

Preview EMO 2025 Fair Hannover

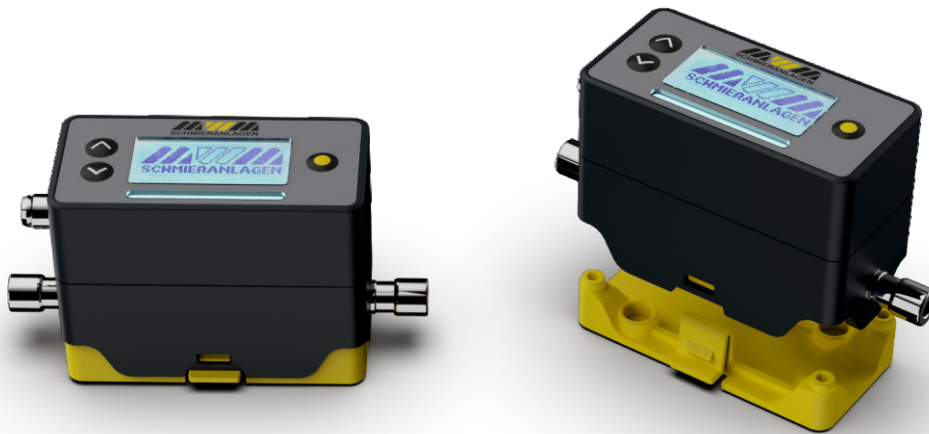
Overview of new products and technologies

MWM Schmieranlagen presents the latest technologies for safe and reliable lubrication processes.

Most important topics:

- Micro-flow metering Sensor IFL
- ZLaser Unit: Airless Micro-flow lubrication for High-Speed Bearings
- ZB4 Oil+Air Unit for Spindles Lubrication
- LS35 MQL System - Internal Single-Channel Tool Lubrication
- Safer Lubrication Processes with MWM's Sensor Portfolio

- Micro-flow Metering Sensor IFL: laser-based flow measurement



The IFL liquid flowmeter enables immediate measurement of micro-flow rates of liquids. Based on laser interferometry technology, the IFL sensor is designed to measure extremely low flow rates – as low as a few drops per hour – with exceptional accuracy. With three different operating modes, it allows effective and instantaneous flow measurements, precise dispensing of small fluid volumes, or long-term metering, for enhanced process control and real-time data acquisition.

Measurement ranges start at 0.1 ml/h, and the sensor is compatible with a wide range of substances, including lubricating oils, sanitary fluids, and aggressive substances(*).

Application include monitoring of lubrication lines, to prevent overheating due to over-lubrication; monitoring of spray head supply lines, e.g. spraying and coating processes; dispensing of accurate fluid volumes; etc.

Key points:

- Measurement range : from 0,1 to 600 ml/h
- Three operation modes: flow meter, dispensing, totalizer
- Suitable for use with aggressive fluids (*).
- Integrated display and color LED status indication.
- Flexible output options: serial bus (*), 4-20 mA, 0-10 V, digital NO/NC.
- Configuration options: built-in display or PC companion software (*).
- Compact construction and easy integration
- Quick-release pipe fittings and base mounting. (*) On demand



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- ZLaseR Unit: Airless Micro-flow lubrication for High-Speed Bearings



The ZLaseR system (MWM patent) targets applications requiring a continuous supply of lubricant at micro-flow rates, as low as 0.1 ml/h (with capillary tube installed).

The unit includes a PLC-based controller to manage internal supply pressures, ensuring the desired oil flow rate and enabling quick adjustments on the fly. A built-in HMI display provides ease of use and convenient monitoring. Optionally, one or more IFL micro-flow sensors can be included for precise monitoring of the supplied oil flow.

