



Attachments for construction equipment

## TILTROTATOR ROTOBOX XTRATILT



www.hks-partner.com





# QUALITY THAT MAKES THE DIFFERENCE.

BETTER WITHOUT CYLINDER.



For me, the best system on the market.

Ingo M. Aschaffenburg

# GOOD REASONS TO PURCHASE HKS ATTACHMENTS

## Our attachments increase the cost-effectiveness of your excavator

With an attachment by HKS. you can move your attachment tools into many new operating positions. Only the attachment pivots or rotates to position the tool, not your excavator. This prevents site damage and saves fuel.



### Durable quality and reliability are a given!

We manufacture our attachments in our own facility. This way, we maintain control over quality and ensure that you get a durable product. In addition, our attachments are "Made in Germany" with German quality and the greatest precision.



### Good service for your satisfaction

Our service team provides on-site support everywhere in Germany. In addition, we have a global partner network that can help you if you have problems.



### Technically innovative and solution-oriented

The connections between our attachments and your excavators and quick couplers are customized. Each dipperstick connection is produced for optimum kinematics and to ensure the greatest tear strength and breakaway torque.



#### Consistent performance ensures smooth operation

Even after many operating hours, the pivot force remains constant and consistent. Neither adjustments nor lubrication are necessary. Save downtime and costs.



Pivot your attachment tools up to 90° in either direction. This way your tool is always in the correct operating position. The maintenance-free XtraTilt consists of four components, so it is very durable and downtime is the thing of the past.





# **R**ото**B**ох

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The infinite 360° rotation of the RotoBox ensures that you can complete your required tasks in the best way possible. You can always rotate your tool exactly how you need to.

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# **TILTR**OTATOR

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110°	00

The TiltRotator enables you to tilt your attachment  $\pm 55^{\circ}$  (even higher by request) in both directions and rotate endlessly at the same time. Position your attachment, not your excavator. That saves lots of time and fuel.

# SAVE UP TO 40%

Save time and money by working faster and reaching more working positions



# **XTRASENSE**

XtraSense is an innovative assistance system that ensures the optimum use of rotary actuators and tiltrotators by detecting and visualizing their load conditions. It effectively warns of overloads and thus supports the operator in the safe operation of expensive construction machinery. Thanks to the cloud connection, deployment and usage are always transparent. Optimized maintenance management improves sustainability and resource efficiency in the long term.

#### **AT A GLANCE:**

- Assistance system to support the appliance operator
- For all HKS attachments (TiltRotator, RotoBox & XtraTilt)
- MiC4.0-Ready
- Thanks to cloud connection: Remote access via web browser traceability
- GPS positioning evaluation of device usage
- Predictive maintenance function

## **YOUR ADVANTAGES**

#### **1 | REDUCE COSTS:**

Thanks to optimized maintenance management, XtraSense reduces costs for repairs and downtimes of high-quality construction machinery.

### **2 | INCREASE EFFICIENCY:**

The visual display of the load conditions enables more precise operation of the machines, which increases productivity.

**3 | PROMOTING SUSTAINABILITY:** 

Thanks to the improved increase

in resources and efficiency, XtraSense helps companies to operate in a more environmentally friendly way and reduce their ecological footprint.

#### **4 I TRANSPARENT USE:**

The cloud connection enables constant monitoring and analysis of machine performance so that companies can make informed decisions.

### **5 I COMPETITIVE ADVANTAGE:**

Companies that use XtraSense can set themselves apart from the com-

petition with innovative technology and improved security standards.

### 6 | INCREASE CUSTOMER SATISFACTION:

With less downtime and more efficient machine use, XtraSense increases customer satisfaction as orders can be processed faster and more reliably.



## AN APP FOR THE TILT ROTATOR

The app displays the rotating angle and rotation position. This enables more precise bucket positioning. The excavator control system interface can also be selected with the app. In addition, the quick couplers for opening and closing can also be operated.

#### DETAILS

- Rotation position (±1°)
- Suitable for use with any attachment
- Retrofit capability for all RotoBoxes
- Can be integrated into 2D and 3D/ GPS controls
- Saves time because staking the area is no longer necessary
- Digital spirit level

MOBA

and Topcon

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Site PR



# THE HKS SENSOR – 2D AND 3D/GPS-READY

The HKS sensor measures the rotation position of the attachment  $(\pm 1^{\circ})$ and then transmits the exact position data of the TiltRotator, XtraTilt or RotoBox and respective attachment directly to the excavator operator cab. The inclination sensor for the tilting movements made by an XtraTilt has already been integrated by the manufacturers of GPS control systems. However, with the new sensor from HKS you can now also detect the movements of a RotoBox and a TiltRotator for control systems.

## SCREWS INSTEAD OF WELDING

## ADVANTAGES

- Assembly is easier
- No welding required
- Quicker replacement during service
- Shorter downtimes
- Improved fixed dipperstick connection
- Installation dimensions and drilling patterns are nearly identical to the BVC series

Now assembly is even easier. The new BVS is screwed onto the excavator's fixed dipperstick connection instead of the previous welded attachment. This way the BVS can be mounted and dismounted more quickly. When replacing equipment, the surrounding assembly no longer needs to be altered. A rotary actuator that is structurally identical can be used.

This is particularly advantageous with regard to service intervals because the procedure can be performed more quickly now.

The screw connection is reinforced with a key. This method has been applied for many years for rotary actuators used in mining and industry. It guarantees the highest degree of safety and stability.

# **YOUR ADVANTAGES**

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### 1 I NO DANGER OF TEMPERATURE DAMAGE

When welding the dipperstick connection onto the XtraTilt, seals can be damaged by the heat.

### 2 | NO WELDING

The housing of the XtraTilt is not exposed to heat and retains its shape.

### 3 | FASTER AND MORE EFFICIENT ASSEMBLY

Dipperstick connection can be fitted more easily to the XtraTilt. Waiting times for maintenance can be shortened.

### 4 I COMBINATIONS CAN BE BETTER ADAPTED TO THE CARRIER DEVICE

Leasing from the excavator ends and the XtraTilt can be adapted more quickly to the following excavator.

NEW



# WOULD YOU LIKE A LITTLE MORE?

The new TiltRotator with an extended **swivel angle of 140°** enables even more versatile working positions and significantly extends your reach. This means you benefit from greater flexibility and efficiency for complex tasks that require precise positioning. Ideal when things are very tight on the construction site.

