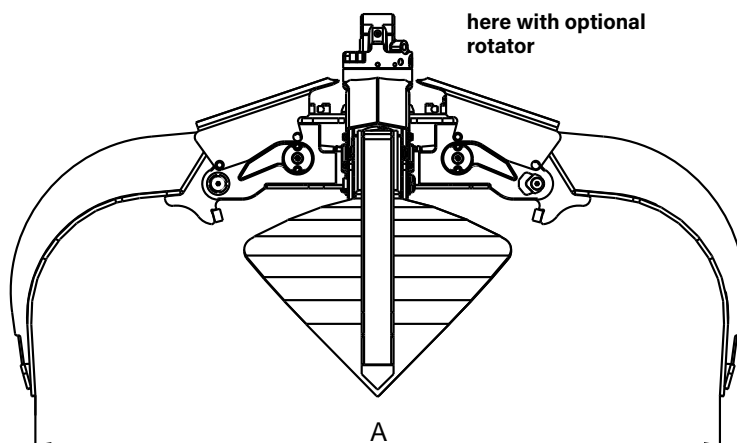
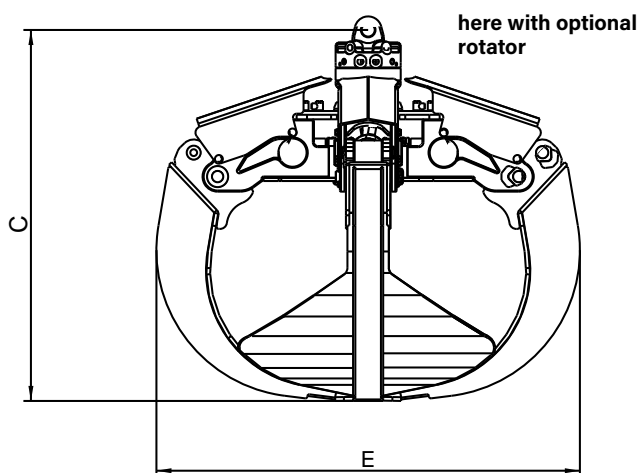
Type	Description
KM 04 F	recommended KINSHOFER rotator for KM 652-5 small
KM 04 F140-30US	recommended KINSHOFER rotator for KM 652-5 small – for heavy duty application

### Requirements of truck crane

#### Operating pressure at oil flow:

max. 26 MPa (260 bar) at 25 - max. 75 l/min **Mind the pressure!**

### Technical drawings



Large orange peel grapple for the handling of bulky scrap, the KM 650 large for various applications is available with different tine shapes, different volumes (250l, 350l, 500l), with 4 or 5 tines.

▷ **Different tine shapes** of the KM 650 series to accommodate handling a variety of materials:

- **KM 651:** fully closing tines for handling swarf, loose waste, soil, gravel etc.
- **KM 652:** half closing tines for handling swarf, scrap, rubbish, waste paper etc.
- **KM 653:** pointed tines for bulky scrap, car bodies, bundled waste paper etc.

▷ **Number of tines** can be chosen with 4 or 5 tines.

▷ **Long life** due to a solid design: the hydraulic cylinder pistons are protected by the gripping arms and the hydraulic hoses, connections and oil distributor are positioned in the robust centre section. Special wear resistant materials used in the production of the gripping arms and oversized bearings ensure a long service life for these sturdy grapples.

▷ **A lifting-eye** on the centre section acts as an additional stop.

▷ **Powerful operation** with high closing force (13 kN to 18 kN at an operating pressure of 26 MPa).



## Orange peel grapple KM 650 large

Type	Number of tines	Volume (litre)	Opening max. A (mm)	Width E (closed) (mm)	Height C (closed, incl. rotator) (mm)	Self weight (w/o rotator) (kg)	Load capacity (kg)	Closing force (kN)
<b>KM 651-4-250</b>	4	250	1,550	1,285	1,015	445	2,500	18
<b>KM 651-4-350</b>		350	1,720	1,260	1,100	470	3,000	16
<b>KM 651-4-500</b>		500	2,155	1,320	1,350	555	3,000	13
<b>KM 651-5-250</b>	5	250	1,550	1,285	1,015	520	2,500	18
<b>KM 651-5-350</b>		350	1,720	1,260	1,100	545	3,000	16
<b>KM 651-5-500</b>		500	2,155	1,320	1,350	635	3,000	13
<b>KM 652-4-250</b>	4	250	1,550	1,285	1,015	425	2,500	18
<b>KM 652-4-350</b>		350	1,720	1,260	1,100	440	3,000	16
<b>KM 652-4-500</b>		500	2,155	1,320	1,350	505	3,000	13
<b>KM 652-5-250</b>	5	250	1,550	1,285	1,015	505	2,500	18
<b>KM 652-5-350</b>		350	1,720	1,260	1,100	520	3,000	16
<b>KM 652-5-500</b>		500	2,155	1,320	1,350	595	3,000	13
<b>KM 653-4-250</b>	4	250	1,550	1,285	1,015	390	2,500	18
<b>KM 653-4-350</b>		350	1,720	1,260	1,100	395	3,000	16
<b>KM 653-4-500</b>		500	2,155	1,320	1,350	435	3,000	13
<b>KM 653-5-250</b>	5	250	1,550	1,285	1,015	470	2,500	18
<b>KM 653-5-350</b>		350	1,720	1,260	1,100	480	3,000	16
<b>KM 653-5-500</b>		500	2,155	1,320	1,350	525	3,000	13

**Package consists of:** orange peel grapple, non-return valve

## Accessories

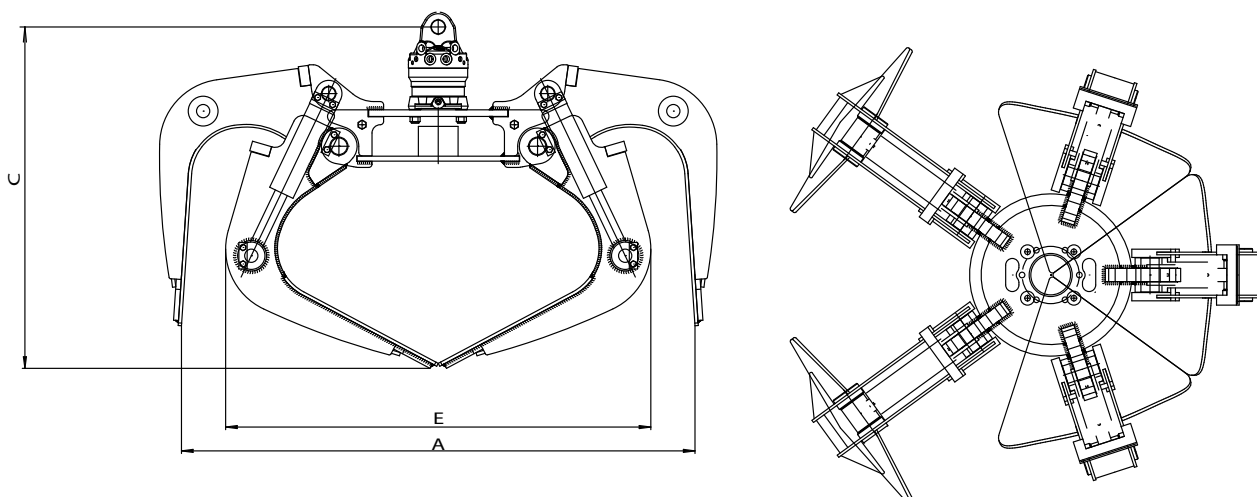
Type	Description
<b>KM 04 F</b>	recommended KINSHOFER rotator for KM 650 large
<b>KM 04 F140-30US</b>	recommended KINSHOFER rotator for KM 650 large – for heavy duty application
<b>KM 06 F140-40</b>	recommended KINSHOFER rotator for KM 650 large – for heavy duty application

## Requirements of truck crane

### Operating pressure at oil flow:

max. 26 MPa (260 bar) at 25 - max. 75 l/min **Mind the pressure!**

## Technical drawings



The reliable asymmetric orange peel grapple KM 652/2 with half closing tines provides for an easy transport, resting flat against the crane arm and not protruding the width of the carrier machine. It is mainly used for handling scrap, waste and construction materials, and is available with five (KM 652-5/2) or six tines (KM 652-6/2) – depending on the task.

- ▷ **Asymmetric construction:** the grapple rests flat against the crane arm in its position (see below drawing).
- ▷ **Special slot on the main carrier** allows the transport of a big orange peel grapple, that does not protrude the width of the carrier (2,5 m).
- ▷ **Half closing tines** by default, completely closing at the points, for handling waste, scrap, loose materials, etc.
- ▷ **Non-return valve** guarantees a secure retention of loads even when pressure drops.
- ▷ **Long service life** due to robust design – oil distributor and hydraulic hoses are protected in the center part, generously dimensioned bearings, wear-resistant shells made of 400 HB steel, cylinder with piston rod protection, stops for both end positions of tines.
- ▷ **Strong operation** due to high closing forces (13 kN at 26 MPa operating pressure).



Asymmetric orange peel grapples KM 652-5/2 and KM 652-6/2

Type	Number of tines	Volume (litre)	Opening Ø A (mm)	Width E (closed) (mm)	Height C (mm)	Weight (w/o rotator) (kg)	Capacity (kg)	Closing force (kN)
KM 652-5/2	5	240	1,790	1,065	1,110	350	2,500	13
KM 652-6/2	6	240	1,790	1,065	1,110	410	2,500	13

