

Diaphragm chemical seals D1xx-D2xx-D3xx-D120/D121

A wide choice of configurations to suit customer requirements:

D300 to D314: 0 + 0.16 to 0 + 25 bar and -1 +0 to -1 + 24 bar

D200 to D214: 0 + 1 to 0 + 40 bar and -1 +3 to -1 + 24 bar

D100 to D114: 0 + 4 to 0 + 160 bar and -1 +9 to -1 + 24 bar

D120 - D121: 0 + 160 to 0 + 1000 bar

These series are designed for gauge pressure measurement from 0.16 to 1000 bar of corrosive fluids within temperature ranges between -60° and +200°C.

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	0 + 160 to 0 + 1000
DX00 and D120 (X = 1 or 2 or 3)	Type of assembly	TOP HOUSING WITH FEMALE THREAD FLUSH DIAPHRAGM			
	Top housing with welded diaphragm	D300	D200 D207 ⁽²⁾	D100 D107 ⁽¹⁾	D120

M = Male process connection / F = Female process connection

DX01 to DX14 and D121 (X = 1 or 2 or 3)	Type of assembly	TOP HOUSING WITH FEMALE THREAD SCREW-TYPE PROCESS CONNECTION						
		M	F	M	F	M	F	F
	Standard chemical seal with welded diaphragm	D301	D311	D201 D208 ⁽²⁾	D211 D218 ⁽²⁾	D101 D108 ⁽¹⁾	D111 D118 ⁽¹⁾	D121
	Standard chemical seal with clamped diaphragm and clamping ring	D302	D312	D202	D212	D102	D112	-
	Chemical seal with cleaning ring and clamped diaphragm	D303	D313	D203	D213	D103	D113	-
	Chemical seal with cleaning ring and welded diaphragm	D304	D314	D204 D209 ⁽²⁾	D214 D219 ⁽²⁾	D104 D109 ⁽¹⁾	D114 D119 ⁽¹⁾	-

(1) Reinforced version: P max up to 400 bar

(2) Reinforced version: P max up to 100 bar

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»



Dimensions

Weights given for G1/2 stainless steel models

Series DX01 to DX04

B + 4 according to internal thread
0

(X = 1 or 2)

23*

Ø 85

Type	B	Weight kg D101 to D104	Weight kg D201 to D204
D101/201	54	0.965	0.935
D102/202	62	1.215	1.135
D103/203	69	1.425	1.320
D104/204	69	1.425	1.320

* □ 22 for monel version

Series DX11 to DX14 and D121

B + 4 according to internal thread
0

(X = 1 or 2)

27

Ø 85

Type	B	Weight kg D111 to D114	Weight kg D211 to D214	Weight kg D121
D111/211	54	0.975	0.995	-
D112/212	62	1.225	1.195	-
D113/213	69	1.435	1.380	-
D114/214	69	1.435	1.380	-
D121	54			1.410

Series D301 to D304

23*

Ø 120

Type	B	Weight kg
D301	59	1.340
D302	65	1.535
D303	73	1.810
D304	73	1.810

* □ 22 for monel version

Series D311 to D314

27

Ø 120

Type	B	Weight kg
D311	65	1.390
D312	71	1.585
D313	79	1.850
D314	79	1.850

Flange machining for D100-D200-D300-D120 mounting

D100 - D200 - D120

8 screw holes
(see table below)

R
S

T
U

	D100	D200	D120
R	50.1	59.1	40.1
S	46	55	36
T	45	54	35
U	65	70	65
Screw	M10	M8	M10

D300

16 holes
for M5 screws

101,1
96

94
110

Sealing gasket		
Type	Material	Dimensions
D1xx	PTFE	Ø49.8 x Ø45.8 x 1
D120/D121	stainless steel 1.4404	Ø40 x Ø36 x 1
D2xx	PTFE	Ø58.8 x Ø54.8 x 1
D3xx	PTFE	Ø101 x Ø97 x 1

Codification

Top housing with welded diaphragm

		Dxxxxxx
Type of chemical seal	1'...4' digit	
D100 - D200 - D300 - D107 - D207 - D120		Dxxx
Top housing material	5' digit	
Steel		1
Stainless steel 316L (1.4404)		2
Top housing thread	6' digit	
G 1/2 female		L
G 1/4 female		H
1/2 NPT female		N
1/4 NPT female		8
Diaphragm material	7' digit	
Stainless steel 316L (1.4435)		2
Uranus B6 (1.4539)		3
Hastelloy B (2.4617)		5
Hastelloy C276 (2.4819)		6
Tantalum		7
Monel 400 (2.4360)		9
Diaphragm coating	8' digit	
No coating		0
PTFE 0.02mm (1)		1
HALAR 0.2mm (1)		4
Adhesive PTFE lining 0.25mm (2)		2
GOLD 15 µ (3)		7