# THE NEW TILTROTATOR TR 380 AND THE ROTOBOX RB 380

Designed for excavator classes from 26 to 38 tons. The TR 380 combines robust construction with advanced technology to ensure outstanding performance in demanding applications, and the innovative design of the TR 380 and RB 380 ensures excellent stability and durability, even under heavy loads and in extreme conditions.

In addition, integration into existing excavator systems is made considerably easier thanks to the comprehensive compatibility with various attachments and quick-change systems.

The HKS TiltRotator TR 380 and the RotoBox 380 set new standards for your machines.





Tired of hoses? The new external XtraFlow oil feedthrough on the XtraTilt is now available as an option. Retrofit capability, inexpensive, and maintenance-free - advantages that you only have with an external oil feedthrough. The oil feedthrough is a reliable replacement for your hoses. If you already have an XtraTilt. now you can retrofit it with XtraFlow. This patented solution is adapted perfectly for the XtraTilt and your quick coupler so that the coupler's performance stays the same. And this product, like all the others by HKS, is high quality and durable.

## GRIPPER AVAILABLE AS AN OPTION

Today it is impossible to imagine working without a gripper as an additional tool. No matter if curbstones need to be moved or pipe laid, a gripper increases the tasks you can do at your construction site. As an option at HKS you receive the appropriate gripper for your XtraTilt., RotoBox, or TiltRotator. Slim design, powerful three-claw technology and robust housing ensure durability and productivity on every construction site. The gripper can also be easily retrofitted. This way you can add a gripper to products already in service.



## ENVIRONMENTALLY SOUND WITH ORGANIC LUBRICANT



All of the seals we install are suitable for use with organic lubricants. Check with our customer consultants to see if your organic lubricant is appropriate for use with our standard seals. We would also be happy to adapt the seals for your specific requirements.

# UNDER-WATER APPLI-CATIONS

The HKS TiltRotator is optimally suited for underwater applications. Special seals make this possible.

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## SANDWICH -THE SOLUTION

The HKS sandwich solution enables a TiltRotator to be equipped with a quick coupler instead of a fixed adapter to dipperstick connection, for instance. which means that the excavator driver can use the TiltRotator like a standard attachment. The lower quick coupler is still responsible for the changeover of attachments.

### **1 | FLEET MANAGEMENT.**

The HKS product can be used for your entire fleet.

### **2 | ATTACHMENTS.**

Existing attachments can still be used without the need for conversion. At the same time, all conventional attachments can be combined with the HKS product for all carrier devices.

#### **3 I INDEPENDENCE.**

The carrier device can still be operated by untrained personnel with no TiltRotator/RotoBox/XtraTilt experience.

#### **4 I NO TEAR-OUT FORCE LOSSES.**

The HKS product can be removed if necessary, and the carrier device works at full power upon start-up.

#### **5 I WEIGHT REDUCTION.**

Should the lifting load be too high for the carrier device, the HKS product can be removed for this extreme application.

#### **6 | QUICK COUPLER.**

Both mechanical and fully hydraulic quick-coupler systems can be used and combined. At the same time, it is also possible to use two different systems.

# FLEXIBLY REPLACEABLE

Here are some examples of how the sandwich solution allows you to work flexibly. You can use the right tool for the work at hand, at any time. As a combination with or without HKS products.



**X**TRA**T**ILT

## **TILTROTATOR**

## **R**ото**B**ох



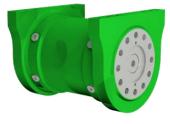






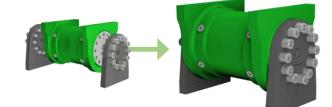


## **Solo version**



## XTRATILT L version

WITH LUNGS: WITH LUGS FOR DIRECT CONNECTION WITH OIL FEEDTHROUGH AS AN OPTION



## ADAPTED TO YOUR NEEDS

Standard isn't our thing – our products are individually designed and assembled for you and your excavator. That means that despite additional attachments (XtraTilt, RotoBox, or TiltRotator), we can provide optimum kinematics for your attachment and greater tear strength and breakaway torque.

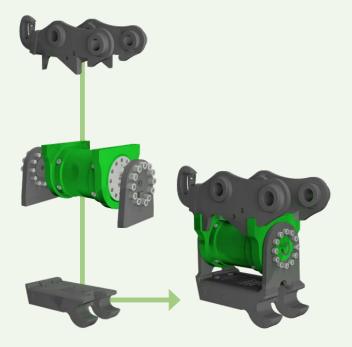
We adapt each K version to your excavator. We design each connection to the excavator based on customer-specific needs. You can also ask us about purpose-built items to suit your requirements.

