

# DrägerSensor® XXS H<sub>2</sub> HC

Order no. 68 12 025

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 hydrogen sulfide (H<sub>2</sub>S) and sulfur dioxide (SO<sub>2</sub>) 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<sub>2</sub>S will be: Service life = 5,000 ppm x hours / 10 ppm = 500 hours.

## MARKET SEGMENTS

Chemical industry, petrochemical industry, rocket fuel, leak detection, production of plastics, metal processing, industrial gases, fertilizer manufacturing, battery charging stations, fuel cells.

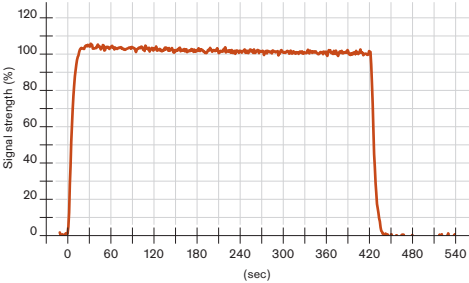
## TECHNICAL SPECIFICATIONS

<b>Detection limit:</b>	0.02 Vol.-%
<b>Resolution:</b>	0.01 Vol.-%
<b>Measurement range:</b>	0 to 4 Vol.-% H <sub>2</sub> (hydrogen)
<b>Response time:</b>	≤ 20 seconds (T <sub>90</sub> )
<b>Measurement accuracy</b>	
Sensitivity:	≤ ± 2% of measured value
<b>Long-term drift, at 20°C (68°F)</b>	
Zero point:	≤ ± 0.05 Vol.-%/year
Sensitivity:	≤ ± 3% of measured value/month
<b>Warm-up time:</b>	≤ 1 hour
<b>Ambient conditions</b>	
Temperature:	(-20 to 50)°C (-4 to 122)°F
Humidity:	(10 to 90)% RH
Pressure:	(700 to 1,300) hPa
<b>Influence of temperature</b>	
Zero point:	≤ ± 0.05 Vol.-%
Sensitivity:	≤ ± 5% of measured value
<b>Influence of humidity</b>	
Zero point:	No effect
Sensitivity:	≤ ± 0.01% of measured value/% RH
<b>Test gas:</b>	approx. 0.2 to 3.99 Vol.-% H <sub>2</sub>

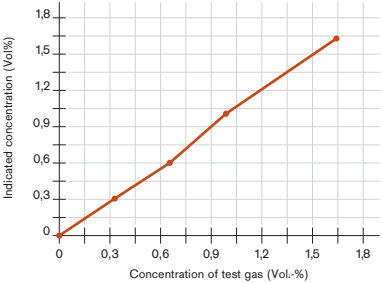
### SPECIAL CHARACTERISTICS

This sensor is suitable for measuring hydrogen across the entire LEL range. If a Dräger X-am 5600 is fitted with an IR-Ex sensor, then this sensor is the ideal addition for detecting any risk of explosion caused by hydrogen. Like all Dräger sensors, this one offers very fast response times and excellent linearity.

Sensor reaction to XXS H<sub>2</sub> HC at 20 °C/68 °F  
Flow = 0.5 l/min, with 1,63 Vol% H<sub>2</sub>



Linearity of XXS H<sub>2</sub> HC sensors  
calibrated with 1.63 Vol% H<sub>2</sub>



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The values shown in the following table are standard and apply to new sensors. The values may fluctuate by  $\pm 30\%$ . 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<sub>2</sub>. To be sure, please check if gas mixtures are present.

### RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in Vol.-% H <sub>2</sub>
Acetylene	C <sub>2</sub> H <sub>2</sub>	100 ppm	≤ 0.02
Ammonia	NH <sub>3</sub>	100 ppm	No effect
Carbon monoxide	CO	1,000 ppm	≤ 0.1
Carbon dioxide	CO <sub>2</sub>	30 Vol.-%	No effect
Chlorine	Cl <sub>2</sub>	20 ppm	No effect
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	250 ppm	No effect
Hydrogen chloride	HCl	40 ppm	No effect
Hydrogen cyanide	HCN	50 ppm	No effect
Hydrogen sulfide	H <sub>2</sub> S	30 ppm	No effect
Isobutylene	(CH <sub>3</sub> ) <sub>2</sub> CCH <sub>2</sub>	100 ppm	No effect
Methane	CH <sub>4</sub>	5 Vol.-%	No effect
Nitrogen dioxide	NO <sub>2</sub>	20 ppm	No effect
Nitrogen monoxide	NO	20 ppm	≤ 0.05
Propane	C <sub>3</sub> H <sub>8</sub>	1 Vol.-%	No effect
Sulfur dioxide	SO <sub>2</sub>	25 ppm	No effect