

# HYDRA-Sensors

## Ultra High Purity Pressure Transducer

### Model HS

WIKA Data Sheet SP 99.21

#### Applications

- Semiconductor industry
- UHP-liquid chemicals distribution

#### Special features

- Patented double diaphragm
- Perfluoroalkoxy (PFA) wetted parts
- Transducer is 360° rotatable even after installation
- Ingress protection IP 65 or IP 67
- Optional: attachable indicator see data sheet PE 82.11

#### Description

##### **HYDRA-line**

Our pressure measuring instruments of the HYDRA-line product family have been developed in co-operation with well-known customers in the semiconductor industry. The complete product concept has been adapted to the special requirements of the process equipment and UHP chemicals distribution system sectors.

The HYDRA-Sensor pressure transducer offers high accuracy and reliability, ultra clean wetted parts and surfaces. Furthermore, the production of all wetted parts, cleaning assembly, calibration and packaging takes place in a class 100 cleanroom.

##### **Double safety**

The patented HYDRA double diaphragm system enables a safe and reliable separation of the pressure sensor from the process medium. Simultaneously diffusing process media such as HF or HCl vapours are given off to the environment to avoid any falsification of the measuring result or the destruction of the sensor element.

The offer for sale of this product does not infer or imply chemical compatibility with specific applications. Some applications of this product can and will cause diffusion of chemicals through the diaphragm materials.



HYDRA-line Model HS, transducer 4 ... 20 mA, 2-wire system and in-line 1/2" flare process connection



HYDRA-line Model HS, transducer 4 ... 20 mA, 2-wire system and dead-end 1/2" flare process connection

## Specifications

## Model HS, HYDRA-Sensor

Pressure ranges	bar	0 ... 2.5	0 ... 4	0 ... 6
	psi	0 ... 30	0 ... 60	0 ... 100
	kPa	0 ... 250	0 ... 400	0 ... 600
Overpressure safety of sensor	bar	40 <sup>1)</sup>		
Process connection		in-line 3/8" flare, 1/2" flare, 3/4" flare, 1" flare, 1 1/4" flare dead-end 1/4" flare, 3/8" flare, 1/2" flare dead-end 1/4" NPT female		
Pressure measurement device		Pressure transducer according to data sheet PE 81.01		
Accuracy	% of span	≤ 0.5		
Material				
■ Wetted parts		PFA or TFM (modified PTFE)		
■ Other non-wetted parts		PVDF, EPDM, FPM/FKM		
■ Transducer		Stainless steel		
System fill fluid		KN 75 50/50 mix semiconductor grade IPA (Isopropyl Alcohol/DI Water) precision filled and not field refillable		
Permissible temperature range				
■ Process	°C	+5 ... +60 (+41 ... +140 °F)		
■ Ambient	°C	+5 ... +60 (+41 ... +140 °F)		
■ Storage	°C	-20 ... +60 (-4 ... +140 °F)		
Temperature-coefficients	% of span/10K	≤ 0.25 (from 5 °C to 60 °C)		
Electrical connection		4-pin L-plug DIN EN 175301-803 A (IP 65) or 5 m flying lead (IP 67)		
Ingress protection per IEC 60 529 / EN 60 529		IP 65 or IP 67		

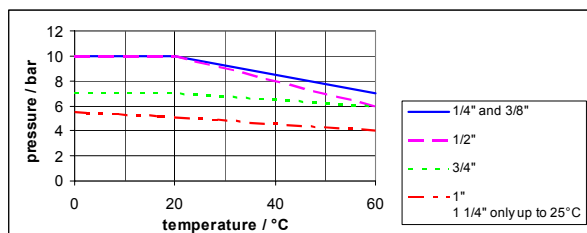
1) Limited by maximum pressure rating of the process connection see diagram below

### Considerations for use:

This transmitter can be rotated a full 360° by hand. No tools required.