## **XTRATILT K version**

ADAPTER TO DIPPERSTICK CONNECTION AND QUICK COUPLER

## **XTRATILT K version**

SANDWICH-SOLUTION: WITH QUICK COUPLER ADAPTER AND QUICK COUPLER





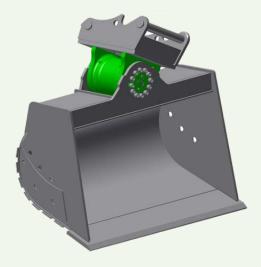
## **XTRATILT S version**

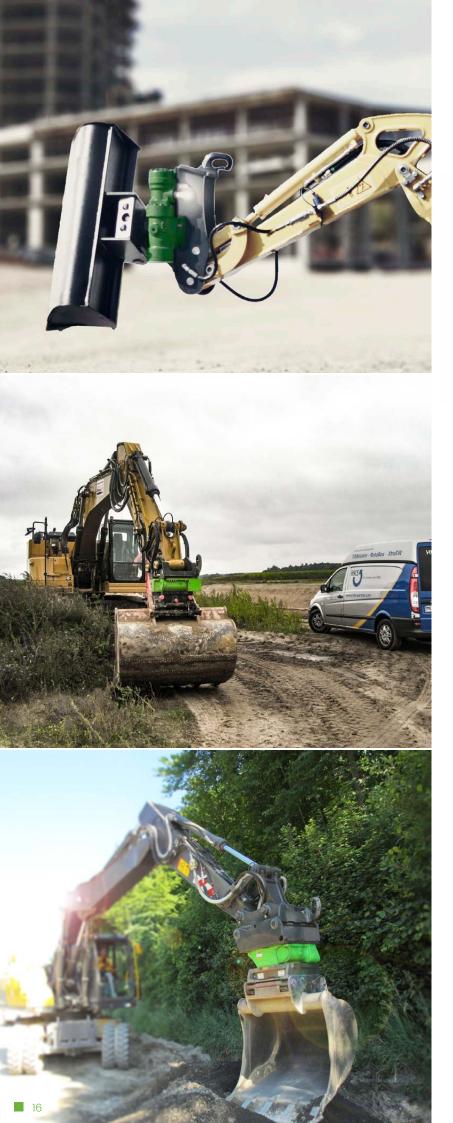
SCREWED ADAPTER TO DIPPERSTICK CONNECTION



## Combination

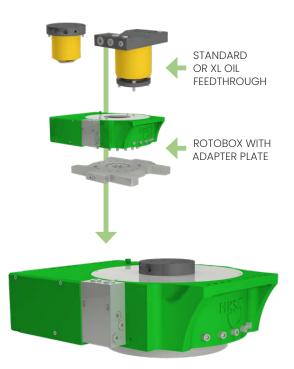
DIRECT ATTACHMENT: FOR CONNECTING DIRECTLY TO THE BUCKET







## RотоBox Solo version

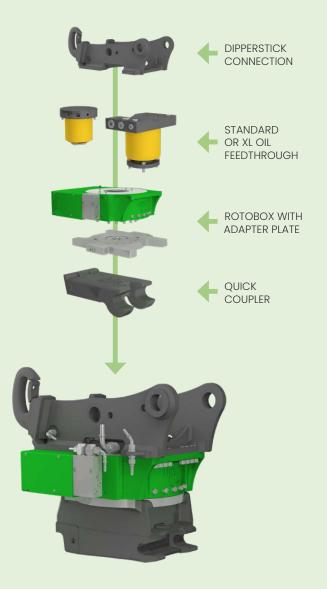


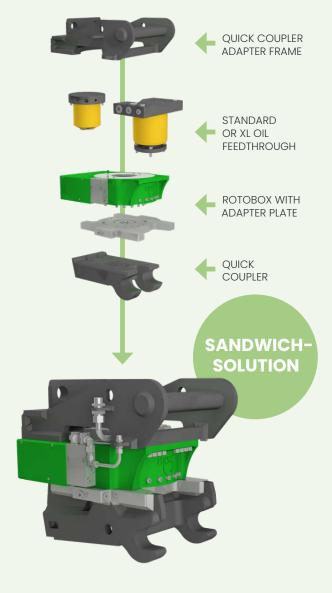
## **RotoBox K version**

ADAPTER TO DIPPERSTICK CONNECTION AND QUICK COUPLER

## **R**ото**B**ох **K** version

SANDWICH-SOLUTION: QUICK COUPLER ADAPTER FRAME ABOVE AND QUICK COUPLER BELOW





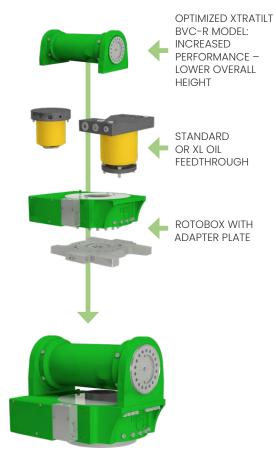








## **Solo version**

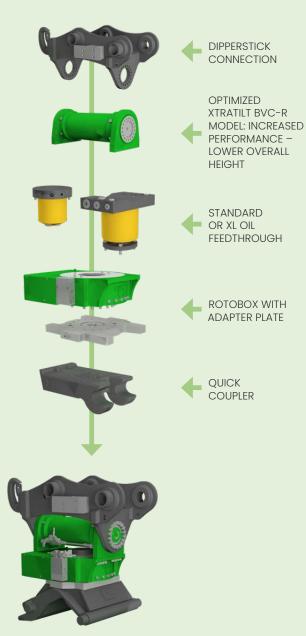


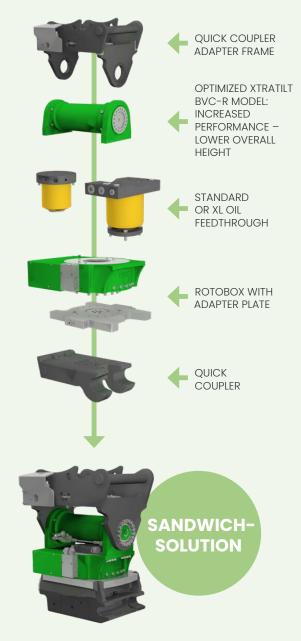
## TILTROTATOR K version

**COMBINATION:** ADAPTER TO DIPPERSTICK CONNECTION AND QUICK COUPLER

## TILTROTATOR K version

SANDWICH-SOLUTION: WITH QUICK COUPLER ADAPTER AND QUICK COUPLER





## **SIMPLY BETTER DIGGING.**

### WHY HKS IS YOUR BEST CHOICE:

Save costs in the long term
Reduce maintenance costs
Significantly less wear and tear
No damaged cylinders



## **ASK ME**

vertrieb@hks-partner.com +49 6053 6163-0



Extend your action radius to 360° with the RotoBox. This enables more flexible operation in a stationary position and additional fields of operation. Hydraulic tools requiring a large amount of oil can also be optimally used with the optional oil feedthrough. Together with our experts in sales you will find the RotoBox that meets the needs of your special applications.

### DETAILS

- Torque of up to 12.000 Nm
- Up to 8 rotations per minute
- Operating pressure of up to 175 bar
- In 8 sizes for a carrier device weight of up to 55 t





### FACTS

- Continuous rotating in both directions
- The **RotoBox** for positioning and holding attachments in place
- Even more freedom of movement thanks to an extended radius of action
- Use of narrower implements possible due to the new, narrower installation width

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## FLEXIBLE AND ROBUST

The current generation of the RotoBox is based on a completely new design. Here we significantly reduced overall height and weight and simultaneously maximized durability. The installation width was also optimized and now narrower and therefore lighter implements can be attached.

The two oil feedthroughs, with a flow rate of up to 500 l/min., ensure even greater flexibility. Depending on the individual case, you can select our standard design to save on weight and fuel or the large oil feedthrough for more powerful performance.

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## PRODUCT ADVANTAGE

### **1 | PRECISE OPERATION:**

exact maintenance of the selected position, thanks to low-backlash gears and precise holding torques.

### **2 | GREAT FLEXIBILITY:**

compatible with all quick couplers and carrier devices and, due to the new installation width, narrower implements can be attached.

### **3 | FASTER OPERATION:**

thanks to an endlessly rotating 360° action radius, your attachments achieve considerably more operating positions. For instance, by rotating the bucket a backhoe bucket can quickly be turned into a face bucket.

