



Precision,
commitment
and added
value

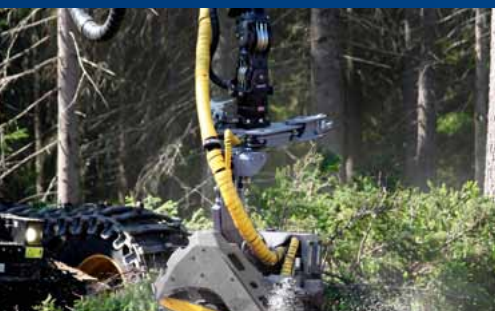


World-leading collaboration

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



Capacity, competence and global commitment all gathered in one place in Vindeln, Västerbotten – the geographic heart of Sweden.



Solutions to meet every need

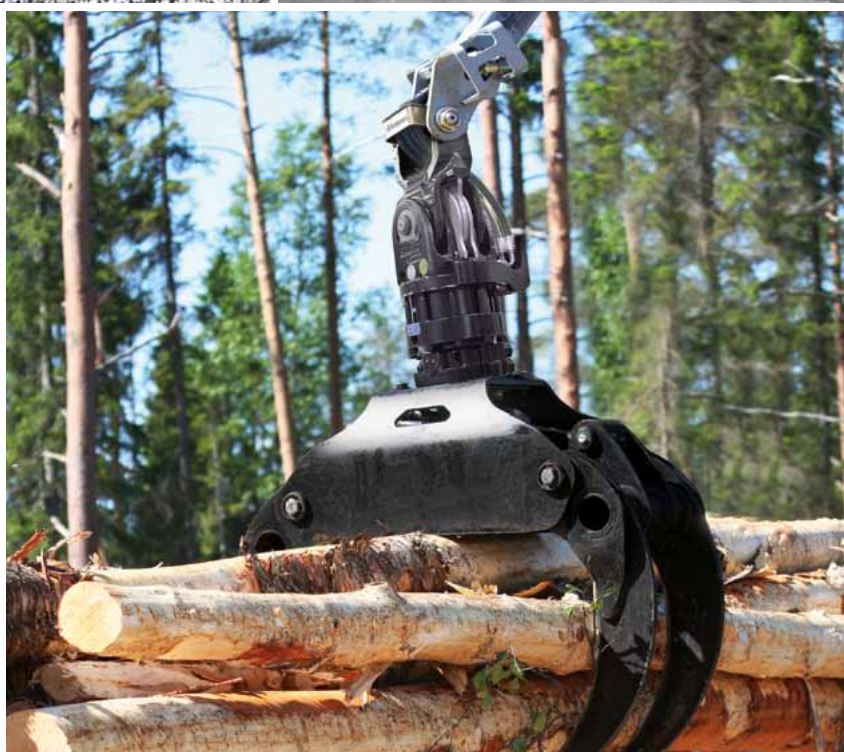
Indexator Rotator Systems has the world's largest selection of hydraulic rotators and ancillary equipment, such as swing dampers, suspension links and hose swivels. The range includes everything from large and powerful rotators for the most demanding tasks to small, flexible models for simpler work.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

- **Forestry**

- **Transport**

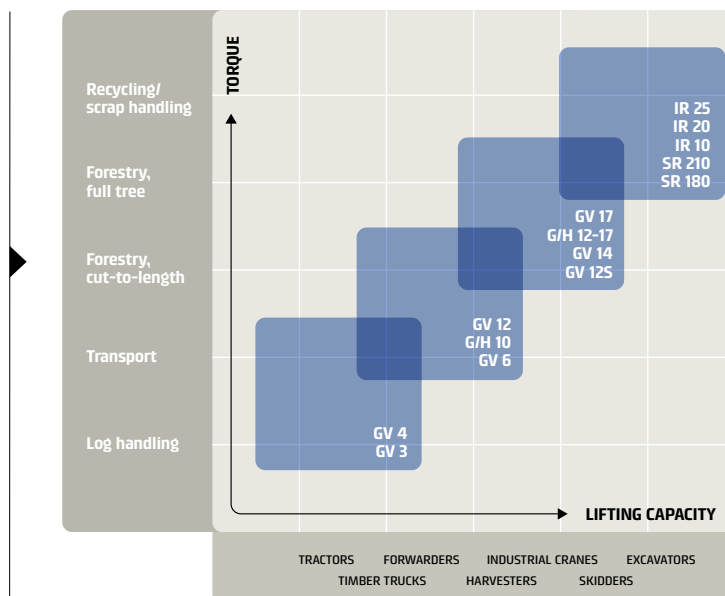


- General cargo
- Material handling



PRODUCT GUIDANCE

We have a wide range of models for different applications.



