


Diaphragm seals flanged types

Model 102/103, 202/203, 302/303 and 402/403

Flanged connections to ANSI/ASME or DIN



Features

- Removable diaphragm seal capsule (model 102/103)
- Interchangeable components
- Removable top and bottom housing
- Variety of wetted parts materials
- Optional ATEX approved  II 2 GD c

Pressure rating


From PN6 up to PN100
From 150 lbs up to 1500 lbs

Applications

Chemical and petrochemical industry
Machine and apparatus construction
Pulp and paper industry

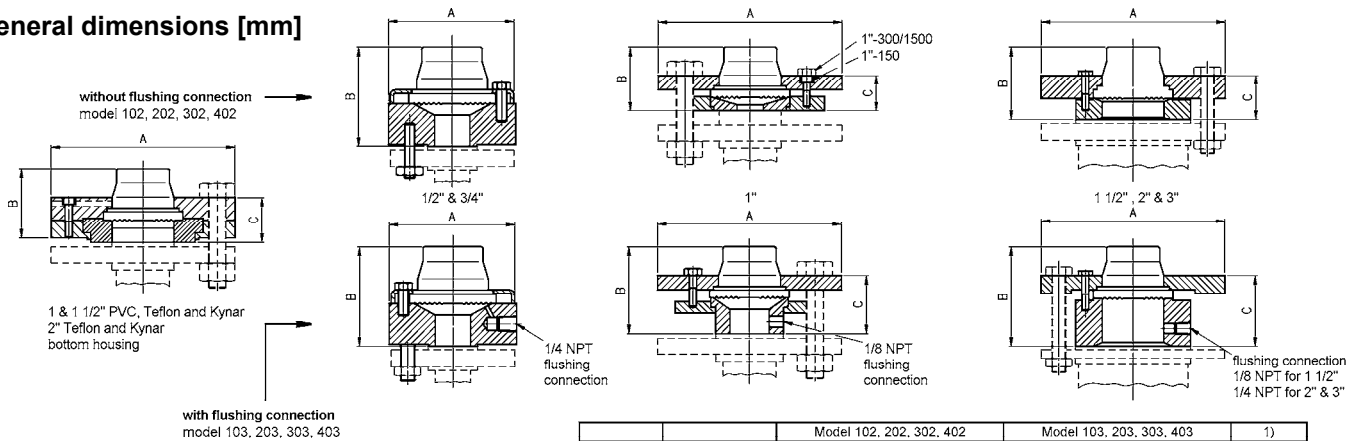
Offshore installations
Waste water treatment



