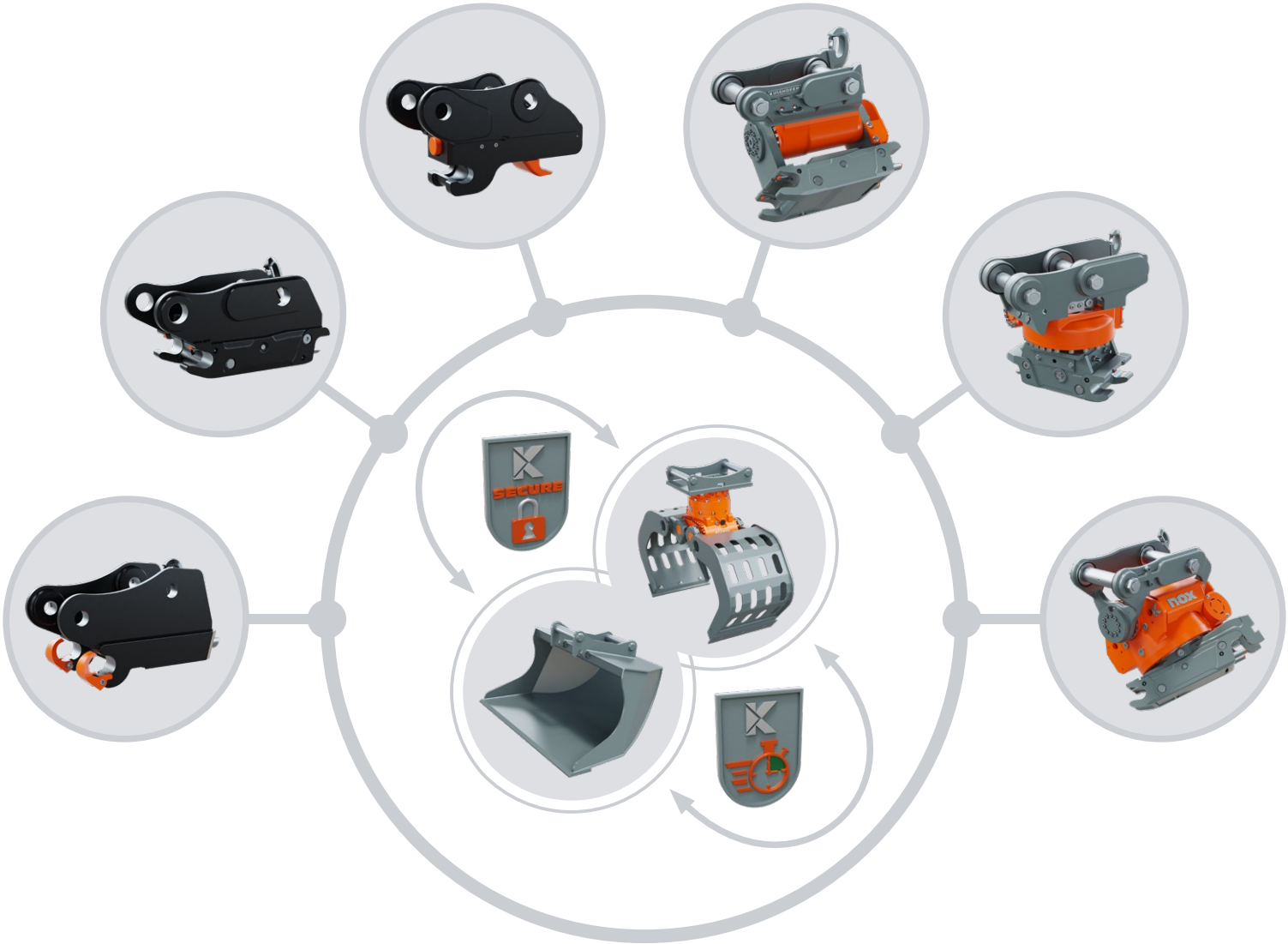
2024-V1

KINSHOFER GROUP COMPANY

KINSHOFER crane and excavator attachments

Quick Coupling Systems

Standard & Flexibility



QUICK COUPLER SYSTEMS - STANDARD

L-LOCK SYSTEM

The L-Lock System was designed to be fully compatible with the known and nationally adopted Lehnhoff adapters.
For maximum reliability, all contact surfaces of the L-Lock quick couplers are machined and therefore lock safely and without unwanted play or movement. The drop stop claws increase the work safety of the hydraulic L-Lock quick couplers during the coupling process.

