



**Nordic quality  
that lasts**



The founder of Indexator, Allan Jonsson (r), together with Karl-Ragnar Åström (Ålö) and Jan-Olof Guthe (Jonsereds AB).

# Market leader with technology and quality in focus

Indexator is today the market leader of their industry much thanks to their long-term focus on always being at the forefront of technology and having quality-assured processes. Indexator designs the future together with the world's leading machine manufacturers.

Words like unique should be used with caution but when it comes to the Indexator R&D and prototype test facility, no other word will suffice. This is where technical concepts for patents and products are developed. And this is where designs are verified and production methods validated. Products of the future are created here.

and production engineers. This is also where many of our customers' own innovations are developed, which obviously requires an extremely high level of confidentiality. Our ability to create watertight bulkheads between each project is routine for us. Indexator is very good at keeping things confidential.

At our centre of excellence, customers' development departments work side-by-side with our material experts, designers

## From adapters to hydraulic rotators

A driven and insistent entrepreneur grew up in northern Sweden and inland Västerbotten in the small village of Vindelånäset just outside Vindelö. He came to work hard in the forest as an excavator salesman, crane manufacturer, business leader and inventor. Founder Allan Jonsson's story is astounding.

He formed the company Cranab together with Karl-Ragnar Åström in the 50s. Karl-Ragnar was an entrepreneur from Brännland who had previously started manufacturing front loaders in the company Ålö.

Cranab continued the work of developing and selling hydraulic forest cranes - a product that the world had never seen before. The success was a fact. Other companies soon began to open their eyes to what was happening in the small town of Vindelö.

At this time, the company Hydraulik Indexator AB manufactured hydraulic adapters in Norrtälje and was a subcontractor to Cranab. By the late 60s, the company owners chose to move the business to Vindelö and after a time, Cranab happened to buy Hydraulik Indexator AB.

When Allan Jonsson decided to sell Cranab to Jonsered, he was ready to invest in something new. Allan kept the small subsidiary Indexator and began to develop a concept for a hydraulic rotator that could rotate continuously 360 degrees.

It was a shaky start but the enthusiasm and confidence in finding a technical and sustainable solution for the future was high. During the late 70's, Indexator gradually started to get its rotators in order. This was something that the market also paid attention to and it was not very long before success was a fact.



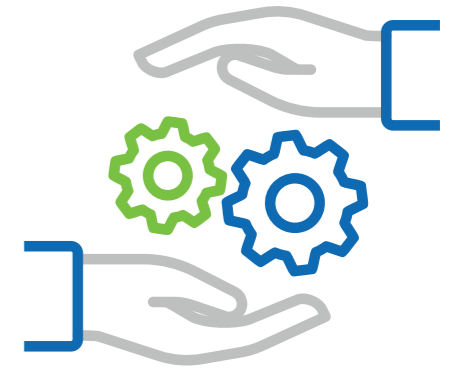




## World-leading collaboration

Indexator is the world-leading supplier and development partner of hydraulic rotators and ancillary equipment. Our products are exported to over 40 countries spanning five continents and used for forestry, general cargo handling and material handling. The company has made a name for itself as a committed and professional business partner that helps its customers achieve better results. Through continual product development and as specialists in the important interplay between machine-crane-rotator-head/grapple/tools, we live up to our customers' high expectations on functionality and total economy.

Capacity, expertise and global commitment gathered in one single place in Vindeln, Västerbotten – the geographical heart of Sweden.