Technical specification	102	103	202	203	302	303	402	403
Process connection size, flanged	1/2", 3/4", 1", 1 1/2", 2", 3", DN15, DN25, DN40, DN50, DN80 Others on request						1/2", 3/4", 1", 1 1/2", 2", 3", DN25, DN40, DN50, DN80, others on request	
Rating	ANSI DIN		150 lbs, 300 lbs, 600 lbs, 900 lbs, 1500 lbs, PN6, PN10, PN16, PN25, PN40, PN64, PN100, others on request					
Construction	Bolted top and bottom housing, removable for easy maintenance						Diaphragm, top and bottom housing welded	
Fill port	At the side with stainless steel ball and set screw							
Flushing connection	No	Yes	No	Yes	No	Yes	No	Yes
Flushing connection size	1/4 NPT female for process connection size 1/2", 3/4", 2" and 3" 1/8 NPT female for process connection size 1", 1 1/2"							
Maximum pressure	Metal bottom housing [lbs/PN] Other bottom housing [lbs/PN]		1500/100 150/10					
Measuring principle	Screwed capsule		Welded capsule or bonded diaphragm		Clamped diaphragm		Welded diaphragm to top and bottom housing	
Instrument connections (female)	ANSI/ASME ISO 228-1		1/4 NPT, 1/2 NPT, others on request G 1/4, G 1/2					
Material (wetted parts)	Bottom housing		Steel, stainless steel 316L (1.4404), stainless steel 304L (1.4306), Monel 400, Hastelloy C, Hastelloy B, Inconel 800, Nickel, Carpenter 20, Titanium, PVC ¹⁾³⁾⁴⁾ , Tantalum clad stainless steel ³⁾ , Halar coated steel ³⁾ , Teflon ²⁾³⁾⁴⁾				Stainless steel 316L (1.4404), Monel 400, Hastelloy C, Titanium	
	Diaphragm/capsule (metal type)		Stainless steel 316L (1.4404), Stainless steel 304L (1.4306), K-Monel, Nickel, Carpenter 20, Tantalum, Hastelloy B, Hastelloy C, Halar coated Monel, Gold plated stainless steel 304L (1.4306)				Stainless steel 316L (1.4404), K-Monel, Hastelloy C, Tantalum	
	Diaphragm (other types)		Teflon, Viton, Titanium		Kalrez, Teflon, Viton			
Material (non wetted parts)	Top housing		Nickel plated carbon steel, optional stainless steel 316L (1.4404)				Stainless steel 316L (1.4404), Monel for Monel bottom housing	
	Clamps, rings, bolts and nuts		Steel, painted black, optional stainless steel series 300					
	Flange		Carbon steel, optional stainless steel series 300				Stainless steel 316 (1.4401)	
Accuracy	Additional 0,5 % to the specified tolerance of the mounted instrument							
Conformity according to RL 94/9/EC appendix X for mechanical equipment in potential hazardous areas	Optional, marking  II 2 GD c File no. 800319037X at notified body 0032, TÜV NORD CERT The temperature class will be determined by the used measuring device.							
Limits for diaphragm/capsule material	Temperature		Teflon		Viton		Kalrez	
	Maximum displacement volume [cm ³]		2,23		8		8	
Filling liquids (temperature range)	Glycerin (0/400 °F, -18/204 °C), silicone (-40/600 °F, -40/315 °C), halocarbon (-70/300 °F, -56/149 °C), Syltherm 800 (-40/750 °F, -40/400 °C), vegetable oil (32/248 °F, 0/120 °C), Neobee M-20 (0/320 °F, -17/160 °C), others on request, also depending on selected material and configuration							
Mounting	Direct or with capillary							
Weight dry [kg]	Depending on flange size							
Accessories, options	NACE, pressure gauges, pressure switches, capillaries							

All specifications are subject to change without notice.

General dimensions [mm]



Flange Size/Rating # inch/lbs	Model 102, 202, 302, 402						Model 103, 203, 303, 403						1)	
	A		B		C		B		C		B	C		
150	300	900	150	300	900	150	300	900	150	300	900	150	150	
	600	1500		600	1500		600	1500		600	1500			
1/2"	89	95	121	75										
3/4"	98	117	130	71	76	81								
1"	100	127	152		57		35	33	40		73		49	56
1 1/2"	127	159	178		61			38		76	76	76	52	59
2"	152	165	216		49		35	38	54	84	84	84	60	54
3"	191	206	267	51	52	68	41	47	82	79	81	94	56	57