Good reasons for choosing Indexator rotators



Best total economy

Indexator rotators contribute to high productivity and good profitability – regardless of what type of machine, crane or grapple is used.

Tough & durable

Machines, cranes, heads and grapples are becoming increasingly more high performance – forces are increasing. To meet this demand, Indexator rotators are built and equipped with bearings to handle both axial and radial loads and are designed to handle tough material stress and heavy strain on all vital parts.

Compact

The rotator is compact, has a low centre of gravity and has a high level of reliability.

Wear-resistant vane motor

The rotators are based on the well-proven vane motor principle. The motors have a high torque. The modular design and the low number of moving parts make these rotators wear resistant and easy to service. Long service life that is well documented.

Hydraulically balanced

Properly-balanced pressures and flows provide even rotation and stable functions in general – you have full control of your work. No internal hydraulic loads that negatively impact functions and service life.

Protected integration

The design enables compact, protected integration into several types of grapples and other tools.

Wide range of models

The world's largest range of models, sizes, interfaces, etc. means that there is a rotator that will suit your particular needs.

Quality assured

Each rotator is individually tested before delivery. All functions are inspected and ensured.

Easy to service

Simple replacement of seals and other wear parts. You save time and money.

Always close

A global network of service providers creates efficient spare parts supply and means you can rest easy in vulnerable situations.

The best brake

Quick, reliable and controlled swing damping thanks to the specially-developed brake technology MPB (Multi-Plate Brake).

Modular design

Models with three main modules: the motor, rotator shaft and swivel house, which together create a compact body. The modular design also makes it possible to have a mechanical version, i.e. without motor.