Package consists of: orange peel grapple, non-return valve

Accessories

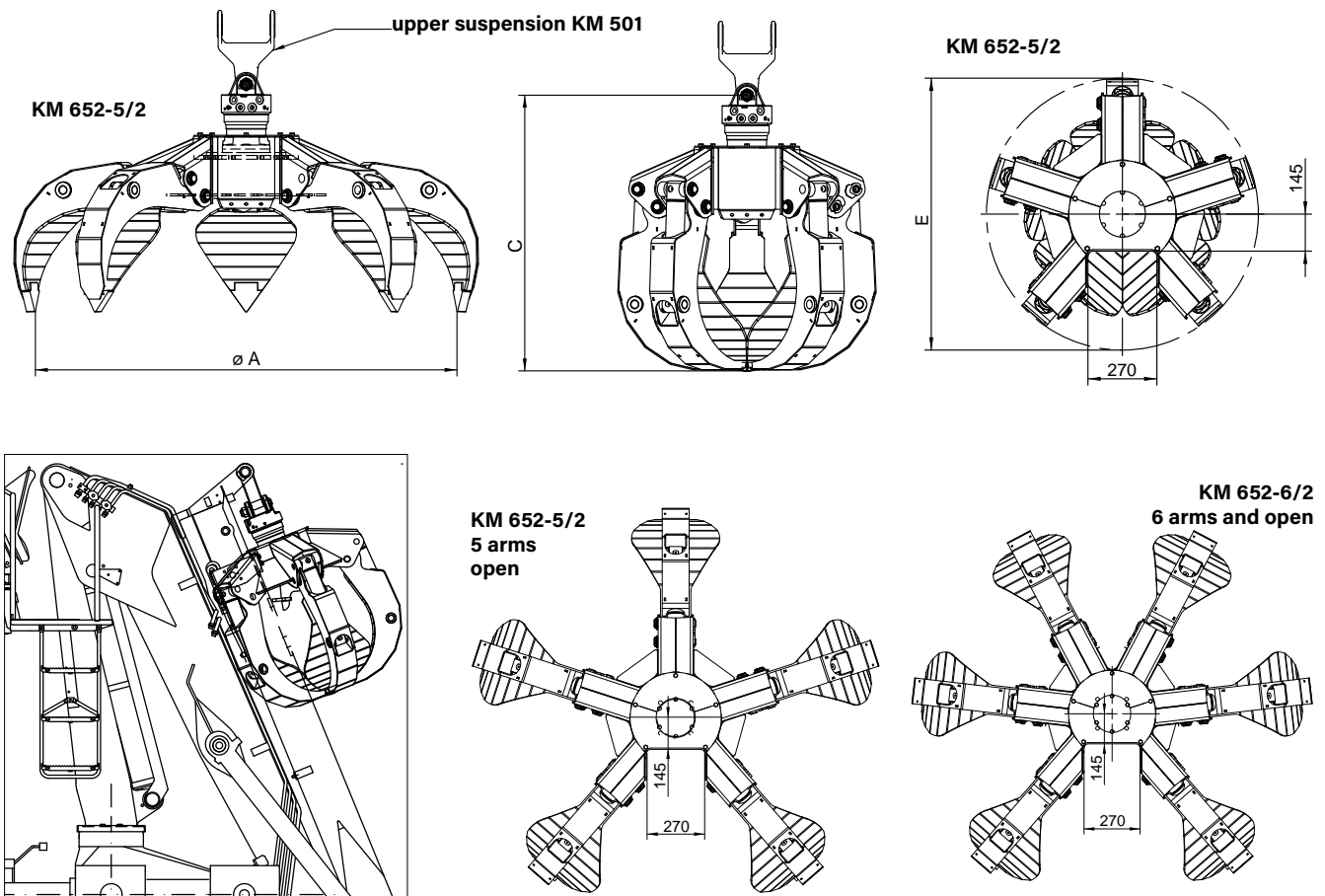
Type	Description
KM 06 F173-35	recommended KINSHOFER rotator for KM 652/2

Requirements of truck crane

Operating pressure at oil flow:

max. 26 MPa (260 bar) at 25 - max. 75 l/min **Mind the pressure!**

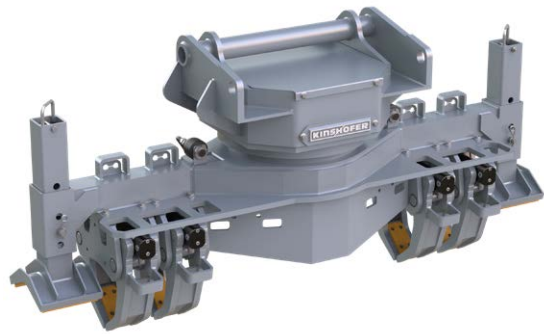
Technical drawings





The pipe grapple KM 930P is the ideal tool to grip, lift, handle and position poles, pipes and tubes with a telehandler.

- ▷ **360° endless rotation.**
- ▷ **High load capacities** from 1,000 kg up to 3,000 kg can be positioned easily with the pipe grapple.
- ▷ **Precise positioning** due to an integrated rotation with two motors and two holding brakes (KM 930-3000P equipped with four motors).
- ▷ **Secure retention of loads** thanks to an integrated non-return valve and clamping pads at the tine tips.



### Pipe grapple KM 930P

Type	Load capacity (kg)	Poles Ø (min./max.) (mm)	Width E (mm)	Number of tines	Self weight (kg)	Closing force (kN)	Torque (Nm)
KM 930-1000P	1,000	70 / 300	1,785	2	760	23	5,000
KM 930-2000P	2,000	70 / 300	2,175	4	870	45	5,000
KM 930-3000P	3,000	70 / 300	2,560	6	1,100	68	10,000

**Package consists of:** pole grapple, rotation, integrated upper bracket and non-return valve

**Note:** poles and pipes always need to be gripped in the center of gravity.

### Accessories

Type	Description
KM 980-2 c	Solenoid valve to upgrade to the third hydraulic control circuit, to switch when there are only two free hydraulic circuits available for three required functions (rotate, grab and tilt) – for 12/24 V, operating pressure max. 25 MPa, oil flow 60 l/min. Complete including assembly parts, hose protection, hoses and assembly

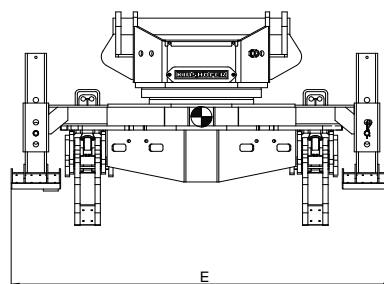
### Requirements of carrier machine

<b>Operating pressure (open/close):</b>	<b>max. 25 MPa (250 bar)</b>
<b>Recommended oil flow (open/close):</b>	50 - max. 100 l/min
<b>Operating pressure (rotate):</b>	<b>max. 25 MPa (250 bar)</b>
<b>Recommended oil flow (rotate):</b>	140 - max. 170 l/min

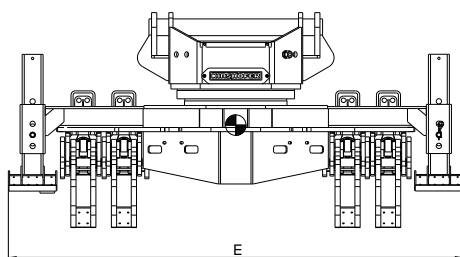
### Technical drawings

All 3 technical drawings with optional Manitou-bracket.

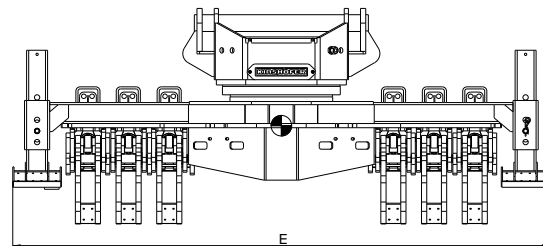
Other brackets on request.



KM 930-1000P



KM 930-2000P



KM 930-3000P

The KM 634 is a robust and powerful tool for logs – especially for heavy duty operation. Well suited for handling single trunks.

- ▷ **Low height** with one horizontal hydraulic cylinder – especially when closed due to the interlocking arms.
- ▷ **Long service life** is ensured by the sturdy construction, high quality components and generously dimensioned bearing system. All bearing bolts are case hardened and housed in steel bearing bushes.
- ▷ **Optimised design** allows extremely small grapple diameter – ideal for handling thin timber securely. The arms open almost vertically. That enables an easy penetration into the timber stack.
- ▷ **Synchronisation** of arms due to sturdy compensation rods.
- ▷ **Protection of the hoses** for the hydraulic connections by a hose guard on the KINSHOFER rotator.
- ▷ **Precise positioning** of the loads is no problem in combination with the KINSHOFER rotator – continuous rotation, precise start and stop ability.
- ▷ **Safety** is assured in the event of an unexpected pressure drop due to the integrated non-return valve.
- ▷ **Reinforced version KM 634S** with more sturdy construction and equipped with a stronger rotator.



**KM 634-0.35**

### Packages logging grapple KM 634 c

Type	Capacity	Width E	min. Log-Ø D2	max. Log-Ø D1	Opening A max.	Weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 634-0.25 c</b>	0.25	420	90	460	1,470	215	13	4,000
<b>KM 634-0.35 c</b>	0.35	500	135	590	1,950	300	16	5,000

**Package consists of:** logging grapple, rotator with hose guard (for KM 634-0.25: KM 06 F173-35, for KM 634-0.35: KM 10 F173-35), short connecting hoses KM 203 01, upper suspension KM 501 suiting rotator size, non-return valve

### Logging grapple KM 634

Type	Capacity	Width E	min. Log-Ø D2	max. Log-Ø D1	Opening A max.	Weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 634-0.25</b>	0.25	420	90	460	1,470	170	13	4,000
<b>KM 634-0.35</b>	0.35	500	135	590	1,950	225	16	5,000
<b>KM 634-0.50</b>	0.50	500	170	650	1,985	250	15	5,000

### Reinforced logging grapple KM 634S

Type	Capacity	Width E	min. Log-Ø D2	max. Log-Ø D1	Opening A max.	Weight	Closing force	Load capacity
	(m <sup>2</sup> )	(mm)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg)
<b>KM 634S-0.40</b>	0.40	510	135	590	1,950	270	16	6,000
<b>KM 634S-0.50</b>	0.50	510	170	650	1,985	275	16	7,000
<b>KM 634S-0.70</b>	0.70	590	110	870	2,570	530	15	8,000

### Accessories

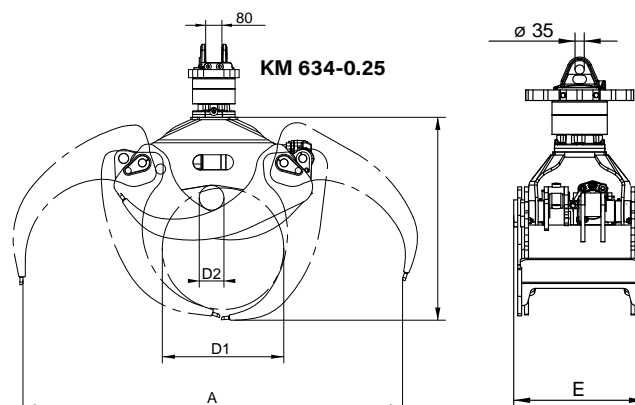
Type	Description
<b>KM 06 F173-35</b>	recommended KINSHOFER rotator for KM 634-0.25
<b>KM 10 F173-35/1</b>	recommended KINSHOFER rotator for KM 634-0.35
<b>KM 10 F173-45</b>	recommended KINSHOFER rotator for KM 634S

### Requirements of truck crane

#### Operating pressure at oil flow:

max. 24 MPa (240 bar) at 25 - max. 75 l/min **Mind the pressure!**

### Technical drawings



The rail grapple KM 632HPX Rail with its *HPXdrive* is used for the loading and unloading of rails, but also, with care, handle single sleepers. A non-return valve secures constant pressure even in case of unexpected pressure drop. The revolutionary *HPXdrive*-technology guarantees a reliable and low maintenance attachment. The grapple is ideal for mobile loader cranes as well as for rigidly mounted loader cranes on maintenance trailers.