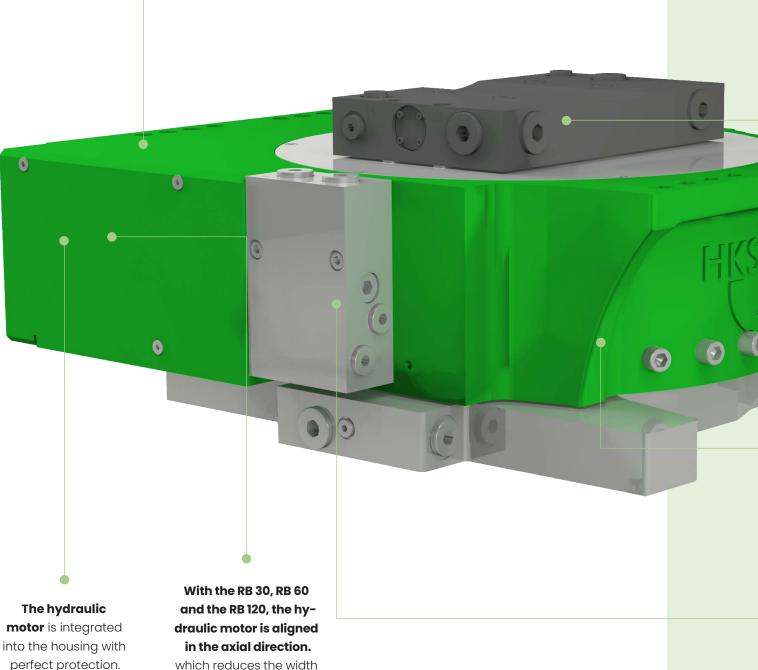
### 4 I LONG SERVICE LIFE:

thanks to high strength steel casting and a worm drive gear running in oil, downtimes are minimized, and a high utilization rate of your machine is guaranteed.

### **5 | COST SAVINGS:**

no additional rotator required for hydraulic tools.

## PRODUCT **ADVANTAGES AT A GLANCE**



perfect protection.

dimension and makes it possible to use even narrower, more cost-effective attachments.

**The housing is made of high strength cast steel.** This reduces weight and ensures durability.

The RotoBox can be equipped with one of two different oil feedthroughs – either to reduce weight (standard) or to achieve more powerful performance (XL). It is also available without oil feedthrough.

**A worm wheel** made of a high strength bronze alloy provides even greater longevity and power.

The modified bearing of the worm wheel has reduced the overall height. This also reduces weight.

The RotoBox series is equipped with flow control and pressure relief valves so reducing the pressure on the excavator hydraulics is no longer necessary!

# **TECHNICAL** DATA **R**ото**B**ох



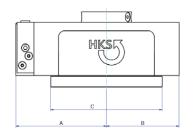


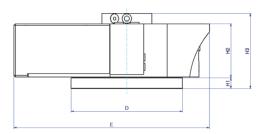
RотоВох	RB 30		RB 60		RB 90			RB 120			
Excavator class (t)	1 - 3.5		3 - 6		5.5 - 9			8 - 12			
Oil feedthrough model	-	Standard	-	Standard	-	Standard		-	Standard	XL	
Flow rate of oil feedthrough system at pressure difference Δp=10bar (HLP 46 30°C)*	-	42	-	52	-	52	130	-	52	130	
Weight of RotoBox excluding rotary feedthrough [kg]	40 and up		78 and up			93 and up			110 and up		
Permitted axial load max. [N]	95.000		100.000		130.000			160.000			
Permitted radial load max [N]	48.000		95.000		110.000			140.000			
Torque @ 175 bar [Nm]		810	1.350		3.000			3.500			
r/min. @ I/min. at max. 175 bar	8 @ 28 I/min.		8 @ 28 I/min. 8 @ 33 I/r		8 @ 33 I/mir	nin. 8 @ 45 l/r		3 @ 45 l/mi	min.		
Recommended max. bucket width [mm]	ا	.200		1.400	1.500		1.700				
Dimensions											
A [mm]		176	200		223		251				
B [mm]		112	145		159		180				
C [mm]		255	290		240		400	2	65	400	
D [mm]	290			275		265	360	2	65	360	
E [mm]	425			481	482			530			
HI [mm]		30		32	30 43		43	30		43	
H2 [mm]		106		129	137			151			
H3 [mm]	146	172	188	198	190	192	205	201	206	231	

Deliveries and services based solely on our Terms and Conditions. Exact values for your specific actuator can be found in the respective technical drawings or operating instructions.



### **TECHNICAL DRAWINGS**







	RB 200		RB 270				RB 380	RB 550	
	11 - 20		19 - 27			26 - 38			32 - 55
-	Standard	XL	-	Standard	XL	-	Standard	XL	
-	52	160	-	52	200	-	Standard	XL	500
	159 and up		260 and up		498 and up			~800	
	210.000		400.000			520.000			850.000
	180.000		250.000			310.000			500.000
	4.700		8.000		12.500			12.000	
	6 @ 45 I/min		6 @ 55 I/min.			6 @ 80 l/min.			5 @ 82 l/min.
	1.800			2.000			2.200		2.600

	268		292			388			355
	215			280			388		300
	330	490	380		600	460		690	880
	330	490	380		500	460		540	600
	580			721			854		320
	32	44	2		56	50		66	400
	165			185			242		400
197	222	251	187	212	290	242	285	310	-

\*) The pressure losses indicated were ascertained in the flow of the rotary feedthrough in one direction. Pressure losses caused by attachments such as screw connections or hoses have not been taken into account. All weights exclude the quick coupler, adapter to dipperstick connection, adapter flange, cover, or screw package.





# THE HKS OIL FEEDTHROUGH

With the extra large HKS oil feedthrough, connected hydraulic tools are supplied with a flow rate of up to 500 l/ min. oil (pressure difference  $\Delta p=10$  bar (HLP 46 30 °C)\*).

Only the HKS oil feedthrough can get the flow rate supplied by your carrier device to your attachment at the lowest pressure difference. This feature enables your tools to operate at full capacity.

Don't make compromises – put your trust in HKS products!

The unique design and special manufacturing process allow for particularly large channels for greater passage and a low efficiency loss rate. The individual flow rates can be flexibly distributed using multiple connectors. The piping can therefore be optimally adjusted and implemented to suit your carrier device.

Available with five lubricant channels (two for quick couplers, two for the implement, one for the leakage oil line) and a power feedthrough. Special solutions with three, six or seven channels or more by request!

