



SCHAEFFLER

Mounting and maintenance tools | Condition monitoring equipment





SCHAEFFLER

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Mounting and dismantling

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Introduction

The correct mounting and ongoing maintenance of rolling bearings is critical to the service life of plant, machinery and equipment.

As a world leader in the manufacture of rolling bearings, the Schaeffler Group, through its Industrial Aftermarket function, has developed a comprehensive range of specialist tools and equipment to facilitate the maintenance of bearings.

The range includes everything needed for efficient and safe mounting, dismantling and maintenance of bearings, plus a carefully selected range of lubricants. Specialist tools and systems designed to enable operators to monitor the condition of bearings and take appropriate action where indicated are also available.

Use of the correct tools combined with condition monitoring systems will increase the service life of bearings and help prevent expensive, unplanned downtime.

This brochure provides an overview of the products available. More information on all the products is available online at www.schaeffler.co.uk. Technical data sheets are available on each of the products and these can be downloaded from our website.





Mounting and dismounting

Mounting tool set

Designed to enable economical and secure mounting of rolling bearings up to 50mm bore and can also be used to easily mount sleeves, intermediate rings, seals and similar parts.

Where inner or outer rings with a tight fit are to be driven onto a shaft or into a housing bore, this can be achieved by applying hammer blows to an appropriate mounting sleeve.

The carefully matched FAG precision parts ensure that the forces are uniformly transmitted to the end faces of the bearing rings, preventing any damage to the rolling elements or raceways.



Set includes:

- 33 mounting rings (for bearing bore of 10–50mm and outside diameter up to 110mm)
- 3 mounting sleeves
- Recoilless hammer
- Case dimensions: 440 x 350 x 95 mm
- Weight: 4.5kg

(Contents also available as individual parts)

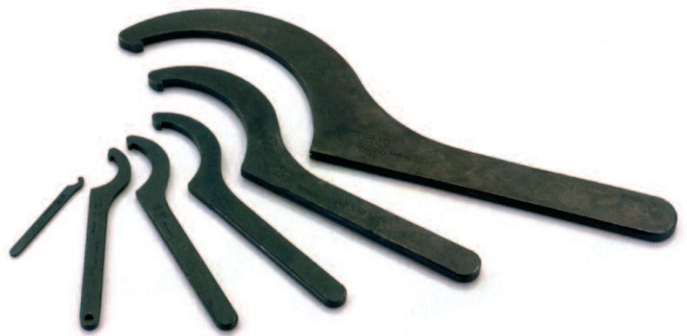
FOR DETAILED INFORMATION, SEE TPI WL 80-56

Hook wrenches

For locknuts KM0 to KM40

Designed to tighten and loosen locknuts on shafts, adapter sleeves and extraction sleeves, FAG hook wrenches can also be used to mount small bearings on tapered shaft seats, adapter sleeves or extraction sleeves. Extraction sleeves and extraction nuts can also be dismantled using FAG hook wrenches.

FOR DETAILED INFORMATION, SEE TPI WL 80-56



Mechanical extractors (two and three arm)

Designed to dismount small rolling bearings up to approx. 100mm bore diameter that are located with a tight fit on a shaft or in a housing. Bearings can be dismounted without damage if the extractor is in contact with the tightly fitted bearings ring.

The extraction force is normally applied by means of a threaded spindle.

For extraction of complete rolling bearings or tightly fitted inner rings as well as other parts (e.g. gears).

Grip width: 80–640mm; grip depth: 65–300mm.

Available as complete sets or individually.

(Note: For the dismantling of larger bearings, hydraulic extractors should be used).



FOR DETAILED INFORMATION, SEE TPI WL 80-56



Spider hydraulic extractors

Designed for use where higher extraction forces are required, available in 10 sizes offering a range of extraction forces from 40 to 400 kN, these devices allow rolling bearings, gears, sleeves and many other shrink-fitted parts to be easily and quickly dismantled.

The low mass of the Spider also means they can be used in any position and the pump handle is equipped with a 360 degree rotary coupling to facilitate optimum operating positioning.

