

## chemical seal US internal diaphragm, flanged type

### typical "US" seal applications

- to combine with industrial process transmitters.
- to combine with mechanical pressure gauges.
- to combine with pressure switches.

### technical specification model us

Flanged connection	1/2"	3/4"	1"	1 1/4"	1 1/2"
ASME					
DIN	DN15	DN20	DN25	DN32	DN40
Diaphragm size in mm	51	51	51	51	51
Max. process pressure in bar at 20 °C	300	300	300	300	300
Max. capillary length in meter	15	15	15	15	15
Min. pressure range for PI in bar	1.0	1.0	1.0	1.0	1.0
Min. span for GP & AP in mbar	800	800	800	800	800
Min. span for DP in mbar	200	200	200	200	200

Process connection	Standard	Options
ASME B 16.5	1/2" / 3/4" 1" / 1 1/4" / 1 1/2"	2" and other sizes acc ASME
	150 / 300 / 600#	> 600#
	RF	FF,groove,RJ,RTJ
	Ra 3.2...6.3 µm	Other finishes
DIN 2501 DIN EN 1092-1	DN15 / 20 / 25 / 32 / 40	NW50 and other sizes acc DIN
	PN10 / 25 / 40	> 40 bar
	Form D (DIN2526)	Other types and finishes
JIS		On request

Wetted parts	Standard	Options
Upperflange	AISI316 (L)	Exotic materials
Lowerflange	AISI316 (L)	Exotic materials
Diaphragm	AISI316L	Hastelloy B2, Monel, Tantalum, Titanium Inconel600,Inconel 686 Hastelloy-C276, Silver

Instrument connection	Standard	Options
Capillary tubing	Top entry	
Threaded	1/2" BSP	1/4" NPT / 1/2" NPT / 1/4" BSP

Features	Standard	Options
Capillary tubing	AISI316	
Armoring	AISI304	PVC sleeve black
Filling fluid	BSO22 (FDA app.)	Others see page 171
Diaphragm	AISI316L	On request
Temperature reducer		All instruments except DP
Temperature compensator		All instruments except PI
Full welded construction		All instruments
Flushing connection		1 or 2 ( with 1/4" npt plugs)
Calibration on process conditions		All instruments
Hydrogen applications	Gold coating	All AISI316 diaphragms
Special coatings		PTFE, FEP, ECTFE, PFA



**minimum ranges for gauges and transmitters per diaphragm**

Diaphragm diameters dD For process connections			Min. span in mbar For transmitters			Min. range in bar For pressure gauges PI		
Diaphragm	Flanged		GP	AP	DP	Ø 63	Ø 100	Ø 160
51 mm	All sizes		800	800	200	1.0	1.0	1.0

**temperature effect on transmitter, capillary and seal**

Diaphragm diameters dD For process connections			Min. span in mbar For transmitters			Min. range in bar For GP /AP transmitters		
Diaphragm	Flanged		DP	Seal	Cap /mtr	GP/AP	Seal	Cap / mtr
51 mm	All sizes		0.175	0.96	0.77	2.35	3.95	4.70

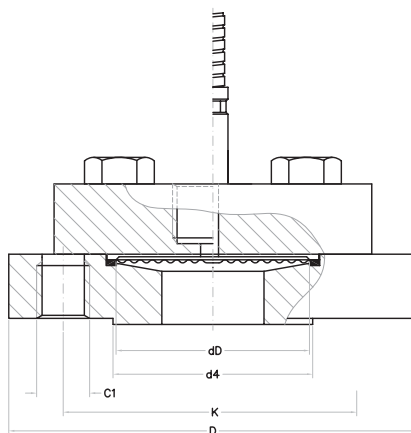
Temperature effect is per +10 °C and measured from 20 °C.

**temperature effect on pressure indicator, capillary and seal**

Diaphragm diameters dD For process connections			Temp. effect in mbar per 10°C On pressure indicators					
Diaphragm	Flanged		Bar	Ø 63	Ø 100	Ø 160	Seal	Cap / mtr
51 mm	All sizes		≤ 60 bar	4.5	18	30	4.2	6.0
			≥ 60 bar	2.7	10	12	4.2	6.0

Bolting		
3/8" UNF	4 x A-270 max 125 bar at 20 °C	4 x st 8.8 - max 150 bar * 8 x A-270 - max 250 bar * 8 x st 8.8 - max 300 bar *

\* max pressure for bolts always at 20 °C



Capillary execution

- Upper parts are interchangeable with the full range of process flange connections
- Process flanges have threaded holes for stud end bolt mounting