

# Flanged chemical seals series D400-D600

A wide choice of configurations to suit customer requirements:

D43x to D63x: 0 + 0.16 to 0 + 25 bar and -1 + 0 to -1 + 24 bar

D42x to D62x : 0 + 1 to 0 + 40 bar and -1 +3 to -1 + 24 bar

D41x to D61x : 0 + 4 to 0 + 160 bar and -1 +9 to -1 + 24 bar

If the pressure indicator or transmitter are damaged, the chemical seal diaphragm keeps the system sealed.



## Chemical seal definition table

	Measurement ranges in bar	0 + 0,16 to 0 + 25 -1 + 0 to -1 + 24 0 + 24 bar absolute	0 + 1 to 0 + 40 -1 + 3 to -1 + 24	0 + 4 to 0 + 160 -1 + 9 to -1 + 24	
	Description	TYPES			
	Chemical seal with welded diaphragm on flat flange	-	<b>D421</b> <b>D428</b> <sup>(2)</sup>	<b>D411</b>	(2): 1 ≤ P ≤ 100 bar
	Chemical seal with cleaning ring and welded diaphragm mounted on flat flange	-	<b>D424</b>	<b>D414</b>	
	Chemical seal with welded diaphragm on flat flange (blind holes)	<b>D435</b>	<b>D425</b>	<b>D415</b>	
	Chemical seal with welded diaphragm mounted on BRD flange	<b>D631</b>	<b>D621</b>	<b>D611</b> <b>D618</b> <sup>(1)</sup>	(1): 4 ≤ P ≤ 400 bar
	Chemical seal with clamped diaphragm mounted on BRD flange	<b>D632</b>	<b>D622</b>	<b>D612</b>	
	Chemical seal with cleaning ring and clamped diaphragm mounted on BRD flange	<b>D633</b>	<b>D623</b>	<b>D613</b>	
	Chemical seal with cleaning ring and clamped diaphragm welded on BRD flange	<b>D634</b>	<b>D624</b>	<b>D614</b> <b>D619</b> <sup>(1)</sup>	(1): 4 ≤ P ≤ 400 bar






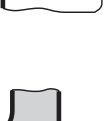












Cleaning rings and clamping: material identical to bottom part  
Standard cleaning rings: one 1/8 NPT plug, option 1/4 NPT

**Measurement ranges** Chemical seal mounted on DN 100 pressure gauge  
Fluid temperature: -20°C ≤ T ≤ 100°C  
Ambient temperature: -10°C ≤ T ≤ 50°C

For other service conditions, see our «Chemical Seal Technical Guide».



## Flange face definition tables

ISO / ANSI flanges		
ISO PN 6-10-16-25 and 40	ISO PN 20 and 50 ANSI Class 150/300	ISO PN 100-150-250-420 ANSI Class 600/900/1500/2500
<p><b>Codes</b></p> <p><b>A</b> </p> <p>Flat face (type A)</p> <p><b>B</b> </p> <p>Raised face (type B)</p> <p><b>C</b> </p> <p>Male tongue (type C)</p> <p><b>D</b> </p> <p>Female groove (type D)</p> <p><b>E</b> </p> <p>Male spigot (type E)</p> <p><b>F</b> </p> <p>Female spigot (type F)</p>	<p><b>Codes</b></p> <p><b>G</b> </p> <p>Raised face (type B1) (RF of 1.6)</p> <p><b>H</b> <b>I</b> </p> <p>wide narrow Male tongue (wide: type C1 - narrow: type C2)</p> <p><b>K</b> <b>L</b> </p> <p>wide narrow Female groove (wide: type D1 - narrow: type D2)</p> <p><b>M</b> <b>N</b> </p> <p>wide narrow Male spigot (wide: type E1 - narrow: type E2)</p> <p><b>O</b> <b>P</b> </p> <p>wide narrow Female spigot (wide: type F1 - narrow: type F2)</p> <p><b>Q</b> </p> <p>Ring joint face (type J)</p>	<p><b>Codes</b></p> <p><b>R</b> </p> <p>Raised face (type B2) (RF of 6.4)</p> <p><b>H</b> <b>I</b> </p> <p>wide narrow Male tongue (wide: type C1 - narrow: type C2)</p> <p><b>K</b> <b>L</b> </p> <p>wide narrow Female groove (wide: type D1 - narrow: type D2)</p> <p><b>M</b> <b>N</b> </p> <p>wide narrow Male spigot (wide: type E1 - narrow: type E2)</p> <p><b>O</b> <b>P</b> </p> <p>wide narrow Female spigot (wide: type F1 - narrow: type F2)</p> <p><b>Q</b> </p> <p>Ring joint face (type J)</p>