Other advantages of the Spider include:

- Pressure build-up or reduction by rotation of handle on cut-off valve
- Pressure control valve prevents overload
- Parts under mechanical load made from high quality chromium-molybdenum steel
- Maximum possible reduction in torsional and frictional forces due to chromium plated piston made from quenched and tempered steel
- Length of stroke adjustable by means of standard adapter
- Extraction arms and claws manufactured as a single piece to allow high load capacity
- Simple centring by spring loaded steel cone
- 'Quick' screw thread for setting of optimum grip depth
- Can be easily converted to two-arm operation where necessary
- Spider can be supplied with longer extraction arms on request
- 175 kN and 400 kN devices with a separate hand pump for use where space is restricted.

FOR DETAILED INFORMATION, SEE TPI WL 80-56



Spider 100...300

Extra strong hydraulic extractor with integral hand pump



Spider 40...80

Hydraulic standard extractor with integral hand pump



Spider 175 + 400

Extra strong hydraulic extractor with separate hand pump



Puller TRISECTION

Three section plates allow the extraction of complete bearings, tightly fitted inner rings and other components. The load capacity and extraction force are precisely matched to each other.

The Spider extraction claws grip directly under the screw studs of the extraction plates to provide uniform distribution of force and, even where parts are firmly seated, there is no tilting or bending. As a result, the bearing and shaft generally remain intact and can be used again.

PULLER-TRISECTIONS are available for use with the complete range of Spiders, covering a shaft diameter range of 12 to 380 mm.

FOR DETAILED INFORMATION,
SEE TPI WL 80-56



Hydraulic nuts

Hydraulic nuts can be used to press parts with a tapered bore onto their tapered seat. They are generally used where the drive-up forces required cannot be applied by other devices such as shaft nuts or pressure screws.

Hydraulic nuts are mainly used for the mounting of rolling bearings with a tapered bore where the bearings can be seated directly on a tapered shaft, on an adapter sleeve or an extraction sleeve.



They are also used for the mounting of couplings, gears, ships' propellers etc.

FOR DETAILED INFORMATION, SEE TPI WL 80-57

FAG Mounting Manager

A user-friendly computer program designed to ensure the correct mounting of bearings:

- Shows the various mechanical and hydraulic mounting methods available
- Calculates the data required for mounting in relation to reduction in radial internal clearance, displacement and start pressure
- Provides useful mounting advice
- Generates a list of tools and accessories required for each application.

Hand pump sets (for hydraulic mounting and dismounting)



The range includes one hand pump set with a single stage pump (1000 bar) and three hand pump sets with twin stage pumps (1000 bar, 1600 bar and 2500 bar).

The twin stage pumps have a high flow rate in the low pressure range (up to 50 bar) and then switch automatically to the high-pressure stage providing a high work rate.

Where there is an increased oil requirement, twin stage pumps are available with an 8 litre oil container. In cases where the installation of the adapter or extraction sleeve required a separate oil supply, a two-way valve can be supplied.

FOR DETAILED INFORMATION, SEE TPI WL 80-50





Thermal mounting and dismounting

Heating plates

The inexpensive, maintenance-free, temperature-controlled heating plate can be used to heat rolling bearings (up to a max of 120°C) or small machine parts up to 5 kg mass.

A removable housing cover protects components from contaminants and ensures uniform and rapid heating.

Plate size is 380 x 180mm and temperature control is continuously variable from 50 to 200°C.



Induction heating devices

HEATER10 - HEATER1200

Many rolling bearings and other rotationally symmetrical parts made from steel have tight fits on the shaft and can be mounted more easily if they are heated first. FAG induction heating devices are designed for this precise purpose. The advantages they offer include:

- Rapid, energy efficient operation
- Suitable for rolling bearings and other ring shaped steel parts
- Safe operation
- Environmentally friendly (oil free)
- Uniform controlled heating
- Ease of use
- Automatic demagnetisation
- High cost-effectiveness
- Suitable for batch mounting.

With the exception of Heater10, the heaters are matched to the various shaft diameters by fitting the appropriate ledges.

If induction heating devices are registered on the Schaeffler Industrial Aftermarket website, they benefit from a 5 year warranty.

