



Ground-breaking Solutions for the Agricultural Machinery Industry

simrit[®]

Simrit® , Your Global Technology Specialist for Seals and Vibration Control

Simrit, Your Global Technology Specialist for Seals and Vibration Control offers you a complete service package. A unique range of products and services guarantees you numerous advantages over the competition.

Simrit acts as a partner to general industry. Its position as a market leader is achieved through continuous research, development and manufacture. We have the world's widest range of seals and vibration control products, and can offer you solutions based on the demands of state-of-the-art-technology, solutions which set standards.

We can guarantee you a competitive edge based on experience all around the world: Simrit has a presence throughout Europe, America and Asia, either directly or through its affiliated companies NOK (Japan) or Freudenberg-NOK (USA). The transfer of knowledge between these markets is incorporated directly into the Simrit service package.

With our many Simrit Service Centres and Simrit distribution Partners, we serve and supply more than 100,000 customers worldwide. Our Simrit Partners ensure rapid availability from stock. This means spare parts quickly arrive when and where they are needed. There is a Simrit Partner near you as well.

Make the most of Simrit's service package and give yourself a real competitive edge:

- + The technological edge due to constant innovations
- + Savings in cost and time by using a single source for a uniquely wide range of products
- + Increased efficiency, using Simrit's material expertise to extend the service life of your components
- + The competitive edge due to our wide range of value added services



Simrit offers a complete package of products and services, including leading brands such as Simmerring®, Merkel, Integral Accumulator, Meillor and ISC O-Ring.

Vibration Control

Special Sealing Products: Bellows, Diaphragms, Elastomer Composite Parts and Precision Mouldings

ISC O-Ring

Meillor Flat and Frame Seals

Integral Accumulator

Merkel Hydraulics / Pneumatics / Packings

Simmerring®

Raw nature, innovative solutions

Your opportunity with Simrit® brand products

Improve your chances on the market

The statutory provisions governing reductions in noise and vibration levels for agricultural machinery have been tightened up considerably. Simrit is on hand to help, offering its potential in terms of knowledge and experience. We are entirely familiar with the economic and technical requirements of agricultural machinery manufacturers and with our specialists, have worked on the optimisation of sealing and vibration control systems for many years. Complete bearing and suspension systems ensure low-vibration and quiet running of your agri-

cultural machinery as well as high levels of comfort in every driver's cab. The use of complex product solutions such as friction-optimised Merkel hydraulic sealing systems or dirt-resistant Simmerring Cassette Seals further enhance the reliability of your machine in everyday usage.

More than just a supplier of products

In every one of our projects we see our role as serving our

customers. To offer you individual functionally optimised and economical solutions for your agricultural machinery we carry out numerous tasks together with our Technical Development Centre:

- project management for new developments and optimisation of existing systems
- holistic analysis of the system to develop optimum bearing and seal concepts
- translation of concepts into innovative products



The Simmerring is the original radial shaft seal. Today, Simmerrings are regarded as highly durable, robust machine components. The extreme reliability of our Simmerrings is based on years of product research and development.

Simrit can offer over 3500 different Simmerring precision seals in the standard range. For use in agricultural machinery it is above all Simmerring Cassette Seals and Simmerring Combi Seals that play a key role as well as Simmerring Premium Pressure Seals.

Simmerring Cassette Seal and Simmerring Combi Seal

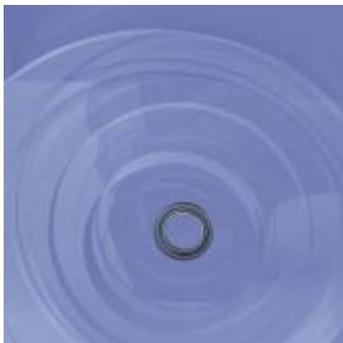
Simmerring Cassette Seals consist of a Simmerring and an integrated slip ring, which are inseparably joined. They are mainly used to seal drive shafts with little axial movement, e.g. in axles or power take-off shafts. Simmerring Combi Seals



are made of at least two components and are specifically suitable for applications involving superimposed rotary and axial movements. This ensures reliable sealing for jointed shafts subject to soiling. Both products are specially characterised by their high resistance to external soiling. They also impress with their robust design, thus ensuring a long service life, reliable fitting and a low maintenance requirement.

Simmerring Premium Pressure Seal (PPS)

This innovative Simmerring for pressurised applications as in hydraulic drives is specially characterised by its thermal stability and wear resistance. The patented design minimises friction and wear in comparison with conventional pressure seals. This ensures a much longer service life. The Simmerring PPS is made of the tried and tested material 75 FKM 595. Its dynamic pressure stability is max. 10 bar.



Simmerring® Premium Pressure Seal (PPS)

Simmerring® Cassette Seal
Simmerring® Combi Seal



Integral Accumulator

Accumulators or hydro accumulators previously developed as energy accumulators have been taken a step further by Simrit in a wide range of forms. Their functions now go way beyond their original purpose. In agricultural machines modern hydro accumulators are used in combination with control blocks for the suspension of front axles and cabs.