# Our promises to the customer

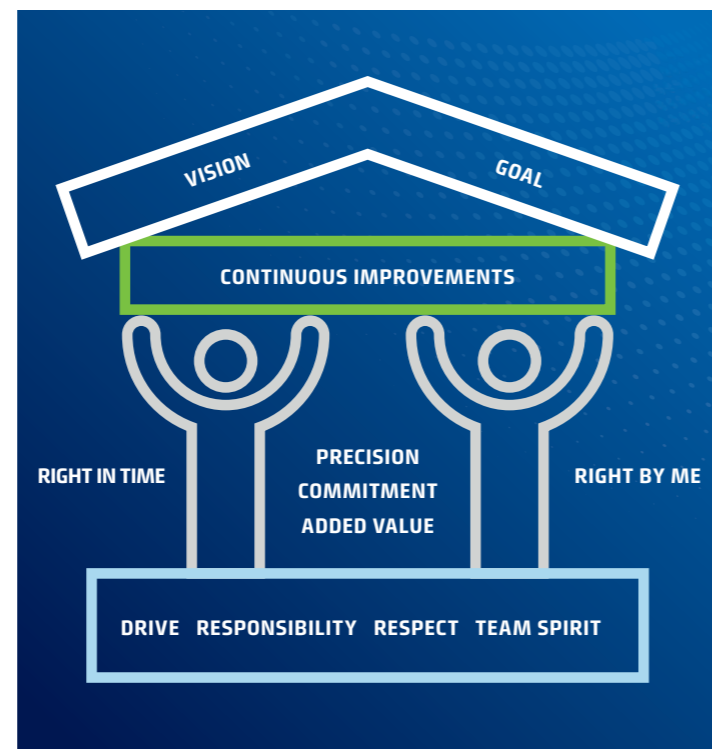
End results are created together. In our modern production facility, all brainstorming sessions, all confidential collaborations, all product development and all solutions to meet market demands and requirements are transformed into finished products.

Our customer promises can be summarised in three words that permeate everything we do: **PRECISION – COMMITMENT – ADDED VALUE**

## Indexator's strategic compass

Indexator is on a shared journey. On it, we are using our strategic compass. It aims at clarifying our values, our vision and our way of working.

Prioritising is often required in decision making. In which direction do we move? What is most important? What do we stand for? Indexator's strategic compass guides us on our shared journey together to make machinery safer, smarter and better with world-class innovation from northern Sweden.



# Our production – everything under one roof

The 8,500 m<sup>2</sup> facility is designed for rational flows and high capacity utilisation. At the centre of it all is the fully automated material handling system – FMS –, advanced specially-developed processing equipment and machine tools.

**QUALITY CERTIFICATION:** We work intelligently and efficiently with lean production methods to reduce waste and keep things in order. We work constantly to put new practical knowledge to good use. We are certified to ISO 9001, 14001 and 45001 standards, which means our production meets certification requirements in terms of quality, environment and working environment.

**RESPONSIBILITY AND COMMITMENT:** Indexator takes responsibility for everything from product development to service and support. Our quality work is based on commitment and personal responsibility following the principle "Right from me". This means

all employees have a mandate and responsibility to take immediate action when a fault is detected. Each employee sees things through the eyes of a customer in each part of the production chain. We are proud of our delivery accuracy and delivery performance.

**FULL-SCALE TEST OPERATION:** Not everything is automated. Pre-assembly and final assembly are done by hand to ensure quality and configuration. Finished rotators undergo a test cycle, where functions are checked. Test operation is fully automated to avoid human influence, but is monitored by an operator. No deviations are tolerated.



Our production builds long term, sustainable benefits and operations are therefore certified for quality, environment and health and safety.





# Expertise with personal service and support

Nothing beats personal service when you need answers. Indexator has a team of experienced employees with a wealth of product knowledge able to answer questions from customers. Indexator considers technical support to be part of our core business and colleagues literally have the collective expertise of the entire company at their disposal.

Their workplaces are just a few metres from product and production specialists and they can quickly pass new knowledge back to designers and other key individuals. We continually develop our network of service providers and our spare parts supply in close collaboration with our customers. This means that help is available wherever our customers operate, which minimises downtime and loss of revenue.

Our customers keep a spare parts stock – everything from wear parts to complete rotators and accessories. Indexator supplies

service providers with up-to-date service literature, repair manuals, spare parts catalogues and solid training.