Arcanol mounting paste

Facilitates the sliding of bearing rings and prevents stick-slip, scoring and fretting corrosion. It also provides good protection against corrosion. The paste does not cause contamination and is resistant to water, water vapour and many alkaline and acidic media.

Available in 70g and 250g tubes; 400g cartridges and 1kg cans.



The range includes five table units (Heater10 to 300) suitable for mobile and fixed use and two heavy duty, standalone devices capable of handling work pieces up to 1200 kg.

The range includes:

Heater10

For work pieces of min. bore 10-65mm with a mass of max. 10 kg



Heater20

For work pieces of min. bore 10-60mm with a mass of max. 20 kg



Heater40

For work pieces of min. bore 15-70mm with a mass of max. 40 kg



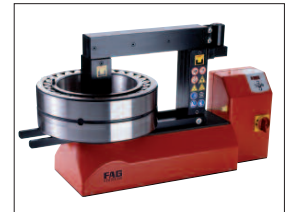
Heater150

For work pieces of min. bore 20-100mm with a mass of max. 150 kg



Heater300

For work pieces of min. bore 30-115mm with a mass of max. 300 kg



Heater600

For work pieces of min. bore 45-145mm with a mass of max. 600 kg



Heater1200

For work pieces of min. bore 85-215mm with a mass of max. 1200 kg



FOR DETAILED INFORMATION, SEE PDB 27



Flexible induction heating

Alternative heating method for mounting and dismantling large-sized bearings and housings. Medium frequency induction heaters fitted with flexible inductors, which are ideal for one-off mounting or dismantling tasks. Saves the cost of purchasing a dedicated induction heater.

Suitable for any large-sized bearing or other large, circular, ring-shaped steel structure that requires heating. Examples here are bearing seats in a machine carrier such as a wind turbine, preheating of welds in pipeline construction, or dismantling of bearing inner rings and other shrink connections.



- Flexible heating method for unusual shaped bearings and housings e.g. plummer blocks for large-sized bearings.
- The flexible heating cable offers complete flexibility in terms of the size and geometry of the workpiece or bearings.
- Can heat areas of a workpiece or bearings that are normally inaccessible.
- Fast preparation time (1-2 hours) compared to other heating methods.
- Heating process is automatic, so no resources are tied up during this time. Heater stops when sensor detects that bearings have reached the required temperature.
- Bearings do not require cleaning after heating.

FOR DETAILED INFORMATION, SEE TPI WL 80 376

Heating rings and heat conducting paste

Suitable for the dismantling of the inner rings of cylindrical roller and needle roller bearings with ribs and inner rings with one rib. Offer particular advantages for the occasional extraction of small and medium sized bearing rings (bore diameter 50 to 200mm) with heating taking from 5 to 30 seconds depending on the size of the ring,

The rings are heated to between 200 and 300°C using a heating plate. The outside surface of the bearing inner ring is coated with a silicone-free heat conducting paste to provide optimum heat transfer and the heating ring is then fitted over the inner ring to be extracted.

Each bearing size requires a specific heating ring.

FOR DETAILED INFORMATION, SEE TPI WL 80-58



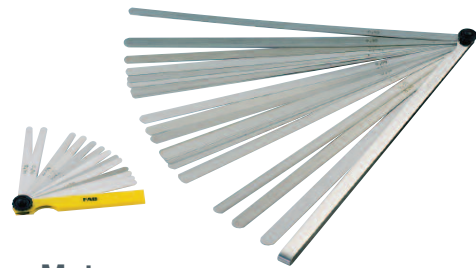
Accessories

Feeler gauges

Used to measure the radial internal clearance especially for mounting on tapered shaft seat and extraction sleeves.