- ▷ **Reliability** of the *HPXdrive*! The movement of the arms of the grapple is generated by two hollow shafts, which run opposed and have a helix thread, hydraulically driven by a single piston. No more hydraulic cylinder.
- ▷ **Longer life cycle** up to 50%! **Self-lubrication:** The drive unit runs in a permanent oil bath. The compact design makes the *HPXdrive* resistant to dirt and debris.
- ▷ **Versatility** with different types of shells that can easily be refitted onto the driving unit.
- ▷ **Profitability** through low maintenance costs and longer life cycle.
- ▷ **Rotator with shaft** KM 04 S is available as an alternative, in case a quick change KM 505 (or a reduction link KM 502 or e.g. for a non-rotating hook) is required.
- ▷ **Constant closing force** (34 kN at 26 MPa operating pressure) during the entire opening and closing process.



### Package rail grapple KM 632HPX Rail c with **KINSHOFER** Flange Rotator

Type	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Closing force (kN) at 26 MPa	Load capacity (kg)
KM 632HPX Rail c	1,000	560	740	265	34	2,000
<b>Package consists of:</b>	rail grapple, KINSHOFER rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve					
<b>HPX-KM 505 add</b>	also available with a shaft rotator and quick change system KM 505					

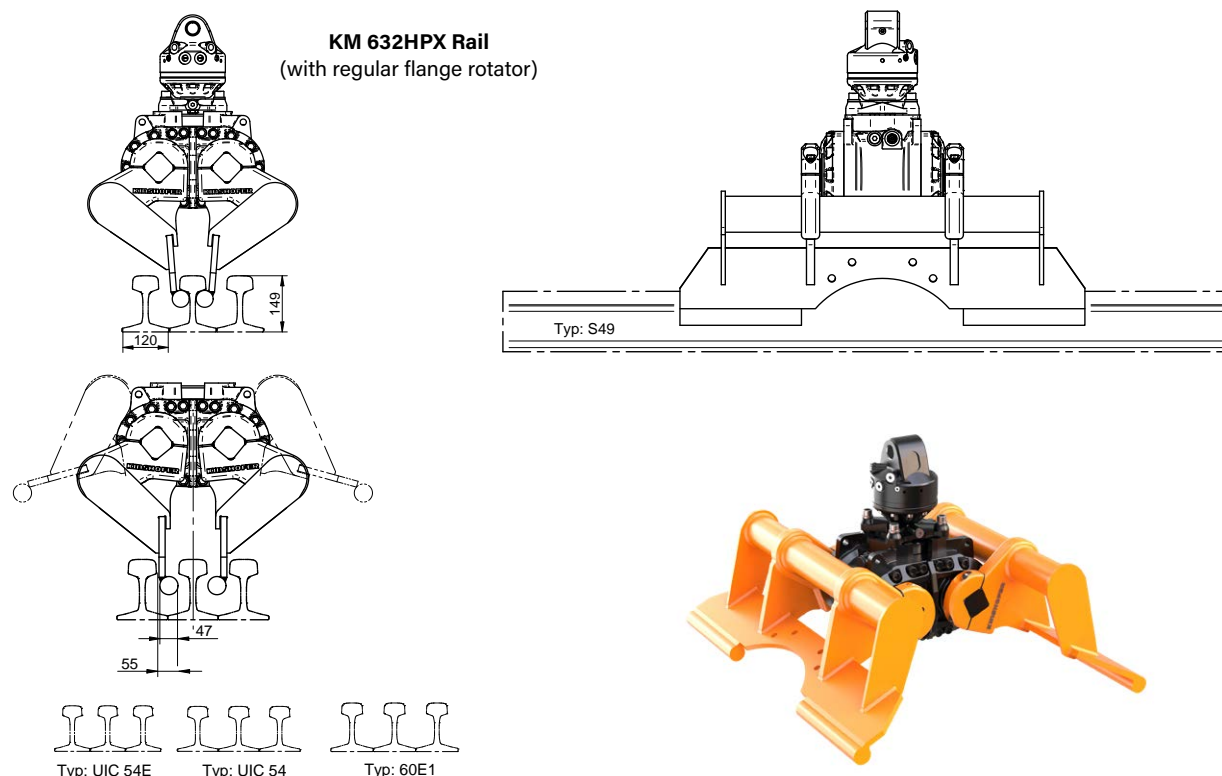
### Accessoires

Type	Description
KM 04 S	KINSHOFER shaft rotator for precise positioning of the load – up to 4,500 kg load capacity
KM 04 S68-30US	recommended KINSHOFER shaft rotator for heavy duty tasks – up to 4,500 kg load capacity
KM 505	quick change system for shaft-type rotator KM 04 S
KM 505 HD	quick change system HD for shaft-type rotator KM 04 S68-30US
KM 502 (4500)	reduction link between rotator and grapple
KM 204 01	mobile part of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
KM 204 03	hydraulic quick change kit incl. mobile and fixed parts (2 pc. each) mounted to rotator
KM 632HPX Rail-S	exchangeable tines for rail grapple, incl. exchange aid – weight tines 125 kg

### Requirements of truck crane

**Operating pressure: 26 MPa (260 bar)**  
**Recommended oil flow: 25 - max. 75 l/min**

### Technical drawings



Designed to handle the various demands of the rail, the Universal Railroad Grapple with vertical cylinders KM 632R c can be used for rails and railroad ties / sleepers - and even for clearing brush.

- ▷ The Universal Railroad Grapple is **ideal for handling used sleepers or rails - single or bundled.**
- ▷ **Long service life** is ensured by the sturdy construction and high quality components.
- ▷ **Reduced wear** resulting from generously dimensioned bearing system.
- ▷ **Tine tips are vertical when the grapple is fully opened**, allowing easy loading and unloading of bundled ties - directly from gondola cars.
- ▷ **Exchangeable gears are standard** and ensure synchronized movement of tines.
- ▷ **Each arm is equipped with a heavy duty hydraulic cylinder**, providing an extremely high clamping force.
- ▷ The **gear-type continuous rotator** allows precise positioning of the grapple.
- ▷ **Safety:** a special holding valve provides a safe grip - even if pressure drops.
- ▷ **Central lifting eye** included with 2,000 kg load capacity.



### Universal railroad grapple KM 632R c

Type	Capacity (m <sup>2</sup> )	Width (mm)	Opening		Height		Gripping range D min. (mm)	Self weight (kg)	Load capacity (kg)	Closing force (kN)
			A max. (mm)	C max. (mm)	C min. (mm)					
KM 632R-0,25 c	0.35	600	1,750	1,370	1,070	76	440	3,000	22.5	
KM 632R-0,33 c	0.50	600	1,980	1,500	1,195	76	465	3,000	19.4	
KM 632R-0,50 c	0.75	600	2,440	1,700	1,270	76	600	3,000	15.3	

**Package consists of:** universal railroad grapple, KINSHOFER rotator KM 04 F140-30US, short connecting hoses, upper suspension KM 501 (4500), non-return valve, central lifting eye

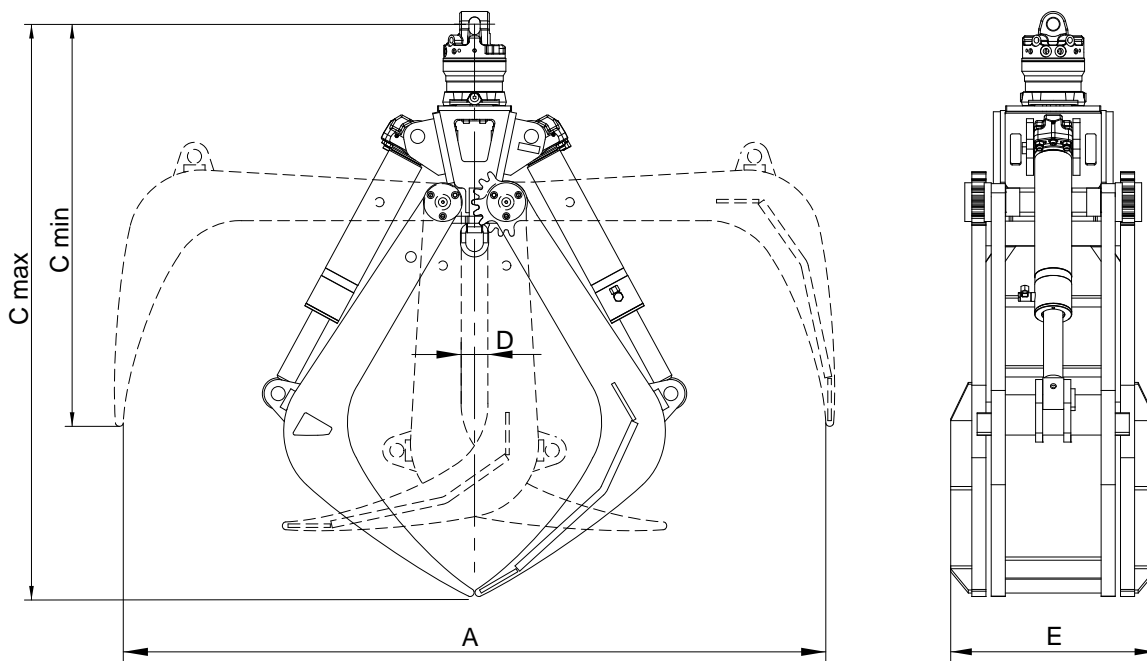
### Accessories

Type	Description
KM 505 HD	heavy duty quick change system set for KINSHOFER shaft rotators, incl. hydraulic couplings
KM 685 06 eye / hook set 2	welded eyes / welded hooks (2 pieces)

### Requirements of truck crane

<b>Operating pressure (open/close):</b>	<b>max. 26 MPa (260 bar)</b>
<b>Recommended oil flow (open/close):</b>	25 - max. 75 l/min
<b>Operating pressure (rotation):</b>	<b>max. 32 MPa (320 bar)</b>
<b>Recommended oil flow (rotation):</b>	15 - max. 50 l/min

### Technical drawings



Designed to handle the various demands of the rail, the Universal Railroad Grapple with horizontal cylinders KM 632-2-R can be used for rail or ties.

- ▷ The Universal Railroad Grapple is **ideal for handling used sleepers and rails – and even for clearing brush.**
- ▷ **Long service life** is ensured by the sturdy construction and high quality components.
- ▷ **Reduced wear** resulting from generously dimensioned bearing system.
- ▷ **Tine tips are vertical when the grapple is fully opened**, allowing easy loading and unloading of bundled ties - directly from gondola cars.
- ▷ **Gears are standard** and ensure synchronized movement of tines.
- ▷ **The tool is equipped with two horizontal hydraulic cylinders**, providing an extremely high clamping force.
- ▷ The **gear-type continuous rotator** allows precise positioning of the grapple.
- ▷ **Safety:** a special holding valve provides a safe grip – even if pressure drops.