Technical support from Indexator's own specialists is just an email or phone call away. The experience and knowledge learned from this dialogue with customers is then conveyed to design engineers and other key individuals, thereby creating continual product development.



## Indexator Service School



In addition to a high-quality product from the start, the training ensures that the maximum service life of the products is utilised, which is one of the activities in Indexator's sustainability work.

To bring service even closer to the customer, we have established the Indexator Service School. This training gives our customers' own service technicians professional training in the repair and maintenance of Indexator products.

The training is global and eventually leads to accreditation. Course participants come from specialist workshops affiliated with machine retailers in different countries as well as from independent service providers. Courses are usually held at Indexator's production facility in Sweden but can also be carried out at the

customer's premises. A specially adapted curriculum is at the heart of the set-up; in other words, the training is tailored to suit the previous knowledge of the participants and the rotator models available in the market concerned.

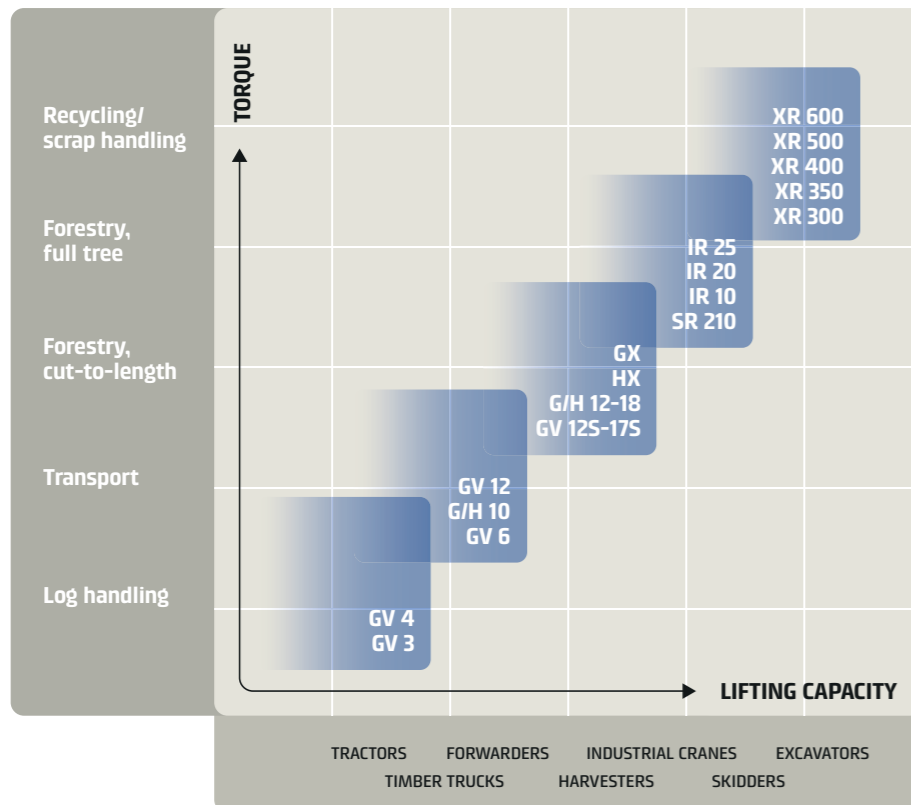


# Solutions to meet every need

Indexator offers the world's largest selection of hydraulic rotators and ancillary equipment such as links, swing dampers and hose swivels. The range includes everything from large and powerful rotators for the most demanding tasks to small, efficient models for simpler tasks. Designed to handle tough material stress and heavy strain on all vital components and built to deliver, regardless of the temperature or weather conditions.

## PRODUCT GUIDE

We have a wide range for different applications in, among other things: general cargo, material handling, terminal handling, forestry and transport.