Hydraulic scales

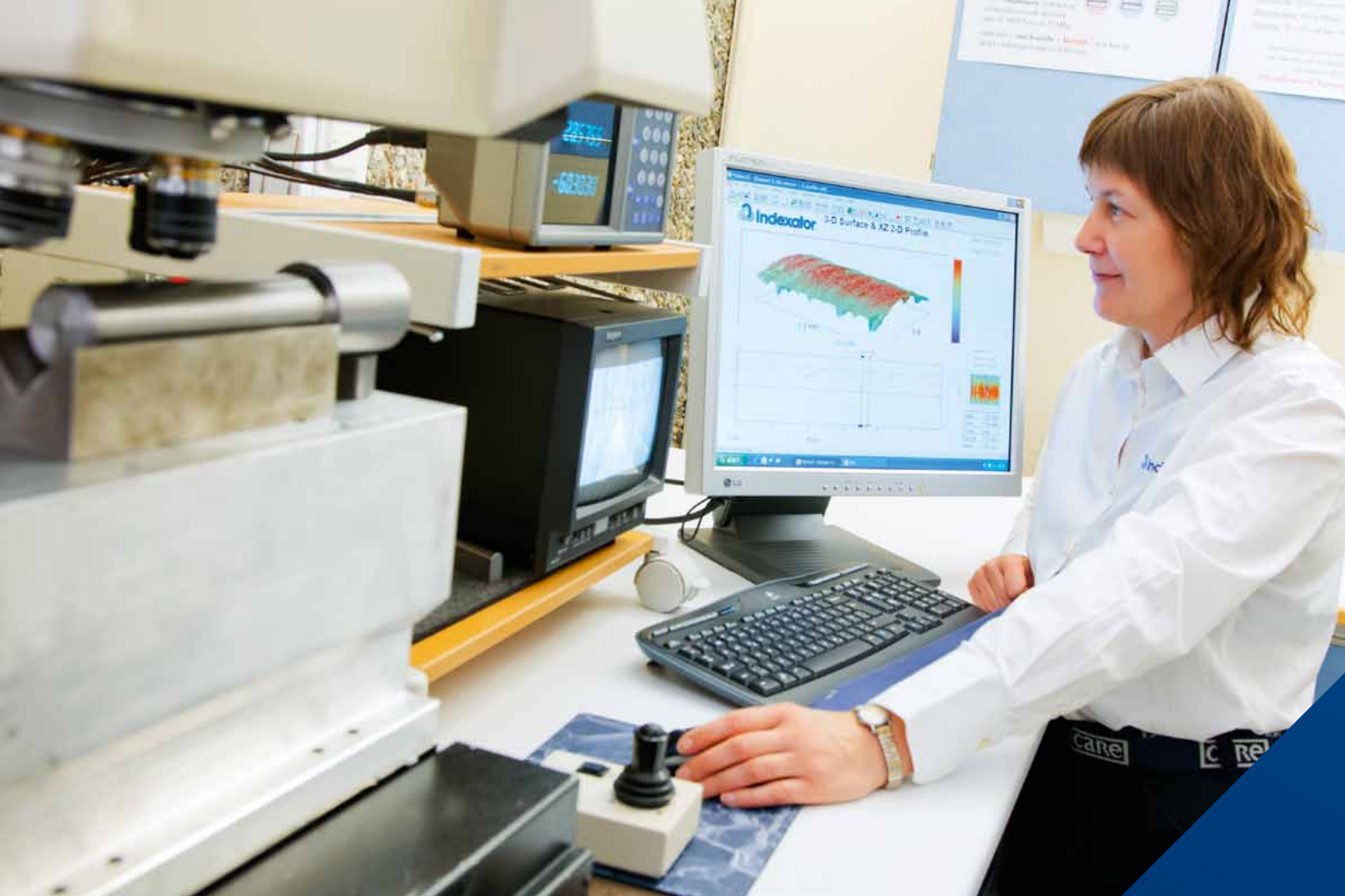
Hydraulically transmits pressure changes to a scale system and eliminates overloading while providing a rational value determination of the load. The open interface makes the scale compatible with all scale systems on the market.

Smart hose swivels

High-quality swivels that rotate freely, even at extreme pressures, increase the service life of the hose and make it possible to use shorter hose lengths.

Right material selection

Thoroughly tested material and components ensure good properties and durability over time. Component parts are washed in different stages during installation and final testing.



World-class product development

We hate to use the word “unique”, but in this case it actually fits. Indexator Rotator Systems has a unique facility, where applied research and prototype testing is conducted side-by-side with production commissioned by world-leading machine manufacturers.

- Has developed technical ideas for products and patents
- Has verified designs and ensured production methods
- Has also developed many of our customers' own innovations

The customer's development department works side-by-side with our material experts, designers and production engineers.

Naturally, the fact that competing machine manufacturers use the same facility for their product development puts huge demands on confidentiality. This ability to create a leak-proof bubble around each project is part of our daily operations. Indexator Rotator Systems is a master at instilling and retaining confidence.



Quality, capacity and commitment

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

Our customer promises can be summarized in three words that permeates everything we do: **Precision, Involvement** and **Added value**.



Our production builds for the long term future using sustainable resources and is therefore both quality and environmentally approved certified.





Everything under one roof

The 8,500 m² facility is designed for rational flows and a high level of capacity utilisation. In the centre of it all is the fully-automated material handling system, FMS, and the advanced, specially-developed processing machines and tools that enable capacity, flexibility and the highest possible quality.

QUALITY CERTIFICATION: We follow the Lean Production method to work smartly and efficiently, reduce waste, always maintain order and continuously work to make use of new experiences. We are certified in accordance with ISO 9001,

14001 and OHSAS 18001. This means that we have a production that meets the certification requirements as regards quality, the environment and working environment.

RESPONSIBILITY & COMMITMENT: Indexator Rotator Systems 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 that anyone who sees a problem works to correct it. Each employee looks at things

with the customer's eyes in each part of the production chain. We are proud of our delivery precision and delivery reliability over time.