S-LOCK SYSTEM

The S-Lock System was designed to be fully compatible with the internationally adopted S-Standard adapters. In addition to a specially engineered, centrally located locking mechanism, the S-Lock coupler features a second locking mechanism at the front pin, providing a twin lock system for maximum safety.

D-LOCK SYSTEM

The D-Lock System is designed to be compatible with most of the pin-to-pin adapters or the original machine specifics. For maximum security the system not only has a hydraulic main locking system but also an additional mechanic locking for rear and front pin. Therefore the D-Lock System is one of the world's safest quick coupling systems.

QUICK COUPLER SYSTEMS - FLEXIBILITY

TILT COUPLERS

The Kinshofer TC tilt coupler enables a tilt angle of up to 180°, increasing the flexibility and efficiency of all your attachments enormously. The tilt couplers provide a highly compact design, featuring minimal height and low weight.
An elliptical piston generates a high and constant tilt torque using single gearing. The upper suspension is bolted onto the rotary actuator and therefore provides maximum flexilbility.

ROTARY COUPLERS

The compact RC rotary coupler increases your freedom of movement across the entire working area of the excavator.
Every attachment without own rotation drive can be rotated endlessly through 360° with our rotary couplers, which makes work easier and more precise and saves manual work steps.
Only one rotation unit for many attachments.

TILTROTATORS

360° endless rotation and a tilt angle of up to 2 x 50° make the NOX tiltrotator a universal joint that enables a wide range of new application possibilities. Combined with a quick coupler system and various attachments, this means maximum efficiency on any construction site.

Functional exchange, depending on the task!

With our quick coupler solutions, we generally differ between two types of quick couplers:

SPECIFIC QUICK COUPLERS

With the excavator specific suspension and its compatibel adapter, a universal interface is created that converts the excavator into a versatile tool carrier. The L-Lock and S-Lock Systems can be defined by the following features:

- Fully compatible with the original quick coupler systems or standards.
- Safe mechanic or hydraulic locking options available.
- Use of robust and durable cast housings.
- Fully complies with all applicable national and international standards and regulations including machine guideline 2006/42/EG, DIN EN 474-1, DIN EN 474-5, ISO13031 und SUVA.

MULTI-FUNCTIONAL QUICK COUPLERS

With the multi-functional locking system you create a universal connection, that is able to pick up and securely lock different excavator specific suspensions and therefore converts every carrier into a multi-functional machine.
Our D-Lock System:

- Dual pin lock, front and rear pin are secured.
- Picks up attachments with different pin distances and diameters.
- Safety system does not rely on gravity.
- Fully complies with all applicable national and international standards and regulations including machine guideline 2006/42/EG, DIN EN 474-1, DIN EN 474-5, ISO13031 und SUVA.

System L-Lock

FUNCTION:

HYDRAULIC LOCKING SYSTEM

The hydraulic quick coupler enables efficient and safe attachment mounting without the need to manually adjust the coupler itself. The conical locking pins provide a tight, accurate fit without any unwanted movement or play.

MECHANICAL LOCKING SYSTEM

An automatic spring-locking system makes picking up attachments much easier. A simple socket wrench is used to lock and unlock as required. The conical locking pins provide for a force-fit and playfree connection.

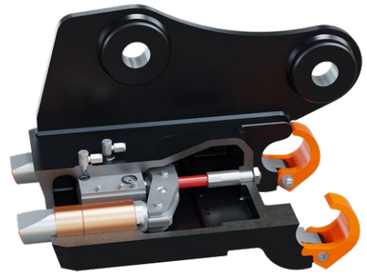
LOCKING:

HYDRAULIC LOCKING MECHANISM

KHS01L to KHS03L / KHS01L+ to KHS03L+ :
Mechanical locking via spring force; hydraulic unlocking via single-acting hydraulic cylinder.
KHS03L-HD to KHS25L / KHS03L HD+ to KHS25L+ :
Hydraulic locking / unlocking via double-acting hydraulic cylinder with check valve.