## Universal railroad grapple KM 632-2-R c

Type	Capacity (m <sup>2</sup> )	Width		Opening		Height		Gripping range D min. (mm)	Self weight (kg)	Load capacity (kg)	Closing force (kN)
		E (mm)	A max. (mm)	C max. (mm)	C min. (mm)						
<b>KM 632-2-R c</b>	0.50	600	1,980	1,430	1,150	85	355	3,000	14		

**Package consists of:** universal railroad grapple, KINSHOFER rotator KM 04 F140-30US, short connecting hoses, upper suspension KM 501 (4500), non-return valve, central welded eye

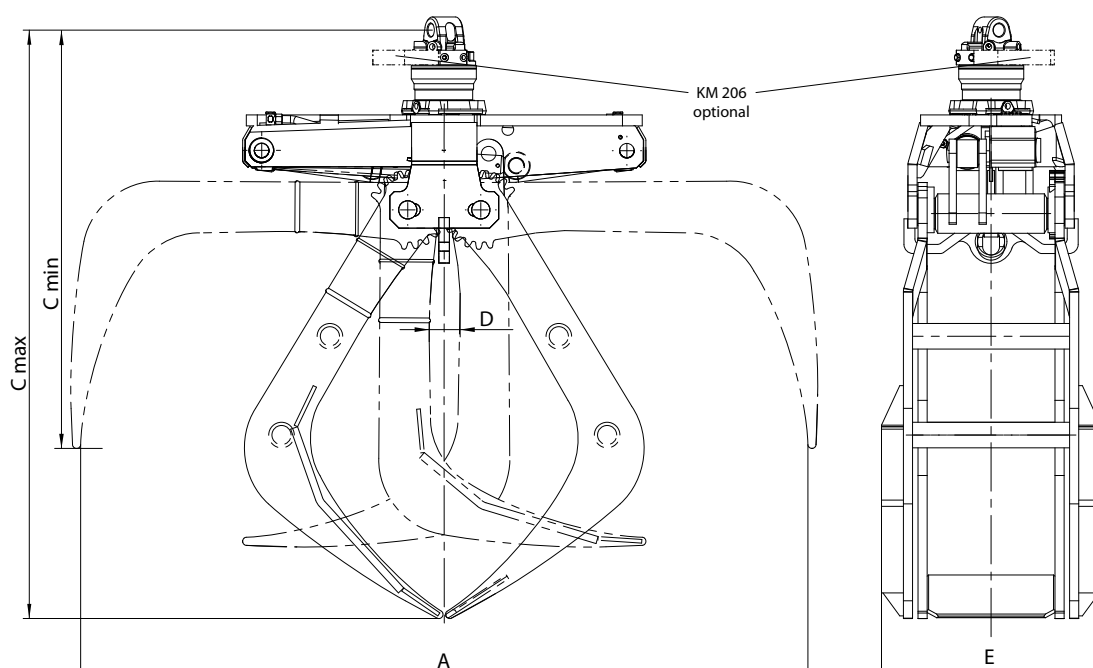
## Accessories

Type	Description
<b>KM 505 HD</b>	heavy duty quick change system set for shaft rotators, incl. hydraulic couplings
<b>KM 685 06 eye / hook set 2</b>	welded eyes / welded hooks (2 pieces)
<b>KM 206</b>	hose guard

## Requirements of truck crane

<b>Operating pressure (open/close):</b>	<b>max. 26 MPa (260 bar)</b>
<b>Recommended oil flow (open/close):</b>	25 - max. 75 l/min
<b>Operating pressure (rotation):</b>	<b>max. 32 MPa (320 bar)</b>
<b>Recommended oil flow (rotation):</b>	15 - max. 50 l/min

## Technical drawings



Hydraulic hook KM 920-5 in different versions including Kinshofer rotator for tools and loads with ring system.

- ▷ **Low overall height** due to compact design.
- ▷ **Precise positioning** in combination with KINSHOFER rotator.
- ▷ The **safety load hook** is equipped with a hydraulic cylinder for opening/closing without opening unintentionally in a loaded condition.
- ▷ Suitable for the hydraulic suspension of pallet forks with vertical crane hook suspension or with additional hook (version B) for the fast and precise load suspension with e.g. tightropes, lashing straps, etc. and the following release of the loads (version C w/o additional hook).
- ▷ Including **integrated locking indicator**.
- ▷ Versions B **with switch valve/CEJN Multi-X-couplings**: for the hydraulic suspension and operation of universal forks and other hydraulic attachments with vertical crane hook suspension; with additional load hook by default.
- ▷ All versions can also open and empty containers with only one suspension opening (measurements container flap see drawing below).

here  
version B



### KM 920-5 for tools and loads with ring system

Type	Width (mm)	Load capacity (kg)	Ring - Ø max. (mm)	Height (w/rotator) (mm)	Weight (kg)	Operating pressure at oil flow
<b>KM 920-5Bc</b>	313	4,500	30	480	58	37 MPa (370 bar) at 2 - max. 10 l/min
<b>KM 920-5Cc</b>	305	4,500	30	480	57	37 MPa (370 bar) at 2 - max. 10 l/min

**Package consists of:** hydraulic hook (B incl. load hook; C excl. load hook), rotator KM 04 F, short connection hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

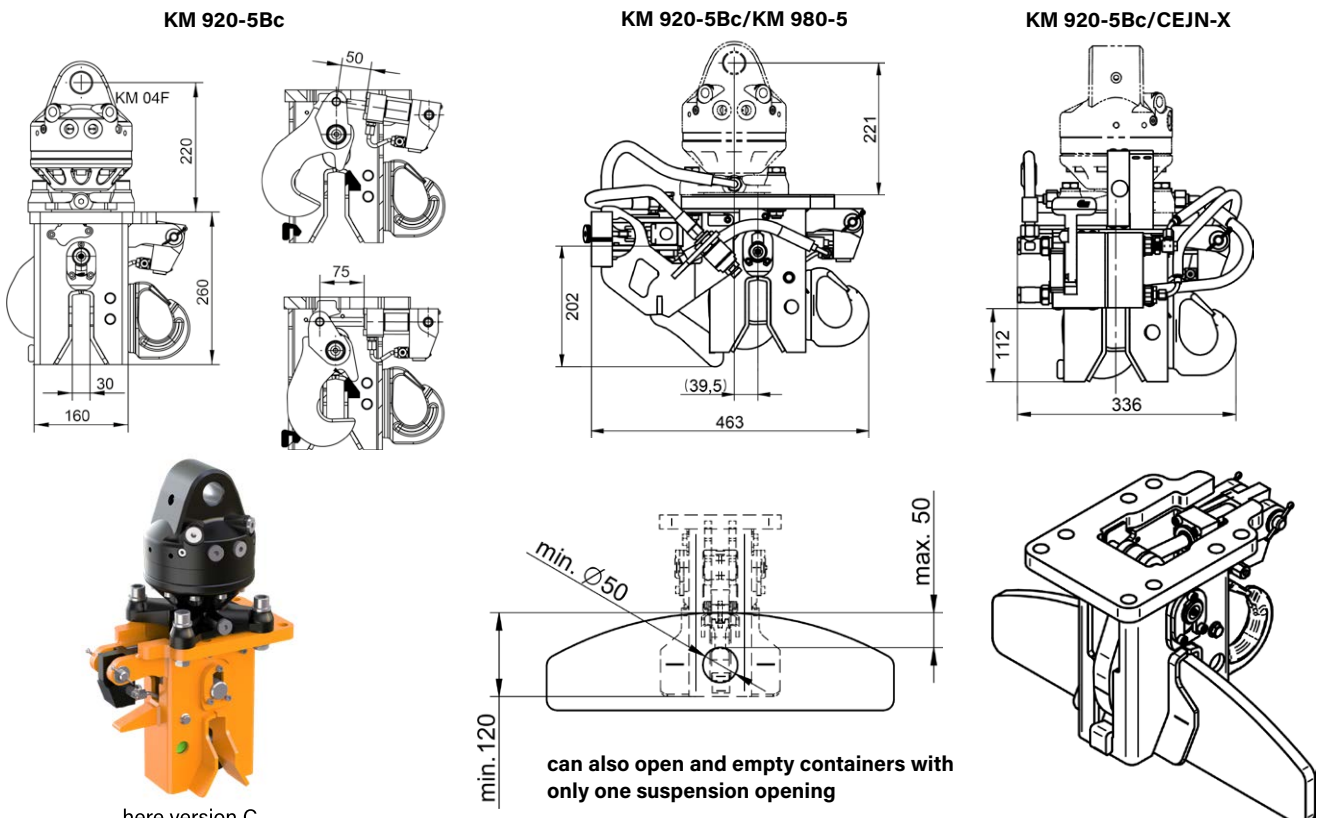
### KM 920-5 with hook and switch valve / CEJN Multi-X-couplings

Type	Width (mm)	Load capacity (kg)	Ring - Ø max. (mm)	Height (w/rotator) (mm)	Weight (kg)	Operating pressure at oil flow
<b>KM 920-5Bc/KM 980-5</b>	463	4,500	30	485	68	35 MPa (350 bar) at 2 - max. 10 l/min
<b>KM 920-5Bc/CEJN-X</b>	336	4,500	30	480	69	35 MPa (350 bar) at max. 80 l/min

**Package consists of** hydraulic hook incl. load hook, rotator KM 04 F, switch valve, short connection hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

**Package consists of** hydraulic hook incl. load hook, rotator KM 04 F, CEJN Multi-X DUO10 couplings (set), short connection hoses KM 203 01, upper suspension KM 501 (4500), non-return valve

### Technical drawings



## Hydraulic hook KM 920-4 for containers and loads with ring system

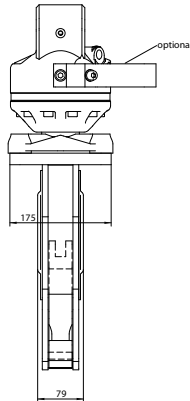
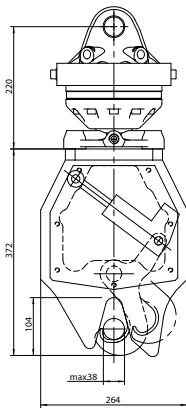
The hydraulic hook facilitates the fast and precise lifting and loosening of containers and loads with ring system.

- ▷ **Precise positioning** in combination with KINSHOFER rotator.
- ▷ **Low overall height** due to compact design.
- ▷ **Robust mechanics** with hydraulic cylinder (open/close).
- ▷ V-shaped cutout **facilitates ring suspension**.
- ▷ Rotator with vertical oil ducts, so **no open short hose** connections.

