

Wafer Flange Connections

Chemical & Sanitary Specification

Type CW/SW

Application

Wafer type diaphragm seals are commonly used in applications which involve processing of Chemicals, Petroleum products, Slurries, Pulp and Paper, food processing, beverage and pharmaceutical industries. These seals have the capillary coming out at right angles to the seal face. This let's the capillary run along the tank wall or pipe.

Configuration

Differential or Gauge pressure. In all cases a Low Volume cover flange must be fitted to all D.P type transmitters to reduce fill quantities and therefore reduce errors induced by ambient temperature change. Gauge pressure transmitters require a G-1/2" process connection.

Process Connection

ANSI, ANSI RTJ, Din, ANSI Large Tongue, ANSI Large Groove, Table & JIS

Process Connection Size

2" (50mm), 3" (80mm) & 4" (100mm)

Seal Construction

Flange machined from Forged Bar.
Welded or Bonded Diaphragm.

Packing Surface Finish:

To connection standard.

Wetted Materials

316/316L Dual Certified Stainless Steel (standard)
Other materials available upon request.

Backing Flange Materials

316/316L Dual Certified Stainless Steel (standard)
Other materials available upon request.

Capillary

Available in 1 to 10 metre lengths. Capillaries must be of matching lengths for differential systems.

Capillary Armour

PVC coated 304 Stainless Steel (standard)
For processes with temperatures over 100°C or sanitary applications spiral wound 304 Stainless Steel.

Zero Stability

Stability will be affected by the instrument configuration, ambient temperature, process temperature, connection size (diaphragm size) and the measuring range. For temperature effects and instrument accuracy please contact us.

Dimensional Drawings & System Configuration

Refer to Dimensional Drawings.



General Specifications



How to Order – Type CW/SW

Model Type

CW = Chemical
SW = Sanitary

Connection Type

AR = ANSI Raised Face
RT = ANSI RTJ **Note: Not suitable for Sanitary Applications**
DN = Din
AT = Large Tongue **Note: Not suitable for Sanitary Applications**
AM = Large Groove **Note: Not suitable for Sanitary Applications**
JI = JIS
TB = Table
XX = Special

Connection Size

16 = 2" **Note: For 900lb (ANSI) use code 5 in Connection Rating**
24 = 3"
32 = 4"
XX = Special

Connection Rating

1 = 150lb (ANSI), E (Table)
2 = 300lb (ANSI), Pn 10-16 (Din), 10K (JIS), F (Table)
3 = 600lb (ANSI), Pn 25-40 (Din), 16K (JIS), H (Table)
4 = 900lb (ANSI), Pn 64 (Din), 20K (JIS), J (Table) **Note: 900lb (ANSI) only for 3" & 4"**
5 = 1500lb (ANSI), Pn 100 (Din), 30K (JIS), K (Table)
6 = 2500lb (ANSI), Pn 160 (Din)

Diaphragm Material

S = 316L Stainless Steel
A = 304 Stainless Steel
H = Hastelloy C-276
M = Monel 400 **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
I = Titanium Grade 2 **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
T = Tantalum **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
F = PFA (316L Stainless Steel Coated)
G = Gold Plated 316L Stainless Steel & PFA Coated
D = Double Gold Plated 316L Stainless Steel & PFA Coated
U = Duplex 2205
N = Nickel 200
X = Special

Wetted Parts

S = 316/316L Dual Certified Stainless Steel
A = 304 Stainless Steel
E = 316 Stainless Steel
H = Hastelloy C-276 **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
M = Monel 400 **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
I = Titanium Grade 2 **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
T = Tantalum **Note: Bonded diaphragm, must have same Diaphragm Material. Maximum Temperature 150°C.**
F = PFA (316L Stainless Steel Coated)
U = Duplex 2205
X = Special

Backing Flange Material

S = 316/316L Dual Certified Stainless Steel
A = 304 Stainless Steel
E = 316 Stainless Steel
H = Hastelloy C-276
I = Titanium Grade 2
C = Carbon Steel (S25C)
U = Duplex 2205
X = Special

System Configuration

S = Gauge Pressure System with G-1/2" Connection Capillary mounted TX
P = Gauge pressure System with DP Type TX Capillary Mounted
D = Differential Pressure System with Capillary

Capillary

01 = 1 Metre
02 = 2 Metres
03 = 3 Metres
04 = 4 Metres
05 = 5 Metres
06 = 6 Metres
07 = 7 Metres
08 = 8 Metres
09 = 9 Metres
10 = 10 Metres