The FAG range includes:

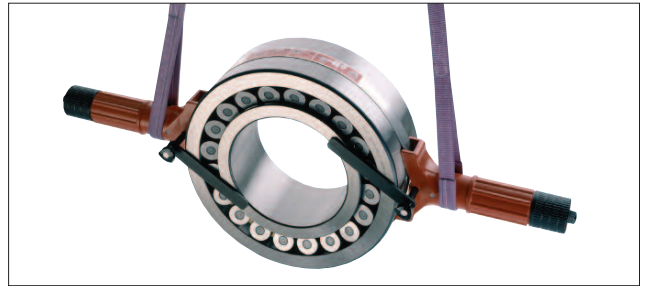
- FEELER GAUGE 100
(Feeler length is 100mm; thickness is from 0.03mm to 0.20mm)
- FEELER GAUGE 300
(Feeler length is 300mm; thickness is from 0.03mm to 0.50mm)



Bearing-Mate

Transport and mounting tool

Designed for secure, rapid and easy handling of medium-sized and large rolling bearings, Bearing-Mate can also be used where bearings are heated prior to mounting.



It comprises two handles and two strips. Turning the handles clamps the steel strips firmly on the outer ring of the bearing. Two brackets for use with spherical roller bearings and self-aligning ball bearings are included in the kit. The brackets prevent tilting of inner rings.

Bearing-Mate remains mounted on the bearing during induction heating. The steel strips expand uniformly with the bearing allowing optimum tension to be maintained.

Bearing-Mate can be carried by either two people or crane.

Bearing-Mate is available in three sizes suitable for outside diameters of 250–450mm, 450–650mm and 650–850mm.

Anti-corrosion oil

Particularly suitable for unpacked rolling bearings, it can also be sprayed on bright metal surfaces of devices, machines and machine elements to give long-term anti-corrosion protection when stored outdoors.

Generally it is not necessary to clean the oil out of rolling bearings because it is neutral in behaviour towards all conventional bearing greases and oils.

Available in 0.4 ltr spray can (with ozone-safe CO₂ propellant).





Lubricants

Arcanol rolling bearing greases

For many years the Schaeffler Group has worked in co-operation with leading lubricant manufacturers to develop the Arcanol range of lubricating greases that are particularly suitable for rolling bearings.

To be included in the Arcanol range, greases must have passed a series of stringent tests on both lubricant test rigs and under simulated field conditions to ensure they improve bearing service life and reduce friction and wear.

The chart below provides an overview of available Arcanol greases and the types of applications they are suitable for.

The accurate selection of a suitable grease for each type of product and application is facilitated by the electronic medias[®] catalogue.

- More than 80% of all rolling bearings are lubricated with grease
- Incorrect lubrication causes more than 40% of all cases of rolling bearing damage
- Users therefore need lubricants and lubrication recommendations that they can rely on
- Arcanol rolling bearing greases ensure that a bearing can be used to its full capacity
 - Long service life
 - Good running behaviour
 - High operational reliability

FOR DETAILED INFORMATION, SEE TPI 168

Overview of Arcanol rolling bearing greases

Type	Arcanol MULTITOP	MULTI2	MULTI3	LOAD150	LOAD220	LOAD400	LOAD1000
Characteristic	Universal grease for ball and roller bearings	Universal grease for ball bearings OD ≤ 62mm	Universal grease for ball bearings OD > 62mm	Special grease for ball, roller and needle roller bearings, linear guidance systems	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings
Areas of application	in rolling mills, construction machinery, automotive engineering, spinning and grinding spindles	in small electric motors, agricultural and construction machinery, household appliances	in large electric motors, agricultural and construction machinery, fans	in machine tools	in rolling mill plant, rail vehicles	in mining machinery, construction machinery, wind turbines	in mining machinery, construction machinery, preferably under shock loads and large bearings
Performance	at increased speeds, high loads, low and high temperatures			at high loads, with wide speed range movements	at high loads, with wide speed range, high humidity	at very high loads, moderate temperatures, moderate speeds	at very high loads, moderate temperatures, low speeds



	TEMP90	TEMP110	TEMP120	TEMP200	SPEED2,6	VIB3	BIO2	FOOD2
	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings
	in couplings, electric motors, automotive engineering	in electrical equipment, automotive engineering	in continuous casting plant	in track rollers in baking machinery, piston pins in compressors, kiln trucks, chemical plant	in machine tools, instruments	in blade adjusters in rotors for wind turbines, packaging machinery, rail vehicles	in environmentally hazardous applications	in applications with food contact; H1 to USDA
	at high temperatures, high loads	at high temperatures, high speeds	at high temperatures, high loads	at very high temperatures, in chemically aggressive environments	at very high speeds, low temperatures	at high temperatures, high loads, with oscillating motion		



Lubrication systems

Motion Guard

An automatic system that supplies reliable, controlled and economical lubrication to rolling bearings - resulting in a significant increase in bearing life.