# Total solutions from crane tip to tool

Innovation and product development form natural parts of Indexator's operations, and we strive to provide our customers clear added value from crane tip to tool. Every part of this chain is optimised to provide the best control, safety and productivity while also helping the customer minimise wear, costs and environmental impact.

## 1 The world's largest range of rotators

Our rotators are used all over the world in forestry, general cargo handling and material handling. To meet the different needs of markets, we offer the world's largest range of rotators and accessories. This puts us in a unique position to operate in close cooperation with major machine manufacturers within all kinds of applications.

## 2 BC – hydraulic brake control

The hydraulic brake control feature (BC) is available as an option on Indexator's tried-and-tested MPB brake links. BC activates the brake when this is advantageous but more importantly, it disengages the brake when it is not required. The brake is engaged when the grapple is not under load. The brake is disengaged when the grapple is put under load and the precision of any weighing is not influenced by braking moment.

## 3 Indexator's patented\* Y-link for protected hose routing

Protecting the hoses with Indexator's patented Y-link reduces the risk of leakage, which means greater productivity, lower costs and lower environmental impact. The Y-link is a cost-effective solution that can be combined with a number of variants, from unbraked links to the most advanced swing damping systems.

### ADVANTAGES IN BRIEF:

- Full swing angles
- Lower costs
- Increased productivity
- Reduced environmental impact
- Increased service life for hoses

## 4 MPB – superior damping

Indexator's patented\* and inverted swivel allows extra low-profile rotators with MPB swing dampers. Our patented\* MPB multiple-disc brake technology (Multi Plate Brake) was developed in-house to provide rapid, safe and controlled damping to give your machine a number of important qualities:

**REDUCED WEAR** | Forces on the crane and head/grapple are reduced as the MPB swing damper effectively absorbs the kinetic energy in the rotator and tool.

**IMPROVED PRODUCTIVITY** | High braking effect combined with smooth swing damping enables faster application and handling.

**IMPROVED CAB COMFORT** | Flexible braking means movements are not propagated into the cab.

**SERVICE-FRIENDLY** | This design means longer service intervals and makes it easier to clean. It also makes wear part replacement quick and easy.



### \*PATENT

Indexator has a number of patented and patent pending technical devices that make our products unique. They are marked with this symbol.

## 5 Automation with angle sensor technology

Indexator's patented and verified system enables the machine to receive information about the tool and the position of the rotator as well as angular velocity. Productivity, profitability and safety increase by including Indexator's smart rotators in partial or full automation systems.

# Smart rotators enable partial or full automation

Smart rotators from Indexator take a technological leap with angle sensor technology. The patented and verified system enables the machine to receive information about the position of the rotator as well as angular velocity. This technology opens up the possibility of including the rotator in partial or fully automatic systems, which means higher safety, productivity and profitability.



## Compatibility with today's interface

Indexator has extensive experience in developing solutions for machine manufacturers and understands the importance of compatibility. One advantage of the angle sensor system is that it fits within today's interface to crane noses and tools, which eliminates or minimises any demands for changes to today's machine design.



## Diagnostics built into the system

The sensor, in addition to being able to determine the position and angular velocity of the rotator, can send diagnostic codes back to the CAN network. For security reasons, the sensor sends redundant signals to the network.

To facilitate integration between the system and the base machine, Indexator has also developed a J1939 protocol.



This technology is possible to implement in many areas of application. Wherever positioning of tools is partly or fully automated, Indexator's smart rotators will contribute to higher safety and better overall economy.





## LINKS & SWING DAMPERS

# Endless possibilities

Indexator offers swing dampers and links for most crane models and applications on the market. Regardless of your machine or crane, we can provide a solution that increases productivity and comfort while reducing the load on the crane and tool.