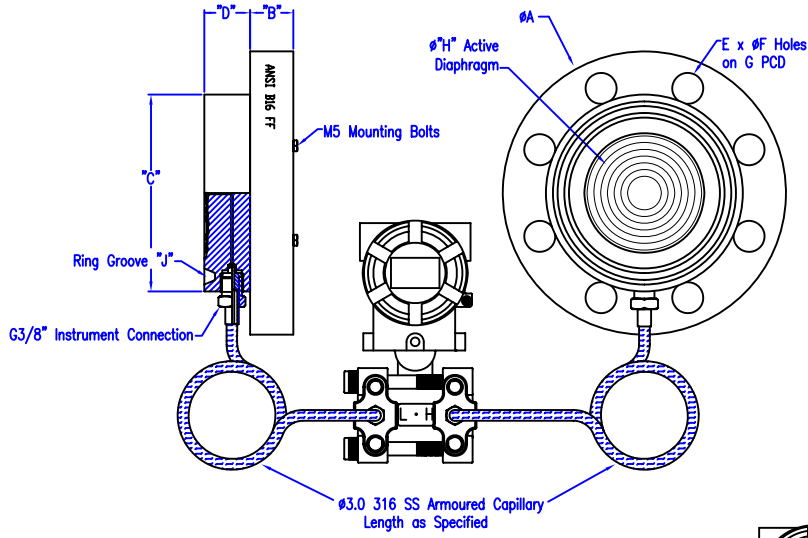
Fill Liquid

A = 704 Silicon Oil (20°C to 250°C)
B = Silicon Oil 100cs (-30°C to 180°C)
C = KN2.2 Silicon Oil (-40°C to 300°C)
D = Fluorolube (-20°C to 120°C) **Note: Not suitable for Sanitary Applications**
E = Ethylene Glycol (-50°C to 100°C) **Note: Not suitable for Sanitary Applications**
F = Neobee (Food) (10°C to 160°C)
V = Vegetable Oil (10°C to 100°C)
L = KN17 Silicon Oil (-90°C to 180°C)
X = Special

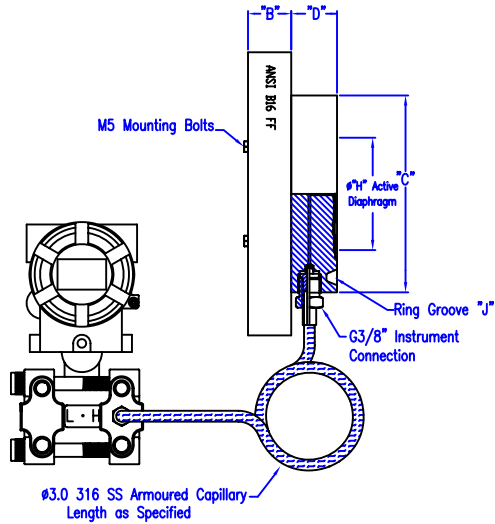


Model CWRT

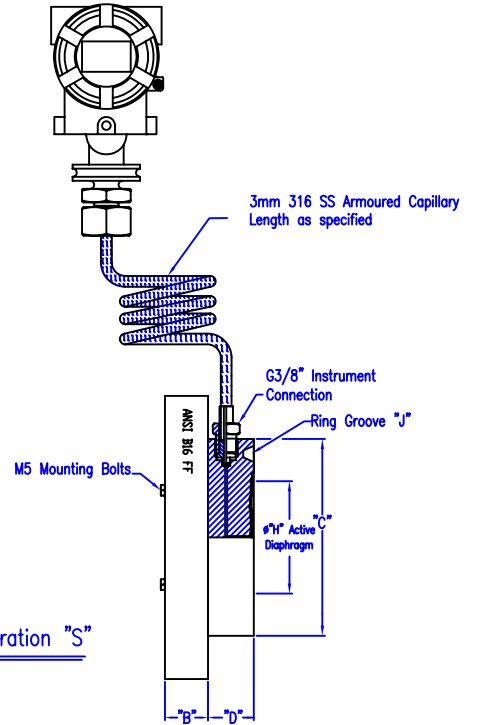
Wafer Flange Connections
ASME B16.5:2003 Ring Joint with Backing Flange



Configuration "D"



Configuration "P"



Configuration "S"

