

# CHEMICAL SEALS - IN-LINE SEALS



DRUCK & TEMPERATUR

For general industrial applications as well as with hygienic connections

cell design  
with threaded connector  
flange connection  
clamp connection



## Description

Diaphragm seals are used when media can falsify the pressure measurement due to high temperature, high viscosity (pasty media) or their tendency to crystallise.

They transmit the process pressure to the pressure measuring device, whereby the diaphragm seal hermetically separates the medium and the measuring device from each other.

In-line diaphragm seals are integrated directly into the process line. They are therefore particularly suitable for dead space-free applications, for circulating, highly viscous media that tend to swirl.

The membrane is designed as a tube, continuously round, without corners and edges and is therefore easy to clean. It is therefore relatively easy to change media.

The pressure measuring device or the pressure sensor can be welded on or mounted using a connection piece.

## Important information on the selection of diaphragm seals

The process pressure to be measured is transmitted from the diaphragm seal to the pressure measuring device with the help of a special liquid. Diaphragm seal and measuring device are often connected to one another via meter-long capillary lines, so that the two devices can have very different temperatures. As a result, temperature-related display errors are possible that can be multiple of the accuracy of the measuring device.

The coordination of the diaphragm seal and pressure measuring device must therefore be carried out very carefully, and we will be happy to support you.

### Required order information:

Series / process connection (size / standard)  
Material (wetted parts)  
Measuring device connection  
Filling liquid  
Attachment to pressure measuring device  
Operating conditions

## Features

- Various process connections
- Absolutely free of dead space and without cross-section narrowing

## Options

- Special materials for extreme requirements
- Capillary line or cooling element between chemical seal and gauge at high medium temperature  $> +100^{\circ}\text{C}$
- Other filling liquids (high-temperature -oil, vegetable oil)

## Applications

Filling systems  
Food industry  
Biochemistry  
Pharmaceutical industry  
Analysis technology

## Technical details

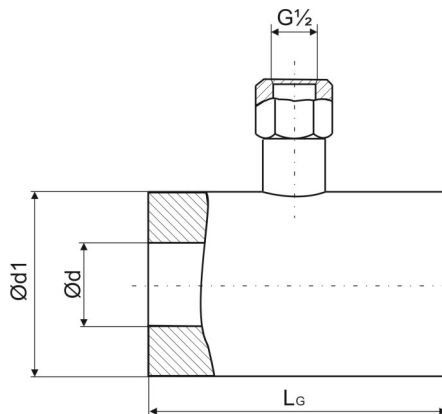
### Cellular type for industrial application



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Type	1060 - Cellular type for industrial application	Options
Material body	1.4435 (316L)	Others on request
Material seal	1.4435 (316L), welded with body	Others on request
Nominal pressure	PN 16 up to PN 400	
Instrument connection	1.4435 (316L), G1/2 female	G1/4, 1/4 NPT, 1/2 NPT female, Others on request
Filling liquid	Silicone oil	High-temperature oil
Range measuring device $M_A$	Pressure gauge 0...1 bar or 0...2,5 bar up to PN, depending on model and size	
Reference temperature	+20°C	Different from +20°C on request

### Dimensional drawing Dimensions in mm



Process connection	DN	PN	d	d1	L <sub>G</sub>	M <sub>A</sub>
DIN EN 1092-1 (PN 16 up to PN 100)	20	bar	16-40	19,8	58	2,5 bar
	25		16-400	26,2	63	
	40		16-400	38,5	85	
	50		16-320	50,7	95	100
	80		400			
	80		16-250	79,7	130	
	100		320-400	99,7	150	
100	16-160					
100	250-400					
ASME B16.5 RF	1"	Class	150-2500	26,2	63	
	1½"		150	38,5	82	
			300-2500		85	
	2"		150-1500	50,7	95	
	3"		2500			
			3"	150-1500	79,7	130
	4"		2500			
	4"		150-600	99,7	150	
900-2500						