Indexator has a long history of providing interfaces that have gone on to become the market standard. The MPB interface is more or less standard on harvesters today. The great demand in recent years for Indexator's protected hose routing – Y-links – will soon make it the new standard interface for forwarders. It is

also increasingly common in many truck applications. When you choose an Indexator product, you can be sure of getting the latest technology. The various component parts work in support of each other to help you – the professional user – raise your productivity.



## Links



### LINKS

Primarily used for simple, light applications and where work does not require any swing damping. The links are available in a number of different variants, including the Y-link for protected hose routing.

## Swing dampers with disc brake



### SINGLE SWING DAMPER

Used for light and medium-weight applications where there is a need to dampen swinging in one direction.

### DOUBLE SWING DAMPER

Used where there is a need to dampen swinging in two directions.

## MPB swing dampers with multi-plate brake



### MPB SINGLE SWING DAMPER

Used where there are greater demands on damping in one direction for better overall economy. There are also models with Y-links for protected hose routing.

### MPB DOUBLE SWING DAMPER

The most powerful brake on the market. Used where there is a need to dampen swinging in two directions. Our MPB double swing dampers are available with one or two brake packages.



## GV/AV ROTATORS

# Cost-effective solutions for goods and material handling

GV/AV rotators have become somewhat of an industry standard anywhere that professional general cargo and material handling and profitable forestry work are performed. Cost-effective solutions that combine a compact design with low weight and high performance.

**GV** – Grapple rotator **AV** – Harvester rotator



### GV 3

- 3-tonne lifting capacity
- For lighter forestry and agriculture machines and general cargo handling
- Light and compact
- High torsion strength
- Several versions available

### GV 4 / AV 4

- 4,5-tonne lifting capacity
- For lighter forestry and agriculture machines and general cargo handling
- Alternative versions available for different swing damper and link designs

### GV 6

- 6-tonne lifting capacity
- For lighter types of material handling
- Light and compact with high performance
- Choose between mounting with a lower link or shaft

### GV 12 / AV 12

- 10-tonne lifting capacity
- For professional forestry work
- Robust and durable
- Alternative versions available for e.g. different types of hose routing
- Lower links in different designs for e.g. full tree or cut-to-length handling



### GV 124

- 10-tonne lifting capacity
- For tools needing an extra hydraulic function, e.g. grapple saw
- Robust, well-proven design
- High-grade material selection
- Low pressure drop.

### GV 14 / AV 14

- 10-tonne lifting capacity
- Built for tough applications
- Extremely low weight in relation to performance
- Alternative versions available, e.g. for forwarders and harvesters

### GV 17 / AV 17

- 16-tonne lifting capacity
- Built for heavy tools and tough work
- Robust and powerful design
- High torque
- Flexible, with alternative interfaces to the swing damper/link and tool

## G/H/GX/HX ROTATOR

# Rotators for swing dampers that maximise profitability

The perfect rotator solution for modern and efficient forestry work. Durable, powerful and with the highest performance. All rotators are adapted for our specially-developed MPB swing damper.

**G/GX** – Grapple rotator **H/HX** – Harvester rotator



### G 101

- 6-tonne lifting capacity
- For small and mid-size forwarders
- Wear-resistant and service friendly
- Powerful upper mounting suitable for MPB swing dampers

### G 121

- 10-tonne lifting capacity
- Ideal for forwarders, timber trucks and material handling with high demands on functionality and performance
- Suitable for MPB swing dampers

### G 141/G 171

- 10-16-tonne lifting capacity
- Extremely high torsional strength in relation to weight and build height
- Extremely durable upper mounting
- Suitable for MPB swing dampers

### GX 30

- 16-tonne lifting capacity
- For large forwarders and tougher grapple applications
- With the MPB swing damper, optimises productivity and efficiency
- Powerful bearing with patented power transmission



### H 101/H 121

- 6-10-tonne lifting capacity
- Mid-size rotator for thinning and lighter final felling
- Wear-resistant and service friendly
- Powerful upper mounting suitable for MPB swing dampers