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

OUR PHILOSOPHY IN THREE POINTS

Right from me

All of our employees create an internal chain of deliveries from person to person. We avoid unnecessary work for the next link in the chain. We provide feedback on what was handed over and strive to continuously improve the workflow.

Continuous improvements

This applies to everything from the products themselves to our work methods and routines. An important part of the improvement work is also eliminating waste. We constantly ask ourselves: "Does this really add value to the products and services we offer?"

Long-term thinking

Indexator shall always strive to do what is right, even if it sometimes is not profitable in the short term. The obligations we have to our customers, suppliers, society, the environment and each other take precedence. This makes us – and our customers – winners in the long run.

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, 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** – Head 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, 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 mounting.



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-value 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 ROTATORS

Rotators for swing dampers maximises 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 – Grapple rotator **H** – Head 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.
- For forwarders, log trucks and material handling with high demands on functionality and performance.
- Adapted for MPB swing dampers.



G 141

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



G 171

- 16-tonne lifting capacity.
- For large forwarders and tougher grapple applications.
- With the MPB swing damper, optimises productivity and efficiency.
- High torsion strength and precision.



H 101

- 6-tonne lifting capacity.
- Mid-sized rotator for thinning and lighter clear-cutting.
- Wear-resistant and service friendly.
- Powerful upper mounting suitable for MPB swing dampers.



H 121

- 10-tonne lifting capacity.
- For harvesters used for thinning and lighter clear-cutting.
- Adapted for MPB swing dampers.



H 122 / H 132

- 10-tonne lifting capacity.
- For harvesters used for heavier thinning and clear-cutting.
- Adapted for MPB double swing dampers.
- Powerful upper mounting with robust bearing positioning for long service life.



H 172

- 16-tonne lifting capacity.
- For felling with high demands on performance, reliability and total economy.
- With the MPB swing damper, optimises productivity and efficiency.
- High torsion strength and precision.

MPB and protected hose routing maximise control and productivity

The secret lies in the inhouse-developed brake technology MPB (Multi-Plate Brake), which provides quick, reliable and controlled damping. The patent-pending Y-links also provide a cost-effective solution that protects the hoses. The links fit all of Indexator's standard rotators and are available at different price classes and with different swing dampers.

Smart, protected hose routing

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

Indexator scale – best in test

There is an increasing need to weigh loads lifted with the grapple – partly to provide rational value determination of the load and partly to avoid overloading. Indexator scales work hydraulically and are available with or without swing damper.

MPB

REDUCED WEAR: The load on the crane and head/grapple is reduced as the MPB swing damper effectively absorbs the kinetic energy in the rotator and tool.

BETTER CAB COMFORT: The flexible braking means that movements are not propagated in the cab.



INCREASED PRODUCTIVITY: High braking action combined with smooth swing damping shortens the application and handling time.

CONTROLLED DAMPING: Reliable multi-plate brake technology produces even and controlled swing damping.

SERVICE FRIENDLY: Thanks to its design, service intervals are long and the unit is easy to clean. It also makes wear part replacement quick and easy.

Endless possibilities

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

Links



LINK

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.

Hydraulic scales



BROAD RANGE OF SCALES

Indexator's test-winning scale is available with or without brake, with MPB and with the new Y-link for protected hose routing.

Y-links



PROTECTED HOSE ROUTING

The new, patent-pending links reduce the risk of leakage, which leads to greater productivity, lower costs and less harm to the environment. The Y-link is available in a number of variants – everything from unbraked links to the most advanced swing damping systems.

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 is a need to dampen swinging in one direction, primarily on light and medium-weight applications. Y-link for protected hose routing with MPB is now also available.



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 kits. Two kits provides extra controlled operation.

IR/SR ROTATORS

Heavy-duty rotators for demanding jobs and environments

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



IR 10 / IR 10-5

- For tough material handling.
- Mounted on 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 – no 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 – no 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 connection 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.



SR 180 / SR 210

- Specially designed for skidders and full tree handling.
- Extremely high torsion strength and durability.
- Service-friendly design.
- Available in two versions, for mid-sized and large skidders.