Type 1060

## Technical details

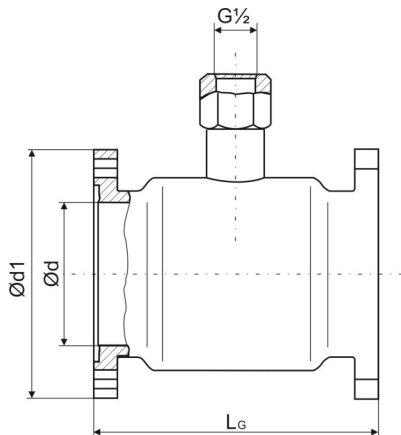
### Flange type for industrial application



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Type	1060 - Flange type for industrial application	Options
Material body	1.4435 (316L)	Others on request
Material seal	1.4435 (316L), welded with body	Others on request
Nominal pressure	PN 16 up to PN 400	
Instrument connection	1.4435 (316L), G1/2 female	G1/4, 1/4 NPT, 1/2 NPT female, Others on request
Filling liquid	Silicone oil	High-temperature oil
Range measuring device $M_A$	Pressure gauge 0...1 bar or 0...2,5 bar up to PN, Depending on model and size	
Reference temperature	+20°C	Different from +20°C on request

### Dimensional drawing Dimensions in mm



Process connection	DN	PN	d	d1	L <sub>G</sub>	M <sub>A</sub>					
DIN EN 1092-1 (PN 16 up to PN 100)	20	bar	16-40	19,8	105	126	2,5 bar				
	25			26,2	115						
	40			38,5	150						
	50		100	16 40	50,7	165	100	1 bar			
	80								16 40	79,7	200
	100								16	99,7	220
ASME B16.5 RF	1"	Class	150-600	26,2	108	126	2,5 bar				
					124						
	1½"		150-600	38,5	127	155	100	1 bar			
					300				152		
					600						
	2"		150-600	50,7	165	191	140	100			
					300						
					600						
	3"		150-600	79,7	210	254	140	100			
					300						
					600						
	4"		150-600	99,7	273	273	140	100			
300											
600											

Type 1060

## Technical details

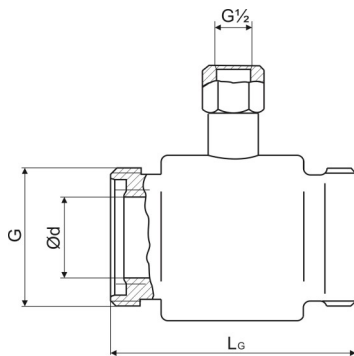
### Hygienic connection- male thread



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Type	1060 - Hygienic connection- male thread	Options
Material body	1.4435 (316L)	Others on request
Material seal	1.4435 (316L), welded with body	Others on request
Nominal pressure	PN 16 up to PN 400	
Instrument connection	1.4435 (316L), G1/2 female	G1/4, 1/4 NPT, 1/2 NPT female, Others on request
Filling liquid	Vegetable oil	Others on request
Range measuring device $M_A$	Pressure gauge 0...1 bar up to PN, depending on model and size	
Reference temperature	+20°C	Different from +20°C on request

### Dimensional drawing Dimensions in mm



Connection with flat or form sealing							
Process connection	DN	PN	d	d1	$L_G$	$M_A$	
Male thread DIN 11851	20	bar	40	19,8	44 x 1/6	138	1 bar at pressure gauge NS 100
	25			26,2	52 x 1/6		
	32			31,8	58 x 1/6	140	
	40			38	65 x 1/6		
	50	bar	25	50,7	78 x 1/6	114	
	65			65,7	95 x 1/6		
	80			79,7	110 x 1/4	116	
	100			99,7	130 x 1/4		