Type	Width (mm)	Height (with motor) (mm)	Ring - Ø max. (mm)	Self weight (incl. motor) (kg)	Load capacity max. (kg)	Operating pressure at oil flow
KM 920-4c	264	592	38	46	2,500	20 MPa (200 bar) at 2 - max. 10 l/min <b>Mind the pressure!</b>

**Package consists of:** hydraulic hook, rotator KM 04 F140-30V, upper suspension KM 501 (4500), non-return valve

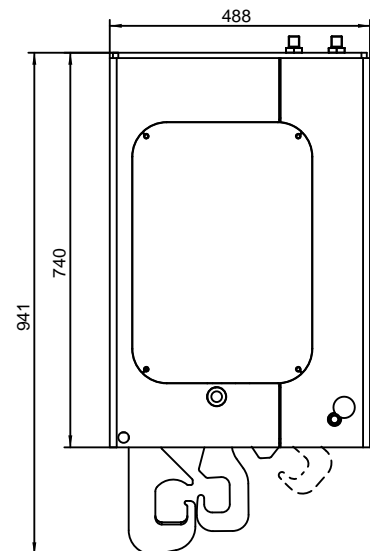
## Technical drawings



**KINSHOFER** container discharge attachments with ring system or the fast KINSHOFER mushroom system are characterised by short cycle times and an attractive acquisition price. Containers can be emptied even faster and more cost effectively with a one-man operation.

## Container discharge unit KM 920-1 with ring system / low overall height

- ▷ **Low overall height** due to compact design.
- ▷ **Extremely low maintenance and ecofriendly**, because no bearing has to be lubricated.
- ▷ **Hooks on automatically** when container is lifted.
- ▷ **Precise positioning** with KINSHOFER rotator.
- ▷ Protection against damage of container by **automatic lift stop**.
- ▷ Available with **two load capacities** (version A and B).



Type	max. Lift of the hook (mm)	Load capacity (kg)	Height (incl. rotator) (mm)	Self weight* (kg)	Operating pressure at oil flow
KM 920-1-Ac	500	4,500	1,160	174	35 MPa (350 bar) at 40 l/min
KM 920-1-Bc	500	2,500	1,160	174	35 MPa (350 bar) at 40 l/min

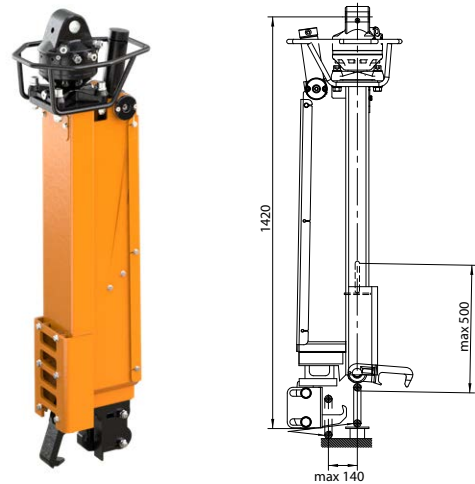
\* incl. motor / excl. upper suspension & pendulum damper

**Package consists of:** container discharge unit, KINSHOFER-rotator KM 04 F, connecting tubes, upper suspension with pendulum damper KM 511 (4500), non-return valve

**KINSHOFER** container discharge attachments with ring system or the fast KINSHOFER mushroom system are characterised by short cycle times and an attractive acquisition price. Containers can be emptied even faster and more cost effectively with a one-man operation.

**Container discharge unit KM 920-11 for containers with ring system**

- ▷ **Robust mechanics** with few moving parts and guided lifting hook.
- ▷ **Precise positioning** with KINSHOFER rotator, due to the use of a rotator with vertical oil ducts no externally installed hydraulic hoses are necessary.
- ▷ Pressure relief valve ensures **independence of crane operating pressure**.
- ▷ Protection against damage of container by **automatic lift stop**.



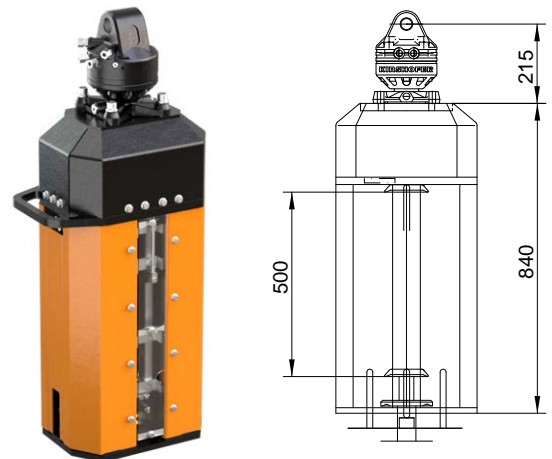
Type	max. Lift of the hook (mm)	Load capacity (kg)	Height (incl. rotator) (mm)	Self weight* (kg)	Operating pressure at oil flow
KM 920-11	500	2,500	1,400	175	20 - 26 MPa (200 - 260 bar) at max. 75 l/min 20 - 37 MPa (200 - 370 bar) at max. 40 l/min

\* incl. rotator & hoses / excl. upper suspension & pendulum damper

**Package consists of:** container discharge unit, rotator KM 04 F140-30V, short connecting hoses KM 203 01, non-return valve, upper suspension with pendulum damper KM 511 (4500), pressure relief valve

**Container discharge unit KM 921 for containers with KINSHOFER mushroom system or ring system**

- ▷ **Combination model:** without any adjustments both types of containers can be handled – with KINSHOFER **mushroom system or ring system**.
- ▷ **Low overall height** due to compact design.
- ▷ **Robust mechanics** with self locking spindle.
- ▷ **Precise positioning** with KINSHOFER rotator.
- ▷ Pressure relief valve ensures **independence of crane operating pressure**.
- ▷ Protection against damage of container by **automatic lift stop and an additional height control system**.



**The safe operation of the container discharge unit KM 921 can only be guaranteed by KINSHOFER GmbH if the containers are equipped with ORIGINAL KINSHOFER HOIST AND FIXED DISKS and the specified spacing dimensions are complied with!**

**Do not use fixed discs with locking ribs!**

Type	max. Lift of the hook (mm)	Load capacity (kg)	Height (incl. rotator) (mm)	Self weight* (kg)	Operating pressure at oil flow
KM 921	500	2,500	1,055	180	20 - 26 MPa (200 - 260 bar) at max. 75 l/min 20 - 37 MPa (200 - 370 bar) at max. 40 l/min

\* incl. rotator & hoses / excl. upper suspension & pendulum damper

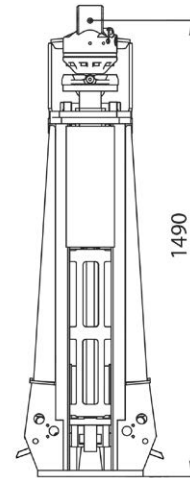
**Package consists of:** container discharge unit, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension with pendulum damper KM 511 (4500), pressure relief valve



**KINSHOFER** container discharge attachments with the fast KINSHOFER mushroom system are characterised by short cycle times and an attractive acquisition price. Containers can be emptied even faster and more cost effectively with a one-man operation.

Container discharge unit KM 920-12 for containers with KINSHOFER mushroom system

- ▷ Robust mechanics with **self centring hydraulic interlocking**.
- ▷ **Precise positioning** with KINSHOFER rotator, direct hose routing.
- ▷ **Independence of crane operating pressure** due to the pressure relief valve.
- ▷ Protection against damage of container by **automatic lift stop and an additional height control system**.
- ▷ Pressure control for **user controlled unlocking**.
- ▷ Including **integrated locking indicator**.



Type	max. Lift of the hook (mm)	Load capacity (kg)	Height (incl. rotator) (mm)	Self weight* (kg)
KM 920-12	500	2,500	1,490	210

\* incl. rotator & hoses / excl. upper suspension & pendulum damper

**Package consists of:** container discharge unit, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension with pendulum damper KM 511 (4500), pressure relief valve and non-return valve



The safe operation of the container discharge unit KM 920-12 can only be guaranteed by KINSHOFER GmbH if the containers are equipped with ORIGINAL KINSHOFER HOIST AND FIXED DISKS and the specified spacing dimensions are complied with!  
Do not use fixed discs with locking ribs!

### Requirements of truck crane

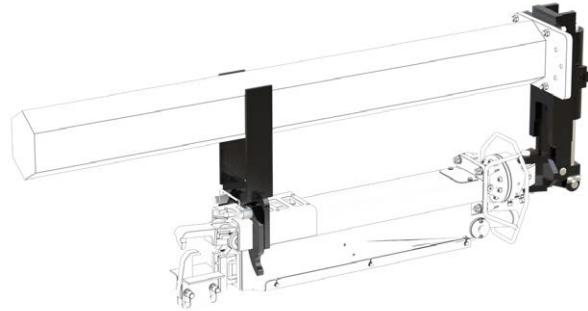
#### Operating pressure at oil flow:

20 - 26 MPa (200 - 260 bar) at max. 75 l/min

20 - 37 MPa (200 - 370 bar) at max. 40 l/min

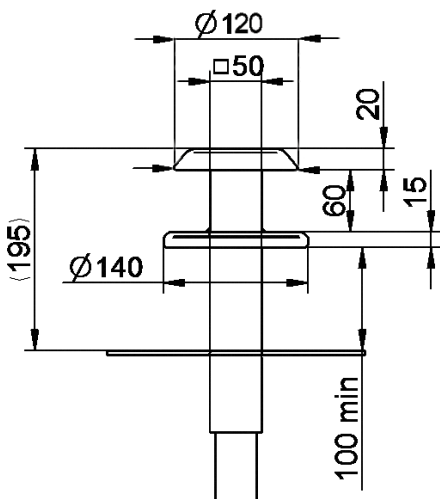
Docking device for container discharge units KM 920-11, KM 920-12 and KM 921

Type	Description	Tilting angle (deg.)	Self weight (kg)
KM 924	docking device for container discharge units: it allows the discharge unit to be hydraulically docked and locked onto the crane jib. When unlocked, acts as a hydraulic pendulum damper. A solenoid valve for switch-over between the hydraulic circuits is included. Please state crane model when ordering. Operating pressure <b>max. 28 MPa (280 bar)</b> .	90°	70

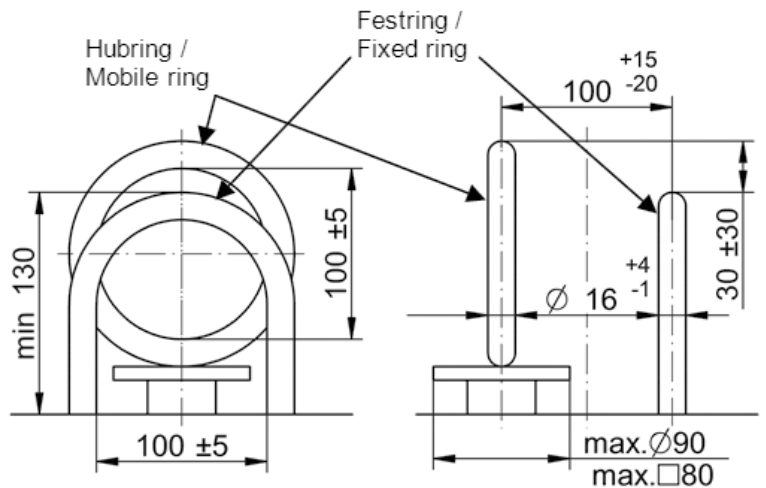


Dimensions for containers with KINSHOFER mushroom or ring system

mushroom system for containers



ring system for containers



mushroom and ring system: leverage hoisting max. 500 mm

**Mushroom system at container**

Usage only for containers with mushroom system with dimensions as shown above that are equipped with „ORIGINAL KINSHOFER FIXED and HOIST DISCS“. (According to DIN EN 13071-3)



**Ring system at container**

Usage only for containers with ring system with dimensions as shown above .  
**Hoist ring at container with max. lifting height 500 mm.**

The **KINSHOFER** container discharge unit with twin-hook for deposit containers with system Schäfer are characterised by short cycle times and an attractive acquisition price. Containers can be emptied even faster and more cost effectively with a one-man operation. The attachment is extremely maintenance low, robust and low-built thanks to its compact construction.