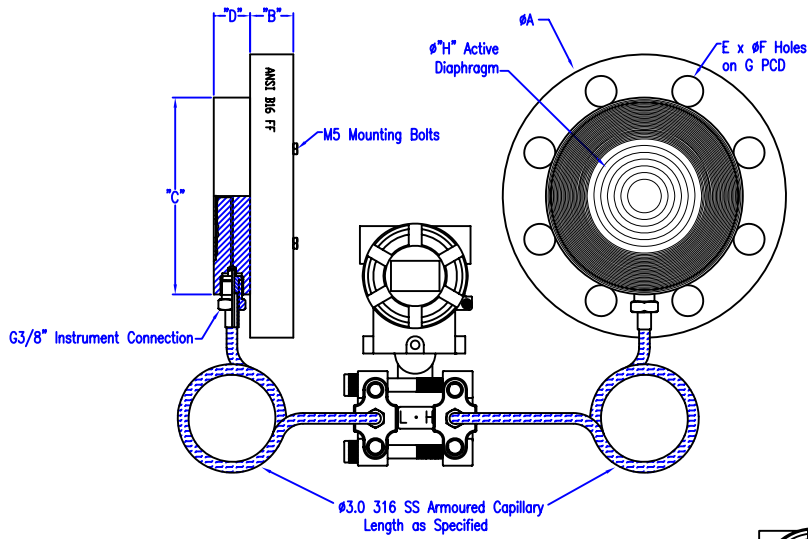
Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
2"	#150	150.0	18.0	102.0	34.0	4	19.0	120.7	58.0	R22
	#300	165.0	22.0	108.0	36.0	8	19.0	127.0		R23
	#600	165.0	26.0	108.0	36.0	8	19.0	127.0		R23
	#900/1500	215.0	39.0	124.0	36.0	8	26.0	165.1		R24
	#2500	235.0	51.0	127.0	36.0	8	29.0	171.4		R26
3"	#150	190.0	23.0	134.0	34.0	4	19.0	152.4	89.0	R29
	#300	210.0	28.0	146.0	36.0	8	23.0	168.3		R31*
	#600	210.0	32.0	146.0	36.0	8	23.0	168.3		R31*
	#900	240.0	39.0	156.0	36.0	8	26.0	190.5		R31
	#1500	265.0	48.0	168.0	36.0	8	32.0	203.2		R35
	#2500	305.0	67.0	168.0	38.0	8	35.0	228.6		R32
4"	#150	230.0	23.0	172.0	34.0	8	19.0	190.5	89.0	R36
	#300	255.0	31.0	175.0	36.0	8	23.0	200.0		R37
	#600	275.0	39.0	175.0	36.0	8	26.0	215.9		R37
	#900	290.0	45.0	181.0	36.0	8	32.0	235.0		R37
	#1500	310.0	54.0	194.0	36.0	8	35.0	241.3		R39
	#2500	355.0	76.5	203.0	40.0	8	42.0	273.0		R38

* For ring Joints with lapped flanges #300 & #600 use Ring/Groove No. 30 instead of 31

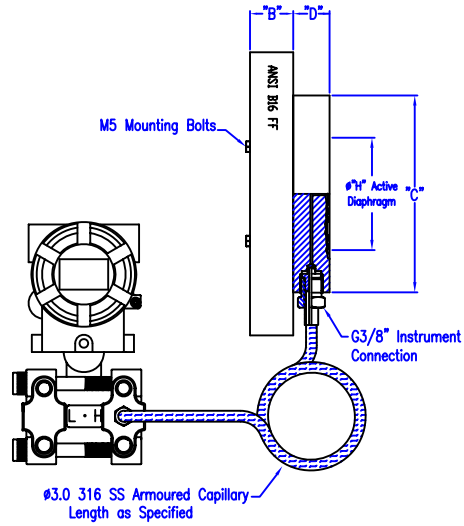


Model CWJI

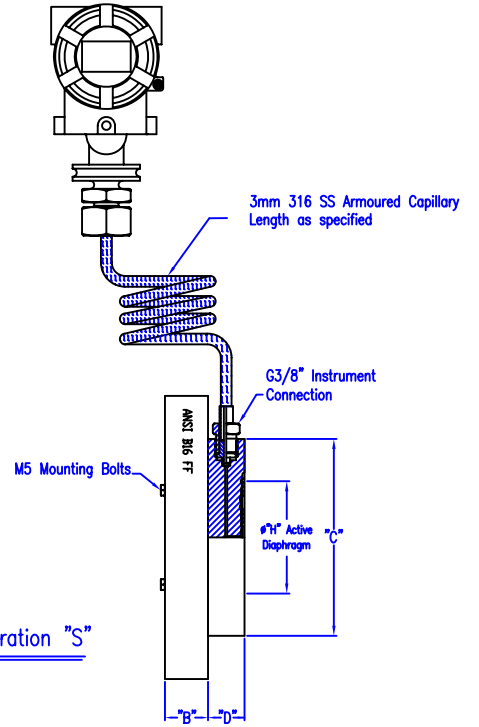
Wafer Flange Connections
JIS B 2220:2004 with Backing Flange



Configuration "D"



Configuration "P"



