

# Pressure gauge in hygienic design with mounted diaphragm seal With clamp connection Model DSS22P

WIKA data sheet DS 95.07



## Applications

- Hygienic pressure measurement in the pharmaceutical industry
- Mechanical pressure display on pipelines, bioreactors, fermenters and vessels
- Pressure/vacuum monitoring during cleaning by CIP and SIP processes, as well as sterilisation and pressure testing
- For gases, vapour; liquid, pasty, powdery and crystallising media

## Special features

- Case and wetted parts in hygienic design
- Suitable for SIP and CIP
- Clamp connection easy to open for cleaning and seal replacement
- Easy zero point setting

## Description

Diaphragm seal systems are used to protect the pressure measuring instrument from aggressive, adhesive, crystallising, corrosive, highly viscous, environmentally hazardous or toxic media. The diaphragm made of stainless steel provides for the separation from the medium. The pressure is transmitted to the measuring instrument via the system fill fluid which is inside the Diaphragm seal system.

The DSS22P complies with all requirements of the pharmaceutical industry. The particular suitability for pharmaceutical products rests on the fact that the measuring point can be cleaned while installed.



Diaphragm seal system, model DSS22P

The requirements of CIP (cleaning in place) and SIP (sterilisation in place) are fulfilled.

The clamp connection enables the quick and easy dismantling and thus a simple cleaning with seal replacement.

The proven, all-welded construction ensures a long service life and permanent sealing.

The zero point can be set directly on the window using a hexagon wrench key without having to dismantle the instrument.