Standard chemical seal with welded diaphragm

		Dxxxxxxxx
Type of chemical seal	1'...4' digit	
D101-D111-D108-D118-D201-D211-D208-D218-D301-D311-D121		Dxxx
Top housing material	5' digit	
Steel		1
Stainless steel 316L (1.4404)		2
Top housing thread	6' digit	
G 1/2 female		L
G 1/4 female		H
1/2 NPT female		N
1/4 NPT female		8
Diaphragm material	7' digit	
Stainless steel 316L (1.4435)		2
Uranus B6 (1.4539)		3
Hastelloy B (2.4617)		5
Hastelloy C276 (2.4819)		6
Tantalum		7
Monel 400 (2.4360)		9
Diaphragm coating	8' digit	
No coating		0
PTFE 0.02mm (1)		1
HALAR 0.2mm (1)		4
Adhesive PTFE lining 0.25mm (2)		2
GOLD 15 µ (3)		7
Bottom housing material	9' digit	
Steel		1
Stainless steel 316 L (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 (10 bar / 40°C max.)		C
PVDF (10 bar / 80°C max.)		D
PPH (10 bar / 60°C max.)		E
PTFE (10 bar / 60°C max.)		F
Bottom housing connection	10' digit	
Male thread (for D101-D108-D201-D301):		
G 1/2		3
1/2 NPT		6
G 3/8		J
3/8 NPT		S
G 1/4		2
1/4 NPT		5
Contact us for other male threads		
Female thread (for D111-D118-D218-D211-D218-D311-D121):		
G 1/2		L
1/2 NPT		N
3/8 NPT		W
G 1/4		H
1/4 NPT		8
Contact us for other female threads		
Lower housing coating (4)	11' digit	
No coating		0
PTFE 0.02mm		1
PTFE 2mm (5)		3
HALAR 0.2mm		4



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) The coatings can only be produced on bottom housings with male cylindrical thread
- (5) Max. pressure 10 bar. Max. temperature 100°C.

Codification

Standard chemical seal with clamped diaphragm and clamping ring

		Dxxxxxxxxx	
Type of chemical seal	1'...4' digit		
D102-D112-D202-D212-D302-D312		Dxxx	
Top housing material	5' digit		
Steel		1	
Stainless steel 316L (1.4404)		2	
Top housing thread	6' digit		
G 1/2 female		L	
G 1/4 female		H	
1/2 NPT female		N	
1/4 NPT female		8	
Diaphragm material	7' digit		
Stainless steel 316L (1.4435)		2	
Uranus B6 (1.4539)		3	
Hastelloy B (2.4617)		5	
Hastelloy C276 (2.4819)		6	
Tantalum		7	
Titanium		8	
Monel 400 (2.4360)		9	
Diaphragm coating	8' digit		
No coating		0	
PTFE 0.02mm (1)		1	
HALAR 0.2mm (1)		4	
Adhesive PTFE lining 0.25mm (2)		2	
Bottom housing and ring material	9' digit		
Steel		1	
Stainless steel 316 L (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	
Bottom housing connection	10' digit		
Male thread:			
G 1/2		3	
1/2 NPT		6	
G 3/8		J	
3/8 NPT		S	
G 1/4		2	
1/4 NPT		5	
Contact us for other male threads			
Female thread (for D112-D212-D312):			
G 1/2		L	
1/2 NPT		N	
3/8 NPT		W	
G 1/4		H	
1/4 NPT		8	
Contact us for other female threads			
Lower housing and ring coating (4)	11' digit		
No coating		0	
PTFE 0.02mm		1	
PTFE 2mm (5)		3	
HALAR 0.2mm		4	

Standard chemical seal with cleaning ring and clamped or welded diaphragm

		Dxxxxxxxxx	
Type of chemical seal	1'...4' digit		
D103-D104-D113-D114-D203-D204-D209-D213-D214-D219-D303-D304-D313-314		Dxxx	
Top housing materials	5' digit		
Steel		1	
Stainless steel 316L (1.4404)		2	
Top housing thread	6' digit		
G 1/2 female		L	
G 1/4 female		H	
1/2 NPTfemale		N	
1/4 NPT female		8	
Diaphragm material	7' digit		
Stainless steel 316L (1.4435)		2	
Uranus B6 (1.4539)		3	
Hastelloy B (2.4617)		5	
Hastelloy C276 (2.4819)		6	
Tantalum		7	
Titanium (only for D103-D113-D203-D213-D303-D313)		8	
Monel 400 (2.4360)		9	
Diaphragm coating	8' digit		
No coating		0	
PTFE 0.02mm (1)		1	
HALAR 0.2mm (1)		4	
Adhesive PTFE lining 0.25mm (2)		2	
GOLD 15 µ (3)		7	
Bottom housing and cleaning ring material (6)	9' digit		
Steel		1	
Stainless steel 316 L (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	
Bottom housing connection	10' digit		
Male thread:			
G 1/2		3	
1/2 NPT		6	
G 3/8		J	
3/8 NPT		S	
G 1/4		2	
1/4 NPT		5	
Contact us for other male threads			
Female thread (for D113-D114-D213-D214-D219-D313-D314):			
G 1/2		L	
1/2 NPT		N	
3/8 NPT		W	
G 1/4		H	
1/4 NPT		8	
Contact us for other female threads			
Lower housing and ring coating (7)	11' digit		
No coating		0	

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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) The coatings can only be produced on bottom housings with male cylindrical thread
- (5) Max. pressure 10 bar. Max. temperature 100°C.
- (6) The cleaning rings are fitted as standard with one 1/8 NPT plug. Option: 1/4 NPT
- (7) No coating possible