### H 112/H 122

- 10-tonne lifting capacity
- For harvesters used for thinning and lighter clear-cutting
- Suitable for MPB double swing dampers with two brake packages for highest efficiency

### H 152/H 182

- 10-16-tonne lifting capacity
- For harvesters used for heavier thinning and clear-cutting
- Extremely high torsional strength in relation to weight and build height. Powerful upper mounting suitable for MPB

### HX 20/HX 30

- 16-tonne lifting capacity
- For harvesting with high demands on performance, reliability and total economy
- With the MPB swing damper, optimises productivity and efficiency





## GX – the trailblazer that changes everything

Innovation and product development are the foundation of Indexator. A technical step has been taken to pave the way for the high demands of tomorrow on the rotator function.

GX is developed for the toughest timber applications. The compact rotator handles swing mass quickly and efficiently with the proven vane motor while being forgiving of forced torsion.

The big difference from the previous generation, G-rotators, is that the powerful bearing takes up

all the load while the motor and swivel are isolated thanks to the unique power transmission. The powerful bearings of the GX handle up to 80% higher loads compared to previous rotators, resulting in higher capacity and overall economy.

## Next generation rotator

### HX – a power package for harvesters

The forestry industry has undergone a fast development where larger and stronger machines place even higher demands on rotator functionality. To take the next step in development, a revolutionary innovation is sometimes required.

HX is the next generation harvest rotator from Indexator. The main difference from previous generations is that all external loads pass through the outer of the rotator, completely separated from the motor function, thanks to its unique power transmission.

The powerful bearing can withstand higher axial and radial loads and, together with the power transmission mechanism, significantly extends the life of the rotator and makes machine ownership more profitable.

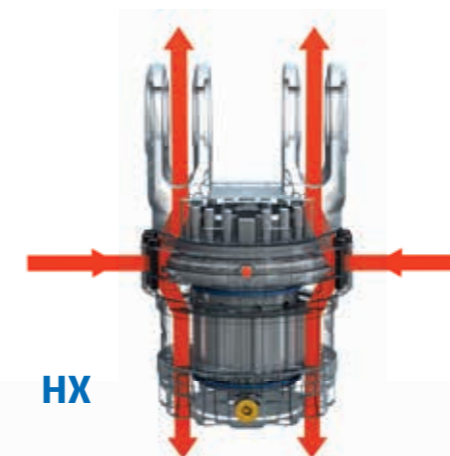
Indexator's proven and long-lasting vane motor provides high torque. Thanks to its modular and compact design, service and maintenance is simplified.



The modular design simplifies service and maintenance.

### PATENTED TECHNOLOGY

Thanks to the patented power transmission, all loads, regardless of direction, are absorbed by the outer shell and bearings of the rotator. Motor and swivel are completely isolated from external loads, which extends service life. Both HX and GX are compatible with Indexator's MPB interface for high productivity and overall economy. The rotators are also prepared to be integrated with our program of smart rotators.





## IR/SR ROTATORS

# Heavy-duty rotators for demanding jobs and environments

Indexator's IR/SR rotators are primarily intended for excavators, material handlers and skidders. These are rotators for the really tough jobs in e.g. material and scrap handling, recycling and timber handling. Used on applications where demands on rotator function are extremely high.



### IR 10 / IR 10-5

- For tough material handling
- With bearings to withstand forces in different load directions
- Swivel function with low pressure drop
- Available in different versions, including as a mechanical rotator
- Variant for direct connection of up to five grapple cylinders without the need for a distribution block



### IR 20 / IR 20-5

- For applications with high demands for functionality and wear resistance
- Mounted on bearings to withstand large dynamic forces in different load directions
- Modular design with low number of moving parts for a high level of reliability
- Variant for direct connection of up to five grapple cylinders without the need for a distribution block



### IR 12

- Specially designed for heavy timber handling
- Modular design with e.g. alternative motor options
- Upper mounting and links as option
- Flexible with X-channels for extra hydraulic functions as an option



