



Diffusion Gas Detector DF-9500

[For the measurement of toxic components]

- Concentration is indicated by LCD situated on the gas detector
- Low installation costs through use of two-wire technology, 4–20 mA
- Suitable for field installation
- Protection class $\text{Ex II 1G EEx ia IIC T6}$
- Useable in zone 0 area
- Zero and sensitivity adjustment at the gas detector without opening the housing
- Switch for alarm suppression during one-man calibration and service
- High selectivity for the component of interest

[Application]

Continuously operating gas monitoring systems are installed in industrial areas in order to protect the people, the environment and the plant from toxic and explosives substances.

The range of MSA DF-9500 diffusion gas detectors is exceptionally flexible as a system, modular, reliable and economical. The gas detectors DF-9500 can be connected to MSA control systems, or can be used as stand-alone gas detectors with appropriate power and control units.

The gas detectors are small in size, have a long service life and are easily maintained. The DF-9500 are ideally suitable in places where oxygen content or toxic gases and vapours – such as H_2S , CO , SO_2 , Cl_2 , NO , NO_2 , HCN , HCl , NH_3 and others – have to be monitored in the TLV range.

Typical application areas are:

- chemical industry
- gas storage and processing
- waste water plants and waste disposal sites
- metal industry
- power plants
- and all places where toxic gases can occur

[Design and function]

The gas detector DF-9500 is designed for various measuring ranges for each gas. This permits the use in applications specially required by the user. The gas detectors DF-9500 utilize electrochemical cells with high selectivity, short response times and long term stability.

The anticipated service life of a sensor cell for toxic gases is usually 24 months, the suggested replacement time is after 18 months. Installation costs are reduced by the use of a two-wire connection to the gas detector DF-9500. The output signal from the gas detector is 4...20 mA.

One-man calibration is made possible by locating all adjustments at the gas detector.

[Service]

The MSA Service Department is available for all service and maintenance requirements. We suggest contracts for annual or semi-annual service.

[Approvals]

The gas detector DF-9500 has been approved to the Directive 94/9/EC [ATEX 100a] for use in potentially explosive atmosphere according to the EN 50014 and EN 50020.

Class of protection: $\text{Ex II 1G EEx ia IIC T6}$.

The gas detector must be powered by an intrinsically safe supply if used in hazardous areas.



[Technical Data]

Diffusion gas detector:	DF-9500
Measuring range:	refer to ordering information
T₉₀:	from 10 sec to 300 sec, depending on cell and range
Measuring principle:	electrochemical
Accuracy:	± 2% of f.s. value
Sensitivity drift:	± 2% of f.s. value/month
Temperature drift:	depends on type of cell
Ex-protection/EC-Type Examination certificate:	Ⓢ II 1G EEx ia IIC T6 / DMT 01 ATEX E 152 X
Protection class:	housing: IP 63 [DIN 40050] sensor: IP 42 [DIN 40050]
Dimensions:	155 x 120 x 90 mm [w x h x d]
Weight:	approx. 1 kg
Permissible ambient temperature:	-15 °C to +40 °C [depends on type of cell]
Adjustments behind the cover:	1 zero potentiometer 1 span potentiometer 2 test sockets for digital voltmeter 1 switch for calibration routine
Connecting cable:	2-core, 2 x 1.5 mm ² , shielded, 85% coverage; cables must comply with European and local regulations
Max. cable resistance:	500 Ω for gas detector with electrochemical cell without interconnection of zener barriers. Max. distance for 1.5 mm ² : 20.000 m. 100 Ω for gas detector with electrochemical cell for use in hazardous areas with interconnection of a zener barriers. Max. distance for 1.5 mm ² : 4.000 m for group II B, 360 m for group II C

[Ordering Information]

D0742601	DF-9500 O ₂ , without LCD
D0742621	DF-9500 O ₂ , with LCD range 0...10, 0...30 Vol.-%
D0742602	DF-9500 Cl ₂ , without LCD
D0742622	DF-9500 Cl ₂ , with LCD range 0...10, 0...20, 0...50 ppm
D0742603	DF-9500 CO, without LCD
D0742623	DF-9500 CO, with LCD range 0...100, 0...300, 0...600 ppm
D0742604	DF-9500 NO, without LCD
D0742624	DF-9500 NO, with LCD range 0...100, 0...500, 0...1000 ppm
D0742605	DF-9500 SO ₂ , without LCD
D0742625	DF-9500 SO ₂ , with LCD range 0...10, 0...50, 0...200 ppm
D0742606	DF-9500 H ₂ S, without LCD
D0742626	DF-9500 H ₂ S, with LCD range 0...30, 0...50, 0...200 ppm
D0742669	DF-9500 H ₂ S-20, without LCD
D0742679	DF-9500 H ₂ S-20, with LCD range 0...10, 0...20 ppm
D0742607	DF-9500 H ₂ , without LCD
D0742627	DF-9500 H ₂ , with LCD range 0...100, 0...200, 0...500 ppm
D0742609	DF-9500 NO ₂ , without LCD
D0742629	DF-9500 NO ₂ , with LCD range 0...10, 0...50, 0...100 ppm
D0742610	DF-9500 HCN, without LCD
D0742630	DF-9500 HCN, with LCD range 0...20, 0...50, 0...100 ppm
D0742660	DF-9500 HCl, without LCD
D0742670	DF-9500 HCl, with LCD range 0...50, 0...100 ppm
D0742664	DF-9500 HCl-20, without LCD
D0742674	DF-9500 HCl-20, with LCD range 0...20 ppm
D0742662	DF-9500 NH ₃ , without LCD
D0742672	DF-9500 NH ₃ , with LCD range 0...100 ppm
D0742668	DF-9500 NH ₃ -1000, without LCD
D0742678	DF-9500 NH ₃ -1000, with LCD range 0...500, 0...1000 ppm
D0742661	DF-9500 SiH ₄ /GeH ₄ , without LCD
D0742671	DF-9500 SiH ₄ /GeH ₄ , with LCD range 0...50 ppm
D0742667	DF-9500 AsH ₃ /PH ₃ , without LCD
D0742677	DF-9500 AsH ₃ /PH ₃ , with LCD range 0...0.5 ppm AsH ₃ range 0...1.0 ppm PH ₃

When ordering please specify range required

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