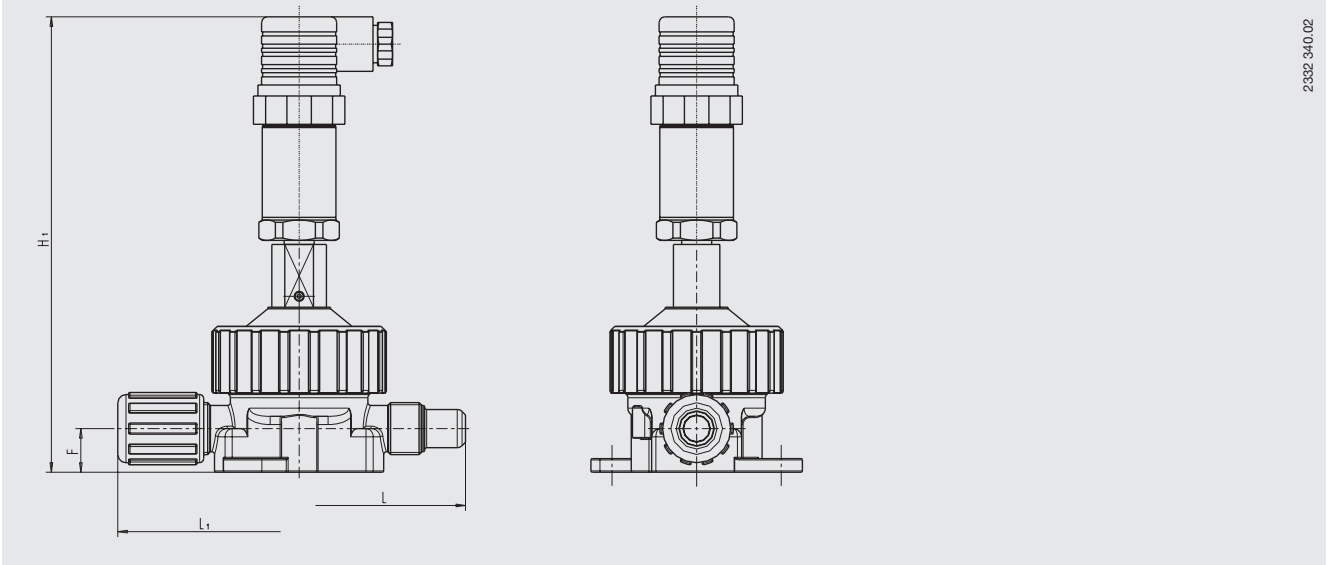
The transmitter can not be removed or the central PVDF nut loosened from the housing as this may cause the fill fluid to leak destroying the measuring unit.

### Pressure-temperature rating



## Dimensions in mm

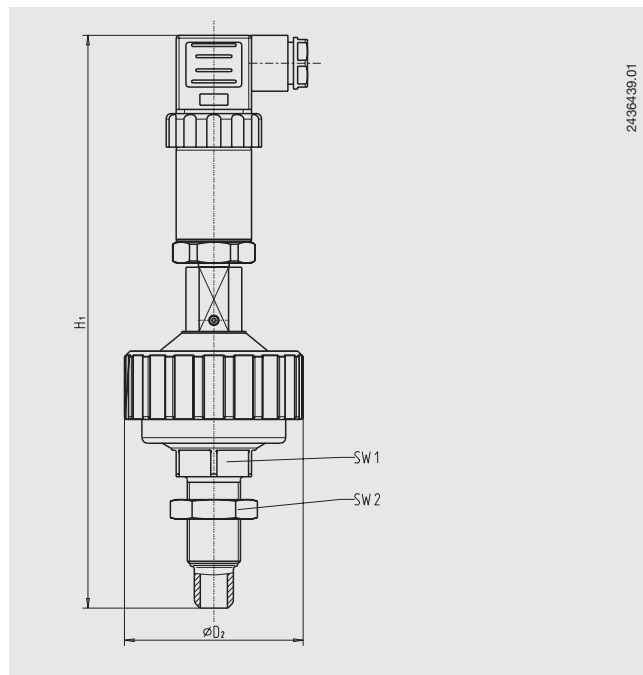
### HYDRA-line, Model HS, in-line flare process connection