\*Type A: compliant with NF E 29-203

## Flange surface finishes

### Raised faces:

ISO PN10-16-25-40: Ra 6.3 to 12.5  
Other ISO PN and ANSI Ra 3.2 to 6.3

### Other finishes on request:

Stock Finish  
Spiral Serrated  
Concentric Serrated  
Smooth Finish  
Cold Water Finish

**Other types of face:** standard machining as per Standard

# Chemical seal compatibility (PN-DN) / Measuring range

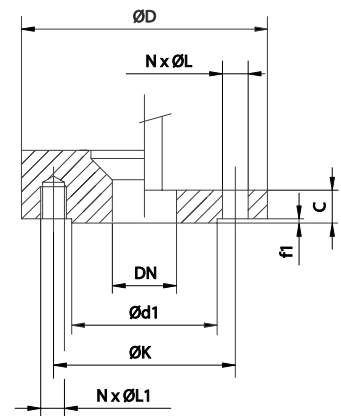
FLANGES				ISO ANSI B16-5						PN10	PN16	PN20 150 #	PN25	PN40	PN50 300 #	PN100 600 #	PN150 900 #	PN250 1500 #
MEASURING RANGES				0.16	1	1.6	2.5	4	6	10	16	20	25	40	50	100	160	250
DN	code	ANSI	code															
10	A	3/8	1	D435 / D631 to 634														
				D425 / D621 to D624														
				D415 / D611 to 614														
15	C	1/2	2	D435 / D631 to 634														
				D425 / D621 to D624														
				D415 / D611 to 614														
20	D	3/4	3	D435 / D631 to 634														
				D425 / D621 to D624														
				D415 / D611 to 614														
25	E	1	4	D435 / D631 to 634														
				D425 / D621 to D624														
				D415 / D611 to 614														
32	F	1 1/4	5	D435 / D631 to 634														
				D425 / D621 to D624														
				D415 / D611 to 614														
40	G	1 1/2	6	D435 / D631 to 634														
				D425 / D621 to D624														
				D415 / D611 to 614														
50	H	2	7	D435 / D631 to 634														
				D621 to 624 / D421 - 424														
				D411 - D414 / D611 to 614														
65	J	2 1/2	8	D435 / D631 to 634														
				D621 to 624 / D421 - 424														
				D411 - D414 / D611 to 614														
80	K	3	9	D631 to 634														
				D621 to 624 / D421 - 424														
				D411 - D414 / D611 to 614														
100	L	4	V	D631 to 634														
				D621 to 624 / D421 - 424														
				D411 - D414 / D611 to 614														

Maximum pressure depending on PN of the flange and standardised Pressure/Temperature relation of the flange

(1) D425 and D62x max. measuring range 0+40 bar

## Flange dimensions

ISO or ANSI B16-5 FLANGES														
ISO	Code	ANSI	Code	PN	class	ØD	C	ØK	ØL	ØL1 ISO	ØL1 ANSI	N	f1	Ød1
15	C	1/2"	2	10/40		95	16	65	14	M12		4	2	45
				20	150	89	14.5	60.3	15.8	M14	1/2 UNC	4	1.6	34.9
				50	300	95	16	66.7	15.8	M14	1/2 UNC	4	1.6	34.9
				100	600	95	20.6	66.7	15.8	M14	1/2 UNC	4	6.4	34.9
20	D	3/4"	3	10/40		105	16	75	14	M12		4	2	58
				20	150	99	15.5	69.8	15.8	M14	1/2 UNC	4	1.6	42.9
				50	300	117	15.7	82.6	19	M16	5/8 UNC	4	1.6	42.9
				100	600	117	22.1	82.6	19	M16	5/8 UNC	4	6.4	42.9
25	E	1"	4	10/40		115	16	85	14	M12		4	2	68
				20	150	108	16	79.4	15.8	M14	1/2 UNC	4	1.6	50.8
				50	300	124	17.5	88.9	19	M16	5/8 UNC	4	1.6	50.8
				100	600	124	23.9	88.9	19	M16	5/8 UNC	4	6.4	50.8
40	G	1 1/2"	6	10/40		150	18	110	18	M16		4	3	88
				20	150	127	17.5	98.4	15.8	M14	1/2 UNC	4	1.6	73
				50	300	156	20.6	114.3	22.2	M20	3/4 UNC	4	1.6	73
				100	600	156	28.8	114.3	22.2	M20	3/4 UNC	4	6.4	73
50	H	2"	7	10/16		165	18	125	18	M16		4	3	102
				20	150	152	19.1	120.6	19	M16	5/8 UNC	4	1.6	92.1
				25/40		165	20	125	18	M16		4	3	102
				50	300	165	22.4	127	19	M16	5/8 UNC	8	1.6	92.1
				100	600	165	31.8	127	19	M16	5/8 UNC	8	6.4	92.1
80	K	3"	9	150/250	900/1500	216	44.5	165.1	25.4			8	6.4	92.1
				10/16		200	20	160	18			8	3	138
				20	150	190	23.9	152.4	19			4	1.6	127
				25/40		200	24	160	18			8	3	138
				50	300	210	28.4	168.3	22.2			8	1.6	127
100	L	4"	V	100	600	210	38.2	168.3	22.2			8	6.4	127
				150	900	241	44.5	190.5	25.4			8	6.4	127
				250	1500	267	54.2	203.2	31.8			8	6.4	127
				10/16		220	22	180	18			8	3	158
				20	150	229	23.9	190.5	19			8	1.6	157.2
25/40		235	26	190	22			8	3	162				
50	300	254	31.8	200	22.2			8	1.6	157.2				
100	600	273	44.5	215.9	25.4			8	6.4	157.2				
150	900	292	50.9	235	31.8			8	6.4	157.2				