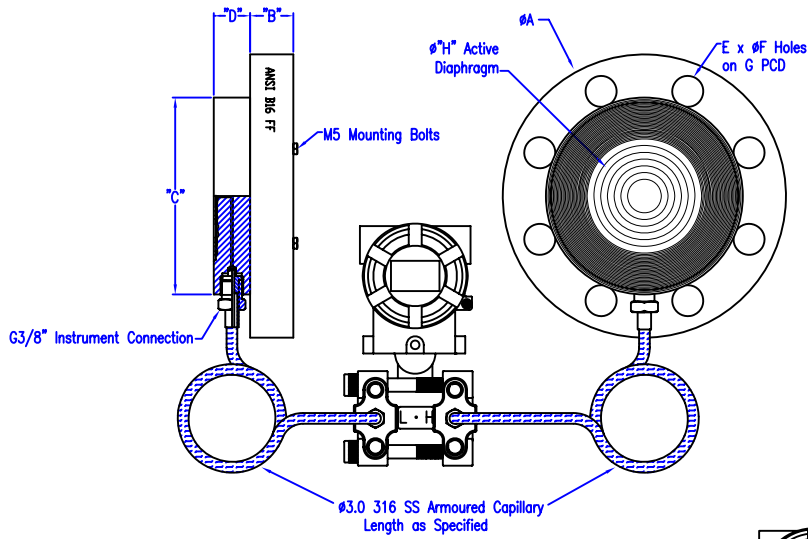
Configuration "S"

Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
DN50	5K	130.0	12.0	85.0	25.0	4	15.0	105.0	52.0
	10K	155.0	14.0	96.0		4	19.0	120.0	
	16K	155.0	14.0	96.0		8	19.0	120.0	
	20K	155.0	16.0	96.0		8	19.0	120.0	
	30K	165.0	20.0	105.0		8	19.0	130.0	
DN80	5K	180.0	12.0	121.0	25.0	4	19.0	145.0	58.0
	10K	185.0	16.0	126.0		8	19.0	150.0	
	16K	200.0	18.0	132.0		8	23.0	160.0	
	20K	200.0	20.0	132.0		8	23.0	160.0	
	30K	210.0	26.0	140.0		8	23.0	170.0	
DN100	5K	200.0	14.0	141.0	25.0	8	19.0	165.0	89.0
	10K	210.0	16.0	151.0		8	19.0	175.0	
	16K	225.0	20.0	160.0		8	23.0	185.0	
	20K	225.0	22.0	160.0		8	23.0	185.0	
	30K	240.0	30.0	160.0		8	25.0	195.0	

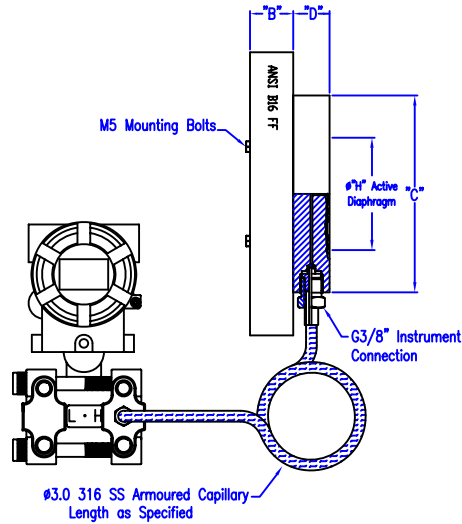


Model CWDN

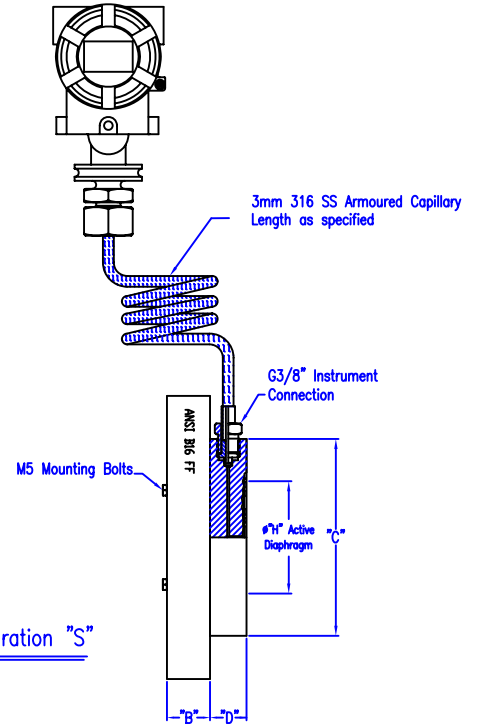
Extended Flange Connections
BS EN 1092-1:2007 with Backing Flange



Configuration "D"



Configuration "P"