Designed to prevent under-supply or over-supply of grease, Motion Guard effectively reduces plant downtime, extends maintenance intervals and reduces maintenance costs. The sparing use of lubricants facilitated by Motion Guard also reduces costs and is environmentally friendly.

Motion Guard lubricators provide:

- Individually configured, precise supply to each bearing position
- Fully automatic, maintenance-free operation
- Reduced personnel costs (compared to manual lubrication)
- A variety of dispensing times (1, 3, 6 or 12 months; for Concept 6, dispensing times of 1 day to 24 months)
- No risk of confusion or contamination of lubricants
- Pressure build-up (to 4 bar for Compact; 5 bar for Champion and 25 bar for Concept 6) thus overcoming any obstructions.



Motion Guard COMPACT

Automatic lubricator that is electrochemically driven, with the electrolyte being environmentally-friendly citric acid.

Dispensing time is determined by the different coloured activation screws.

Compact CLEAR

Suitable for corrosion-inducing humidity areas and areas of regular washdown. Can be used at operating temperatures from 0 to 40°C.

Compact POLAR

For operation in temperatures from -25°C to +10°C.



Motion Guard CHAMPION

Electromechanically driven system.

This allows the dispensing times to be adjusted depending on the temperatures and to 1, 3, 6 or 12 months.

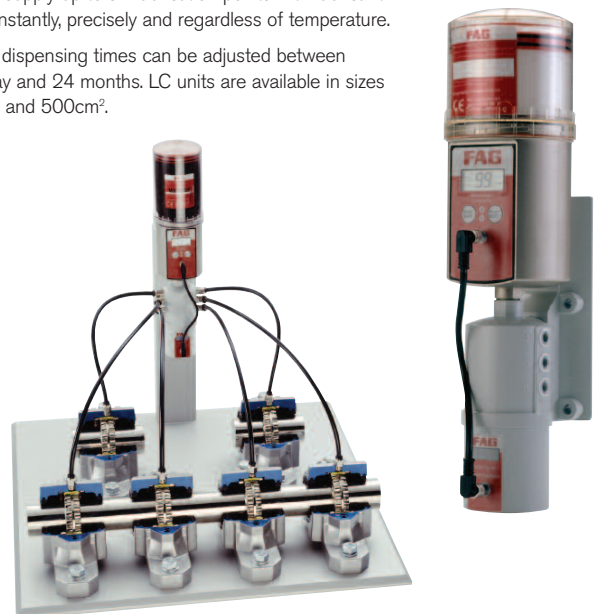
Battery-powered, with the battery being changed whenever the cartridge is changed.



Motion Guard CONCEPT 6

Can supply up to six lubrication points with lubricant - constantly, precisely and regardless of temperature.

The dispensing times can be adjusted between 1 day and 24 months. LC units are available in sizes 250 and 500cm³.



Motion Guard SELECT MANAGER

The software Motion Guard SELECT MANAGER Version 2.0 allows:

- Selection of lubricators
- Definition of dispensing times and relubrication quantities
- Selection of suitable/preferred Arcanol greases
- Management of a lubrication and maintenance plan

FOR DETAILED INFORMATION ON FAG LUBRICATORS SEE TPI WL 80 346



Alignment

Top-Laser SMARTY2

Belt pulley alignment device

An economical measuring device for the alignment of belt pulley and chain sprockets. Use of these devices effectively reduces wear on belt drives, bearing and seals. Less vibration is generated and the running time and reliability of the machine is improved.

Top-Laser Smarty2 provides the following advantages:

- Displays the parallelism and misalignment of both pulleys
- Significantly quicker and more precise than conventional methods
- Suitable for both horizontally and vertically mounted machinery
- Only one person required for alignment procedure
- Suitable for non-magnetic sprockets or pulleys.