### IR 22

- Designed for extremely tough forestry applications
- High torque for demanding timber handling and optimised function
- Flexible, with the possibility of using alternative hose connections and extra channels



### IR 25

- Designed for tough recycling and material handling
- Integrated cylinder attachments
- High torsion strength and durability
- Long service life and good total economy
- Handles direct connection of five grapple cylinders with no need for a distribution block



### SR211

- Specially designed for skidders and full tree handling
- Extremely high torsion strength and durability
- Service-friendly design
- The design allows for protected hose routing which reduces wear and downtime



### MOUNTING AND LINKS FOR IR

For free-hanging installations, our industrial rotators can be suspended from a range of mountings designed for the various product families. Where appropriate, they can be installed directly using Indexator's links. The durability and design of our mountings are optimised for the various rotators. By purchasing our genuine mountings, you ensure an industrial rotator with a long service life and problem-free operation.





## XR ROTATORS

# Uncompromising power for the toughest environments

The XR range consists of compact, powerful and slew bearing based rotators designed for extreme applications, where loads and demands on the rotator function are extremely high. Developed for rigid and free-hanging installation. We offer oil manifolds from Indexator's standard product range as well as customised models. With their dense, protected design and extreme torque – up to three times more than the competition – the XR range is the ideal solution for seriously demanding work.



### XR 300

- Max axial dynamic load: ±90 kN
- Indexator's smallest compact rotator
- Impressive torque
- Service-friendly design for good overall economy



### XR 350

- Max axial dynamic load: ±150 kN
- Powerful slew bearing for rigid and free-hanging installation
- Vane motor with extremely high torque
- Handles high flows with low pressure drops



### XR 400

- Max axial dynamic load: ±200 kN
- Able to withstand forces in different load directions thanks to its unique slew bearing
- Compact rotator design
- High torque for demanding applications



### XR 500

- Max axial dynamic load: ±250 kN
- Equipped with bearings to withstand forces in every load direction
- Compact rotator design
- High torque for demanding applications



### XR 600

- Max axial dynamic load: ±300 kN
- Designed to handle the very biggest applications
- Amply sized hydraulic connections
- With bearings to withstand major forces in every load direction
- Extremely high torque



### CONFIGURATIONS:

- Electric slip ring
- More hydraulic functions
- Extra channel for central lubrication
- Upper mount, integrated or bolt-on
- Hose protection
- Alternative porting for protected hose routing
- Oil manifold for various needs