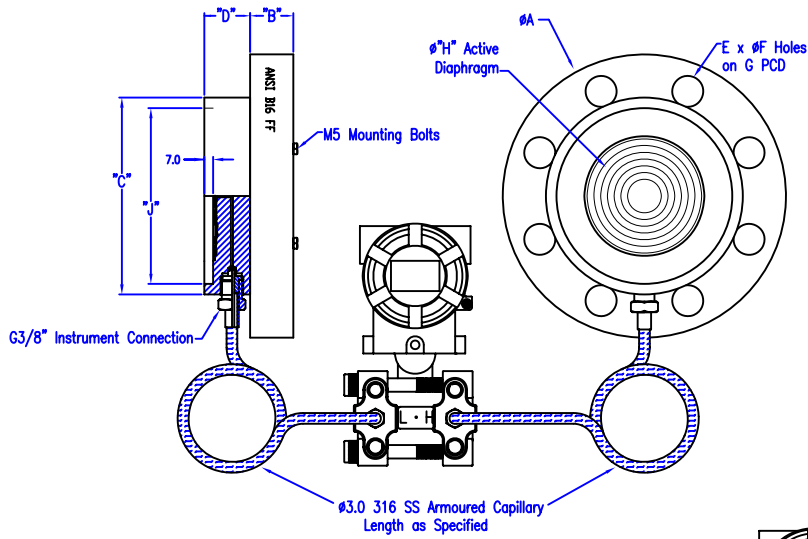
Configuration "S"

Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
DN50	PN10-16	165.0	17.0	102.0	25.0	4	18.0	125.0	58.0
	PN25-40	165.0	17.0			4	18.0	125.0	
	PN63	180.0	23.0			4	22.0	135.0	
	PN100	195.0	25.0			4	26.0	145.0	
	PN160	195.0	27.0			4	26.0	145.0	
DN80	PN10-16	200.0	17.0	138.0	25.0	4	18.0	160.0	89.0
	PN25-40	200.0	21.0			8	18.0	160.0	
	PN63	215.0	27.0			8	22.0	170.0	
	PN100	230.0	31.0			8	26.0	180.0	
	PN160	230.0	33.0			8	26.0	180.0	
DN100	PN10-16	220.0	19.0	158.0	25.0	8	18.0	180.0	89.0
	PN25-40	235.0	23.0	162.0		8	22.0	190.0	
	PN63	250.0	29.0			8	26.0	200.0	
	PN100	265.0	33.0			8	30.0	210.0	
	PN160	265.0	37.0			8	30.0	210.0	

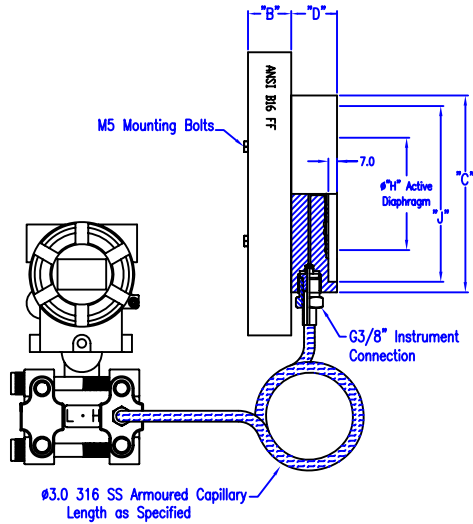


Model CWAT

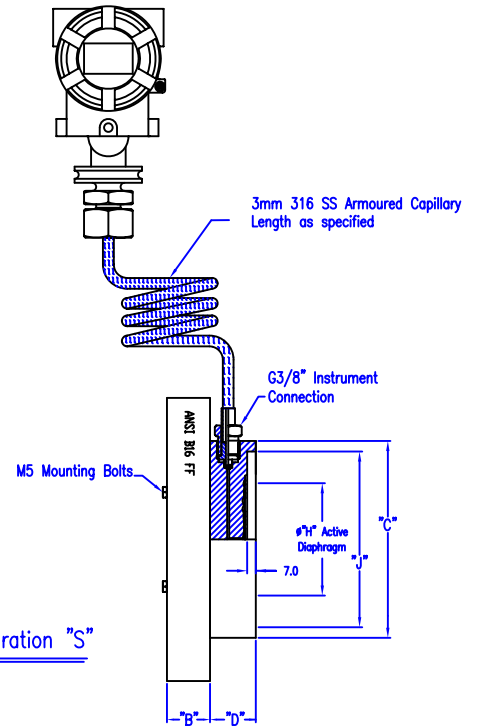
Wafer Flange Connections
ASME B16.5:2003 Large Tongue with Backing Flange



Configuration "D"



Configuration "P"



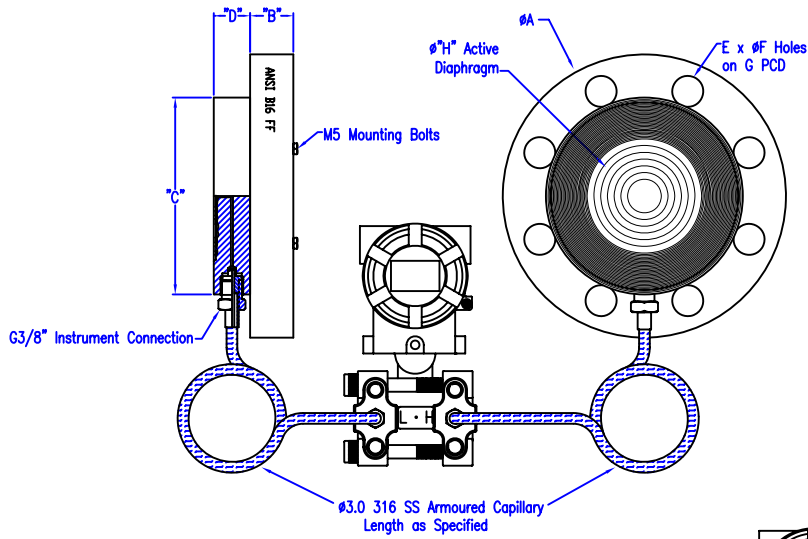
Configuration "S"

Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
2"	#150	150.0	18.0	92.1	34.0	4	19.0	120.7	58.0	73.0
	#300	165.0	22.0			8	19.0	127.0		
	#600	165.0	26.0			8	19.0	127.0		
	#900/1500	215.0	39.0			8	26.0	165.1		
	#2500	235.0	51.0			8	29.0	171.4		
3"	#150	190.0	23.0	127.0	34.0	4	19.0	152.4	89.0	108.00
	#300	210.0	28.0			8	23.0	168.3		
	#600	210.0	32.0			8	23.0	168.3		
	#900	240.0	39.0			8	26.0	190.5		
	#1500	265.0	48.0			8	32.0	203.2		
	#2500	305.0	67.0			8	35.0	228.6		
4"	#150	230.0	23.0	157.2	34.0	8	19.0	190.5	89.0	131.8
	#300	255.0	31.0			8	23.0	200.0		
	#600	275.0	39.0			8	26.0	215.9		
	#900	290.0	45.0			8	32.0	235.0		
	#1500	310.0	54.0			8	35.0	241.3		
	#2500	355.0	76.5			8	42.0	273.0		

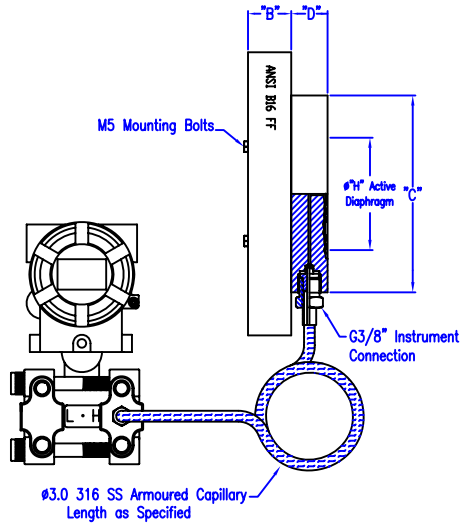


Model CWAR

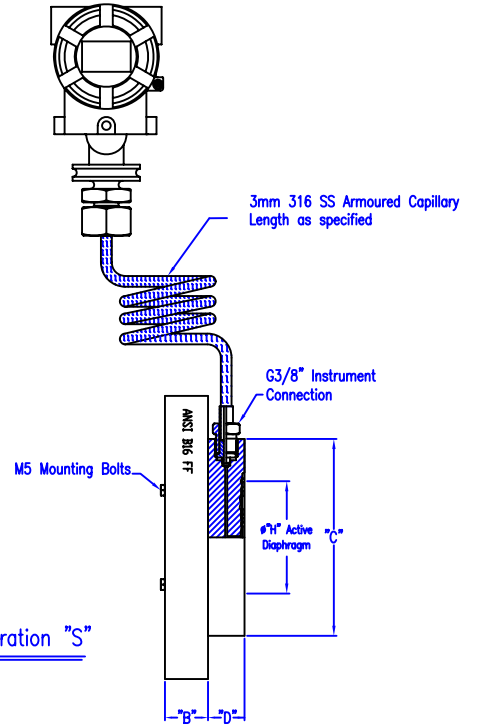
Wafer Flange Connections
ASME B16.5:2003 Flat Face with Backing Flange



Configuration "D"



Configuration "P"



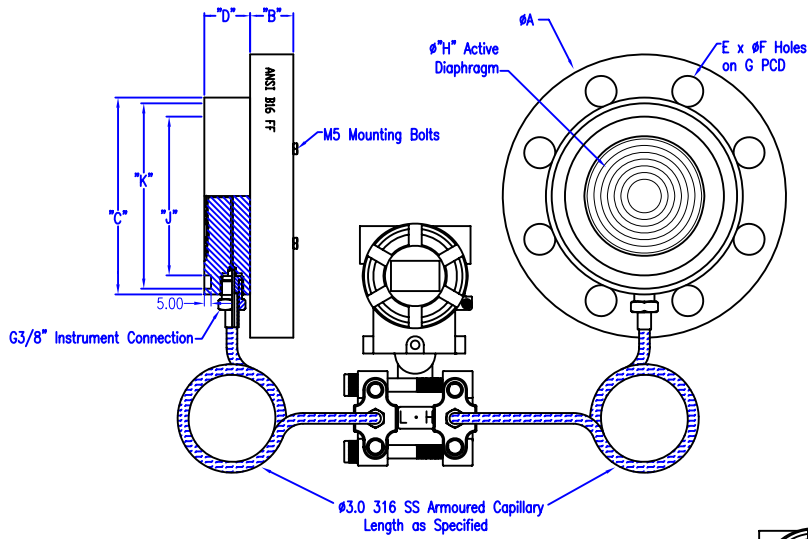
Configuration "S"

Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
2"	#150	150.0	18.0	92.1	25.0	4	19.0	120.7	58.0
	#300	165.0	22.0			8	19.0	127.0	
	#600	165.0	26.0			8	19.0	127.0	
	#900/1500	215.0	39.0			8	26.0	165.1	
	#2500	235.0	51.0			8	29.0	171.4	
3"	#150	190.0	23.0	127.0	25.0	4	19.0	152.4	89.0
	#300	210.0	28.0			8	23.0	168.3	
	#600	210.0	32.0			8	23.0	168.3	
	#900	240.0	39.0			8	26.0	190.5	
	#1500	265.0	48.0			8	32.0	203.2	
	#2500	305.0	67.0			8	35.0	228.6	
4"	#150	230.0	23.0	157.2	25.0	8	19.0	190.5	89.0
	#300	255.0	31.0			8	23.0	200.0	
	#600	275.0	39.0			8	26.0	215.9	
	#900	290.0	45.0			8	32.0	235.0	
	#1500	310.0	54.0			8	35.0	241.3	
	#2500	355.0	76.5			8	42.0	273.0	

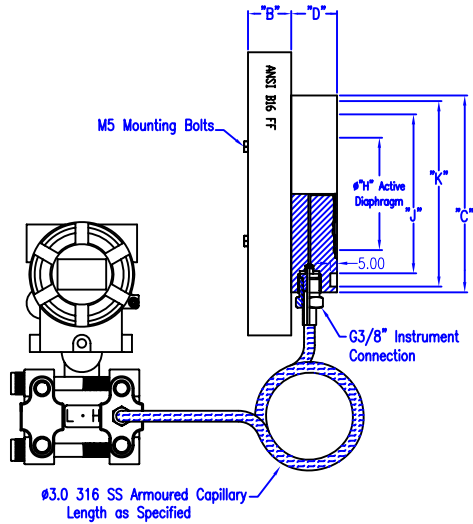


Model CWAM

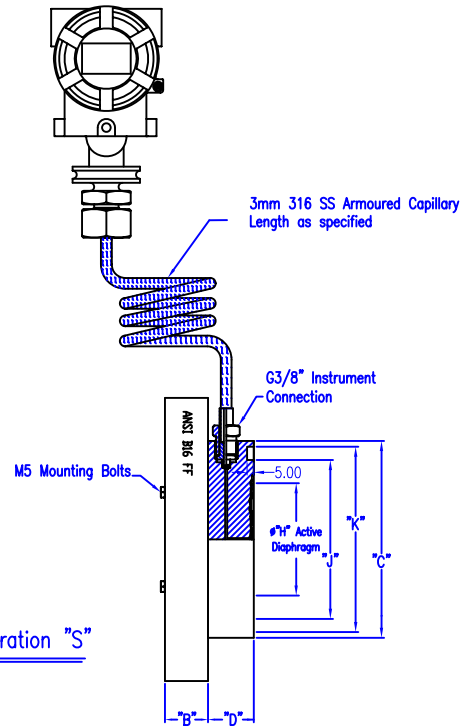
Wafer Flange Connections
ASME B16.5:2003 Large Groove with Backing Flange



Configuration "D"



Configuration "P"

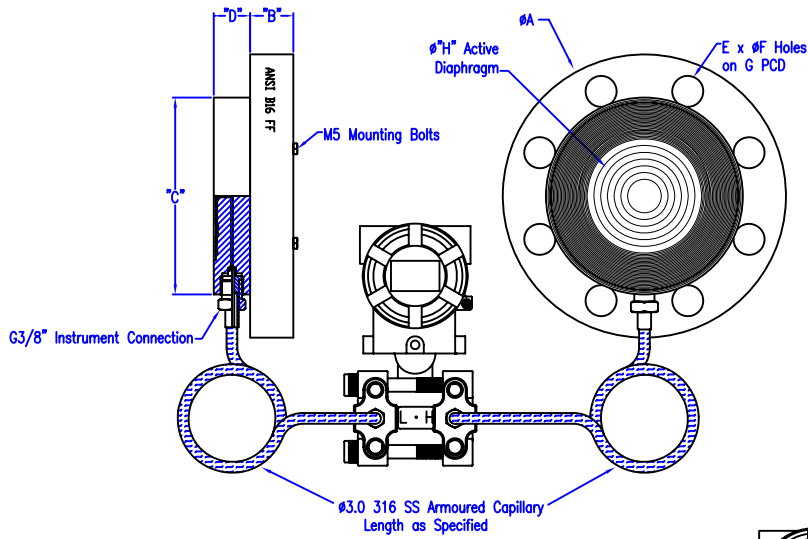


Configuration "S"