MECHANICAL LOCKING MECHANISM

KMS01L to KMS03L: Easy and safe locking via socket wrench.
KMS08L to KMS25L: Fast, easy and safe locking via socket wrench.
Long life cycle because of permanent engagement force by spring.



STRUCTURE:

ROBUST CAST IRON BODY

The excavator specific suspension is welded onto the robust cast iron body. Afterwards all contact surfaces are mechanically machined. A load hook is optionally available.

SAFETY:

HYDRAULIC QUICK COUPLER

The drop stop (extended quick coupler claws) prevents the attachment from falling down if the quick coupler is accidentally not locking properly. The KHS-Control shows the respective state and manages the locking and unlocking.

LOCK INDICATOR KHS+

To increase safety even further, the KHS+ versions are additionally equipped with a special indicator system that reliably shows proper locking (lock indicator or sensors, depending on size).

MECHANICAL QUICK COUPLER

KMS01L to KMS03L: Self-locking mechanism inside a sealed body.
KMS03L to KMS25L: High functional reliability, spring-force system locks over center.

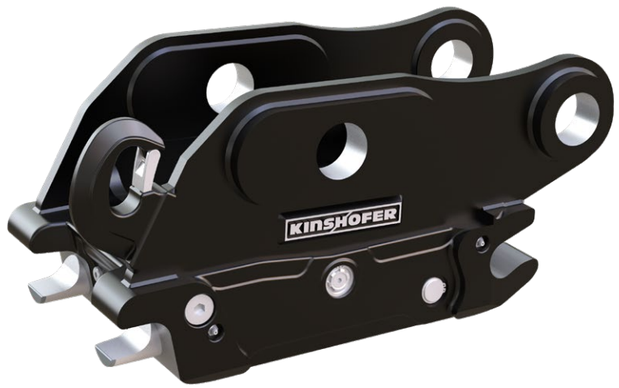
QUICK COUPLER *STANDARD*

Hydraulic: **KHS-L & KHS-L+**
Mechanical: **KMS-L**

Type	Tonnage
KHS01L & KHS01L+ KMS01L	0.5 - 2t
KHS03L & KHS03L+ KMS03L	1.5 - 5.5t
KHS03L HD & KHS03L HD+ KMS03L	4.8 - 6.5t
KHS08L & KHS08L+ KMS08L	6 - 12t
KHS10L & KHS10L+ KMS10L	10 - 19t
KHS21L & KHS21L+ KMS21L	19 - 28t
KHS25L & KHS25L+ KMS25L	26 - 34t

The suitable KHS-Control provides more safety and precision

System S-Lock



FUNCTION:

HYDRAULIC LOCKING SYSTEM

The hydraulic quick coupler enables efficient and safe attachment mounting without the need to manually adjust the coupler itself. The spring loaded locking pins provide a tight, accurate fit without any unwanted movement or play.

MECHANICAL LOCKING SYSTEM

An automatic spring-locking system makes the picking up of the attachment easier. A simple socket wrench is used to lock and unlock as requiredc. The conical locking pins take care of a force-fit and playfree connection.

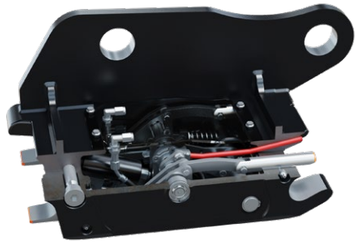
LOCKING:

HYDRAULIC LOCKING MECHANISM

Hydraulic locking and unlocking via double-acting hydraulic cylinder, that locks with a special locking system over dead center. Permanent mechanical locking caused by spring force.

MECHANICAL LOCKING MECHANISM

Fast, easy and safe locking via socket wrench.
Long life cycle thanks to a spring generated force providing a permanent engagement.