## Indexator XR in brief

Easy to service

Low profile, well protected design

Vane motor with extremely high torque

Handles radial and axial forces thanks to its slew bearing

Patented power transmission

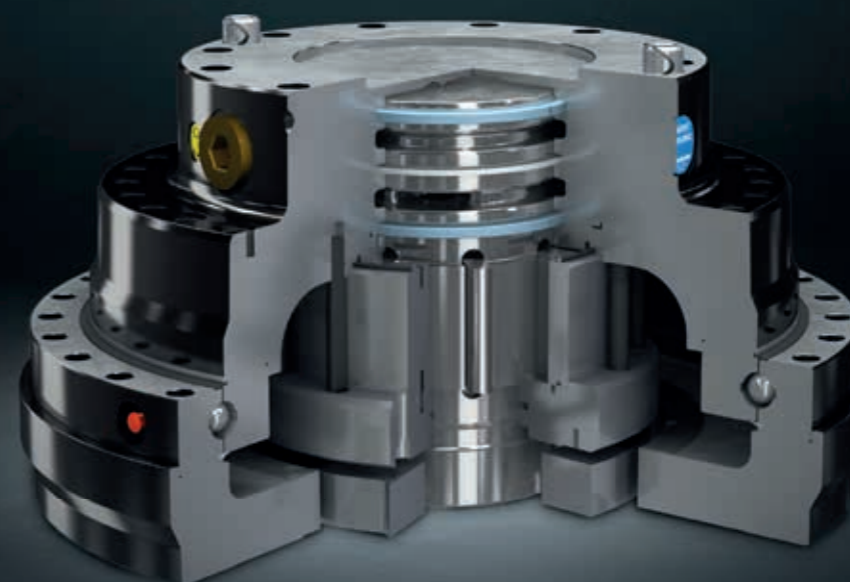
Leak-proof, water resistant

Flexible design provides many possibilities for customisation

Relief valve integrated in the engine

Unique interface enables robust incorporation

Direct drive with a strong, tolerant vane motor means no gearing is necessary.



### HIGH TORQUE

The only compact rotator on the market with Indexator's tried-and-tested vane motor principle. The durable motor gives a higher torque than all other solutions but at the same time is tolerant to the forced turning of large swing mass.

### DURABLE

Built to handle the forces from truly heavy loads. Whether forces are at right angles or come from the same direction, XR rotators are extremely durable, powerful and enjoy long service lives.

### UNSURPASSED SERVICE LIFE

The torque transfer solution means external loads are not transferred to the motor or the swivel. The combination of a tolerant vane motor and the fact that no gearing is needed means the XR rotator has an unsurpassed long service life.



Patented power transfer design



## IDL/K100-SWIVELS

# Innovative hose swivels for green, economical, hassle-free operation

Indexator swivels are one of the best investments you can make to reduce a machine's wear costs. The swivel constantly protects the hose connections and rotates as necessary to protect the hose from harmful twisting.

Indexator has a full range of high-quality hose swivels that provide maximum freedom of choice regarding sizes and dimensions, common thread standards and types; internal to external and external to external threads.

Further more, we are busy launching the next-generation of swivels that combine impressive performance, quality and service life with excellent opportunities for customisation and cost efficiency.

## Indexator hose swivels – the advantages

**FREE ROTATION** | The hose swivels rotate freely and continuously, even at extreme pressure spikes. Low torque resistance.

**HIGH PRESSURE** | Indexator hose swivels handle high working pressures over long periods.

**FEWER HOSE REPLACEMENTS** | Well-functioning hose swivels extend the service life of hydraulic hoses. You save money and have fewer worries.

**SHORTER HOSES** | Hose swivels you can rely on mean shorter hoses. In addition to weight savings, you get a straighter, and thus safer, hose routing.

**NO PRESSURE LOSSES** | No extra friction heat is generated to interfere with the hydraulic system.

**FEWER RUPTURED HOSES** | Low torque resistance significantly reduces the risk of ruptured hoses. Great for the economy and the environment.



Eliminated twisting increases hydraulic hose service life substantially – a few degrees of twist can reduce hose life by up to 90 per cent!



### IDL – proven reliability

Indexator's IDL swivel is a tried-and-tested workhorse that neutralises torque resistance for both radial and axial loads with the help of needle and ball bearings. IDL makes sure hydraulic hoses can rotate unimpeded and also handle high working pressures over time.

The swivel allows for shorter hoses, which means weight savings and straighter, secure hose routing. It also means fewer hose replacements thanks to an increased hose service life. A large range of IDL swivels are available with different thread standards, dimensions and sizes.



### K100 – next-generation swivels

The Indexator K100 series is engineered for today's modern hydraulic systems in forestry and construction machines. With their compact, robust design and reliable bearing solutions, the swivels are dimensioned to handle truly stressful hose loads and high oil flow. The K100 series handles high working pressure over long periods and can withstand pressure peaks. One important explanation for the high performance is the specially designed seal solution.

The swivel is furthermore impossible to pull apart, thus sparing the environment unnecessary oil spillages. They are incredibly corrosion resistant and have extremely long service lives compared to the competition. The modular construction makes it easy to adapt the K100 to suit every customer's requirements, sizes and connections.





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