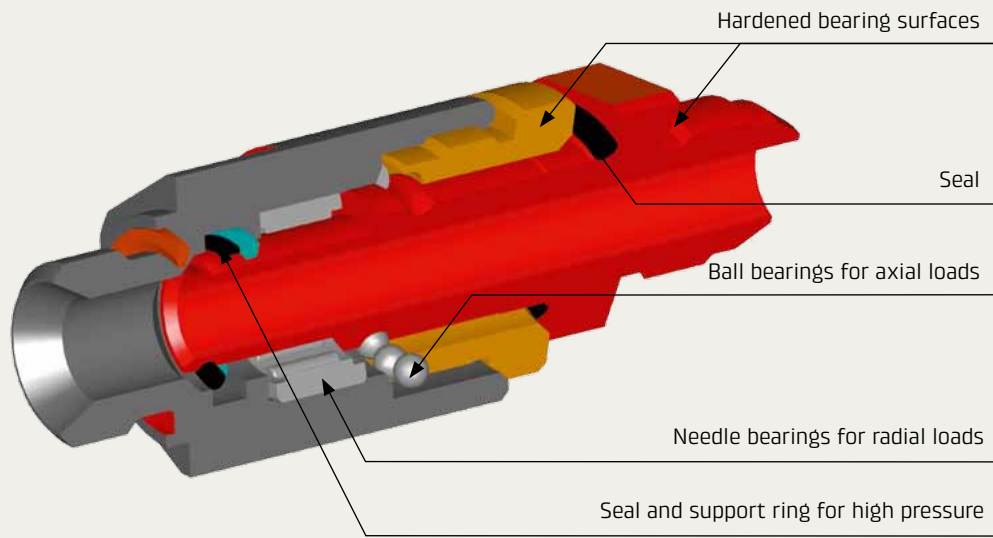


IR



SR





Hose swivels that pay off

Indexator's hose swivels are designed for today's modern hydraulic systems. Hose twisting is completely eliminated, which markedly increases the service life of the hose since twisting by as little as 10 degrees shortens the service life of the hose by up to 90 percent. There are a number of other concrete advantages of choosing an Indexator hose swivel:

LARGE SELECTION | Indexator's range of high-quality hose swivels includes almost everything: different sizes and dimensions, all common thread standards, internal/external threading, female/male and male/male designs.

FREE ROTATION | The hose swivels rotate freely and continuously, even at extreme pressures. No braking action.

HIGH PRESSURE | Indexator hose swivels handle high working pressures over a long period of time.

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

SHORTER HOSES | Having hose swivels that you can rely on, allows you to shorten hose lengths. In addition to weight savings, you get a straighter and thereby more secure routing of hoses.

NO PRESSURE LOSSES | No extra friction heat is created that interferes with the hydraulic system.



IDL SWIVELS

Neutralises torque resistance for both radial and axial loads with the help of needle and ball bearings.





Technical support from Indexator's own specialists is just an e-mail or phone call away. The experience and knowledge learned from this customer dialogue is then conveyed to designers and other key individuals, thereby creating continual product development.





Competence with more personal service and support

Nothing beats personal service when you need an answer. Indexator Rotator Systems has a staff of experienced employees with a vast degree of product knowledge to answer questions and take orders from customers and workshops. We consider technical support to be a core area of our business. Our support staff has the collective expertise of the entire rotator factory at its disposal. Our support staff sits just a few metres from product and production specialists and can quickly relate new knowledge 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 retailers keep a spare parts stock – everything from wear parts to complete rotators and accessories. Indexator supplies service providers with current service literature, repair manuals, spare parts catalogues and solid training.



Indexator Service School, ISS

To further improve the closeness to professional service, we have established the Indexator Service School (ISS). This training gives our customer's service technicians professional training in the repair and maintenance of Indexator rotators. 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. ISS training is generally carried out at Indexator's production facility in Sweden, but can also be carried out on site at the customer. The heart of the structure is an adapted curriculum. In other words, the training is customised based on the participants' previous knowledge and on the products available in that geographic market.



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