

OIL CONTENT MONITOR - THE OPM 3

Utilizing the return condensate to heat tanks containing fuel oil is a common practice. However, there is always a concern that oil may enter the condensate system and cause damage to the boiler internals. Bristol Babcock Limited, utilizing its previous experience in this field, now provides a simple and effective solution to this problem, the OPM 3.



General Description

The **OPM 3** Oil Content Monitor is the natural successor to the much used OT 8 boiler condensate monitor, utilizing more than 25 years of experience in the design / manufacture of oil content monitors. The level of oil content is displayed on a back lit LCD digital indicator. Facilities are provided for remote indication, recording, and alarm status.

Operating Technique & Facilities

The sample flows through a cylindrical glass cell through which a low intensity beam of infrared radiation is projected. Two silicon photodetectors are provided to detect and scattered path of radiation by the oil particles. The angles and field of view of the detectors have been carefully selected to provide high sensitivity to oil and very low sensitivity to solids which may be present in the sample. This, coupled with the wavelength of light chosen, ensures minimal sensitivity to water color and other soluble components, and is inherently self compensating for window fouling, mains voltage variation, and changes in ambient or sample temperatures.

Indication And Alarm

Indication of oil concentration is provided by a back lit LCD digital display, which gives accurate indication over a range 0 - 10 ppm. Two alarm relays are provided, both factory set, to operate at 5 ppm. One is arranged to operate immediately 5 ppm level is exceeded, while the other is provided with a delayed action. The operating state of each relay is indicated by solid state indicators on the door of the instrument. Additional and Similiar indication is also provided for Mains On and Equipment Fault.

Installation and Maintenance

The unit should be installed as close as practical to the sampling point. Access is only required to the top of the cell housing, and front of the instrument. The connection requirements should closely follow the instrument. Little maintenance is required and is confined to a periodic check of zero against clean water and occasional cleaning of the glass sample cell, which is mounted in a cell box fixed to the side of the main instrument case. Access to the inside of the cell is provided by a hand tightened screw cap, which enables insertion of a tube cleaning brush. No dismantling is involved.

Specifications

Range	0 -10ppm
Accuracy	± 1 ppm
Indication	LCD Digital (Resolution 0.1 ppm)
Enclosure Rating	IP 55
Size	400 mm high x 380 mm wide x 150 mm deep
Weight	12 kg
Output Signal	4 - 20 mA
Ambient Temperature	- 15 C To + 60 C
Clean Water Requirement	2 bar to 8 bar
Electrical Supply	220/240V or 110V AC 50/60Hz
Power Consumption	11VA

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Relays	2 off Instanteous and delayed (Delay factor -- set at 20 sec)
Contacts	Single pole c/o Rating 2.5A at 250V AC
Alarm/Fault Indication	3 off Instant/Delay/Fault Red LED's on front panel
Sample Pressure	2 bar to 8 bar
Sample Flow	1.0 litres/min
Sample Temperature	+2C to +90C
Sample Connections	Compression fittings for 10mm outside diameter pipe