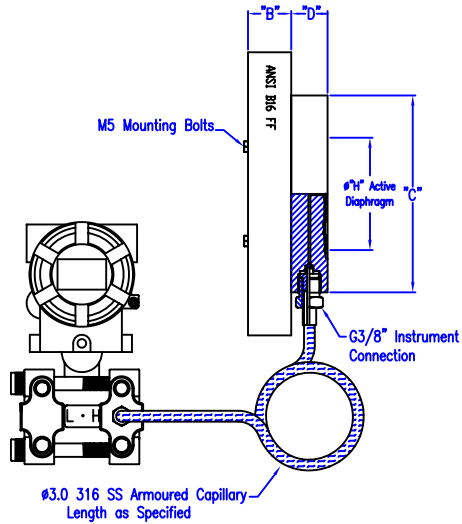
Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"
2"	#150	150.0	18.0	103.0	34.0	4	19.0	120.7	58.0	93.75	71.5
	#300	165.0	22.0			8	19.0	127.0			
	#600	165.0	26.0			8	19.0	127.0			
	#900/1500	215.0	39.0			8	26.0	165.1			
	#2500	235.0	51.0			8	29.0	171.4			
3"	#150	190.0	23.0	138.0	34.0	4	19.0	152.4	89.0	128.5	106.5
	#300	210.0	28.0			8	23.0	168.3			
	#600	210.0	32.0			8	23.0	168.3			
	#900	240.0	39.0			8	26.0	190.5			
	#1500	265.0	48.0			8	32.0	203.2			
	#2500	305.0	67.0			8	35.0	228.6			
4"	#150	230.0	23.0	168.0	34.0	8	19.0	190.5	89.0	158.75	130.0
	#300	255.0	31.0			8	23.0	200.0			
	#600	275.0	39.0			8	26.0	215.9			
	#900	290.0	45.0			8	32.0	235.0			
	#1500	310.0	54.0			8	35.0	241.3			
	#2500	355.0	76.5			8	42.0	273.0			



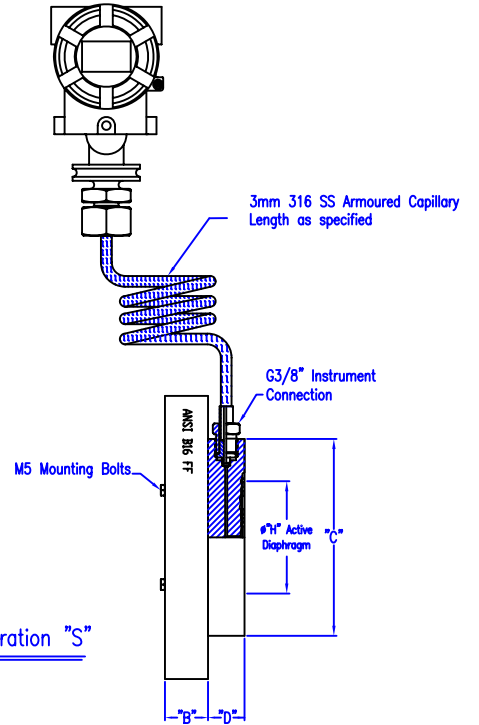
Model CWTB
Wafer Flange Connections
AS2129:2004 with Backing Flange



Configuration "D"



Configuration "P"



Configuration "S"

Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
2"	Table E	150.0	12.0	90.0	25.0	4	18.0	114.0	58.0
	Table F	165.0	16.0	103.0		4	18.0	127.0	
	Table H	165.0	19.0	102.0		4	18.0	127.0	
	Table J	165.0	25.0	102.0		4	22.0	127.0	
	Table K	165.0	25.0	102.0		8	18.0	127.0	
3"	Table E	185.0	13.0	122.0	25.0	4	18.0	146.0	89.0
	Table F	205.0	16.0	141.0		8	18.0	165.0	
	Table H	205.0	22.0	127.0		8	18.0	165.0	
	Table J	205.0	32.0	127.0		8	22.0	165.0	
	Table K	205.0	32.0	127.0		8	22.0	165.0	
4"	Table E	215.0	16.0	154.0	25.0	8	18.0	178.0	89.0
	Table F	230.0	19.0	167.0		8	18.0	191.0	
	Table H	230.0	25.0	152.0		8	18.0	191.0	
	Table J	230.0	35.0	152.0		8	22.0	191.0	
	Table K	240.0	35.0	152.0		8	26.0	197.0	