STRUCTURE:

ROBUST CAST IRON BODY

The excavator specific suspension is welded onto the robust cast iron body. Afterwards all contact surfaces are mechanically machined. A load hook is optionally available.

SAFETY:

HYDRAULIC QUICK COUPLER

Besides the special locking system, the additional front pin is secured mechanically, preventing accidental release of the attachment.

MECHANICAL QUICK COUPLER

High functional reliability, spring-force system locks over center. Besides the special locking system, the front pin is additionally secured mechanically. The attachment cannot fall down.

QUICK COUPLER *STANDARD*

Hydraulic: **KHS-S**
Mechanical: **KMS-S**

Type	Tonnage
KHS30S-150 & KHS30S-180 KMS30S-150 & KMS30S-180	0.5 - 2t
KHS40S KMS40S	2 - 6t
KHS45S KMS45S	6 - 11t
KHS50S KMS50S	6 - 11t
KHS60S KMS60S	10 - 18t
KHS70S KMS70S	18 - 30t

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System D-Lock

FUNCTION:

HYDRAULIC LOCKING SYSTEM

The hydraulic quick coupler enables an efficient and safe mounting of the attachments without manual work at the coupler itself - allowing attachments with variable pin distances and diameters to be picked up.

STRUCTURE:

ROBUST CAST IRON HOUSING

The excavator specific suspension is welded onto the robust cast iron body. Afterwards all contact surfaces are mechanically machined. Load hook or lifting eye are optionally available.

SAFETY:

ADDITIONAL LOCKING AT FRONT PIN

The front pin is automatically locked by the moving cylinder. If the cylinder fails for any reason, the locking paws click into the slots on either side of the sliding jaw. Multi-slots provide for a wide pin center range.

LOCKING:

HYDRAULIC LOCKING MECHANISM

Hydraulic locking and unlocking via double-acting hydraulic cylinder, that moves a sliding jaw. Because of the long stroke of the cylinder, different pin distances can be locked in a safe and force-locked way.

QUICK COUPLER *STANDARD*

Hydraulic: **KHM-D**

Type	Tonnage
KHM10-D	1 - 1.6t
KHM20-D	1.7 - 2.5t
KHM30-D	2.6 - 3.5t
KHM50-D	4 - 5.5t
KHM80-D	5.6 - 8t
KHM140-D	12 - 14t
KHM190-D	15 - 19t
KHM230-D	19 - 24t
KHM280-D	25 - 29t
KHM350-D	30 - 35t
KHM450-D	36 - 45t

Adaptations

FUNCTION:

SAFE CHANGES BETWEEN ATTACHMENTS

Changing between the required tools must be quick and safe. This reduces the time and risk it takes to change attachments to a minimum and other work can be done in the time saved.

QUICK CHANGE ADAPTATIONS:

COMPATIBLE ADAPTATIONS FOR YOUR REQUIREMENTS

All attachments can be supplied with the compatible L-Lock, S-Lock or D-Lock adaptors. To ensure compatibility with your existing systems, Kinshofer also offers adaptations for all common quick change systems.

QUICK COUPLER *ADAPTATIONS*

As a global company we know that customers of different regions become familiar with certain styles and characteristics of products, including quick couplers.

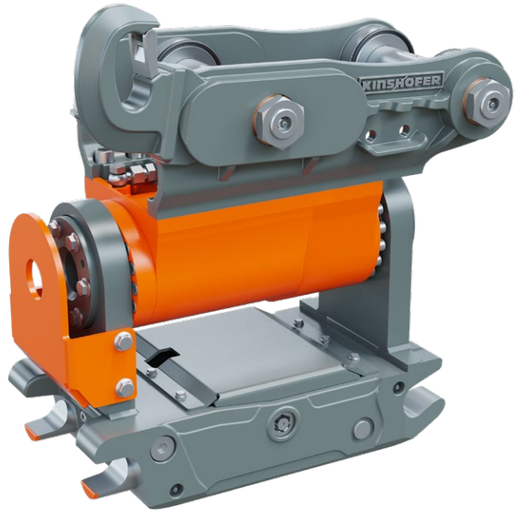
We constantly improve our designs for higher productivity and and greater safety and we also understand, that customers may already own existing products which require a compatible coupler solution, allowing for their continued use.