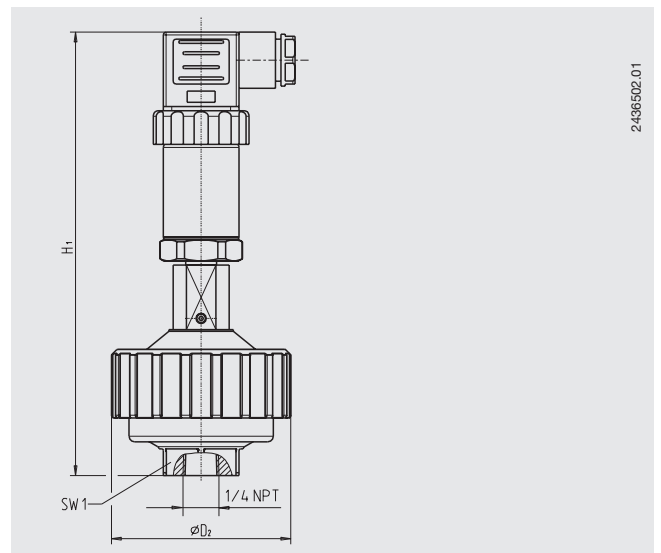
2332 340.02

Process connection	Dimensions in mm						
	H	L	L <sub>1</sub>	F	B <sub>1</sub>	B <sub>2</sub>	Ød <sub>2</sub>
In-line 3/8" flare	167	118	127	16	40	62	5.5
In-line 1/2" flare	167	122	133	16	40	62	5.5
In-line 3/4" flare	172	122	133	19	40	62	5.5
In-line 1" flare	197	165	179	25	56	78	6.5
In-line 1 1/4" flare	197	224	238	25	56	78	6.5

### HYDRA-line, Model HS, dead-end process connection



2436439.01



2436502.01

Process connection	Dimensions in mm			
	H <sub>1</sub>	SW1	SW2	Ød <sub>2</sub>
Dead-end 1/4" flare	205 ± 2	27	11/16"	64
Dead-end 3/8" flare	205 ± 2	27	15/16"	64
Dead-end 1/2" flare	208 ± 2	27	17/16"	64
Dead-end 1/4 NPT female	161 ± 2	27	-	64

# Ordering information code for pressure system HYDRA-line, Model HS

Field No.	Code	Features
		<b>Unit</b>
	<b>B</b>	bar
	<b>P</b>	psi
	<b>A</b>	kPa
1	<input type="checkbox"/>	<b>?</b> other <i>please state as additional text</i>
		<b>Range</b>
	<b>BF</b>	0 bar ... 2.5 bar    0 psi ... 30 psi    0 kPa ... 250 kPa
	<b>BG</b>	0 bar ... 4 bar    0 psi ... 60 psi    0 kPa ... 400 kPa
	<b>BH</b>	0 bar ... 6 bar    0 psi ... 100 psi    0 kPa ... 600 kPa
2	<input type="checkbox"/>	<b>??</b> other <i>please state as additional text</i>
		<b>Electrical connection</b>
	<b>A</b>	4-pin L-plug DIN EN 175301-803 A, IP 65
3	<input type="checkbox"/>	<b>F</b> 5 m flying lead, IP 67
		<b>Digital display</b>
	<b>Z</b>	without
4	<input type="checkbox"/>	<b>B</b> LCD, 4-digit, see data sheet PE 82.11 <i>only available with electrical connection L-plug</i>
		<b>Process connection</b>
	<b>06</b>	in-line 3/8 " flare
	<b>08</b>	in-line 1/2 " flare
	<b>12</b>	in-line 3/4 " flare
	<b>16</b>	in-line 1 " flare
	<b>20</b>	in-line 1 1/4 " flare
	<b>38</b>	dead-end 1/4 " flare
	<b>40</b>	dead-end 3/8 " flare
	<b>42</b>	dead-end 1/2 " flare
5	<input type="checkbox"/>	<b>50</b> dead-end 1/4 NPT female
		<b>Flare nut</b>
	<b>77</b>	PFA <i>only for flare connections, not for NPT</i>
	<b>75</b>	PVDF <i>only for flare connections, not for NPT</i>
6	<input type="checkbox"/>	<b>ZZ</b> without <i>only with NPT connections</i>
		<b>System fill fluid</b>
7	<input type="checkbox"/>	<b>L1</b> KN 75 iso-propyl-alcohol (IPA) / DI-water 50:50
		<b>Additional order info</b>
	<b>YES</b>	<b>NO</b>
8	<input type="checkbox"/>	<b>1</b> <b>Z</b> additional text <i>Please state as clearly understandable text!</i>

## Order code:

	1	2	3	4	5	6	7	8	
HS	-	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>L1</b>	-	<input type="text"/>

Optional designs on request

Additional text: \_\_\_\_\_

\_\_\_\_\_

Modifications may take place and materials specified may be replaced by others without prior notice. Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.