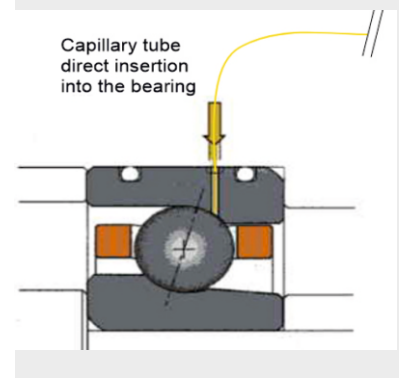
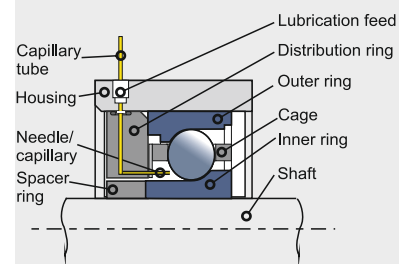
Application: typical applications include airless lubrication for high-speed bearings.

Special Technical features/innovations:

- Integrated laser micro-flowmeter IFL
- Capable of measuring a minimum and continuous flow rate of just a few drops of lubricant per hour
- Adjustment of the programmed flow rate
- No compressed air consumed (static pressure only)
- Easy to install and integrate
- Secure and user-friendly interface

Key points:

- Very precise and stable lubricant flow generation
- Built-in PLC controller and HMI display
- Fast response times to adjustment of the lubricant flow according to the application needs
- Micro-flow measurement provided by the optional IFL sensor
- Particularly suitable for precision lubrication of high-speed bearings with speeds exceeding 2 million rpm x dm



- ZB4 Oil+Air Unit for Spindles Lubrication

The ZB4 unit provides reliable Oil+Air lubrication for high-speed bearings in spindles.

It includes a built-in PLC-based controller to ensure precise timing control and fault detection capabilities.

Optionally, MWM's optical streak sensors can be included for enhanced process control.

Application:

Currently used with GMN spindles, it is suitable for a wide range of high-speed bearing applications.

Key points:

- Preassembled oil+air lubrication unit ready for use
- PLC unit for cycle programming and functional check
- Filtration, air: 5 µm – oil: 3 µm
- One-to-one direct replacement for PRELUB STMV and GP
- Optional: monitoring with MWM's IFX-C optical streak sensors



For GMN spindle lubrication

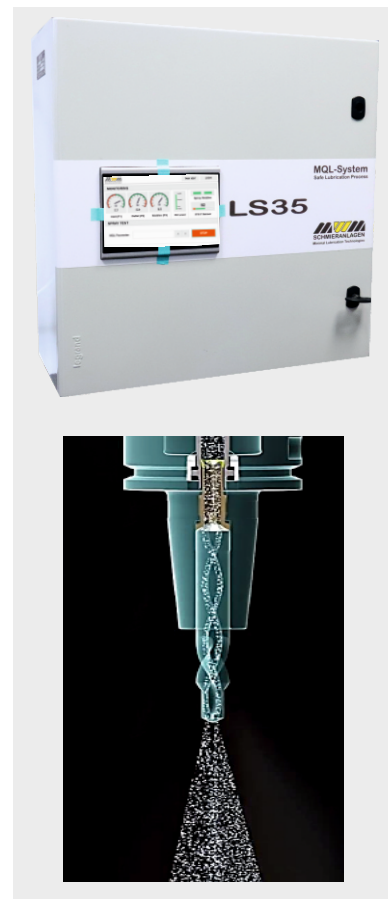
- LS35 MQL System - Internal Single-Channel Tool Lubrication

An innovative, patented series of MQL systems for internal tools lubrication with active process control and monitoring. With an integrated electronic control together with MWM's patented IFX-F mist sensors, the system ensures a precise and stable mist flow supply, with flexible control options and enhanced process monitoring capabilities, including advanced fault detection and self-diagnosis capabilities.

The 7-inch touch-screen display provides a complete and intuitive HMI for local process monitoring, and ease of control and maintenance, while a variety of interfacing options are available for remote control and system integration.

