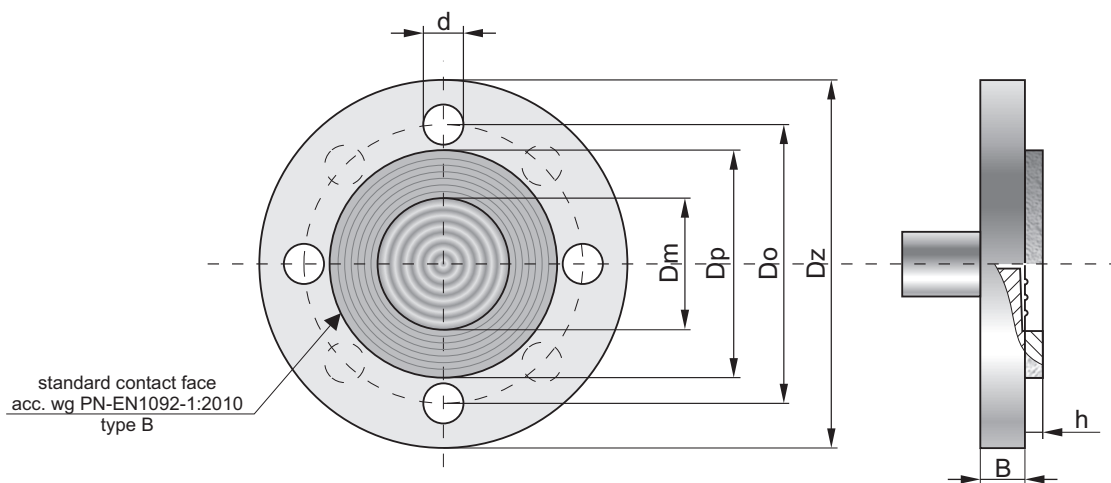


# Chemical flanged seals with flush diaphragm S-Ch



Diaphragm seal dimensions acc. to DIN EN1092-1

Material of wetted parts	Version	Diaphragm diameter Dm	Contact face dia. Dp	Dia. of bolt circle Do	External diameter Dz	Thickness B	Thickness h	Diameter of holes d	Number of holes
Hastelloy, Nickel, Monel	DN50PN40	59	98	125	165	18	7	18	4
	DN80PN40	89	132	160	200	22	7	18	8
Titanium	DN50PN40	59	98	125	165	24	6	18	4
	DN80PN40	89	138	160	200	22	6	18	8
Tantalum	DN50PN40	59	102	125	165	18	3	18	4
	DN80PN40	89	138	160	200	22	3	18	8
Tantalum/Teflon	DN50PN16	59	102	125	165	18	8	18	4
	DN80PN16	89	138	160	200	22	8	18	8
Teflon	DN25PN16	35	68	85	115	18	2	14	4
	DN50PN40	59	102	125	165	18	7	18	4
	DN80PN40	89	138	160	200	22	7	18	8

Diaphragm seal dimensions acc. to ANSI ASME 16.5

Material of wetted parts	Version	Diaphragm diameter Dm	Contact face dia. Dp	Dia. of bolt circle Do	External diameter Dz	Thickness B	Thickness h	Diameter of holes d	Number of holes
Hastelloy, Nickel, Monel	2" ANSI 150	59	92	120,5	150	18	7	20	4
	3" ANSI 150	89	123	152,5	190	22	7	20	4
Titanium	2" ANSI 150	59	92	120,5	150	18	2	20	4
	3" ANSI 150	89	127	152,5	190	22	2	20	4
Tantalum	2" ANSI 150	59	92	120,5	150	18	8	20	4
	3" ANSI 150	89	127	152,5	190	22	8	20	4
Tantalum/Teflon	2" ANSI 150	59	92	120,5	150	18	7	20	4
	3" ANSI 150	89	127	152,5	190	22	7	20	4
Teflon	1" ANSI 150	35	53	79,5	110	16	2	16	4
	2" ANSI 150	59	92	120,5	150	18	7	20	4
	3" ANSI 150	89	123	152,5	190	22	7	20	4

## Application

The diaphragm seal is a pressure-transmitting, diaphragm-type device. The pressure signal is transferred to the cooperating pressure measuring device (pressure transmitter, pressure gauge) through manometric liquid filling the space between the separating diaphragm of the seal and the pressure measuring device. The diaphragm seal function is to isolate the pressure measuring device from damaging impacts caused by either medium or installation:

- high corrosiveness;
- low or high temperature, increased viscosity, impurities;
- vibrations of the installation (remote diaphragm seal).

### Recommended minimum measuring range (bar), depending on the type of the set: pressure measuring device - diaphragm seal

Pressure measuring device	Diaphragm seal type	Diaphragm seal version	
		DN50 PN16	DN80 PN40
Transmitter	direct	0.4	0.1
	remote	1	0.4
Gauge Ø100	direct	1	1
	remote	2.5	2.5

### Available chemical-resistant materials

Diaphragm material	Contact face material	Over pressure limit
Monel	Monel	40 bar
Hastelloy	Hastelloy	40 bar
Nickel	Nickel	40 bar
Tantalum	Tantalum	40 bar
Tantalum	Teflon	16 bar
Titanium	Titanium	40 bar
Teflon	Teflon	40 bar (10 bar for DN25 and 1")
Gold	Gold	40 bar

Teflon/Teflon diaphragm seals not applicable with Exia transmitters

### Zero error from ambient temperature change

Diaphragm seal type	Absolute zero error per 10°C for the diaphragm seal	
	DN50	DN80
direct	5 mbar	2 mbar
remote (2 m capillary)	10 mbar	4 mbar

An additional zero error, resulting from temperature fluctuations in a medium, depends on the temperature gradient in the oil-based diaphragm sealing system. The error value is, in any case, significantly smaller than the error value shown in the table.

### Medium temperature range

-30...180°C for remote diaphragm seal  
special versions up to 250°C

-30...150°C for diaphragm seal

#### Important:

- standard outlet capillary from flange:
- direct mounted diaphragm seal - axial
- remote mounted diaphragm seal - axial
- other configuration available on request

### Special versions

- Filling liquid – FLUOROLUBE
- Direct diaphragm seal for a medium temp. over 150°C
- Gold plated wetted parts material- after consulting with Aplisens.

### Ordering procedure

direct diaphragm seal: pressure measuring device / S-Ch ..... – DN..... / special version – description

remote diaphragm seal: pressure measuring device / S-ChK ..... – DN..... / K = ..... m / special version – description

Transmitter or gauge – see the code in the appropriate catalogue sheet

Material of diaphragm and contact face

Capillary length  
Diaphragm seal version

**Example:** APCE-2000PZ pressure transmitter, nominal measuring range 0÷1bar, direct chemical flanged seal with flush diaphragm and contact face made from titanium (DN80).

**APCE-2000PZ / 0 ÷ 1 bar / S-Ch Titanium/Titanium – DN80PN40**

When ordering a diaphragm seal please state the type of medium and the expected ranges of concentration and temperature.