

# 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

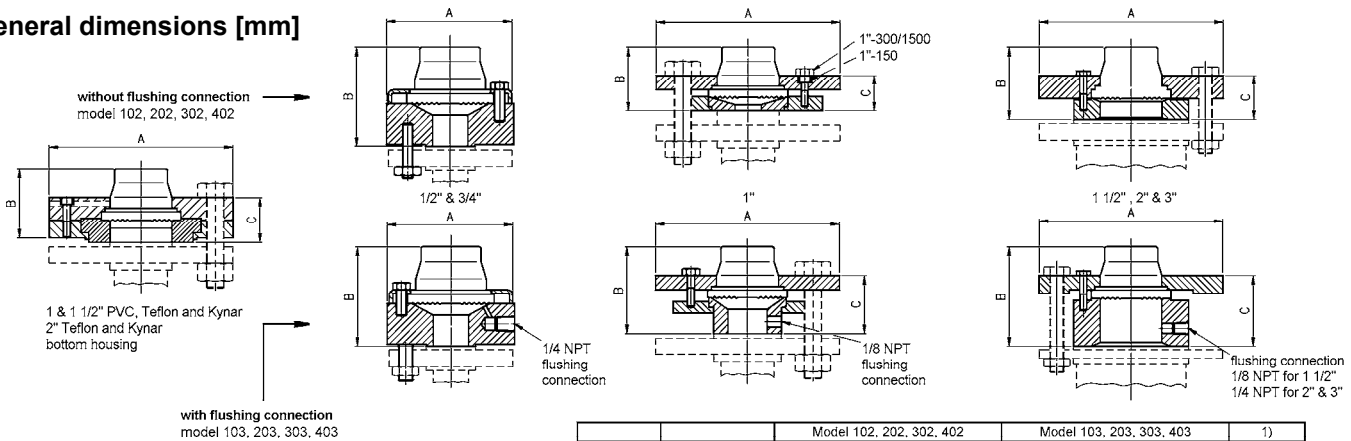
Offshore installations  
Waste water treatment



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	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)	Steel, stainless steel 316L (1.4404), stainless steel 304L (1.4306), Monel 400, Hastelloy C, Hastelloy B, Inconel 800, Nickel, Carpenter 20, Titanium, PVC <sup>1)3)4)</sup> , Tantalum clad stainless steel <sup>3)</sup> , Halar coated steel <sup>3)</sup> , Teflon <sup>2)3)4)</sup>						Stainless steel 316L (1.4404), Monel 400, Hastelloy C, Titanium		
Bottom housing	<sup>1)</sup> only for process connection size 1" and 1 1/2"; <sup>2)</sup> only for process connection size 1", 1 1/2" and 2"; <sup>3)</sup> only for type 102/202/302; <sup>4)</sup> max. rating 150 lbs/PN10								
Diaphragm/capsule (metal type)	Stainless steel 316L (1.4404), Stainless steel 304L (1.4306), K-Monel, Nickel, Carpenter 20, Tantalum, Hastelloy B, Hastelloy C,						Stainless steel 316L (1.4404), K-Monel, Hastelloy C, Tantalum		
Diaphragm (other types)	Halar coated Monel, Gold plated stainless steel 304L (1.4306)		Teflon, Viton, Titanium		Kalrez, Teflon, Viton				
Material (non wetted parts)	Nickel plated carbon steel, optional stainless steel 316L (1.4404)						Stainless steel 316L (1.4404), Monel for Monel bottom housing		
Top housing	Steel, painted black, optional stainless steel series 300								
Clamps, rings, bolts and nuts	Carbon steel, optional stainless steel series 300						Stainless steel 316 (1.4401)		
Flange									
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	Teflon		Viton		Kalrez		Metal		
Temperature	-40/400 °F, -40/204 °C		-40/350 °F, -40/176 °C		30/350 °F, 0/176 °C		depending on filling fluid		
Maximum displacement volume [cm <sup>3</sup> ]	2,23		8		8		1,14		
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			
1/2"	89	95	121	75	76	81									
3/4"	98	117	130	71											
1"	100	127	152	57	35	33	40	73		49		56	35		
1 1/2"	127	159	178	61		38		76	76	76	52	59	69		
2"	152	165	216	49	35	38	54	84	84	84	60	54	40		
3"	191	206	267	51	52	68	41	47	82	79	81	94	56	57	70