FOR DETAILED INFORMATION,
SEE TPI 182



Top-Laser TRUMMY2

Belt tension measuring device

An optical-electrical instrument for measuring and setting optimum belt tension which is necessary to achieve the maximum possible life of the belt drive.

The user-friendly Top-Laser TRUMMY2 comprises a cableless measurement probe, a measurement probe with a cable for difficult to access locations and a microprocessor that indicates relevant measurables for belt tension either as frequency (Hz) or force (N).

FOR DETAILED INFORMATION, SEE TPI 182



Top-Laser INLINE2

Shaft alignment device

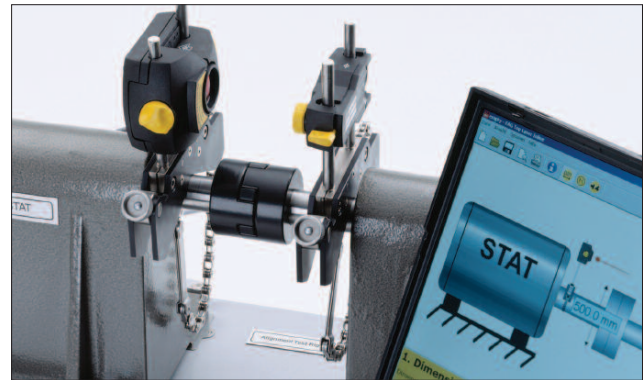
PC-based alignment system for coupled-in shafts in motors, pumps ventilators and gearboxes with rolling bearings.

The device is simple to mount and provides error-free operation, even by untrained personnel, due to automatic measurement and positioning processes.

The system is optimised for use with commonly available netbooks and laptops via a USB interface. A wireless connection is available as an option.

Top-Laser INLINE2 provides more precise alignment than conventional methods and measurement is rapid due to continuous rotary motion of the transceiver.

FOR DETAILED INFORMATION, SEE TPI 182



Top-Laser SHIM

Top-Laser SHIMs are used to eliminate any vertical misalignment detected using Top Laser measuring devices.

They are available in seven thickness values - 0.05, 0.10, 0.20, 0.50, 0.70, 1.00 and 2.00mm - and four sizes of 15, 23, 32 or 44mm.

The SHIM set, supplied in a practical case, contains 20 shims each in three sizes 15, 23 and 32mm and six thickness values from 0.05 to 1.0 mm (i.e. a total of 360 shims) plus one extraction hook.

FOR DETAILED INFORMATION, SEE TPI 182





Condition monitoring

TempCheck PLUS

Infrared thermometer

TempCheck PLUS measures the infrared radiation emitted by an object and uses this to calculate the surface temperature in the range -32°C to $+530^{\circ}\text{C}$.



It has an optical resolution of 20:1 and maintains a consistently small measuring spot of 13 mm up to a distance of 140 mm.

The contact-free operation makes it possible to easily determine the temperature of moving or difficult to access objects.

TempCheck PLUS is easy to use, cost-effective and provides rapid and precise temperature measurement.

TempCheck PRO

Infrared thermometer

TempCheck PRO operates on the same principle as TempCheck PLUS and can measure temperatures over a larger range of -32°C to $+760^{\circ}\text{C}$.

It has an optical resolution of 40:1 and maintains a consistently small measuring spot of 13 mm up to a distance of 260 mm.

In addition to contact-free operation, TempCheck PRO also offers the option of measuring by contact means and is supplied with a surface sensor and an immersion sensor.

The system has an integral datalogger capable of storing 20 measurement values.

TempCheck PRO builds on the proven benefits of the TempCheck principle with upgraded performance and additional functions.

**FOR FURTHER INFORMATION,
SEE TPI WL 80 377**



Detector III

Condition monitoring by vibration diagnosis with optional integral balancing.

Detector III is a portable vibration and temperature measuring device and data collector. It picks up vibration signals at predetermined measuring points and calculates the effective values for velocity and acceleration.



It can be used to monitor machine vibrations in accordance with ISO 10816 as well as rolling bearing condition using the demodulated signal enveloping method.