## Container discharge unit KM 920-31 for containers with twin-hook system

- ▷ **Robust mechanics.**
- ▷ **Precise positioning** with KINSHOFER rotator, short hose connection.
- ▷ **Independence of crane operating pressure** due to the pressure relief valve.
- ▷ Easy handling thanks to **low overall height.**
- ▷ **Low maintenance.**



Type	Lift of the hook max. A (mm)	Width E (mm)	Width D (mm)	Load capacity (kg)	Height C (mm)	Self weight* (kg)
<b>KM 920-31</b>	500	805	265	4,500	615	160

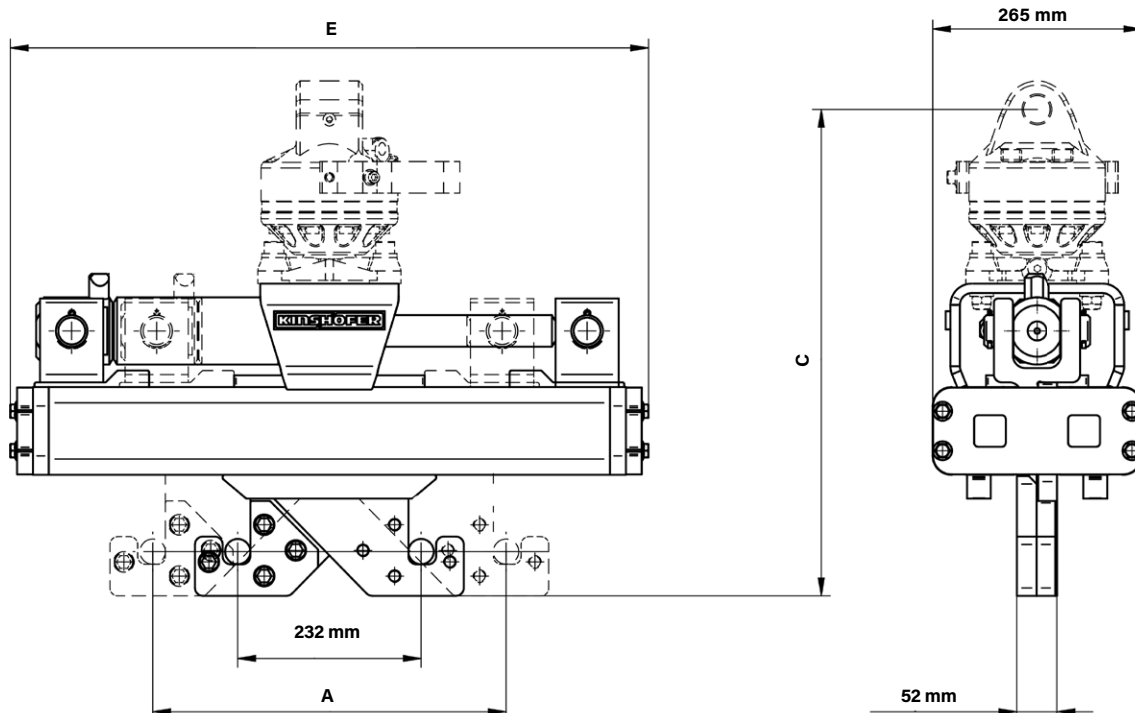
\* incl. rotator & hoses / excl. upper suspension & pendulum damper

**Package consists of:** container discharge unit, rotator KM 04 F, short connecting hoses KM 203 01, upper suspension with pendulum damper KM 511 (4500), pressure relief valve and non-return valve

## Requirements of truck crane

<b>Operating pressure (open/close):</b>	<b>max. 35 MPa (350 bar)</b>
<b>Recommended oil flow (open/close):</b>	40 l/min
<b>Operating pressure (rotation):</b>	<b>max. 26 MPa (260 bar)</b>
<b>Recommended oil flow (rotation):</b>	25 - max. 75 l/min

## Technical drawings



The 3-axes-manipulator KM 931 features maximum manoeuvrability for your attachments at the loader crane's tip – and provides flexibility of the loader crane's use in any arc position.

- ▷ **3-Axes-manipulator: manoeuvrability** by three hydraulic functions: gripping, rotating and tilting (3<sup>rd</sup> hydraulic cycle needed).
- ▷ **Endless rotation.**
- ▷ **High loads** up to 1,000 kg.
- ▷ **Precise positioning** guaranteed by self-locking worm drive (KM 931-1000).
- ▷ **5-line feedthrough.**
- ▷ Provides an **exchange system for the use with different attachments.**



### 3-Axes-manipulator KM 931-1000

Type	Load capacity (kg)	Slewing angle	Tilting angle	Rotation	Self weight (kg)
KM 931-1000	1,000	130°	± 40°	360° endless	290

**Package consists of:** manipulator, hydraulic pilot controlled brake, worm drive, non-return valve

**Please note:** tubes or poles have to be grabbed always in the centre of gravity

### Accessories

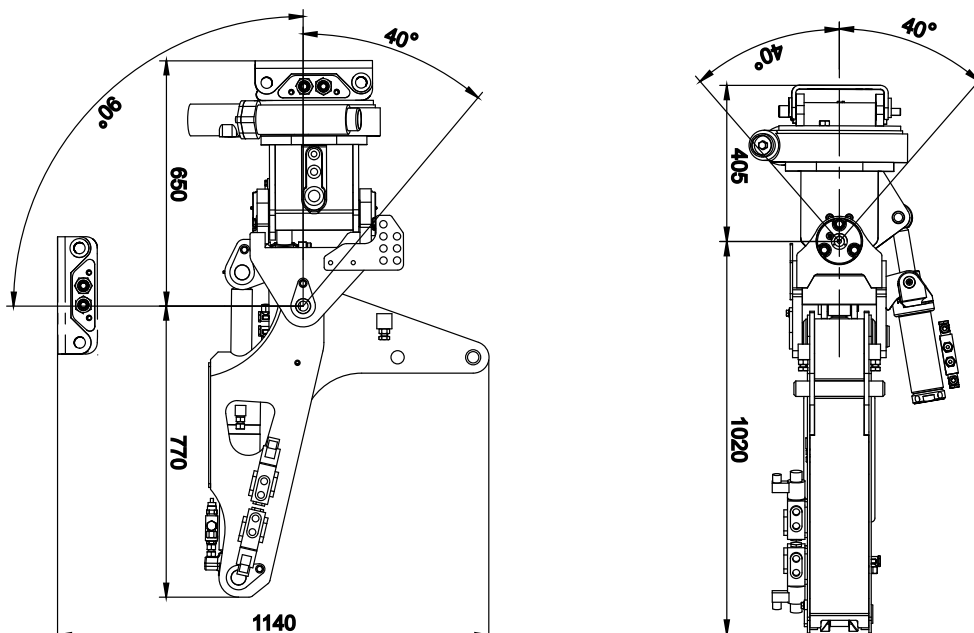
Type	Description
KM 980-2 c	Solenoid valve to upgrade to the third hydraulic control circuit, to switch when there are only two free hydraulic circuits available for three required functions (rotate, grab and tilt) – for 12/24 V, operating pressure max. 25 MPa, oil flow 60 l/min. Complete including assembly parts, hose protection, hoses and assembly

### Requirements of truck crane

Type	Operating pressure at oil flow:
KM 931-1000	20 - 24 MPa (200 - 240 bar) at 20 - max. 30 l/min

**Three hydraulic circuits needed!**

### Technical drawings



A hydraulically operated attachment used for positioning tubes or poles, the KM 930 is for use on loader cranes with three functions. Flange mounting on the mechanical extension of the crane.

- ▷ **Manoeuvrability** through three hydraulic functions gripping, lifting and turning (rotation and tilting) of straight round poles (three hydraulic circuits are necessary). Unlimited angle of rotation.
- ▷ **Heavy loads** of 500 kg up to 3,000 kg can be handled by the KINSHOFER manipulators.
- ▷ **Precision operation** assured through continuous rotation, equipped with mechanically operating, hydraulic pilot controlled brake to prevent unintentional rotation.