### **DETAILS**

- Two sizes available (Standard + XL)
- Five channels at a flow rate of up to 500 l/min.
- Optional power feedthrough
- Operating pressure of up to 350 bar

### FACTS

- Maximum capacity for your hydraulic attachments
- Wear-resistant, high-quality components
- Your attachment has an operating pressure of up to 350 bar
- Up to 500 I/min. flow rate and extremely low pressure differential
- Optimum adjustment to any quick coupler
- Electric feedthrough with up to 12 connections of two amperes each
- Available options for excavator classes of 1–27 t: standard version or extra large (XL) oil feedthrough

Check with our sales department with regard to the hydraulic attachments to be used (milling machines, hammers, or similar equipment).

## STANDARD OIL FEEDTHROUGH

- Weight reduction
- Extremely effective flow rate of up to 52 I/min. and low weight
- Compatible with the new RotoBox
- Available even for mini-excavators starting at 1 t
- Minimal back pressure even with viscous hydraulic oil HLP 46 at 30 °C
- Power feedthrough option
  - (4 + 1 channels)



Oil feedthrough for RotoBox	RB 30	RB 60	RB 90	RB 120	RB 200	RB 270
Excavator class (t)	1 - 3.5	3 - 6	5.5 - 9	8 - 12	11 - 20	19 - 27
Weight [kg]	7.5	13	10.5	10.5	10.5	10.5
Flow rate of oil feedthrough system at pressure difference Δp=10 bar (HLP 46 30 °C)*	42 [l/min]	52 [l/min]				

# LARGE OIL FEEDTHROUGH (XL)

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D-P3	

Oil feedthrough for RотоBox	RB 90	RB 120	RB 200	RB 270	RB 380	RB 550
Excavator class (t)	5.5 - 9	8 - 12	11 - 20	19 - 27	26 - 38	32 - 55
Weight [kg]	22.9	22.9	35.5	57.2	132.5	245
Flow rate of oil feedthrough system at pressure difference Δp=10 bar (HLP 46 30 °C)*	130 [l/min]	130 [l/min]	160 [l/min]	200 [l/min]	240 [l/min]	500 [l/min]

\*) The pressure losses indicated were ascertained in the flow of the rotary feedthrough in one direction. Pressure losses caused by attachments such as screw connections or hoses have not been taken into account.

All weights exclude the adapter flange, cover, or screw package.

WHY HKS IS YOUR BEST CHOICE:

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Save costs in the long term
Reduce maintenance costs
Significantly less wear and tear
No damaged cylinders

YOUR NEW STANDARD -MAINTENANCE-FREE AND WITHOUT CYLINDERS.



### **ASK ME**

vertrieb@hks-partner.com +49 6053 6163-0



# **XTRATILT** 100° 140° 180°

Many years of experience and innovation have made the XtraTilt even more robust, reliable and durable. Thanks to the special deflectors on both sides, dirt is prevented from entering the housing of the XtraTilt range, making it maintenance-free from the day it leaves the factory. This feature considerably reduces maintenance costs. Together with our experts in sales you will find the XtraTilt that meets the needs of your special applications.

### DETAILS

- Standard rotating angles: 100°/140°/180°
- Holding torque of up to 165.000 Nm
- Operating pressure of up to 250 bar
- 33 models for 17 sizes for a carrier device weight of up to 100 t
- Further tilting weights available by request





### FACTS

- Tilt up to 2 x 90°
- The XTRATILT for positioning and holding attachments in place
- An additional movement axis for greater versatility and flexibility

## PRODUCT ADVANTAGES

### 1 I MAINTENANCE-FREE OPERATION:

no need for re-lubrication and readjustment.

### **2 I UNLIMITED FLEXIBILITY:**

compatible with all quick couplers and carrier devices.

### **3 I LESS MATERIAL EXCAVATION:**

narrower attachment tools can be used, considerably

### **4 I MORE PRECISE OPERATION:**

reducing the working width.

high holding torques and precise manufacture ensure the exact maintenance of the selected position.

### 5 I CONSTANT TORQUE/HOLDING TORQUE:

regardless of the operating angle.

### **6 | DURABILITY:**

protection against wear, tear and rust thanks to special manufacturing, annealing and hardening processes which give the robust welded housings the utmost accuracy of shape.

#### 7 | MADE IN GERMANY:

Over 20 years of experience in design and production of the highest quality - Made in Germany.

### **PRODUCT TYPES**





## **BVC** 1–11t

• Tilt angle 2x90° (180°)

## BVC 2.0 1-12t

- Rotating angle: (180°)
- Lower weight and greater torque
- Installation dimensions and drilling patterns are nearly unchanged





## **BVD** 1-16t

#### COMPARED TO THE BVC AT THE SAME OUTPUT:

- Lower space requirement
- Ideal fit for all commercially available quick couplers
- Regardless of the excavator hydraulics, thanks to directly connected load-holding valve
- Only available with a tilt angle of 180°



$\bigcup$	$\overline{\mathbf{U}}$
100°	140°

## **BVE** 10–100t

- Operating pressure of up to 250 bar
- Designed for biologically degradable media (dual seals)
- Reinforced shaft

## THE RIGHT CHOICE FOR HARSH EVERYDAY CONDITIONS

The compact **four-part constructi-on** made from high-quality materials and its high-precision manufacturing make the XtraTilt the most robust ro-tary actuator in its class.

Shaft with mounting flange and friction bearings all in one

Ultimate precision manufacture of paired interleaving

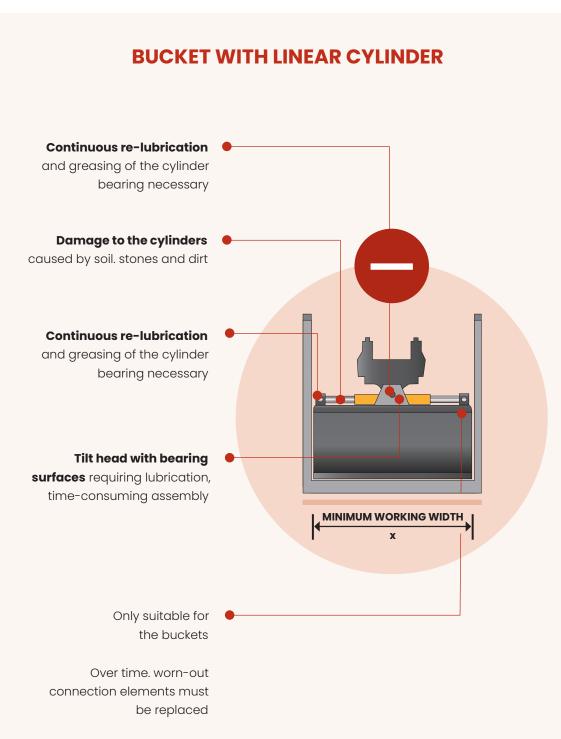
Surface-hardened piston with guiding element