Data collected by the device is transferred to a computer for evaluation and analysis. Data is presented in graphic form using Trendline software. A new feature of the system is the optional functionality of automatic detection of measuring points using RFID tags.



Detector III is now also capable of carrying out static and dynamic balancing tasks meaning that any imbalance detected can be easily and efficiently eliminated.

The optional Balancing Kit guides the user through the balancing procedure step by step.

**FOR DETAILED INFORMATION,
SEE TPI WL 80-64**





FAG SmartCheck

Online Condition Monitoring Device

An ultra compact, online condition monitoring device that monitors vibration and temperature, as well as other machine and process-specific parameters such as pressure and flow rate. The device can also be used as a machine condition guard with safety switch-off.



Cost effective alternative for online monitoring of small, process critical and non-process critical plant & machinery, including machine tools, spindles, motors, drives, pumps, compressors, HVAC systems and gearboxes.



Uses patented diagnosis technology. Helps companies optimise their manufacturing processes, whilst maximising plant availability and reducing the Life Cycle Cost and Total Cost of Ownership of plant & machinery.

- Easy to operate. Requires no special programming skills or knowledge.
- Compact and easy to install.
- Typically mounted to the machine housing.
- Small and lightweight and requires less wiring.
- Patented self-learning or 'Teach-In' mode, so, alarm thresholds are adjusted automatically. After set up and commissioning, the device operates autonomously.
- Modular, scalable system that provides multiple expansion options.
- Protected to IP67 & ATEX-certified to Ex II 2 D/G mb IIB T4.



FOR DETAILED INFORMATION, SEE TPI 214

DTECT X1 s

Dtect X1 s is the upgraded online system for permanent vibration monitoring and diagnosis of plant where downtime can incur high costs. The individual modules – the monitoring unit and the multiplexer – have been integrated in a single compact housing with standardised connectors.

Signals from up to 8 sensors can be recorded and up to 16 monitoring tasks can be stored and executed automatically. The system can be customised to match the specific requirements of the application and process variables such as speed, temperature, torque and pressure can be recorded.

Data can be accessed at the central control station for direct analysis or can be retrieved from any location via telecom links, allowing remote analysis and adjustment of parameters. The system is designed especially for use in harsh environments (IP67 protection / temperature ranges from -20°C to +70°C).

FOR DETAILED INFORMATION, SEE TPI WL 80 372



WiPro s

WiPro s is the upgraded online vibration monitoring system developed specially for wind power plant, with the monitoring unit and multiplexer integrated in a single compact housing. It is designed to monitor the main bearing, gearbox, coupling and generator as well as tower vibration and, optionally, oil cleanliness.



Approved by Allianz and Germanische Lloyd

The system can evaluate all measurement signals on site, thus keeping data transfer volumes to a minimum, which is particularly important where large wind farms are subject to permanent monitoring. High performance and reliability, standardised connectors, monitoring technology approved by world-leading insurance bodies and protection against harsh conditions make WiPro s a flexible, widely retrofittable monitoring system.

FOR DETAILED INFORMATION, SEE TPI WL 80 373





AE-Check (hand held)

Acoustic Emission technology is ideal for monitoring the condition of slow rotating, variable speed and load machinery and components.

The AE-Check hand held monitor measures the high frequency stress waves generated by the rapid release of strain energy that occurs within a material during crack growth, plastic deformation or phase transformation.

AE-Check is highly effective where components are rotating at less than 80rpm (even down to 0.25rpm), or operating under fluctuating load conditions or only moving through a part-revolution.

Ideal for patrol monitoring, the user can set up to six different routes through the factory with up to 435 measuring points per route.

Built-in PC-based software makes it easy to set up each route and then seamlessly uploads the measurement data, displaying and reporting on the results.

FOR DETAILED INFORMATION, SEE PUBLICATION "A TO V"



FAG Wear Debris Monitor

A combined oil and vibration monitoring system that enables early detection of damage to heavy duty, oil-lubricated industrial gears, preventing unplanned downtime and minimising MRO costs.