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
<b>ANSI Flanged</b>	(C) 304L (1.4306) <sup>1)</sup>	(B) Steel <sup>1)</sup>	(04T) 1/2 NPT female	<b>ANSI</b>	(FF) Flat face <sup>1)</sup> (not for two pieces design)	(CG) Glycerin (direct mounted, 0/400 °F, -18/204 °C)	(NH) Tagging wired
(10) 1"	(D) Carpenter 20 <sup>1)</sup>	(BH) Halar coated steel <sup>2)</sup> (temperature limit -40/300 °F, -40/149 °C)	(02T) 1/4 NPT female	(150) 150 lbs	(RF) Raised face <sup>1)</sup>	(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 <sup>1)</sup>	(CL) 304L (1.4306) <sup>1)</sup>	(15T) G 1/2 female <sup>1)</sup>	(300) 300 lbs <sup>1)</sup>	(RTJ) Ring joint type <sup>1)</sup>	(EJ) Silicone (with capillary > 10' (3 m), -40/600 °F, -40/315 °C)	(LD) Locking device
(20) 2" <sup>2)</sup>	(H) Hastelloy C	(D) Carpenter 20 <sup>1)</sup>		(600) 600 lbs <sup>1) 2)</sup>		(GZ) Vegetable oil (direct mounted or with capillary, 32/248 °F, 0/120 °C)	(YT) 316L (1.4404) stainless steel top housing (standard for ISO connections)
(30) 3" <sup>1)</sup>	(K) Kalrez <sup>3) 4)</sup> (temperature limit 30/350 °F, 0/176 °C)	(G) Hastelloy B <sup>1)</sup>		(900) 900 lbs <sup>1) 2)</sup>		(CF) Halocarbon (direct mounted or with capillary, -70/300 °F, -56/149 °C)	(PU) Pipe plug for flushing connection (same material as bottom housing)
(50) 1/2" <sup>1)</sup>	(N) Nickel <sup>1)</sup>	(H) Hastelloy C		(1500) 1500 lbs <sup>1) 2)</sup>		(HA) Syltherm 800 (direct mounted or with capillary, -40/750 °F, -40/400 °C)	(1115A) Stainless steel armored capillary <sup>1)</sup>
(75) 3/4" <sup>1)</sup>	(P) K-Monel	(KY) Kynar <sup>2) 3) 4)</sup>		<b>DIN</b> Nominal pressure		(NM) Neobee M-20 (direct mounted or with capillary, 0/320 °F, -17/160 °C)	(1115P) Stainless steel armored capillary with PVC sleeving <sup>1)</sup>
<b>DIN Flanged</b> Nominal diameter	(PH) Halar coated Monel <sup>5)</sup>	(M) Monel 400		(PN6)			(ATEX) ATEX-listed
(DN15) <sup>1)</sup>	(S) 316L (1.4404)	(N) Nickel <sup>1)</sup>		(PN10)			
(DN25)	(T) Teflon <sup>2) 4)</sup> (temperature limit -40/400 °F, -40/204 °C)	(SL) 316L (1.4404)		(PN16) <sup>1)</sup>			
(DN40)	(TI) Titanium <sup>5)</sup>	(SU) Tantalum clad stainless steel <sup>2)</sup> (max. rating 300 lbs)		(PN25) <sup>1)</sup>			
(DN50) <sup>2)</sup>	(U) Tantalum	(T) Teflon <sup>2) 3) 4)</sup> (temperature limit max. 150 °F, 65 °C)		(PN40) <sup>1) 2)</sup>			
(DN80) <sup>1)</sup>	(W) 304L (1.4306) Gold plated <sup>5)</sup>	(TI) Titanium		(PN64) <sup>1) 2)</sup>			
	(Y) Viton <sup>2) 4)</sup> (temperature limit -40/350 °F, -40/176 °C)	(V) PVC <sup>2) 5)</sup> (max. 75 lbs, temperature limit max. 100 °F, 38 °C)		(PN100) <sup>1) 2)</sup>			
		(W) Inconel 800 <sup>1)</sup>					
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

## Ashcroft Instruments GmbH

Germany  
Max-Planck-Str. 1, D-52499 Baesweiler  
P.O. Box 11 20, D-52490 Baesweiler  
Tel.: +49 (0) 2401 808-0, Fax: +49 (0) 2401 808-125

France  
„206“ ZA Le Mandinet Rue des Campanules  
F-77185 Lognes  
Tel.: +33 (0) 1 60 37 25 30, Fax: +33 (0) 1 60 37 25 39

Website: [www.ashcrofteurope.com](http://www.ashcrofteurope.com)

e-Mail: [sales@ashcrofteurope.com](mailto:sales@ashcrofteurope.com)

## United Kingdom

Unit 5 William James House  
Cowley Road, Cambridge CB4 0WX  
Tel.: +44 (0) 12 23 39 55 00, Fax: +44 (0) 12 23 39 55 01