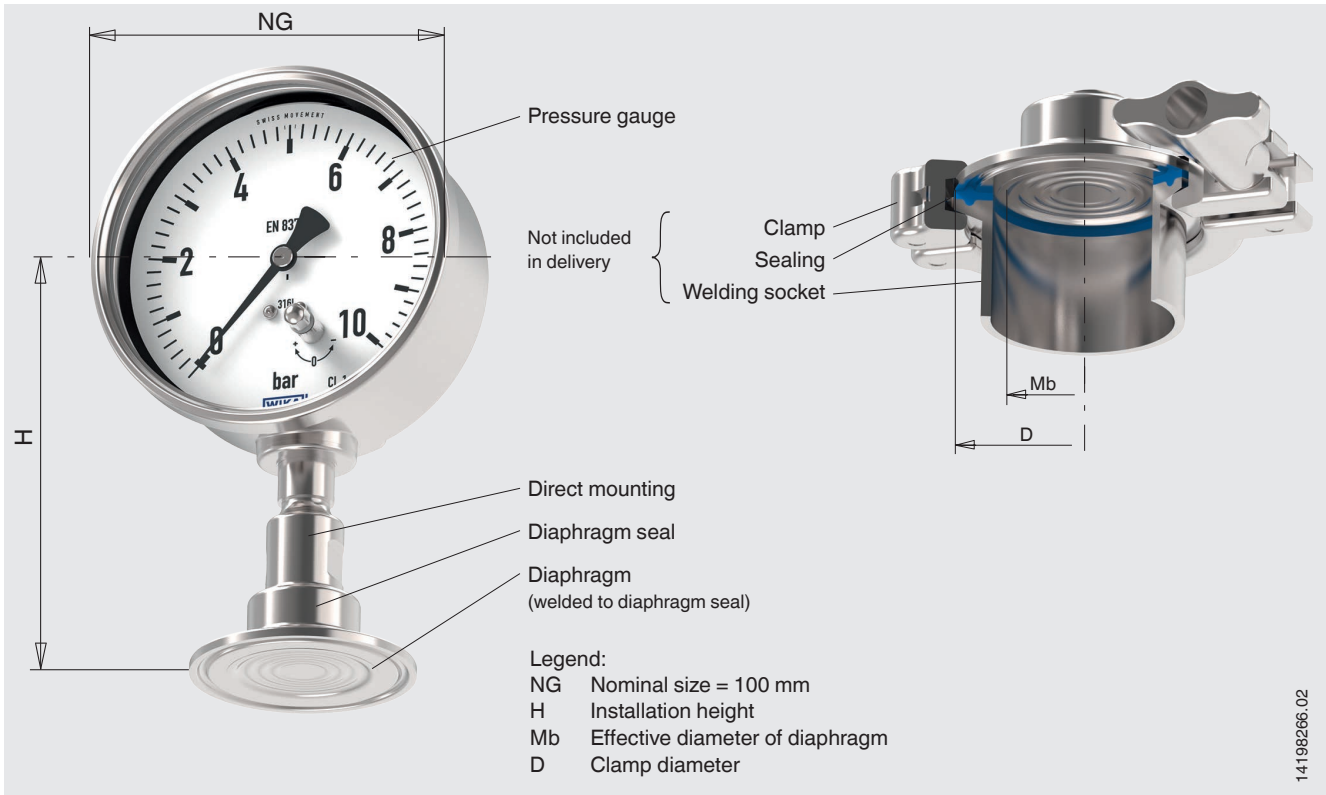
## Specifications

Model DSS22P	
<b>Design</b>	Pressure gauge with Bourdon tube in hygienic design, welded to diaphragm seal, electropolished
<b>Nominal size (NS)</b>	100
<b>Accuracy class</b>	1.0
<b>Scale range</b>	0 ... 6 to 0 ... 25 bar [0 ... 87 to 0 ... 360 psi] or all other equivalent vacuum or combined pressure and vacuum ranges
<b>Pressure limitation</b>	Steady: Full scale value Fluctuating: 0.9 x full scale value Short time: 1.3 x full scale value
<b>Permissible temperature range</b>	Medium: 10 ... 80 °C [50 ... 176 °F] for CIP and SIP max. 130 °C [266 °F] Ambient: 10 ... 40 °C [50 ... 104 °F] Storage: 10 ... 60 °C [50 ... 140 °F]
<b>Ingress protection</b>	IP65 per IEC/EN 60529
<b>Material</b>	
wetted	Diaphragm: Stainless steel 1.4435 [316L] Diaphragm seal: stainless steel 1.4435 [316L]
non-wetted	Case: Stainless steel 1.4301 [304] Dial, pointer: Aluminium Window: Laminated safety glass with zero point setting
<b>Surface roughness</b>	
wetted	Ra ≤ 0.38 µm [15 µin] per ASME BPE SF4 (except for weld seam)
non-wetted	Case: Ra ≤ 0.38 µm [15 µin] (except for weld seam)
<b>Level of cleanliness of wetted parts</b>	Oil and grease free per ASTM G93-03 level F and ISO 15001 (< 1,000 mg/m <sup>2</sup> )
<b>System fill fluid</b>	Medicinal white mineral oil KN 92 (FDA 21 CFR 172.878, 21 CFR 178.3620(a); USP, EP, JP)

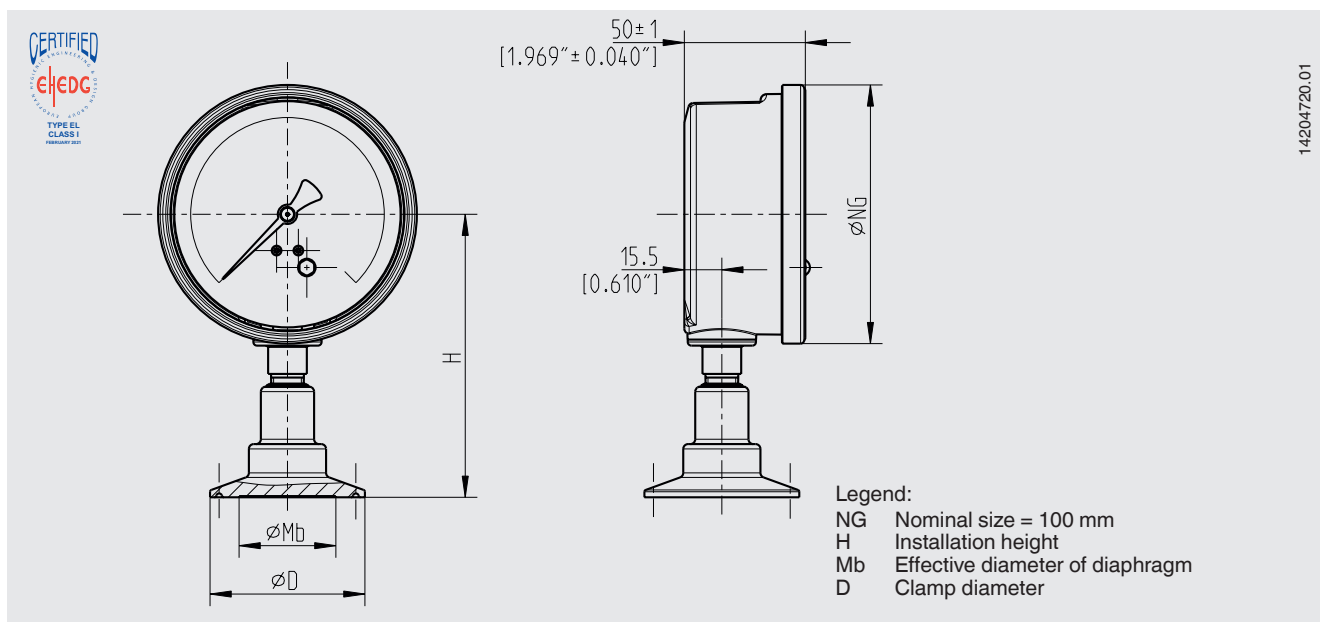
### Measuring ranges in bar [psi]