Note 1) for model 102, 202, 302 with PVC, Teflon or Kynar bottom housing

Rev. D

Order information

Process connection	Diaphragm capsule material	Bottom housing material	Instrument connection	Rating	Flange Facing	Filling fluid	Options
ANSI Flanged	(C) 304L (1.4306) ¹⁾	(B) Steel ¹⁾	(04T) 1/2 NPT female	ANSI	(FF) Flat face ¹⁾ (not for two pieces design)	(CG) Glycerin (direct mounted, 0/400 °F, -18/204 °C)	(NH) Tagging wired
(10) 1"	(D) Carpenter 20 ¹⁾	(BH) Halar coated steel ²⁾ (temperature limit -40/300 °F, -40/149 °C)	(02T) 1/4 NPT female	(150) 150 lbs	(RF) Raised face ¹⁾	(CK) Silicone (direct mounted or with capillary ≤ 10' (3 m), -40/600 °F, -40/315 °C)	(6B) Oxygen cleaned (only filled with halocarbon)
(15) 1 1/2"	(G) Hastelloy B ¹⁾	(CL) 304L (1.4306) ¹⁾	(15T) G 1/2 female ¹⁾	(300) 300 lbs ¹⁾	(RTJ) Ring joint type ¹⁾	(EJ) Silicone (with capillary > 10' (3 m), -40/600 °F, -40/315 °C)	(LD) Locking device
(20) 2" ²⁾	(H) Hastelloy C	(D) Carpenter 20 ¹⁾		(600) 600 lbs ^{1) 2)}		(CF) Halocarbon (direct mounted or with capillary, -70/300 °F, -56/149 °C)	(YT) 316L (1.4404) stainless steel top housing (standard for ISO connections)
(30) 3" ¹⁾	(K) Kalrez ^{3) 4)} (temperature limit 30/350 °F, 0/176 °C)	(G) Hastelloy B ¹⁾		(900) 900 lbs ^{1) 2)}		(HA) Syltherm 800 (direct mounted or with capillary, -40/750 °F, -40/400 °C)	(1115A) Stainless steel armored capillary ¹⁾
(50) 1/2" ¹⁾	(N) Nickel ¹⁾	(H) Hastelloy C		(1500) 1500 lbs ^{1) 2)}		(GZ) Vegetable oil (direct mounted or with capillary, 32/248 °F, 0/120 °C)	(1115P) Stainless steel armored capillary with PVC sleeving ¹⁾
(75) 3/4" ¹⁾	(P) K-Monel	(KY) Kynar ^{2) 3) 4)}				(NM) Neobee M-20 (direct mounted or with capillary, 0/320 °F, -17/160 °C)	(ATEX) ATEX-listed
DIN Flanged	(PH) Halar coated Monel ⁵⁾	(M) Monel 400		DIN Nominal pressure			
Nominal diameter	(S) 316L (1.4404)	(N) Nickel ¹⁾		(PN6)			
(DN15) ¹⁾	(T) Teflon ^{2) 4)} (temperature limit -40/400 °F, -40/204 °C)	(SL) 316L (1.4404)		(PN10)			
(DN25)	(TI) Titanium ⁵⁾	(SU) Tantalum clad stainless steel ²⁾ (max. rating 300 lbs)		(PN16) ¹⁾			
(DN40)	(U) Tantalum	(T) Teflon ^{2) 3) 4)} (temperature limit max. 150 °F, 65 °C)		(PN25) ¹⁾			
(DN50) ²⁾	(W) 304L (1.4306) Gold plated ⁵⁾	(TI) Titanium		(PN40) ^{1) 2)}			
(DN80) ¹⁾	(Y) Viton ^{2) 4)} (temperature limit -40/350 °F, -40/176 °C)	(V) PVC ^{2) 5)} (max. 75 lbs, temperature limit max. 100 °F, 38 °C)		(PN64) ^{1) 2)}			
		(W) Inconel 800 ¹⁾		(PN100) ^{1) 2)}			
1) not for type 402/403		1) not for type 402/403	1) not for type 202/203 or 402/403	1) not for PVC and Teflon bottom housing	1) the DIN-flange facing depends on nominal size and nominal pressure	others on request	1) max. length 30 m, specify connections as per connection table and length in [mm], E. G. 04-1115A-04-3000
2) only type 202/203 and 302/303		2) only for type 102/202/302		2) not for Tantalum clad stainless steel bottom housing			
3) only type 302/303		3) max. rating 150 lbs/PN10					
4) max. rating 150 lbs/PN10		4) only 1", 1 1/2" and 2"					
5) only type 202/203		5) only 1" and 1 1/2"					
6) only type 102/103		others on request	others on request	others on request			

How to order

Process connection	Type	Diaphragm capsule material	Bottom housing material	Instrument connection	Rating	Flange Facing	Filling fluid	Option
50	102	H	H	04T	150 LBS	RF	CF	NH

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