# Codification

		Dxxxxxxxxxxxx
<b>Type of chemical seal</b>	<b>1'...4' digit</b>	
Series D400 and D600		Dxxx
<b>Top housing materials</b>	<b>5' digit</b>	
Steel		1
Stainless steel 316L (1.4404)		2
<b>Top housing female thread</b>	<b>6' digit</b>	
G 1/2 female		L
G 1/4 female		H
1/2 NPT female		N
1/4 NPT female		8
<b>Diaphragm material</b>	<b>7' digit</b>	
Stainless steel 316L (1.4435)		2
Uranus B6 B6 (1.4539)		3
Hastelloy B2 (2.4617)		5
Hastelloy C276 (2.4819)		6
Tantalum		7
Titanium (5)		8
Monel 400 (2.4360)		9
<b>Diaphragm coating</b>	<b>8' digit</b>	
No coating		0
PTFE 0.02 mm (1)		1
HALAR 0.2 mm (1)		4
Adhesive PTFE lining 0.25 mm (2)		2
GOLD 15µ (3)		7
<b>Flange standard (4)</b>	<b>9' digit</b>	
ISO flange		1
ANSI B 16-5 flange		2
<b>PN (4)</b>	<b>10' digit</b>	
<b>ANSI</b>		
Class 150		1
Class 300		2
Class 600		3
Class 900		4
Class 1500		5
<b>ISO</b>		
PN6		A
PN10		C
PN16		D
PN20		E
PN25		F
PN40		G
PN50		H
PN100		J
PN150		K
PN250		L
<b>DN (4)</b>	<b>11' digit</b>	
ANSI (see table on page 3)		x
ISO (see table on page 3)		x
<b>Flange face</b>	<b>12' digit</b>	
See table (Definitions of flange faces on page 2)		x
<b>Bottom part material (housing and flange)</b>	<b>13' digit</b>	
Steel		1
Stainless steel 316L (1.4404)		2
Uranus B6 (1.4539)		3
Hastelloy B (2.4617)		5
Hastelloy C276 (2.4819)		6
Titanium		8
Monel 400 (2.4360)		9
PVC (8)		C
PVDF (8)		D
PPH (8)		E
PTFE (8)		F
<b>Bottom housing coating (6)</b>	<b>14' digit</b>	
No coating		0
PTFE 0.02mm		1
PTFE 0.2mm (7)		3
HALAR 0.2mm		4
TANTALUM 1 mm (only D415-D425-D435)		8



## Technical limits for construction

- (1) Except for tantalum diaphragm
- (2) Impossible for measurement of vacuum and absolute pressure
- (3) Only stainless steel and Hastelloy welded diaphragms
- (4) See Flange-Chemical seal compatibility table/ measuring range
- (5) Only clamped diaphragm or welded on titanium top housing. Contact us.
- (6) No coating possible on chemical seals with cleaning ring. Enter code 0.
- (7) PTFE 2 mm can only be produced on:
  - D425 ; D435
  - D421 DN ≥ 50 (2")
  - D621 ; D631 DN ≤ 40 (1"1/2)
  - Flat or raised face flange
  - Max. pressure 10 bar
  - Max. temperature 100°C
- (8) Only series D421-D621-D631  
Limits of use:

PVC	≤ 10 bar	40°C
PPH	≤ 10 bar	60°C
PTFE	≤ 6 bar	80°C
PVDF	≤ 16 bar ≤ 10 bar	40°C 80°C