Online condition monitoring system pinpoints precise location of damage or wear to gears, bearings and cages within a gearbox or other industrial gear unit. Suitable for wind turbine planetary gearboxes, marine propulsion systems, oil and gas top drives and gearboxes, mining & quarrying rotary kilns, pulp and paper drive roll gears, and steel & aluminium pinion stand gear units.

- Uses inductive particle counter to distinguish between ferrous and non-ferrous particles in the lubricating oil.
- Measures number of particulates in the oil and classifies these according to their size.
- Monitors vibration behaviour of machine and its components.
- Easily integrated with other online condition monitoring systems such as FAG WiPro s and FAG ProCheck systems.

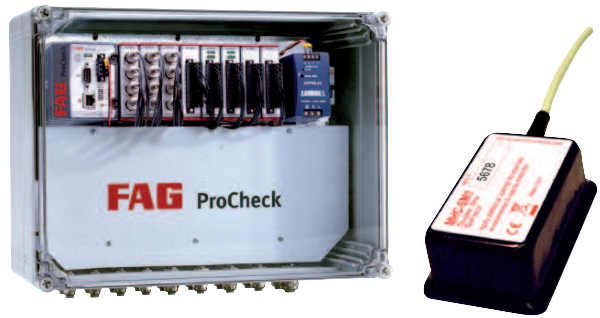
FOR DETAILED INFORMATION, SEE PUBLICATION TPI WL 80 366



ProCheck

The latest generation of modular online monitoring system, now with increased functionality

FAG ProCheck, the new generation, modular online condition monitoring system, represents a high performance solution to the prevention of unplanned downtime.



By combining ProCheck with multiple acoustic smart sensors, the functionality of the system is increased still further. Users can remotely monitor both vibration and trend acoustic emissions of variable speed components and machines. For example, the acoustic sensors can monitor the condition of a slow moving, complex gearbox while ProCheck monitors the condition of faster rotating machinery such as motors, fans and pumps.



Available in 8, 12 and 16 vibration channel units, ProCheck can be easily expanded to match the growing requirements of any industrial plant.

The system can handle large numbers of digital and analogue input and output signals, allowing easy communication with central process control systems and, due to its flexibility and robust design, the system has almost no limits and is suitable for use in all industrial areas.

FOR DETAILED INFORMATION, SEE TPI WL 80-69 AND PUBLICATION "A TO V"





Reconditioning of rolling bearings

Industrial Aftermarket, the maintenance arm of the Schaeffler Group, offers a comprehensive reconditioning service on all types of bearings, including cylindrical roller bearings, spherical roller bearings, tapered roller bearings and wheelset bearings for railway vehicles - and the service is available for both Schaeffler-produced bearings and bearings from other manufacturers.



The advantages for the user are primarily lower cost and shorter delivery times. The costs of reconditioning are a fraction of those of buying new and the lead times involved in reconditioning are invariably much shorter than producing a new bearing.

The Schaeffler service starts with a damage diagnosis on a bearing to determine whether repair is a viable option and, if so, what level of reconditioning is required.

This can range from simple Refurbishment (polishing of raceways, removal of fretting corrosion, assembly, preservation or greasing and long term packaging, if required) through Remanufacture (+ regrinding of raceways, new rolling elements, replacement of cage) to Remanufacturing Plus (+ manufacture of inner ring with new bore diameter, redimensioning of internal clearance).



The Schaeffler reconditioning service is the ideal way to extend the service life of bearings and reduce costs. To make things even better, all reconditioned bearings come with a Schaeffler warranty – in many cases the same warranty as is available on new bearings.

FOR DETAILED INFORMATION, SEE TPI 207



Aircraft engine bearing before (left) and after reconditioning.

+ Health Check

Prevention is Better than Cure



Keeping a healthy check on the condition of your plant and machinery means that the major financial headaches associated with unplanned downtime can be easily avoided.

Condition monitoring systems from Schaeffler UK are a cost-effective way of preventing problems before they arise. They enable engineers to keep control of their plant, minimise the risk of breakdown and reduce their maintenance costs.

So rather than waiting until things start to go wrong, why not make an appointment with an experienced Schaeffler engineer today and prevent those unforeseen problems from becoming a real headache.