Gauge pressure			
0 ... 1 [0 ... 15]	0 ... 1.6 [0 ... 25]	0 ... 2.5 [0 ... 40]	0 ... 4 [0 ... 60]
0 ... 6 [0 ... 100]	0 ... 10 [0 ... 160]	0 ... 16 [0 ... 250]	0 ... 25 [0 ... 300]
Vacuum and +/- measuring range			
-1 ... +5 [-30 inHg ... +70]	-1 ... +9 [-30 inHg ... +130]	-1 ... +10 [-30 inHg ... +145]	

**Model DSS22P illustrated on a pipe socket**



## Dimensions in mm [in]



### Type of process connection: Clamp connection per DIN 32676

Pipe standard: Pipes per DIN 11866 row C or ASME BPE

DN	For pipe Outer Ø x wall thickness	PN <sup>1)</sup>	Dimensions in mm [in]			
			NG	H	D	Mb
1 ½"	38.1 x 1.65 [1.5 x 0.065]	40	100 [3.937]	115 [4.528]	50.5 [1.988]	32 [1.26]
2"	50.8 x 1.65 [2 x 0.065]	40	100 [3.937]	118 [4.646]	64 [2.52]	40 [1.575]

### Type of process connection: Clamp connection per DIN 32676

Pipe standard: Pipes per DIN 11866 row B or ISO 1127 row 1

DN	For pipe Outer Ø x wall thickness	PN <sup>1)</sup>	Dimensions in mm [in]			
			NG	H	D	Mb
42.4 (DN 32)	42.4 x 2 [1.669 x 0.079]	40	100 [3.937]	118 [4.646]	64 [2.52]	32 [1.26]
48.3 (DN 40)	48.3 x 2 [1.906 x 0.079]	40	100 [3.937]	118 [4.646]	64 [2.52]	40 [1.575]

### Type of process connection: Clamp connection per BS4825 part 3

Pipe standard: Pipes per BS4825 part 1 and O.D. tube

DN	For pipe Outer Ø x wall thickness	PN <sup>1)</sup>	Dimensions in mm [in]			
			NG	H	D	Mb
1 ½"	38.1 x 1.6 [1.5 x 0.063]	40	100 [3.937]	115 [4.528]	50.5 [1.988]	32 [1.26]
2"	50.8 x 1.6 [2 x 0.063]	40	100 [3.937]	118 [4.646]	64 [2.52]	40 [1.575]

1) For maximum pressure range consider pressure rating of clamp.

## Approvals

Logo	Description	Country
	<b>EHEDG</b> Hygienic Equipment Design	European Community

## Certificates (option)

- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metallic parts, calibration certificate)
- 3.1 calibration certificate (list of single measured values; 5 measuring points)

Approvals and certificates, see website

## Ordering information

Scale range / Process connection (type of process connection, pipe standard, pipe dimension) / Materials / Certificates

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