



Industrial Filters · Accumulators

Description

Water in oil causes severe failures in hydraulic and lubrication systems.

Especially free water is a dangerous contamination in lubrication systems and causes corrosion during machine downtime.

Therefore it is necessary to keep the fluid in its best possible condition by predictive maintenance.

The check of the water concentration is a very important part of a complete maintenance concept.

By continuously measuring the water content, an alarm signal can be triggered before the system fails. Hereby a considerable reduction of the maintenance cost (for example in lubrication systems of paper mills) can be achieved. A water separation unit (e.g. EPE VacuClean®) can be switched on, if the water concentration reaches a preset value.

Thereby unnecessary machine downtime can be dramatically reduced.

The WGM1 ensures a fast and reliable online control of the water activity in hydraulic and lubrication oils. Furthermore, the efficiency of dehydration units can be monitored.

The EPE VacuClean® oil treatment unit is always equipped with the WGM1 to survey its function.

Online-water-sensor WGM 1



Features:

Test point: pressure line, maximum pressure 40 bar (600 psi)

oil reservoir with turbulent conditions

Principle: capacitive measurement through a polymer thin film sensor

Accuracy: $\pm 0,01$ (0...0,9)
 $\pm 0,02$ (0,9... 1,0)

Measuring time: 10 min

Temperature:
- range: $-40^{\circ}\text{C} \dots +180^{\circ}\text{C}$
- accuracy: $0,1^{\circ}\text{C}$
- sensor: Pt 100

Outputs: 2 freely configurable analogue outputs
0...20 mA, 4...20mA,
0...1V, 0...5V, 0...10V
serial connection RS 232
optional alarm contacts (only at 24V voltage supply)

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Quality assured

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Principle:

The WGM 1 measures the water activity (a_w) as well as the oil temperature online.

The water activity a_w is related to the saturation level of the oil. An activity range of 0..1 is related to 0..100 % of the saturation level of the oil.

Oil without any water shows a saturation level a_w of almost 0. Fully saturated oil shows a saturation level a_w of 1.

Compared to the conventional measurement of the concentration in ppm, the WGM1 provides many advantages.

This is the first online water measuring device which is independent from the oil type, the temperature, the age of the oil and the operating conditions.

If the water activity reaches a value above 0.9, free water is present. Free water is very dangerous and must be completely eliminated.

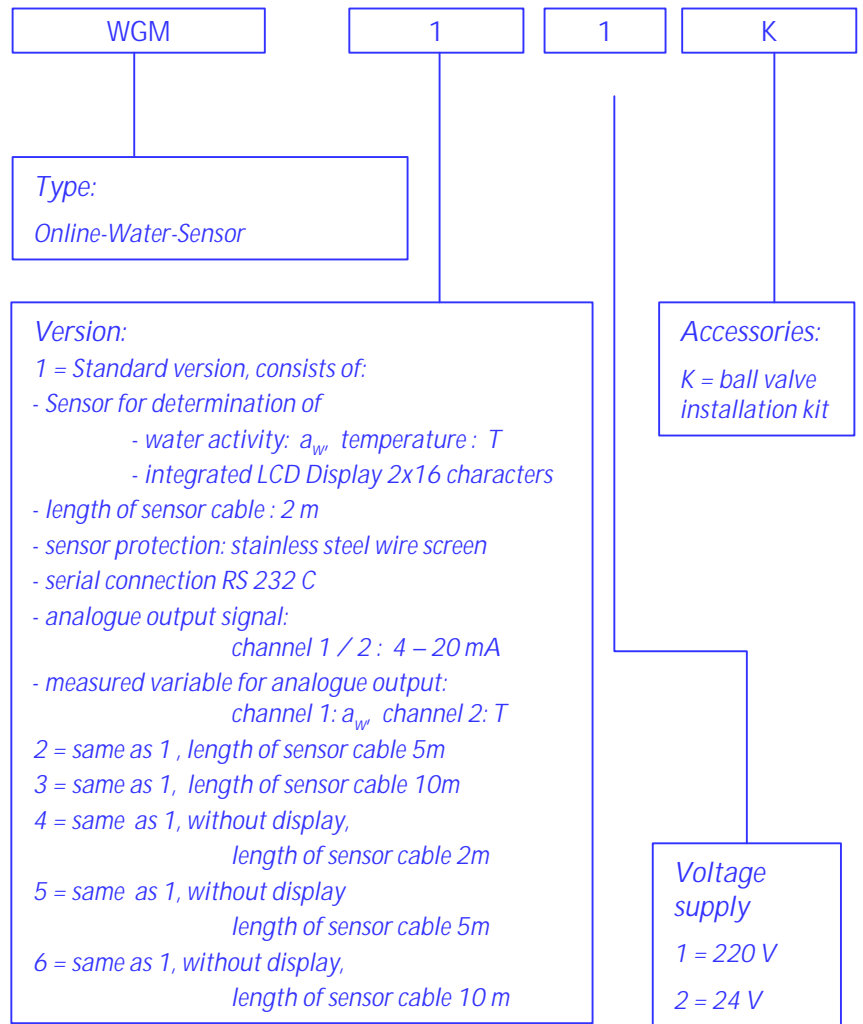
Installation

1.) The sensor can be installed through a 1/2" ball valve. This makes it possible to install the sensor without shutting down the oil flow and totally leakage-free!

This enables the user to use one WGM1 at many different measuring points during normal operation of the system. The maximum pressure in the system can be up to 40 bar (600 psi).

2.) For permanent installation a standard G 1/2" socket with conical thread (DIN 2999) which is welded on the fluid pipe can be used.

Ordering information



Example for installation Dimensions