## Manipulator KM 930

Type	Load capacity (kg)	Pipe - Ø (min./max.) (mm)	Width (mm)	Number of tines	Self weight (kg)	Closing force (kN)
<b>KM 930-500</b>	500	100 / 300	785	1	235	11
<b>KM 930-1000</b>	1,000	100 / 300	1,300	2	310	23
<b>KM 930-2000</b>	2,000	250 / 600	1,285	4	910	35
<b>KM 930-3000</b>	3,000	250 / 600	2,560	6	1,360	53

**Package consists of:** manipulator, KINSHOFER rotator (KM 930-500 / KM 930-1000) / KINSHOFER rotary drive (KM 930-2000 / KM 930-3000), hydraulic pilot controlled brake, non-return valve

**Please note:** tubes or poles have to be grabbed always in the centre of gravity

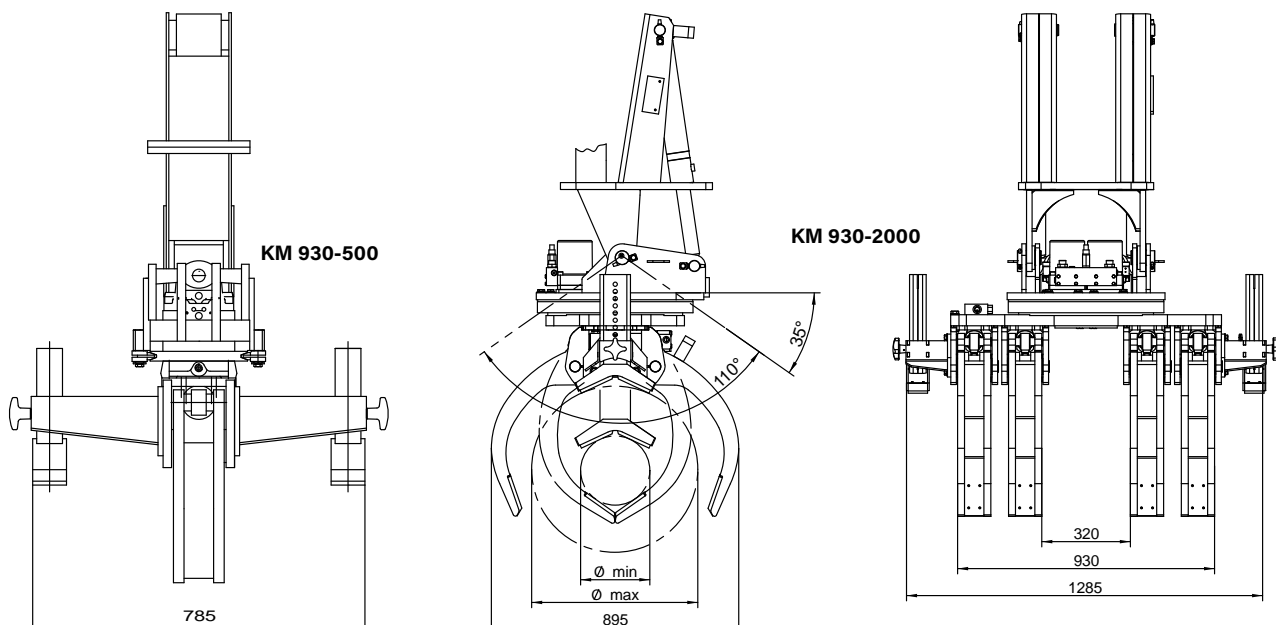
## Accessories

Type	Description
<b>KM 980-2 c</b>	Solenoid valve to upgrade to the third hydraulic control circuit, to switch when there are only two free hydraulic circuits available for three required functions (rotate, grab and tilt) – for 12/24 V, operating pressure max. 25 MPa, oil flow 60 l/min. Complete including assembly parts, hose protection, hoses and assembly

## Requirements of truck crane

Type	Operating pressure at oil flow:	
<b>KM 930-500 / KM 930-1000</b>	max. 20 MPa (200 bar) at 20 - max. 40 l/min	<b>Mind the pressure!</b>
<b>KM 930-2000</b>	max. 25 MPa (250 bar) at 20 - max. 40 l/min	<b>Mind the pressure!</b>
<b>KM 930-3000</b>	max. 25 MPa (250 bar) at 20 - max. 75 l/min	<b>Mind the pressure!</b>

## Technical drawings



The KM 932MB Barrier Lifter is a mechanical grapple for fast and convenient handling of concrete barriers and blocks.

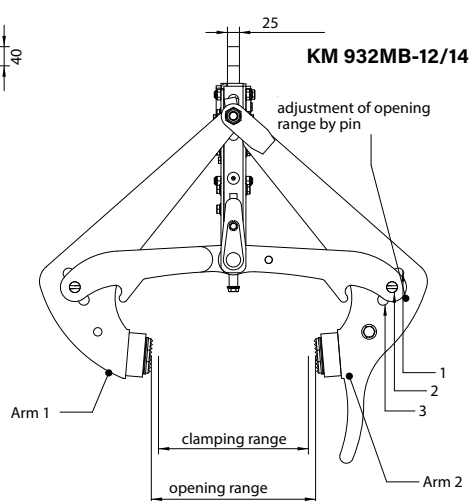
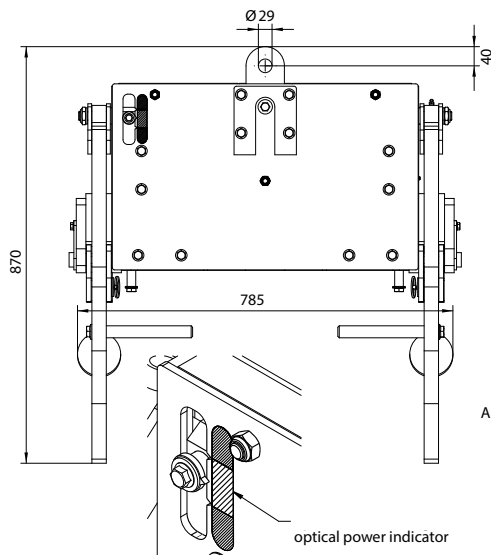
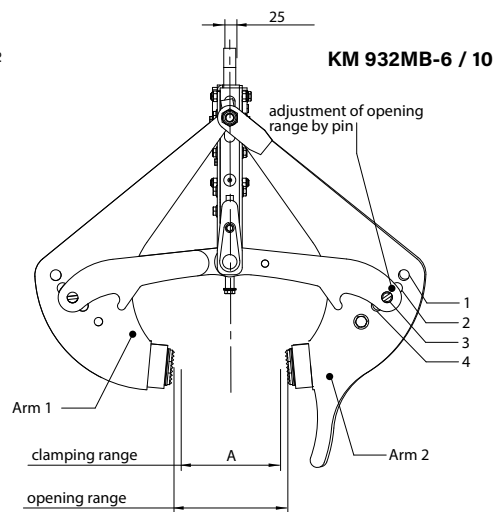
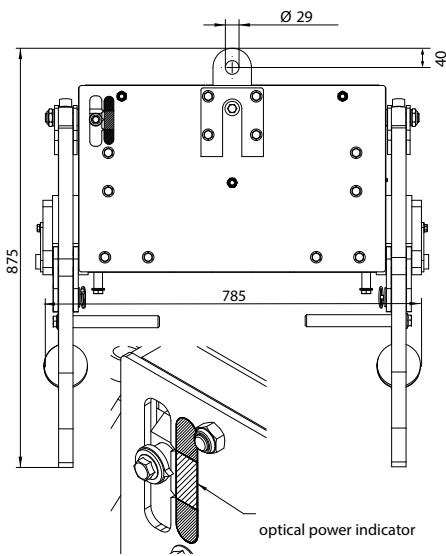
- ▶ **Safe:** Carbide gripping pads ensure safe operation, even on wet or coated surfaces. An optical power indicator illustrates the range of optimum grip.
- ▶ **Efficient:** The fully integrated, mechanically operated "latch & release" system allows the unit to function independently, without assistance from a ground man.
- ▶ **Versatile:** Multi-position arms are a standard feature. This means one unit can achieve different gripping ranges by simply changing a pin position.
- ▶ **Cost-effective:** The elimination of slings and chains means more cycles can be achieved per hour.
- ▶ **Fast:** The "latch & release" system functions automatically each time the load line is slackened.



### Barrier lifter KM 932MB

Type	Clamping range A (min./max.) (mm)	Self weight (kg)	Load capacity max. (kg)
KM 932MB-6/10	115 - 305	162	6,580
KM 932MB-12/14	295 - 395	150	6,580

### Technical drawings



The robust earth drills for truck cranes up to 18 t/m are an economical and customized solution for earth drills e.g. for fencing, road signage, landscaping and tree planting. Well borings, screw pile installations and sound barrier installations are also no problem for the earth drills.

- ▷ **Non Dislodgement Shaft (NDS)** for more safety and lower down times, as this unique construction prevents the output shaft from dislodgement.
- ▷ Pre-filled with a **colored gear oil**. Not only is the use of a colored oil a good indicator of correct service, but it also aids identifying possible hydraulic oil leaks.
- ▷ The **heavy duty fabricated hoods feature forged steel ears**; these high strength ears easily transmit the high torsional loads, experienced whilst drilling, without becoming fatigued.
- ▷ **Easy access oil service points.**



### Earth drills for truck cranes 3000TC / 5500TC / 7000TC

Type	For cranes up to (t/m)	Shaft standard (mm)	Shaft option (mm)	Speed range (RPM)	Height (mm)	Diameter (mm)	Weight (kg)	Suitable augers
3000TC	9	65 round	2" hex; 57 square	7 - 46	665	244	73	S4 100 - 600
5500TC	15	75 square	2,5" hex	11 - 38	780	269	108	S5 150 - 800
7000TC	9 - 18	75 square	2,5" hex	9 - 30	780	269	110	S5 150 - 1,000

Package consists of: earth drill

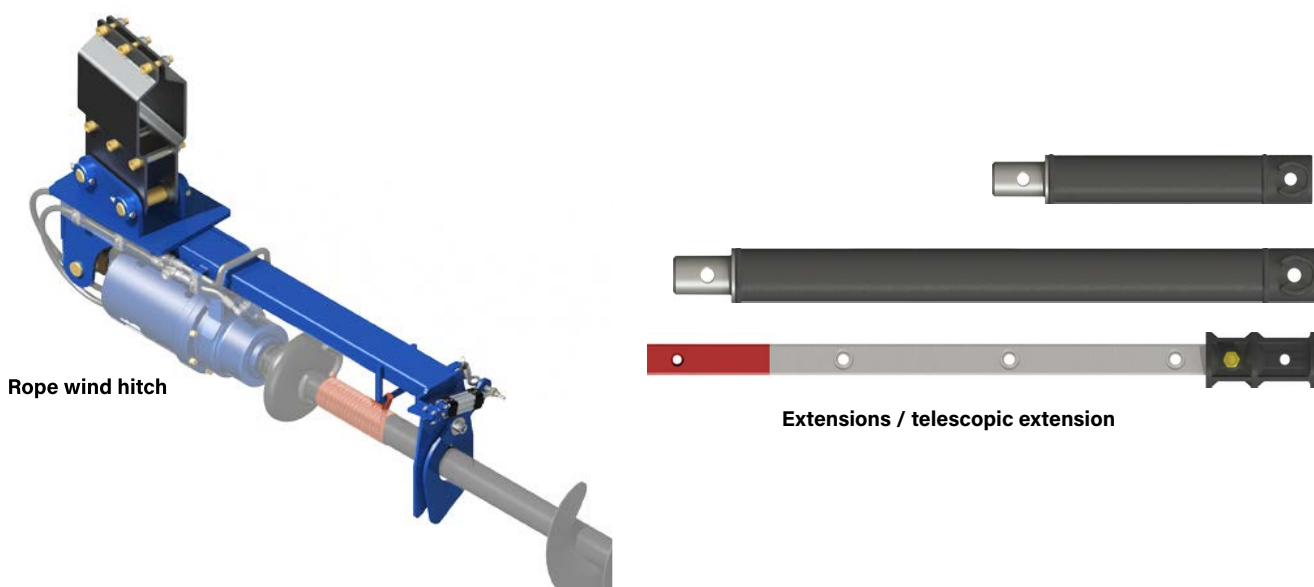
### Accessories

Type	Description
S4 Ext 500	extension suitable for earth drill 3000TC and S4 augers - 500 mm
S4 Ext 1000	extension suitable for earth drill 3000TC and S4 augers - 1,000 mm
S5 Ext 1000	extension suitable for earth drills 5500TC / 7000TC and S5 augers - 1,000 mm
S5 Ext 1500	extension suitable for earth drills 5500TC / 7000TC and S5 augers - 1,500 mm
S5 Ext 2000	extension suitable for earth drills 5500TC / 7000TC and S5 augers - 2,000 mm
S6 TeleExt 1500	telescopic extension suitable for earth drills 5500TC / 7000TC and S5 augers starting from diameter 300 mm - 1,500 mm length
S6 TeleExt 2000	telescopic extension suitable for earth drills 5500TC / 7000TC and S5 augers starting from diameter 300 mm - 2,000 mm length
Rope Wind Hitch KM 501 (4500)	rope wind hitch for safe position on the truck crane during transport upper suspension without pendulum damper