Tilt Couplers

FUNCTION:

PATENTED ROTARY ACTUATOR

The elliptical piston of the TC tilt coupler is moved horizontally with hydraulic pressure and uses single gearing to generate a constantly high tilt torque, which means that the quick coupler is tilted sideways. Of course all rotary couplers can be equipped with the Kinshofer quick couplers: L-Lock, S-Lock and D-Lock. Other quick coupling systems are also available.



SERVICE:

LOW-MAINTENANCE

The rotary actuator is completely sealed. All components run in a permanent oil bath, providing for low-maintenance operation. The robust housing guarantees a long service life.

STRUCTURE:

COMPACT DESIGN

The tilt couplers provide a highly compact design, featuring minimal height and low weight. The upper suspension is bolted onto the rotary actuator and therefore provides maximum flexilbility. There are no protruding components.

SAFETY:

SAFE WORKING ENVIRONMENT

Repositioning the excavator is significantly reduced due to the increased working radius and minimizes manual work in the danger zone to a minimum. The additional safety components of the quick coupler prevent the attachment from falling when changing tools. A counter-balance valve mounted to the motor retains a secure position for the tilt coupler across the angle. A respective RSV-Kit (non-return valve set) is optionally available.

THE TC TILT COUPLER ALLOWS YOU TO TILT
THE ATTACHMENT ON BOTH SIDES BY UP TO 90°

WITH THE TC TILT COUPLER, PRECISE ANGLE LEVELLING
OF EMBANKMENTS IS NO PROBLEM

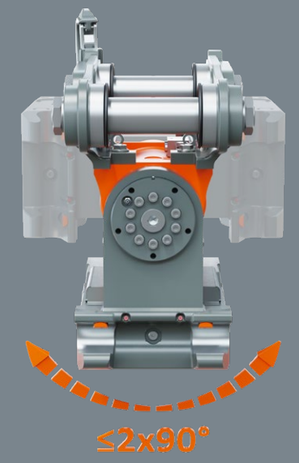
ACHIEVE ADDITIONAL WORKING POSITIONS
WITH THE EXCAVATOR KINEMATICS

QUICK COUPLER *FLEXIBILITY*

The TC- tilt coupler combines the standard coupler (mechanical / hydraulic) with the Kinshofer rotary actuator.
Thanks to the tilt function, the working radius can be extended bilaterally by up to 90°

Type	Tonnage
TC02	1 - 2t
TC03	2 - 2.9t
TC045	2.4 - 5t
TC07	4.3 - 7t
TC10	6 - 10t
TC14	8.6 - 14t
TC19	12.1 - 19t
TC23	16.7 - 23t

With the TC tilt coupler, the attachment can be tilted up to 2 x 90°, minimizing the need to move the excavator. This not only saves an enormous amount of time, but also increases safety on the construction site.



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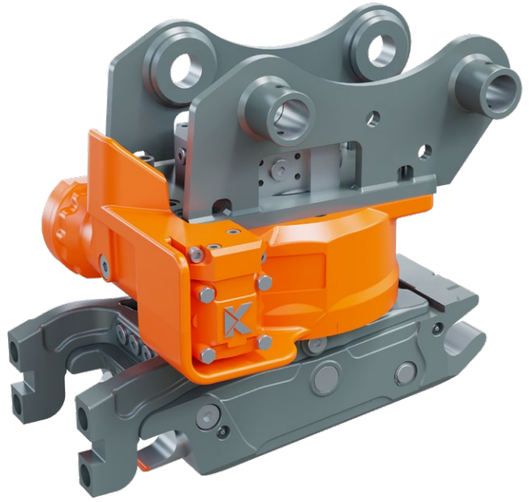
Rotary Couplers

FUNCTION:

DEGREES OF FREEDOM THROUGH ROTATION

The Kinshofer RC rotary couplers not only guarantee quick and safe attachment changes, but also enable more flexible working radii with the 360° endless rotation. With the existing excavator kinematics, the flexibility of use is increased even further, as additional working angles can be created. Of course all rotary couplers can be equipped with the Kinshofer quick couplers: L-Lock, S-Lock and D-Lock. Other quick coupling systems are also available.



