



# PRESSURE MEASURING

## WITH DWF DIAPHRAGM





## Introductions

The DFW construction has a seal body that is made of bar stock or forged material. The weld of the diaphragm to the seal body is a wetted part and therefore diaphragm materials are mostly chosen the same as the flange material. Its pressure rating is defined by the cover flange and as such it can be used for all pressure ratings in all facings.



## Applications

The diaphragm is Laser-welded to the body and is designed to have the best performance for the specific size. This means that the flexibility and shape is carefully tested and measured. The standard thickness of diaphragm foil is 0.1mm

Body Material	General name
AISI 316(L)	AISI 316L
	Alloy C276
	Tantalum
	Monel 400
	Inconel 625
AISI 304L	AISI 316L
AISI 310	AISI 316L
AISI 321	AISI 316L
Alloy 625	Alloy 625
Alloy 825	Alloy 625
Alloy C-276	Alloy C-276
Duplex F51/F60	AISI 316L
Duplex F53	AISI 316L
Nickel 201	Nickel 201
	Monel 400
	Inconel 625
Titanium Gr. 2	Titanium Gr. 2



## Specification

### Gold coatings

Several types of gold coating can be applied on the seals. The selection possibilities are:

- 25 µm chemical resistance
- 40 µm chemical resistance

### Polymer coatings

Polymer coatings come in several types. The technical data on thickness and temperature limitation can be found in datasheet “polymer solutions” The applicable selection on BF seals are:

- PTFE coating
- Ceramic coating

### Capillary tube and armor (protection)

The standard capillary mounting position is top side (axial) of the seal. Alternatively, the capillary can be placed at the side of the seal (radial). The standard tube material is TP316 (316SS). There are three options in ID of the capillary 1mm. Aramak capillaries are always protected against mechanical forces by armor. This doubled shielded armor consist is standard AISI 304, and optionally AISI 316. Additionally, the armor could be protected with a PVC sleeve in white, black, optionally with Yellow to protect against dust and water ingress and possibly corrosive ambient atmosphere.



### Flush rings and flush flanges

Aramak offers matching flush rings or flush flanges to their diaphragm seal. On request equipped with blind plugs, vent plug and or flushing / draining needle valves, which can be fitted or welded to the complete construction.



### Cover Flange

The DFW will be clamped to the process. This can be done with a standard blind flange. However, positioning the seal in line with the flange and gasket will be challenging. Therefore, Aramak offers the option for a cover flange. This flange has a groove to fit the seal part and fixing holes to fix the seal into the flange. Details can be found in the dimension's section.

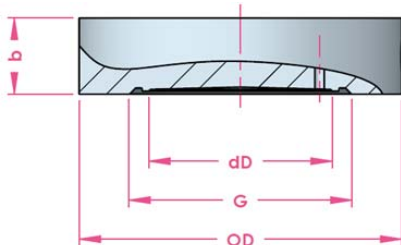
### Material Certification

Material traceability and related certification are applicable for all process wetted parts. Material certification possibilities depend on the type of seal, the assembly construction and the materials used. Material certification is in accordance with EN10204 3.1 Additional material certification and testing can be provided on request, such as Positive Material Identification (PMI), NACE conformity for ISO-15156 (MR-0175) and/or ISO-17945 (MR-0103), and many more.



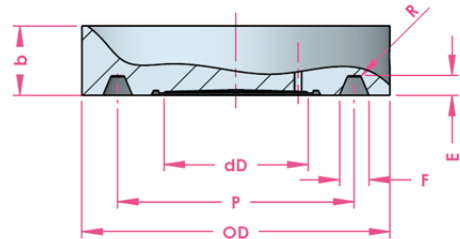
## Dimensions table

ASME 16.5 RF facing



size	rating	OD	dD	b
1"	cl. 150-2500	51	35.0	24.0±1
1.5"	cl. 150-600	73.0	46.0	
	cl. 900-2500		54.0	
2"	cl. 150-600	92	54.0	
	cl. 900-2500		75.0	
3"	cl. 150-2500	127.0	89.0	
4"	cl. 150-2500	158		

ASME 16.5 RTJ

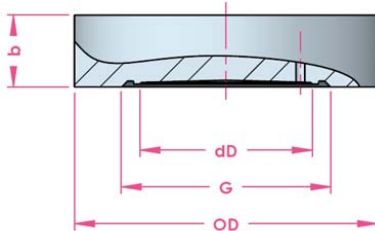


size	rating	OD	dD	b	E	F	P
1"	cl. 150	63.5					47.63
	cl. 300	70.0	35.0				50.80
	cl. 400-600						
1.5"	cl. 900-1500	71.5					60.33
	cl. 2500	82.5			6.35	8.74	57.15
	cl. 150	73.0					
1.25	cl. 300	79.5					60.33
	cl. 400-600	81.0					
	cl. 900-1500	102.0			7.92	11.91	72.23
1.5"	cl. 150	82.5	46.0				65.07
	cl. 300	90.5	54.0		6.35	8.74	68.27
	cl. 400-600	92.0					
2"	cl. 900-1500	114.0		28.0±1	7.92	11.91	95.25
	cl. 2500	102.0			6.35	8.74	101.60
	cl. 150	102.0					114.30
2"	cl. 300	108.0	60.0				82.55
	cl. 400-600	124.0	75.0		7.92	11.91	95.25
	cl. 900-1500	124.0					101.60
3"	cl. 2500	133.0			6.35	8.74	114.30
	cl. 150	146.0					
	cl. 300	146.0					
3"	cl. 400-600	156.0			7.92	11.91	123.83
	cl. 900	156.0					
	cl. 1500	168.0			9.53	13.49	136.53
4"	cl. 2500	171.0			6.35	8.74	127.00
	cl. 150	171.0					
	cl. 300	175.0	75.0				
4"	cl. 400	175.0	89.0				149.23
	cl. 600	175.0					
	cl. 900	181.0		30.0	7.92	11.91	149.23
4"	cl. 1500	194.0					161.93
	cl. 2500	203.0			11.13	16.66	157.18