Male thread APV-ISS, IDF, APV-RJT, SMS on request

Connection for O-ring sealing							
Process connection	DN	PN	d	d1	$L_G$	$M_A$	
Male thread DIN 11864-1	20	bar	40	19,8	44 x 1/6	135	1 bar
	25			26,2	52 x 1/6	137	
	32			31,8	58 x 1/6	138	
	40			38	65 x 1/6		
	50	bar	25	50,7	78 x 1/6	112	
	65			65,7	95 x 1/6	114	
	80			79,7	110 x 1/4		
	100			99,7	130 x 1/4	118	

Type 1060

## Technical details

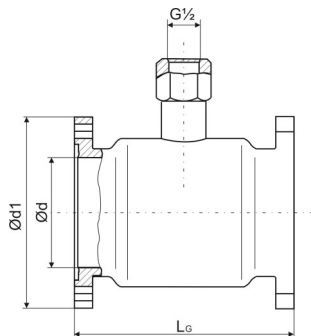
### Hygienic connection - flange



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Type	1060 - Hygienic connection - flange	Options
Material body	1.4435 (316L)	Others on request
Material seal	1.4435 (316L), welded with body	Others on request
Nominal pressure	PN 16 up to PN 400	
Instrument connection	G1/2 female, 1.4435 (316L)	G1/4, 1/4 NPT, 1/2 NPT female, Others on request
Filling liquid	Vegetable oil	Others on request
Range measuring device $M_A$	Pressure gauge 0...1 bar up to PN	
Reference temperature	+20°C	Different from +20°C on request

### Dimensional drawing Dimensions in mm



Connection for O-ring sealing							
Process connection	DN	PN	d	d1	L <sub>G</sub>	M <sub>A</sub>	
Flange DIN 11864-2	20	bar	25	19,8	64	128	1 bar
	25			26,2	70		
	32			31,8	76	127,2	
	40			38	82		
	50	16	16	50,7	94	101,2	
	65			65,7	113		
	80			79,7	133		
	100			99,7	159		

Process connection flange with recess on request

## Technical details

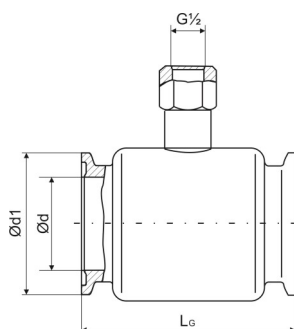
### Hygienic connection - Clamp



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Type	1060 - Hygienic connection - Clamp	Options
Material body	1.4435 (316L)	Others on request
Material seal	1.4435 (316L), welded with body	Others on request
Nominal pressure	PN 16 up to PN 400	
Instrument connection	G1/2 female, 1.4435 (316L) G1/4 female at DN 10 resp.. 1/2"	G1/4, 1/4 NPT, 1/2 NPT female, Others on request
Filling liquid	Vegetable oil	Others on request
Range measuring device $M_A$	Pressure gauge 0...1 bar up to PN, 0...2,5 bar at DN 10	
Reference temperature	+20°C	Different from +20°C on request

### Dimensional drawing Dimensions in mm



Connection for flat or form sealing							
Process connection	DN	PN	d	d1	L <sub>G</sub>	M <sub>A</sub>	
Clamp DIN 32676	10	bar	40	10	34	98	2,5 bar*
	20			19,8			
	25			26,2	50,5	126	
	32			31,8			
	40			38			
	50			50,7	64	100	
	65	25	65,7	91			

Process connection	DN	PN	d	d1	L <sub>G</sub>	M <sub>A</sub>	
Clamp ISO 2852	1/2"	bar	40	10	25	98	2,5 bar*
	1"			22,5			
	1 1/2"			35,5	50,5	126	
	2"			48,6			
	2 1/2"			59,7			
	3"			25	65,7	91	
	4"	99,7	119				

\*refers to pressure gauge NS 63

Connections for O-ring sealing collar clamp socket  
Collar clamp socket with recess on request