Actuator centering on both sides for optimum power distribution

### End flange with friction bearings.

fastening thread and special deflector on both sides – BVC 2.0 with enclosed wiper

Surface-hardened and corrosion-resistant housing with screw or weld-type fastening on the feet



# THE DIFFERENCES ARE IN THE DETAILS





# TECHNICAL DATA XTRATILT



	XtraTilt Size 85		85 100			115		125*		130			160			200				
	Excavator class (t)	< ]	< 1.8 1.6 - 2		8 - 2.	5	2.3 - 4.2		.2	4	- 6.2	2	6	- 7.5	ō	7.	3 - 1	0	9.8	- 12
C 2.0 series	XTRATILT BV series	U	S	C 2.0	Δ	S	2.0	Δ	S	2.0	D	S	2.0	Δ	S	C 2.0	Δ	S	2.0	S
S series				0			0			0			0			0			O	
	Holding torque [Nm]	2.000	2.000	2.100	2.400	2.100	4.300	4.300	4.300	6.000	8.200	6.000	11.000	11.000	11.000	17.500	17.500	17.500	24.000	24.000
	Working pressure [bar]	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
	Tilt angle		180°	180°	178°	180°	180°	178°	180°	180°	178°	180°	180°	178°	180°	180°	178°	180°	180°	180°
	Displacement [dm³]	0,238	0,238	0,323	0,296	0,323	0,513	0,527	0,513	0,693	0,84	0,693	1,045	1,06	1,045	2,064	1,91	2,064	2,284	2,284
	Weight [kg]	16,8	17	20	26	21	49	42	49	59	60	59	68	85	69	102	114	105	142	142
	A [mm]		170	150	190	170	220	220	215	220	224	240	270	300	270	300	290	320	382	330
	B [mm]	152	176	152	179	176	187	192	207	212	232	210	227	266	227	266	273	287	310	315
	C [mm]	194	197	245	205	245	344	275	344	345	275	345	345	275	345	383	360	383	400	400

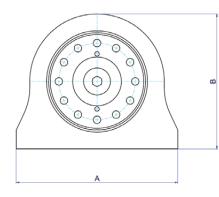
#### Sizes BVC 140, 180 and BVC 225 by request.

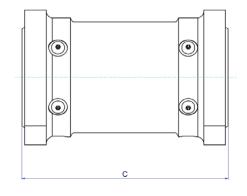
\*) Manufactured by request

Previous models (BVC) in inventory and the corresponding rotating angles that have been replaced by the new BVC 2.0 are available by request.



## **TECHNICAL DRAWINGS**





XtraTilt Size	240	250	260	270	290	300	350	400*	420*	450*
Excavator class (t)	11 - 16	15 - 23	22 - 26	25 - 29	28 - 34	28 - 38	37-50	48-60	58-70	68-100
XTRATILT BV series	E	E	E	E	E	E	E	E	E	E
Holding torque [Nm]	34.000	40.000	43.000	54.000	80.000	000.06	100.000			
Working pressure [bar]	250	250	250	250	250	250	250	_		
Tilt angle	100° 140° 180°	100° 140°	100° 140°	100° 140°	100° 140°	100° 140°	100°			
Displacement [dm³]	1,851 2,591 3,331	1,777 2,486	3,29 3,519	3,765 4,115	4,239 6,01	5,742 6,277	7,969	By request	By request	By request
Weight [kg]	166 186 206	202 236	269 301	334 374	365 422	555 622	696	By	By	By
A [mm]	390	412	450	492	490 492	570	608			
B [mm]	328	353	380	400	400 400	478	515			
C [mm]	354 412 470	368 430	420 482	460 534	534 642	540 612	565			

Further sizes and tilt angles available by request vertrieb@hks-partner.com All weights exclude quick coupler and adapter to dipperstick connection.

Deliveries and services based solely on our Terms and Conditions. Exact values for your specific actuator can be found in the respective technical drawings or operating instructions.

# GET THE MAXIMUM OUT OF YOUR MACHINE - IN ANY SITUATION!

### WHY HKS IS YOUR BEST CHOICE:

Save costs in the long term
Reduce maintenance costs
Significantly less wear and tear
No damaged cylinders



vertrieb@hks-partner.com +49 6053 6163-0

# 

The TiltRotator enables you to tilt your attachment  $\pm 55^{\circ}$  (even higher by request) in both directions and rotate endlessly at the same time. These two functions provide three-dimensional positioning easily and accurately, increasing your efficiency and productivity.

With its compact and robust tilt unit, the TiltRotator is an incomparable alternative to conventional wider cylinder variants, which are prone to faults. An optimized XtraTilt with extended torque and reduced overall height is used for the TiltRotator.

#### DETAILS

- Standard tilt angle of 2 x 55° (even higher by request)
- Holding torque of up to 90.000 Nm
- Torque of up to 43.000 Nm
- In 10 models for a carrier device weight of up to 55 t
- Up to 8 rotations per minute
- Modular system design

The HKS TiltRotator enables precise handling on track construction sites, ideal for twoway excavators. With the HKS TiltRotator, you increase the radius of action and minimize the need to move the machine.



### FACTS

- 2 x 55° simultaneous tilting and endless rotation
- This solution for attachments allows them to be positioned and held in place in the machine's operating area
- More efficient machine utilization rate and related cost reduction with the **TILTROTATOR**

# LOWER CONSUMPTION – GREATER PERFORMANCE





INDISPENSABLE FOR GARDENING AND LANDSCAPING. DRAINAGE CHAN-NEL CONSTRUC-TION AND CIVIL ENGINEERING!