### Technical Details

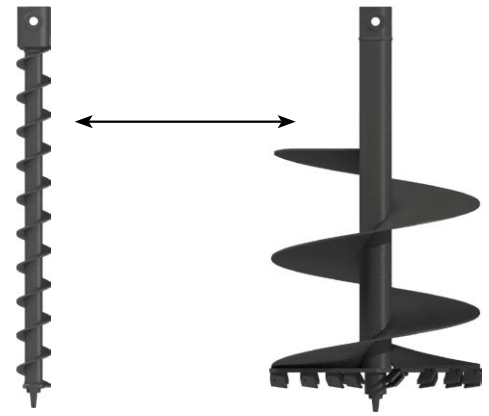
Type:	3000TC	5500TC	7000TC
Oil pressure range:	80 - 260 bar	80 - 260 bar	80 - 240 bar
Oil flow range:	5 - 35 l/min	15 - 50 l/min	15 - 50 l/min
Torque range:	959 - 3,116 Nm	1,685 - 5,477 Nm	2,098 - 6,819 Nm

### Pictures



The S4 auger is perfectly matched to the 3000TC earth drill and every task. A constant spiral configuration and a shallow pitch flight guarantee extreme efficiency and productivity. Suitable for truck cranes up to 9 t/m .

- ▷ **Higher productivity** by constant spiral configuration and the perfectly angled tooth holder.
- ▷ **Interchangeable pilots and teeth** allow for differing ground conditions.
- ▷ **Easy fitting of teeth and pilots.**
- ▷ **Patented Shock Lock-System:** incorporating a shock absorbing rubber element to protect the tungsten carbide on the tooth assembly coupled with a solid locking pin prevent tooth loss.
- ▷ High flexibility thanks to **different auger extensions.**
- ▷ **For earth drill 3000TC.**

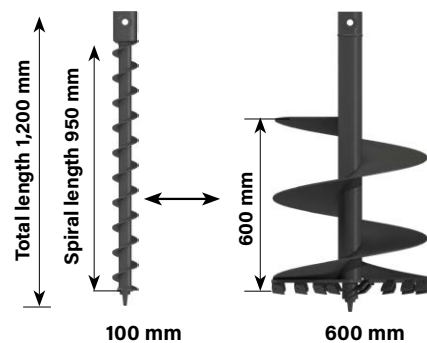
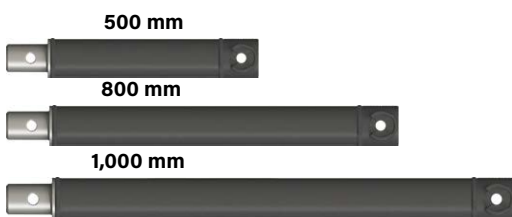


**S4 Augers** (specify pilot and teeth when ordering)

Type	Diameter (mm)	Spiral length (mm)	Total length (mm)	Weight (kg)	Number of teeth	Type of teeth
S4-100 Earth				17	0	Earth
S4-100 Tungsten	100	950	1,200	17	0	Tungsten
S4-100 Extra-Dig				17	0	Extra-Dig*
S4-150 Earth				21	2	Earth
S4-150 Tungsten	150	780	1,200	22	2	Tungsten
S4-150 Extra-Dig				22	2	Extra-Dig*
S4-200 Earth				24	2	Earth
S4-200 Tungsten	200	750	1,200	24	2	Tungsten
S4-200 Extra-Dig				24	2	Extra-Dig*
S4-225 Earth				27	2	Earth
S4-225 Tungsten	225	750	1,200	28	2	Tungsten
S4-225 Extra-Dig				27	2	Extra-Dig*
S4-250 Earth				27	3	Earth
S4-250 Tungsten	250	700	1,200	28	3	Tungsten
S4-250 Extra-Dig				28	3	Extra-Dig*
S4-300 Earth				32	4	Earth
S4-300 Tungsten	300	700	1,200	33	4	Tungsten
S4-300 Extra-Dig				32	4	Extra-Dig*
S4-350 Earth				35	4	Earth
S4-350 Tungsten	350	675	1,200	36	4	Tungsten
S4-350 Extra-Dig				36	4	Extra-Dig*
S4-400 Earth				38	5	Earth
S4-400 Tungsten	400	625	1,200	39	5	Tungsten
S4-400 Extra-Dig				38	5	Extra-Dig*
S4-450 Earth				42	6	Earth
S4-450 Tungsten	450	625	1,200	43	6	Tungsten
S4-450 Extra-Dig				43	6	Extra-Dig*
S4-500 Earth				48	6	Earth
S4-500 Tungsten	500	625	1,200	48	6	Tungsten
S4-500 Extra-Dig				48	6	Extra-Dig*
S4-600 Earth				54	8	Earth
S4-600 Tungsten	600	600	1,200	56	8	Tungsten
S4-600 Extra-Dig				55	8	Extra-Dig*

\* Tungsten-teeth with special digging pilot

**S4 Extensions**

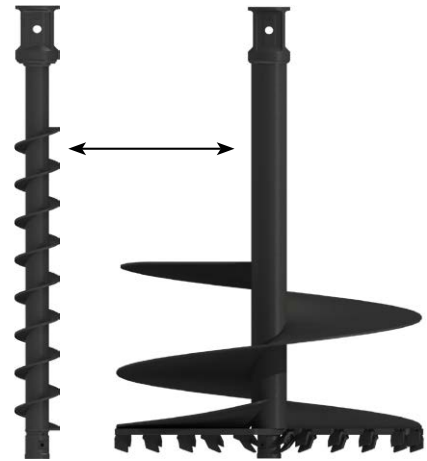


**Note:** All augers mentioned above are equipped with Shock Lock tooth holders. Total length is length including pilot.



The S5 auger is perfectly matched to the corresponding earth drills and every task. A constant spiral configuration and a shallow pitch flight guarantee extreme efficiency and productivity. Suitable for truck cranes from 9 t/m up to 18 t/m.

- ▷ **Higher productivity** by constant spiral configuration and the perfectly angled tooth holder.
- ▷ **Interchangeable pilots and teeth** allow for differing ground conditions.
- ▷ **Easy fitting of teeth and pilots.**
- ▷ **Patented Shock Lock-System:** incorporating a shock absorbing rubber element to protect the tungsten carbide on the tooth assembly coupled with a solid locking pin prevent tooth loss.
- ▷ High flexibility thanks to **different auger extensions** and **telescopic extensions.**
- ▷ **For earth drills 5500TC and 7000TC.**



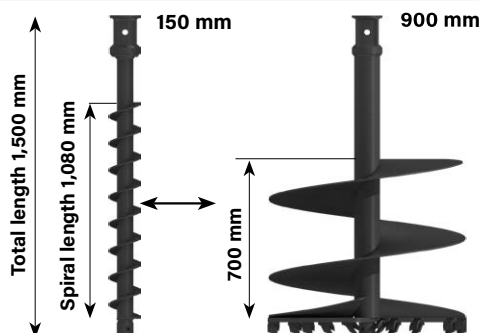
### S5 Augers (specify pilot and teeth when ordering)

Type	Diameter (mm)	Spiral length (mm)	Total length (mm)	Weight (kg)	Number of teeth	Type of teeth
S5-150 Earth				36	0	Earth
S5-150 Tungsten	150	1,080	1,500	35	0	Tungsten
S5-150 Rock				35	2	Rock
S5-200 Earth				41	2	Earth
S5-200 Tungsten	200	977	1,500	40	2	Tungsten
S5-200 Rock				40	3	Rock
S5-225 Earth				45	2	Earth
S5-225 Tungsten	225	975	1,500	44	2	Tungsten
S5-225 Rock				44	4	Rock
S5-250 Earth				46	2	Earth
S5-250 Tungsten	250	965	1,500	46	2	Tungsten
S5-250 Rock				45	4	Rock
S5-300 Earth				51	4	Earth
S5-300 Tungsten	300	900	1,500	51	4	Tungsten
S5-300 Rock				50	5	Rock
S5-350 Earth				56	4	Earth
S5-350 Tungsten	350	900	1,500	56	4	Tungsten
S5-350 Rock				55	6	Rock
S5-400 Earth				62	5	Earth
S5-400 Tungsten	400	875	1,500	61	5	Tungsten
S5-400 Rock				59	7	Rock
S5-450 Earth				66	6	Earth
S5-450 Tungsten	450	750	1,500	66	6	Tungsten
S5-450 Rock				63	8	Rock
S5-500 Earth				73	6	Earth
S5-500 Tungsten	500	750	1,500	73	6	Tungsten
S5-500 Rock				73	6	Rock
S5-600 Earth				84	8	Earth
S5-600 Tungsten	600	750	1,500	84	8	Tungsten
S5-600 Rock				82	11	Rock
S5-700 Earth				99	9	Earth
S5-700 Tungsten	700	700	1,500	99	9	Tungsten
S5-700 Rock				95	13	Rock
S5-750 Earth				101	9	Earth
S5-750 Tungsten	750	700	1,500	101	9	Tungsten
S5-750 Rock				98	14	Rock
S5-800 Earth				109	9	Earth
S5-800 Tungsten	800	700	1,500	109	9	Tungsten
S5-800 Rock				113	15	Rock
S5-900 Earth				137	10	Earth
S5-900 Tungsten	900	700	1,500	137	10	Tungsten
S5-900 Rock				133	17	Rock
S5-1000 Earth				119	11	Earth
S5-1000 Tungsten	1,000	525	1,500	119	11	Tungsten
S5-1000 Rock				133	19	Rock

#### S5 Extension



#### S6 Telescopic extension



#### Note:

All augers mentioned above are equipped with Shock Lock tooth holders. Total length is length including pilot.

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## Notes

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