Simrit offers you hydropneumatic suspension and damping systems, which are designed by our engineers together with yourself as the agricultural machinery manufacturer in line with your own requirements.

Hydropneumatic cab suspension

The comfort of your agricultural machine greatly depends on suspension of its cab. Simrit's active suspension system fulfils all statutory requirements and is

characterised by its economic efficiency. The accumulator volume and spring rate are individually adjusted according to the requirements of every customer via electronics.

Hydropneumatic front axle suspension

The combined use of hydro accumulators and control blocks in agricultural machinery minimises vibration and jolting, as occurring with tractors running at high speeds, for example. This improves the comfort of your agricultural machine and increases machine operating times by reducing stress levels for the driver. Full traction is ensured whatever the operating conditions. The benefits of the system are improved handling

and increased safety. This is particularly important not only when using the machine at high speeds but also for combined loading and transport functions. The control block is characterised by its compact design, allowing it to be easily incorporated in any machine. In addition, it offers all hydraulic functions.

Standard hydro accumulator

Simrit can supply special Integral Accumulator hydro accumulators made of various materials that are tailored to the individual application. They guarantee a constant uninterrupted compressed oil supply.



Integral Accumulator
Hydropneumatic front
axle suspension

Vibration Control

It is our aim to reduce vibration and noise levels in agricultural machinery to the maximum possible extent to bring about a noticeable improvement in comfort. This is ensured by high-quality tried and tested components based on many years of technical experience.



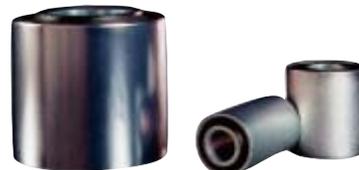
Simrit has successfully solved problems with vibration control for many years. Besides offering a wide range of standard products we are also able to come up with precise solutions for individual problems thanks to the know-how of our numerous specialists.

Hydro mounts and hydro bushes

Hydro mounts and hydro bushes are used for the mounting of superstructures driver's cabs in particular. Simrit offers a high-quality product programme for agricultural machinery that will help to noticeably improve the user comfort of your products. The use of cab bearings greatly reduces noise and vibration levels. Even an hypercritical bearing with high damping in the resonance frequency is possible without significantly impairing structure-borne sound insulation.

Ultra bushes

As elastomer springs with an internal and external bush Simrit's ultra bushes can be used as smooth mountings for engines and gears, as well as ancillary components. Vibrations acting radially and axially are damped reliably, absorbing torsional and cardanic deflections. Ultra bushes function as maintenance-free joints and are often used for mounting engines in harvesters.



Hydro mount
Hydro bush



Merkel Hydraulic Components

Seals and sealing systems for hydraulic cylinders are a decisive factor for the functional reliability of the system as a whole. This is why Merkel hydraulic components are specially designed for the requirements of the agricultural machinery industry.

Statutory environmental regulations are constantly setting higher standards. As a result the requirements on hydraulic sealing systems also continue to rise. Long-lasting quality and maximum performance naturally play a key role here. However, this is only achieved when all elements are perfectly coordinated with each other. Simrit therefore offers a complete standard selection of Merkel hydraulic

components for a wide range of applications. This expertise also forms the basis for the development of customised solutions. When designing individual hydraulic sealing systems we place special value on stick-slip-free movement, freedom from leaks and optimised friction.

The following products can be combined with each other to outstanding effect.

Merkel Omegat OMK-MR

Consisting of a PTFE sectional ring and an O-Ring, Omegat OMK-MR is a low-friction seal set for sealing pistons pressurised on both sides.

- use with fast pressure changes
- very good heat conductor
- reliable extrusion

Merkel U-ring LF 300

The characteristic asymmetrical profile of the polyurethane U-ring LF 300 and the special groove design on the dynamic lip result in high levels of static and dynamic reliability.

- low friction even at low speeds
- easier control and positioning

Merkel Double Wiper Pressure Relief Wiper (PRW)

The double wiper PRW for friction-optimised sealing systems consists of highly wear-resistant polyurethane. The optimised sealing lip with improved wiping action is supplemented by a static sealing lip with service functionality.

- protection from the ingress of soiling
- long service life and excellent friction behaviour in sealing systems, e. g. in conjunction with LF 300
- short installation times thanks to snap-in fitting



Merkel hydraulic sealing system



Simrit, Your Global Technology Specialist for Seals and Vibration Control

Simrit Services

- Constant innovations
- Uniquely wide range of products
- Unique materials expertise
- A wide range of value added services

Your Benefits

- Technological edge
- All from one source
- Longer unit service life
- Competitive advantages, efficiency and lower costs

e. g. — Ground-breaking solutions for the agricultural machine industry

Your Benefits

- Integrated individual solutions
- Noticeably more comfort for your machines
- Short development times



Vibration Control

Special Sealing Products: Bellows, Diaphragms,
Elastomer Composite Parts and Precision Mouldings

ISC O-Ring

Meillor Flat and Frame Seals

Integral Accumulator

Merkel Hydraulics / Pneumatics / Packings

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