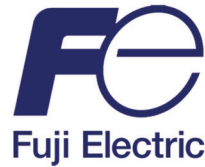




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# DRM Technic

Suppliers of Gas Analysis Equipment

**CONTHOS 3 PMD  
Paramagnetic O2 Analyser**

## CONTHOS 3 PMD PARAMAGNETIC OXYGEN ANALYSER

THE CONTHOS 3 PMD is a paramagnetic analyser specified for the measurement and analysis of oxygen in process industry applications.

The CONTHOS 3E PMD is a 19" rack mounted version while the CONTHOSE 3F PMD is a wall mounted version.



### FEATURES

**Paramagnetic Technology | Magnetomechanical Measuring Principle | Up to 3 Measuring Ranges  
Temperature Controlled for Increased Stability and Performance**

**Full Specifications for this Analyser can be Found Overleaf**

### MEASURING PRINCIPLE

The CONTHOS 3 PMD's paramagnetic sensor utilises a magnetomechanical measuring principle. Two miniaturized, nitrogen filled gas spheres configured in a dumbbell shape are symmetrically suspended in a strong, inhomogeneous magnetic field. Any oxygen contained in the surrounding (sample) gas is drawn into the magnetic field, thereby displacing the glass spheres and forcing the dumbbell to rotate outward. The resulting torque is proportional to the oxygen concentration.

A mirror mounted on the rotational axis of the dumbbell reflects a beam of light onto a pair of photocells which detect any rotational displacement. The photocells are part of a control loop which subsequently drives current through windings arranged around the dumbbell. The current through the windings generates an electromagnetic counter into an inhomogeneous magnetic field moment which moves the dumbbell back to its null position. The required current level is proportional to the oxygen concentration and as such is passed on to the CONTHOS' signal processing unit.

**For More Information, Please Feel Free to Contact our Sales Department (contact details below)**

CONTACT US: DRM Technic, 4 Cherry Orchard, Newcastle-under-Lyme, Staffordshire, UK, ST5 2UB

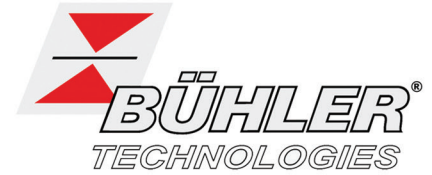
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## SPECIFICATIONS

Product No.	CONTHOS 3E PMD	CONTHOS 3F PMD
Housing	19" Housing, Cabinet Mounted	Purgeable Steel Housing, Wall Mounted
Protection Class	IP40	IP65
Dimensions	133 x 483 x 427 mm	434 x 460 x 266 mm
Weight	Approx. 10 kg	Approx. 25 kg
Power Requirements	100 - 240 V AC, 48-62 Hz	
Sample Gas Connectors	Swagelok SS 316 for 6mm Tubing (std)   Swagelok SS 316 for 1/4" Tubing (option)	
<b>Measuring Characteristics</b>		
Measuring Principle	Paramagnetic Sensor	
Measuring Ranges	Up to 3 Independently Configurable, Switchable Ranges Lowest Range: 0 - 1% O <sub>2</sub>   Largest Range: 0 - 100% O <sub>2</sub>	
Response Time T <sub>90</sub>	< 5 sec (dependent upon gas glow and analysers configuration)	
Influence of Gas Flow	Between 30-60 l/h; < 1% of Range Span for a Gas Flow of Change of ± 10 l/h	
Detection Limit	< 1% of Span	
Reproducibility   Linearity	< 1% of Span   < 1% of Span	
Response Drift	Zero: < 2% of Span per Week   Span: < 1% of Span per Week	
Ambient Temp. Influence	Zero: < 1% of Span per 10 K   Span: < 1% of Span per 10 K	
Calibration	Manual 2-point (offset/span) Calibration (std); Automatic and Remote Cal. (option)	
Pressure Compensation	Optional: from 800 to 1200 mbar Absolute; Extended Pressure Range on Request	
Interference Compensation	For Static and/or Dynamic Interference Correction	
<b>Materials in Contact with Sample Gas</b>		
Paramagnetic Sensor	Platinum, Epoxy, FPM, Stainless Steel 1.4571	
Sample Gas Connectors	Stainless Steel SS 316 (standard)	
Sample Gas Lines	PTFE (standard); Stainless Steel 1.4571 and SS 321 [similar to 1.4541] (option)	
<b>Data Display, Inputs and Outputs</b>		
User Interface	LCD Display (40 characters x 16 lines) + Bar Graph. Plain Text Description of Instrument Status and well as Digital Status Output. English & German Languages.	
Analog Signal Output	2 Independently Configurable, Galvanically Isolated Analog Outputs	
Digital Outputs 1 to 3	Instrument Status: FAILURE; MAINTENANCE REQUIRED; FUNCTION CHECK	
<b>Options</b>		
Options	Maximum 3 Switchable Ranges (suppressed range available on request) Automatic Pressure Compensation (from 800 to 1200 mbar) Digital I/O Board   RS-485 Interface w/ Modbus RTU protocol pControl Backpressure Controller for CONTHOS Analysers	

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