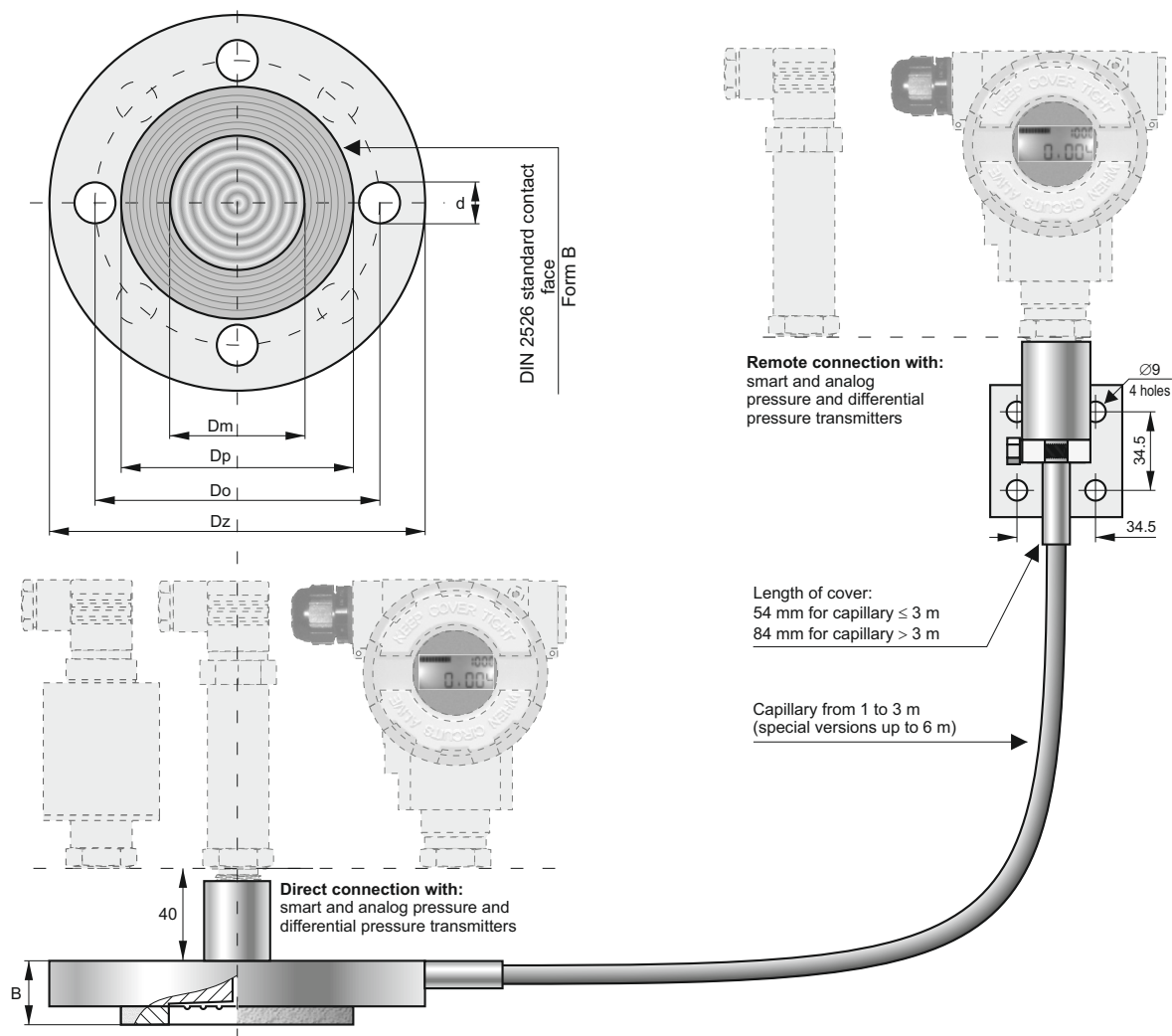


# Technical Datasheet



## D-Series Chemical Flanged Seals with Flush Diaphragm Models: S-Ch



### Dimensions

Version	Diaphragm diameter <b>Dm</b>	Contact face diameter <b>Dp</b>	Partition diameter <b>Do</b>	External diameter <b>Dz</b>	Thick-ness <b>B</b>	Thickness (teflon version) <b>B</b>	Diameter of openings <b>d</b>	Number of openings
<b>DN50</b>	60	102	125	165	24,2	27,7	18	4
<b>DN80</b>	89	138*	160	200	28,9	33,1	18	8

\*for tantalum 127 lining

## Application

The diaphragm seal is a pressure transmitting, diaphragm-type device. The pressure signal is sent 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 task is to isolate the pressure measuring device from damaging impacts caused by either medium or installation:

- ♦ High corrosiveness
- ♦ Low or high temperature, increased viscosity, and impurities
- ♦ Vibrations of the installation (remote diaphragm seal)

The material of both diaphragms and contact faces for the chemical-resistant diaphragm seals is corrosion resistant, irrespective of the medium's chemical composition and its expected concentration and temperature range.

## Measuring Ranges

**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

## 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	16 bar
Tantalum	Teflon	16 bar
Titanium	Titanium	40 bar

Diaphragm seals with Teflon contact faces are more economical than tantalum seals

**Additional absolute zero error resulting from ambient temperature fluctuations,  
depending on the type of the set: pressure transmitter - diaphragm seal**

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 diaphragms seal

#### Important:

- contact face in diaphragm seal DN50 have a milled slot for a gasket (acc. to DIN 2512 FormN). Version without any slot available on request. (acc. to DIN 2526 FormE)
- standard outlet capillary from flange:
  - direct mounted diaphragm seal - axial
  - remote mounted diaphragm seal - radial

### Special versions

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

## How to Order

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

**DPR-2000 / 0 ÷ 1 bar / S-Ch titanium – DN80**

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

*In the interest of development and improvement Delta Controls Ltd, reserves the right to amend, without notice, details contained in this publication. No legal liability will be accepted by Delta Controls Ltd for any errors, omissions or amendments.*

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