

Intelligent hydraulics combined with multi-technology competence

As a leading provider in the field of industrial hydraulics, Rexroth takes a top position with its components, systems and extensive know-how and expertise regarding applications and engineering.

High-quality products from our extensive sensor range monitor the pressure, temperature and level measurements as well as the oil quality in your hydraulic system. Rexroth's robust sensors and switches have been especially developed for demanding requirements in industrial hydraulics and thus provide for perfect operating conditions over the entire life cycle.

Using highly advanced microelectronics, Rexroth has rendered hydraulics even more capable. The products can be easily integrated in state-of-the-art machine designs and are extremely powerful and energy efficient. As a supplier of all technologies, Rexroth always provides the perfect application-specific drive solution.

Rexroth is the ideal development partner for highly efficient machinery and production equipment – from the initial contact to commissioning and throughout the entire life cycle.

Worldwide operational teams assume all project planning tasks for your machines and systems until they are ready for start of production or turnkey delivery if desired.

Using the multi-technology competence and drive and control technology of Rexroth, you will become more competitive than ever.



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Sensors for industrial hydraulics

Product overview

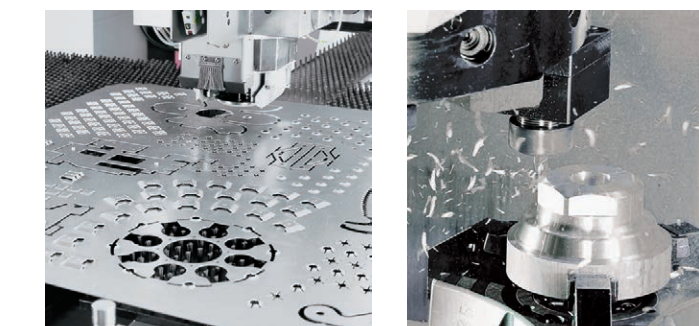
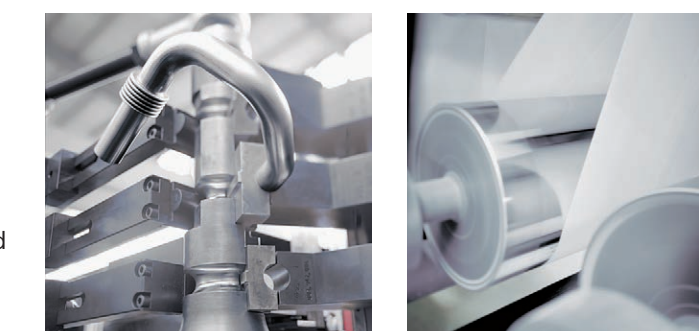







The data and properties specified in this brochure only serve to provide a general overview of the "Sensors for industrial hydraulics" product range of Bosch Rexroth AG.





The overview does not include all technical data and variants and does not replace a technical data sheet. Detailed information on the individual sensors can be found in the corresponding data sheets.


No statements concerning a certain condition or suitability for a certain application can be derived from our information.


The information given does not release the user from the obligation of own judgment and verification.





Level and temperature sensors					
Type	ABZMS-35	ABZMS-37	ABZMS-40	ABZMS-41	ABZMT
					
Measurement	Level and temperature	Level and temperature	Level and temperature	Level and temperature	Temperature
Device type	Float switch	Float switch	Float switch	Float switch	Electronic contact thermometer
Component series					
Data sheet	50212	50216	50220	50222	50224
Features	<ul style="list-style-type: none"> Control of filling levels in small power units from 10 to 60 liters Two switching contacts for levels One temperature contact, preferred type set to 70 °C; 60 °C or 80 °C available as alternatives 	<ul style="list-style-type: none"> Control of filling levels in power units from 100 to 2000 liters Type M: breathing filter, level monitoring (max./min.), with two adjustable alarm outputs for temperature, and display and control unit Type N: breathing filter, level monitoring (max./min.) and temperature measurement with one switching contact Type R: breathing filter, resistance measuring chain (level), resistance thermometer (temperature) with analog output from 4 to 20 mA and digital temperature display 	<ul style="list-style-type: none"> Control of filling levels in small power units from 10 to 60 liters Two fixedly set switching contacts for level, one programmable switching output for temperature and one analog output 4 ... 20 mA 	<ul style="list-style-type: none"> Control of filling levels in power units from 100 to 2000 liters Type M: maximum of four adjustable switching contacts for level monitoring, one optional fixedly set temperature contact or temperature sensor Type RTA: with resistance measuring chain (level) and resistance thermometer (temperature), analog output from 4 ... 20 mA Type D: as with type RTA, with additional display and control unit for level and temperature setting, up to 4 programmable PNP switching outputs 	<ul style="list-style-type: none"> Temperature control in hydraulic systems Type T2: with two programmable switching outputs Type T4: with four programmable switching outputs Type T1A: one programmable switching output and one analog output 4 ... 20 mA All with display and control unit directly on the sensor or external by means of a cable set
Pressure ranges in bar	–	–	–	–	–
Level in mm (temperature in °C)	60 ... 400	370 ... 1200	120 ... 450	370 ... 1200	(0 ... 100)
Ambient temperature range in °C	–30 ... +50	–20 ... +80	–20 ... +70	–20 ... +70	–20 ... +70
Approvals	–	–	–	–	–
Connection; fastening	Threaded connection M20 x 1.5	Flange connection similar to DIN 24557 part 2	Threaded connection M20 x 1.5	Flange connection similar to DIN 24557 part 2	Threaded connection G1/2