Key points:

- Filtration, air: 5 µm – oil: 3 µm
- One-to-one direct replacement for PRELUB STMV4
- Best in class MQL process safety thanks to MWM's patented IFX-F sensor technology
- Built-in PLC ensures a reliable process control and monitoring, with flexible control options and advanced fault detection capabilities
- On-board advanced HMI on a 7-inch touch screen display
- Multiple control interface available: manual (HMI), remote start, "I/O", Profinet
- Optional automatic refilling system and pressure booster unit



- Safer Lubrication Processes with MWM's Sensor Portfolio

- Solutions for controlled mist lubrication

Oil mist lubrication systems complete with IFX-F fog sensor with digital display digital sensors for air flow and air pressure.
For oil mist system applications where it is necessary to detect the lubricant quantity supplied at lubrication points.
To ensure the functional safety of oil mist lubrication systems.



IFX-F mistsensor

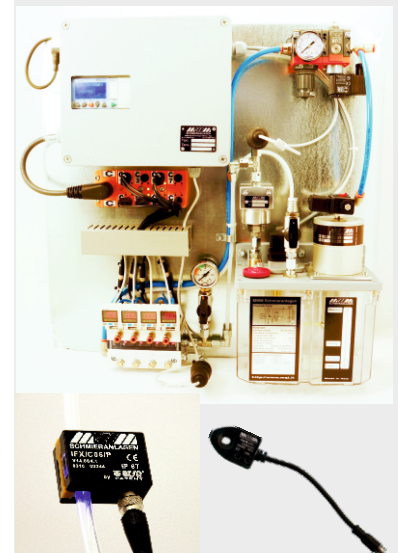
- Solutions for controlled oil+air lubrication

MWM's portfolio includes the widest range of optical oil streak sensors, featuring cutting-edge technology with 20+ years of application experience, first introduced and patented by MWM back in 2002.

The MVF-AY oil+air mixer w/ integrated optical streak sensors IFX-3D (MWM patent) is the state-of-the-art in the oil+air mixers technology: supplied with certified precision dosing elements and an optional control unit, allows to independently monitor each lubrication point.

Benefits include early detection of faulty conditions and thus ability to implement predictive maintenance, drastically reducing production downtimes and repair costs.

Application: high-speed bearing lubrication. For machine tool spindles; centrifuges; dynamometers; high-speed test benches; etc.



IFX-C and IFX-3D Streak Sensor

- Solution for leakage monitoring: Sensor N8751

The optical leakage sensor N8751 is suitable for detecting small liquid leaks in pipes, such as rotary joints leakage draining pipes. Benefits include early detection of faulty conditions and thus ability to implement predictive maintenance, drastically reducing production downtimes and repair costs.

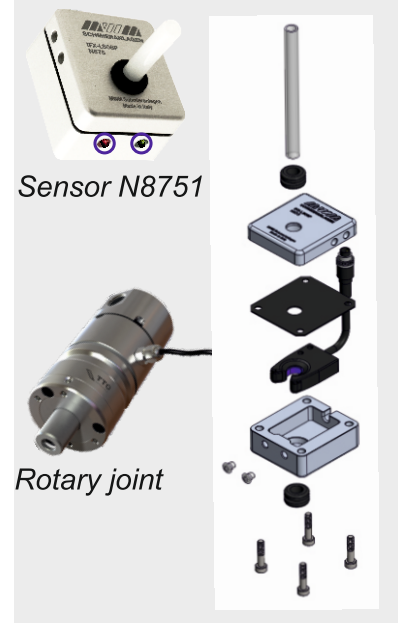
The leakage detection is immediate, though programmable time delays and triggering thresholds allows to adapt the N8751 to every specific application. This drastically reduces production downtime and repair costs.

Applications: leakage draining pipes; rotary joint bearings; etc.

With 40 years of experience, MWM Schmieranlagen has been manufacturing air-oil minimal lubrication systems for controlled lubrication of high-speed bearings using patented sensors. MWM has also developed MQL Tools Technology for minimal internal lubrication of tools, and systems for minimal lubricant dosing with functional electronic detection.



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Sensor N8751

Rotary joint