# YOUR ADVANTAGES

Optimized working width makes it possible to attach narrower and

lighter implements, which reduces

Extended radius of action in a

Quick coupler accommodates

implements from any standing

position of the carrier device

Increases the mobility of your

attachments, optimizes their range

stationary position

Larger tilt angle

of operation

weight and makes excavation more

**1 | MORE EFFICIENT** 

precise

**MACHINE UTILIZATION RATE:** 

2 I REDUCES CONSTRUCTION SITE COSTS:

- Less readjustment of the vehicles saves time and fuel, reduces wear and tear to the machine
- Fewer maintenance requirements and less lubrication reduce downtimes
- Increased machine utilization rates of up to 40% shorten the amortization period
- Easy retrofitting of existing machinery thanks to compatibility with all quick couplers and carrier devices
- Maximum accessibility and precise maintenance of the selected operating positions
- More orders can be completed during the same amount of time

#### 42

INCREASED MACHINE UTILIZATION RATE OF UP TO 40%

0

**Protected** and **robust** housing.

Optional interface for HKS XtraSense (load sensor)

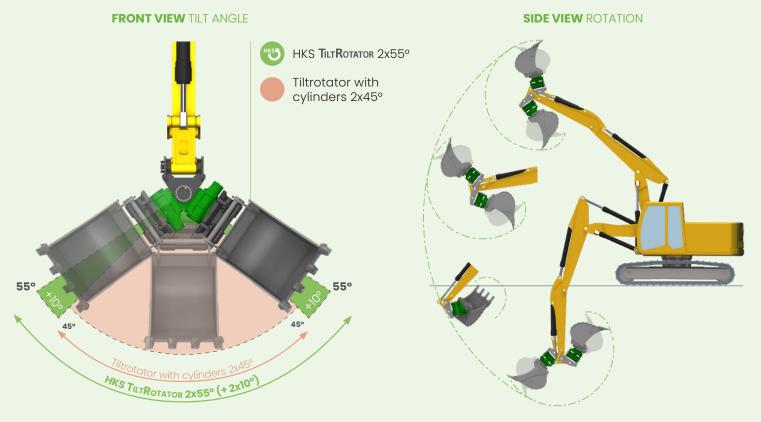
> **XtraTilt instead of cylinders,** maintenance-free and extremely durable.

**WUITT** 

**Optional interface** for 3D/GPS and 2D systems (HKS sensor) and HKS XtraSense (load sensor)

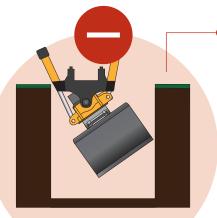
# THE DIFFERENCE IS CRUCIAL

### **ACCESSIBILITY OF OPERATING POSITIONS**





# **CONVENTIONAL MODELS**

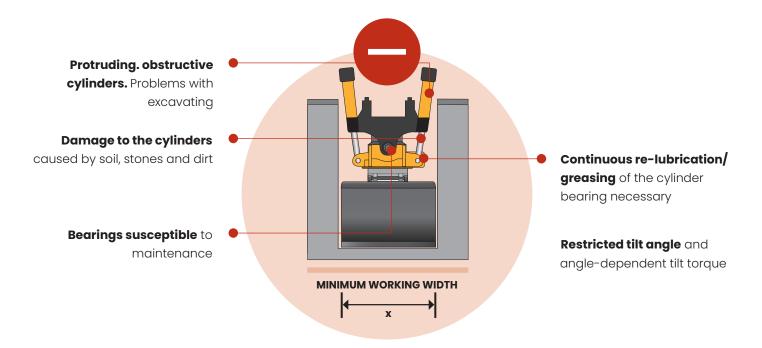


During a tilting or pivoting movement, the excavator operator cannot see the protruding cylinder when the machine is lowered into the recess and cannot know if the cylinder is scraping up against the wall. The cylinder version is irritating!

Without a cylinder there are no difficulties during a lowering operation. The excavator operator can concentrate fully on the work that needs to be done.



### **CONVENTIONAL MODELS**



# TECHNICAL DATA TILTROTATOR

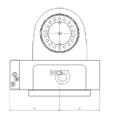


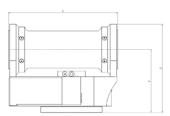
											0		
TiltRotator	TR	TR 20		TR 35		TR 60		TR 90			TR 120		
Excavator (t)	2.0 -	- 2.5	2.4 - 3.5		3 - 6		5.5 - 9			8 - 12			
Oil feedthrough model	- S	tandard	- 9	- Standard		- Standard		- Standard		- S	tandard	XL	
Flow rate of oil feedthrough system at pressure difference Δp=10bar (HLP 46 30°C)* [I/min]	-	42	-	42	-	52	-	52	130	-	52	130	
Designated RotoBox	RB	30	RB	30	RE	8 60	RB 90				RB 120		
Weight of RotoBox excluding rotary feedthrough [kg]	40 ar	nd up	40 ai	40 and up		78 and up		93 and up			110 and up		
Permitted axial load max. [N]	95.0	000	95.	95.000		100.000		130.000			160.000		
Permitted radial load max. [N]	48.0	000	48.000		95.000		110.000			140.000			
Torque @ 175 bar [Nm]	810		810		1.350		3.000			3.500			
r/min. @ I/min. at max. 175 bar	8 @ 28 l/min.		8 @ 28	3 I/min.	8@2	8 I/min.	8	@ 33 I/mi	n.	8 @ 45 l/min.			
Recom. max. bucket width [mm]	1.100		1.200		1.400		1.500			1.600			
Designated BVC-R	BVC-R 90		BVC-R 100		BVC-R 110		BVC-R 130			BVC-R 140			
Tilt angle	11	0°	110°		110°		110°			110°			
Amount of oil required per 6 sec. tilt time	3 l/ı	min.	5 I/min.		7 I/min.		13 I/min.			21 I/min.			
Displacement [dm³]	0.2	88	0.413		0.63		1.3			2.03			
Torque @ 210 bar [Nm]	1.7	00	2.600		3.500		7.400				10.000		
Holding torque @ 210 bar [Nm]	5.0	00	7.5	500	11.	000		17.500			22.000		
Weight [kg]	2	7	3	5	!	58		75			99		
Dimensions													
A [mm]	17	6	17	76	2	00		223			251		
B [mm]	11	2	1	12	1	45		159			180		
F [mm]	193	223	198	228	222	254	249	279	292	266	296	309	
G [mm]	263	293	273	303	307	339	355	385	398	378	408	421	
L [mm]	3(	וכ	3	53	4	84	480			540			
Total weight of TR excluding rotary oil feedthrough [kg]	67 and up	89 and up	75 and up	97 and up	135 and up	171 and up	180 and up	193 and up	230 and up	209 and up	240 and up	280 and up	

Deliveries and services based solely on our Terms and Conditions.

Exact values for your specific actuator can be found in the respective technical drawings or operating instructions.