Pressure switches				Pressure sensors
HED8	HEDE10	HEDE11	HM20	
				
Pressure	Pressure	Pressure	Pressure	
Piston type pressure switch	Electronic pressure switch	Electronic pressure switch	Pressure sensor	
2X	3X	1X	2X	
50061	30277	30279	30272	
<ul style="list-style-type: none"> Micro switch with NC/NO contact function Universal design Potential-free switching of currents from 1 mA ... 2 A Repeatability < ±1% of the setting range Defined switching hysteresis, depending on the pressure range Adjustment types <ul style="list-style-type: none"> Spindle with or without scale, sealable Rotary knob with scale, optionally lockable 	<ul style="list-style-type: none"> Sensor with stainless steel thin film measuring cell Two switching outputs or one switching and one analog output Indicator for pressure control and device parameterization IO link V1.1 Components that are in contact with the media are made of stainless steel or FKM Hydraulic connection with internal and male thread Hydraulic connection rotatable by 330° 	<ul style="list-style-type: none"> Sensor with stainless steel thin film measuring cell 2 switching outputs NC/NO contact, antivalent Simple switching point adjustment on two readable adjusting rings Mechanical interlocking to prevent inadvertent changes to the switching points Components in contact with the media are made of stainless steel and FPM Current load per switching output 250 mA Repeatability < ±0.5% of the setting range 	<ul style="list-style-type: none"> Sensor with thin film measuring cell Output signal 4 ... 20 mA or 0.1 ... 10 V Signal setting time (10 ... 90%) < 1 ms Accuracy class 0.5 Components that are in contact with the media are made of stainless steel Repeatability < 0.05% of the set pressure Little temperature influence on the measurement accuracy Tk < 0.1% / 10 K Operational safety due to high bursting pressure, reversed polarity, overvoltage and short-circuit protection 	
0 ... 50/100/200/350/630	0 ... 100/250/400/600	0 ... 100/250/400	0 ... 10/50/100/160/250/315/400/630	
–	–	–	–	
–40 ... +50	–25 ... +80	–20 ... +80	–40 ... +90	
CE, UL, CSA, CCC	CE, UL	CE, UL	CE, UL	
Subplate mounting/pipeline installation/flange connection	Internal thread G1/4i, male thread G1/4a	Threaded connection G1/4a	Threaded connection G1/4a	

Pressure gauge	
Type	ABZMM
	
Device type	Pressure gauge with fluid filling
Component series	
Data sheet	50205
Features	<ul style="list-style-type: none"> Pressure gauge in bar/MPa or bar/psi Design according to standard EN 837-1 Measuring port at the rear or underneath Two-color scale Mounted with fitting or mounting bracket Stainless steel housing Size 40, 63 and 100 Connection thread G1/4 or G1/2
Maximum operating pressure in bar	1000
Approvals	–

Oil measurement technology	
Type	OPM II
	
Device type	Online particle monitor
Component series	1X
Data sheet	51460
Features	<ul style="list-style-type: none"> Light extinction principle Accurate monitoring and documentation of degree of contamination and purity trend of hydraulic fluids Fast reaction thanks to triggering of an alarm when limit values are exceeded Cleanliness class display according to ISO 4406:99 or SAE AS4059E Suitable for mineral and bio-oils; diesel fuel Easily configurable from the display With integrated data memory Maximum flow 0.4 l/min
Maximum operating pressure in bar	420 (dynamic), 600 (static)
Approvals	CE

Oil measurement technology	
Type	WO, WE
	
Device type	Maintenance indicator
Component series	
Data sheet	51450
Features	<ul style="list-style-type: none"> Modular set-up Mechanical-optical indicators "WO" with one switching point and memory function Electronic switching elements "WE" with one or two switching points Possible signal suppression during cold start Operating temperature: <ul style="list-style-type: none"> "WO" –30 °C ... +100 °C "WE" –30 °C ... +85 °C
Maximum operating pressure in bar	10/160/450
Approvals	–

Online water content measuring unit	
Type	WGMS
	
Device type	Online water content measuring unit
Component series	1X
Data sheet	65L 01
Features	<ul style="list-style-type: none"> Quick and reliable online monitoring of the water activity in hydraulic fluids and lubricating oils Monitoring of the function of dewatering plants Measuring point: Piping with flows up to 40 bar or turbulent tank installation location Measuring principle: Capacitive measurement at a thin-film polymer sensor Accuracy ±0.02 (0 ... 0.9) ±0.03 (0.9 ... 1.0) Response time 10 min Measurement range 0 °C ... +100 °C; accuracy: ±0.1 °C
Maximum operating pressure in bar	40
Approvals	CE

Online water content measuring unit	
Type	WGM 07
	
Device type	Online water content measuring unit
Component series	1X
Data sheet	65G 04
Features	<ul style="list-style-type: none"> Quick and reliable online monitoring of the water activity in hydraulic fluids and lubricating oils Monitoring of the function of dewatering plants Measuring point: Piping with flows up to 40 bar or turbulent tank installation location Measuring principle: Capacitive measurement at a thin-film polymer sensor Accuracy ±0.02 (0 ... 0.9) ±0.03 (0.9 ... 1.0) Response time 10 min Measurement range –40 °C ... +180 °C; accuracy: ±0.2 °C
Maximum operating pressure in bar	40
Approvals	CE