SERVICE:

LOW-MAINTENANCE

The robust cast housing is very strong due to a special material alloy and guarantees a long service life even in the toughest use. The rotary drive is completely sealed and all components move in a permanent oil bath, making the device very low-maintenance.

STRUCTURE:

COMPACT DESIGN

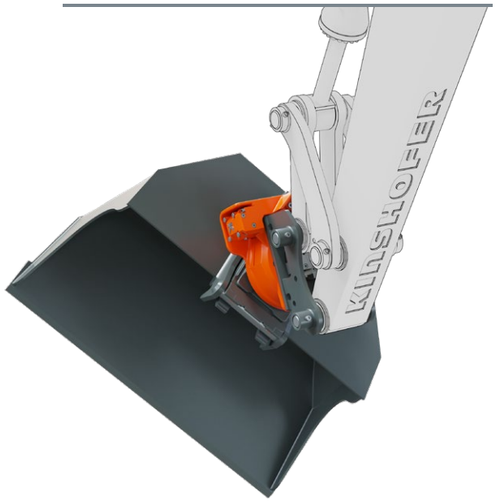
The RC rotary couplers are characterized by their compact design, low height and weight. Thanks to this design, the maximum breakaway and tearing forces are achieved. The low-maintenance couplers are firmly bolted to the boom. The oversized worm gear absorbs shock loads with ease. The integrated motor protection protects the hydraulic motor of the worm gear from damage from below. There are no protruding components.

SAFETY:

SAFE WORKING ENVIRONMENT

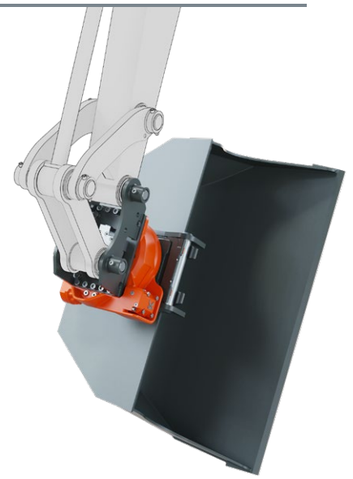
Repositioning the excavator is significantly reduced due to the increased working radius and minimizes manual work in the danger zone to a minimum. The additional safety components of the quick coupler prevent the attachment from falling when changing tools.

WITH THE RC ROTARY COUPLER,
REMOVING EMBANKMENTS IS NO PROBLEM



THE 360° ENDLESS ROTATION ROTATES
THE ATTACHMENT IN THE REQUIRED DIRECTION

ACHIEVE ADDITIONAL WORKING POSITIONS
WITH THE EXCAVATOR KINEMATICS

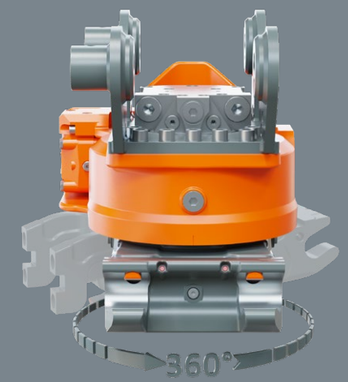


QUICK COUPLER *FLEXIBILITY*

The RC rotary coupler combines the standard coupler (mechanical / hydraulic) with the Kinshofer rotary drive for 360° endless rotation. Many attachments – only one rotator!

Type	Tonnage
RC02	0.9 - 2.6t
RC04	2.5 - 3.8t
RC06	3.8 - 6t
RC10	6 - 10t
RC19	14 - 19t
RC25	19 - 25t
RC33	25 - 33t

The combination of a rotation and the excavator kinematics increase the flexibility on the construction site, so the excavator has to be moved less. This means that upcoming work on the construction site can be completed faster and more economically. Thanks to the RC rotary coupler with 360° endless rotation, every attachment without its own slewing gear achieves more flexibility and an increased performance. Work can be done faster and more precisely.