## **TECHNICAL DRAWINGS**













	TR 150		TR 200				TR 270		TR 380			TR 550	
	11 - 15	,		14 - 20			19 - 27			32 - 55			
-	Standard	XL	-	Standard	XL	-	Standard	XL	-	Standard	XL		
-	52	160	-	52	160	-	52	200	-	-	240	500	
	RB 200	)		RB 200			RB 270			RB 380			
	159 and	up		159 and up			260 and up			498 and up			
	210.000	)		210.000			400.000		520.000			lest	
	180.000	)		180.000			250.000		310.000			By request	
	4.700	4.700 4.700				8.000							
	6 @ 45 l/r	I/min. 6 @ 45 I/min.				6 @ 551/min.							
	1.700			1.800			2.000						

BVC-R 140	) (more powe	rful version)	E	BVC-R 160			BVC-R 200		В			
	110°			110°			110°					
	21 I/min.			26 I/min.			44 I/min.		68 I/min.			uest
	2.08			2.53			4.32		6.72			By request
	10.500			15.000			21.000		38.000			B
	28.000			38.000			52.000		90.000			
	122		145			204			358			
	268		268				292		388			
	215			215		280		388				
296	328	340	305	337	349	333	335	391	432	480	505	lest
415	447	459	441	473	485	476	478	534	602	650	675	By request
	585		585			726			818			By
281 and up	319 and up	390 and up	304 and up	342 and up	410 and up	464 and up	518 and up	654 and up	856 and up	898 and up	1160 and up	

\*) The pressure losses indicated were ascertained in the flow of the rotary feedthrough in one direction. Pressure losses cau-sed by attachments such as screw connections or hoses have not been taken into account. All weights exclude the quick coupler, adapter to dipperstick connection, adapter flange, cover, or screw package.

# SERVICE

You can always be sure that you will get a high quality HKS product. Likewise our goal is to succeed in providing the range of functions for daily use.

If you need on-site support once in a while, our service team is glad to provide quick and personal assistance. We offer this service everywhere in Germany.

Because each product is designed and manufactured especially for you we know exactly which parts were installed. For this reason if you need details regarding one of our products we can help you and replace parts quickly. Our sales and service teams are glad to consult with you on-site as well.

You can take advantage of these maintenance services during the winter months, for example. We offer complete maintenance and wear part replacement at our location so that nothing gets in your way during your everyday work.

It is very important to us that you are satisfied with our products.

Get to know our expert team!



service@hks-partner.com +49 6053 6163-619

### FOLLOW US AND FIND OUT MORE





# MANY YEARS OF EXPERIENCE – SATISFIED CUSTOMERS



#### HPM GMBH - GOSLAR

Mr. Winter. a machinist at HPM According to Straßen- und Tiefbau GmbH. "The clear advantage is that HKS products without cylinders make our work a great deal easier. We installed a TR-K 60 and the reason we did it was not only its great flexibility. but also because the TiltRotator makes maintenance-free work possible."

#### SCHUBERT BAUMASCHINEN -BAD ORB

Robin Schubert says that, thanks to the TiltRotators from HKS, we work significantly more flexibly and efficiently. Without having to constantly reposition the excavator, we save time and considerably reduce the workload.





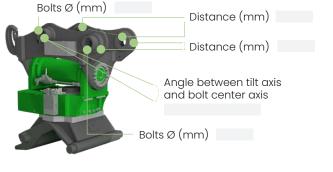
# ENQUIRY CODE/ORDER CODE

When making an enquiry, please quote the order code by e-mail.

YOUR DATA:	Company:	Phone:
	Name:	Fax:
	Road:	E-mail:
	Town/place:	Internet: www.

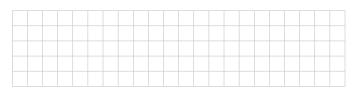


CONNECTION



Operating material (hydraulic medium)

**REMARKS:** 



### DETAILS ABOUT HYDRAULIC EXCAVATOR/CARRIER MACHINE

Manufacturer:											
Model:											
Year of manufacture:		Load class:									
Serial number:											
Voltage:	□ 12V	□ 24V									
No. of free hydraulic cire	cuits on sl	naft:									
Grab turning circle		ortional		k/white							
Hammer shear circle		ortional		k/white							
2. Grab turning circle	🗆 prop	proportional black/white									
Hammer line present? Hammer valve present:	🗆 yes	🗌 no									
mechanical with ball		can be s	witched	electrically							
Leak oil line?	🗆 yes,	installed:									
	□ left	🗆 right		🗆 no							
Quick coupler hydraulic : Currently installed mod Sandwich solution requir	el of quicl	coupler	,	s 🗌 no							
		,									
Second model of quick of mechanical hyd	<b>coupler:</b> raulic	🗆 fully I	nydraulic	2							
Application inform	ation:										
Are hydraulic attachme											
🗆 yes 🗌 no 🛛 lf so, w	hich ones	?									

Limited warranty for hammer/milling insert – please check with the sales department.

How many hydraulic circuits do you need for the tool?

1 Hydraulic circuit
2 Hydraulic circuit



# HKS – WE TURN **THE WORLD**

As the cornerstone for today's HKS Dreh-Antriebe GmbH is laid, we are breaking new ground on the mechanical engineering market. Since 1970, in the area of hydraulic, pneumatic and mechanical components and systems, there has been just one name that you can trust without question: HKS is your specialist when it comes to unsurpassed quality, safety, and performance.

The founders' focus has remained unchanged: finding a customer-specific

solution for rotating and tilting masses. For over 50 years, HKS Dreh-Antriebe GmbH has been developing, designing, producing, and selling hydraulic and compact pneumatic drives for rotating and tilting masses that are accelerated, braked, precisely positioned and held for customers in a wide variety of industrial sectors.

We develop robust drives especially for contractors and manufacturers of construction equipment and at-

#### tachments that are suitable for use in harshest application conditions.

Every rotary actuator is developed. produced. and assembled in our facility. With our highly advanced CNC machines as well as conventional machines. a blank is made into a high quality, durable rotary actuator. Our manufacturing is done entirely in-house. We purchase only a few individual components such as sealing rings from external partners.

We are convinced that the quality of our rotary actuators, which is acknowledged worldwide, can only be produced if we manufacture and assemble in-house.

In a visit to our production facilities, you can see for yourself that Made in Germany quality is what we actually produce every day. We would be happy to explain our development process, all the way from design to after-sales service.



**LEIPZIGER STRASSE 53-55** 63607 WÄCHTERSBACH / AUFENAU 63607 WÄCHTERSBACH / AUFENAU

#### **OUR LOCATIONS**



IN DEN PFLANZENLÄNDERN 9-11



BÖNNIGHEIMER RING 23 **01904 NEUKIRCH / LAUSITZ** 



MADE J IN J GERMANY J

YOUR PARTNER

Illustrations similar. Subject to printing errors, changes and mistakes. Status: 04/2025

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