DrägerSensor® XXS H_2

Order no. 68 12 370

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life
Dräger X-am 5000	no	yes	1 year	> 2 years
Dräger X-am 5600	no	yes	1 year	> 2 years
Dräger X-am 8000	no	yes	1 year	> 2 years

Selective filter

Internal selective filter.

Cross sensitivities to alcohol and acid gases (H_2S, SO_2) are eliminated.

The filter's service life can be calculated as follows: 5,000 ppm x hours of contaminant gas. Example: Given constant concentration of 10 ppm H_2S will be: Service life = 5,000 ppm x hours / 10 ppm = 500 hours.

MARKET SEGMENTS

Leak detection, chemical, petrochemical, rocket fuel, production of plastics, steel production, industrial gases, fertilizer, battery charging stations, fuel cells.

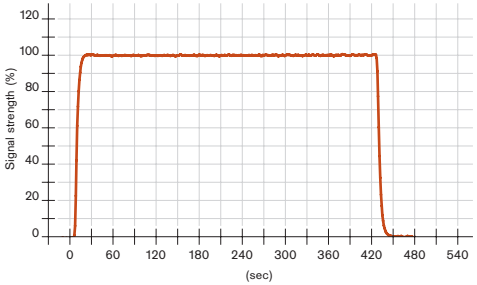
TECHNICAL SPECIFICATIONS

Detection limit:	10 ppm
Resolution:	5 ppm
Measurement range:	0 to 2,000 ppm H_2 (hydrogen)
Response time:	≤ 10 seconds (t_{90})
Precision	
Sensitivity:	≤ ± 1% of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	≤ ± 4 ppm/year
Sensitivity:	≤ ± 4% of measured value/month
Warm-up time:	≤ 1 hour
Ambient conditions	
Temperature:	(–20 to 50)°C (–4 to 122)°F
Humidity:	(10 to 90)% RH
Pressure:	(700 to 1,300) hPa
Influence of temperature	
Zero point:	≤ ± 10 ppm
Sensitivity:	≤ ± 1 ppm/K
Influence of humidity	
Zero point:	No effect
Sensitivity:	≤ ± 0.15% of measured value/% RH
Test gas:	approx. 20 to 2,000 ppm H_2

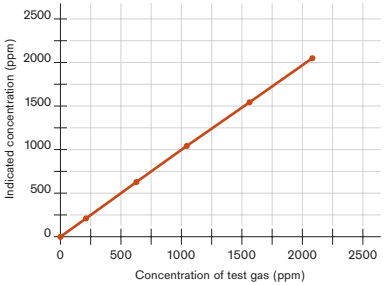
SPECIAL CHARACTERISTICS

This sensor enables the detection of hydrogen concentrations in ppm. Its very fast response time makes it especially suitable for detecting leaks.

Sensor reaction to H_2 at 20 °C/68 °F
Flow = 0.5 l/min, 1000 ppm H_2



Linearity of H_2 sensors
calibrated with 1045 ppm H_2



D-27856-2009

The values shown in the following table are standard and apply to new sensors. The values maybe fluctuate by ± 30%. The sensor may also be sensitive to additional gases (for more information, please contact Dräger). Gas mixtures may be displayed as the sum of all components. Gases with a negative cross sensitivity may displace an existing concentration of H_2. To be sure, please check if gas mixtures are present.

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm H_2
Acetylene	C_2H_2	100 ppm	≤ 200
Ammonia	NH_3	100 ppm	No effect
Carbon dioxide	CO_2	30 Vol.-%	≤ 2
Carbon monoxide	CO	100 ppm	≤ 200
Chlorine	Cl_2	20 ppm	No effect
Ethanol	C_2H_5OH	250 ppm	No effect
Hydrogen chloride	HCl	40 ppm	No effect
Hydrogen cyanide	HCN	50 ppm	No effect
Hydrogen sulfide	H_2S	30 ppm	No effect
Isobutylene	$(CH_3)_2CCH_2$	100 ppm	No effect
Methane	CH_4	5 Vol.-%	No effect
Nitrogen dioxide	NO_2	20 ppm	No effect
Nitrogen monoxide	NO	20 ppm	≤ 51
Propane	C_3H_8	1 Vol.-%	No effect
Sulfur dioxide	SO_2	25 ppm	No effect