Tiltrotators

FUNCTION:

MULTIFUNCTIONAL ALLROUNDER

In addition to a quick and safe attachment change, the NOX tiltrotators allow the attachment to be rotated 360° endlessly and tilted up to 2 x 50°. This makes the carrier machine a multifunctional allrounder with maximum flexibility.
Of course all rotary couplers can be equipped with the Kinshofer quick couplers: L-Lock, S-Lock and D-Lock. Other quick coupling systems are also available.

SERVICE:

LOW-MAINTENANCE

The robust cast housing is very strong due to a special material alloy and guarantees a long service life even in the toughest use. The rotary drive is completely sealed and all components move in a permanent oil bath, making the device very low-maintenance.

SENSOR TECHNOLOGY:

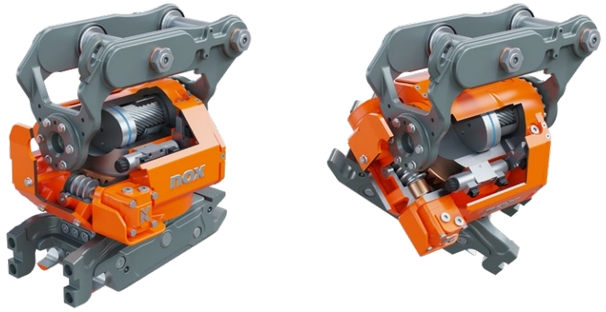
ROTATION & TILT SENSORS

For an overview of the geometry data, as an interface to 2D/3D excavator control or for auto-calibration, the NOX tiltrotator can optionally be equipped with a rotation & tilt sensor system.

STRUCTURE:

COMPACT DESIGN

This cylinderless solution features a very compact design with a narrow width and without any protruding parts. The hydraulic feedthrough was designed for maximum volume flows and enables efficient use of your hydraulic attachments. There are no protruding components.



SAFETY:

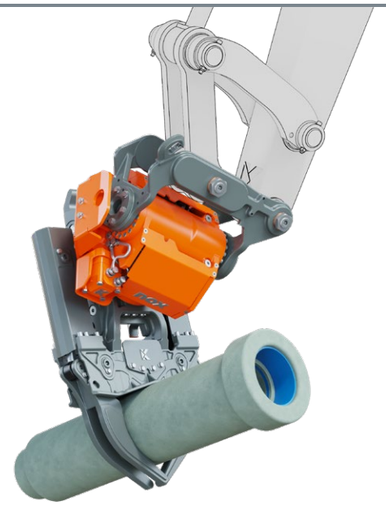
SAFE WORKING ENVIRONMENT

Repositioning the excavator is significantly reduced due to the increased working radius and minimizes manual work in the danger zone to a minimum. The additional safety components of the quick coupler prevent the attachment from falling when changing tools.

EVEN WHEN TILTING, THE NOX TILTROTATOR
SHOWS A CONSTANT AND HIGH FORCE

THE NOX TILT ROTATOR ROTATES AND TILTS
THE ATTACHMENT INTO THE REQUIRED WORKING POSITION

SAFE HANDLING AND POSITIONING
OF MATERIALS WITH THE TRG GRIPPER



QUICK COUPLER *FLEXIBILITY*

The NOX tiltrotator combines the standard coupler (mechanical / hydraulic) with the TC tilt actuator and the RC rotary drive.

Typ	Tonnage
TR045NOX	2.5 - 4.5t
TR07NOX	4 - 7t
TR11NOX	6 - 11t
TR14NOX	10 - 14t
TR19NOX	14 - 19t
TR25NOX	19 - 25t

With using the NOX tiltrotator, you are not only reducing the need for repositioning your excavator and thus saving the ground from damage (especially when it comes to landscaping tasks), but you will also speed up your work. The attachments can be positioned within the complete reach of the boom to work around obstacles. Precise setting of curbstones, dosed and accurate filling of trenches with a bucket turned by 90° as well as the handling of different kinds of materials in narrow areas are no problem with the NOX tiltrotator.

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KINSHOFER
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