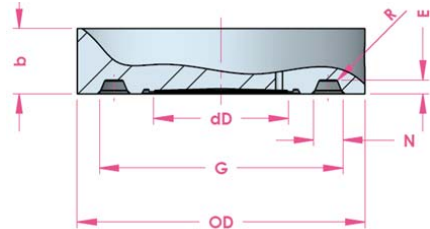
## Dimensions table

EN 1092-1 B1 type



size	rating	OD	dD	b
1"	cl. 150-2500	51	35.0	24.0±1
1.5"	cl. 150-600	73.0	46.0	
	cl. 900-2500		54.0	
2"	cl. 150-600	92	54.0	
	cl. 900-2500		75.0	
3"	cl. 150-2500	127.0	89.0	
4"	cl. 150-2500	158		

ISO 10423 6BX Type



size	rating	OD	dD	b	E	N	G
1-13/16"	69MPa	105.0	32.0	28.0	5.6	11.8	77.7
	103,5MPa	106.0					
2-1/16"	138MPa	117.0	44.0	28.0	5.9	12.7	86.2
	69MPa	111.0					
	103,5MPa	114.0					
2-9/16"	138MPa	132.0	57.0	28.0	6.8	14.1	102.7
	69MPa	132.0					
	103,5MPa	133.0					
3-1/16"	138MPa	151.0	72.0	28.0	7.5	15.4	119.0
	69MPa	152.0					
	103,5MPa	154.0					
	138MPa	171.0					



## Ordering Information

DWF-	XX	XX	XX	XX	XXX	XXX	XX	XX	XX	XXX
<b>Standards</b>										
ASME 16.5 RF facing	RF									
ASME 16.5 RTJ	RJ									
EN 1092-1 B1 type	EN									
ISO 10423 6BX Type	IS									
Other	OT									
<b>Size</b>										
DN 25 (1 in.)		25								
DN 40 (1 1/2 in.)		40								
DN 50 (2 in.)		50								
DN 65 (2 1/2 in.)		65								
DN 80 (3 in.)		80								
DN 90 (3 1/2 in.)		90								
DN 100 (4 in.)		10								
Others		999								
<b>Rating</b>										
ANSI Class 150			A1							
ANSI Class 300			A2							
ANSI Class 600			A3							
ANSI Class 900			A4							
ANSI Class 1500			A5							
ANSI Class 2500			A6							
PN 10			P1							
PN 16			P2							
PN 25			P3							
PN 40			P4							
PN 63			P5							
PN 100			P6							
PN 160			P7							
<b>Diaphragm Material</b>										
316 / 316L stainless			I1							
Alloy 625			I6							
Alloy C276			I8							
Titanium			I2							
Tantalum			I3							
Nickel 200			I4							
PTFE			P1							
PVDF			P3							
Other			P5							
<b>Flanged Material</b>										
Not Applicable					10					
316 / 316L stainless					11					
310 stainless steel					12					
321 stainless steel					13					



## Ordering Information

22 % Cr duplex		I4					
Alloy 400		I5					
Alloy 625		I6					
Alloy 800		I7					
Alloy C276		I8					
Other		P5					
<b>Instrument Direction</b>							
Axial		AX					
Radial		RD					
<b>Capillary Length</b>							
Not Applicable		NA					
1 m		N1					
2 m		N2					
3 m		N3					
4 m		N4					
5 m		N5					
6 m		N6					
7 m		N7					
8 m		N8					
10 m		N9					
Other		N0					
<b>Flushing Ring</b>							
Not Applicable				0			
1*1/2" Screw Connection				10			
2*1/2" Screw Connection				11			
1*1/4" Screw Connection				20			
2*1/4" Screw Connection				21			
Other				30			
<b>Bolt &amp; Nut</b>							
Not Applicable					0		
C.S A192/A193						CS	
C.S A192/A193 Cold Galvanized						CG	
C.S A192/A193 ETFE Coated						CE	
C.S A192/A193 Zinc Reach						CZ	
Stainless Steel 304 A192/A193						S1	
Stainless Steel 316 A192/A194						S2	
Other						O1	
<b>Certification</b>							
Material certificates							C0
Material NACE MR0175							C1
Material NACE MR0103							C2
100% dimensional check							C3
Hardness survey							C4
Impact testing @ -196 °C (-320.8 °F)							C5
Others							C6



## Ordering Information

Added requirements		
Manufactured to customer drawing		DW
Gate Valve 1/2" Carbone Steel		GV1
Gate Valve 1/2" Stainless Steel 304		GV2
Gate Valve 1/2" Stainless Steel 316		GV3
Ball Valve 1/2" Stainless Steel 304		BV1
Ball Valve 1/2" Stainless Steel 316		BV2
Niddle Valve 1/2" Stainless Steel 304		NV1
Niddle Valve 1/2" Stainless Steel 316		NV2
Nipple Carbone Steel 1/2*1/2" Male		NP1
Nipple Stainless Steel 304, 1/2*1/2"		NP2
Nipple Stainless Steel 316, 1/2*1/2"		NP3
Others		OT





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