

General Specifications

Wafer Flange Connections

Specification

Type CW

Application

Wafer type diaphragm seals are commonly used in applications which involve processing of Chemical, Petroleum, Slurry, Pulp and Paper, Food, Beverage and Pharmaceutical Products. These seals have the capillary coming out at right angles to the seal face. This lets 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 DP type transmitter configurations to reduce fill liquid quantities and therefore reduce errors induced by ambient temperature change. Gauge pressure transmitters require a G1/2" process connection.

Process Connection

ASME RF, FF, RTJ, Large Tongue, Large Groove. DIN, Table & JIS

Process Connection Size

DN50 (2"), DN80 (3") & DN100 (4")

Seal Construction

Flange machined from Forged Billet or Plate. 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.

Please contact to discuss temperature effects and instrument accuracy.

Dimensional Drawings & System Configuration

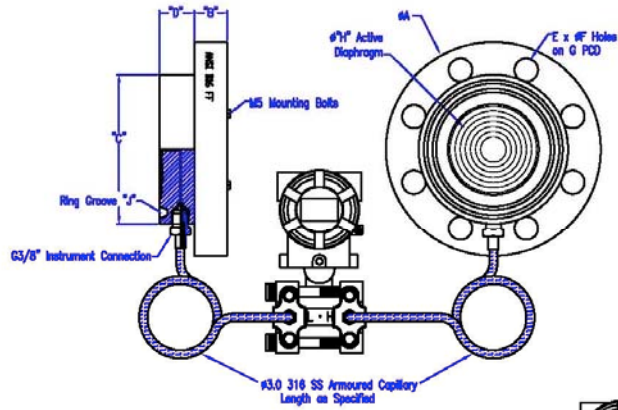
Refer to Dimensional Drawings.



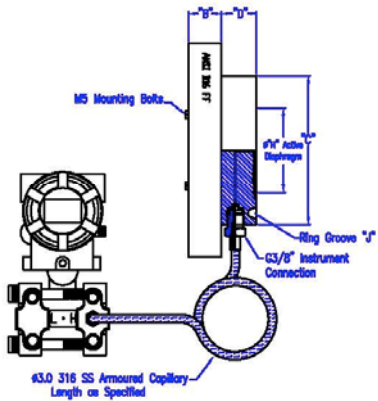
General Specifications

Wafer Flange Connections – Type CW		Suffix Code
Process Connection	Large Flange	CW
Connection Type	ASME B16.5 Raised Face	AR
	ASME B16.5 Flat Face	AF
	ASME B16.5 Ring Type Joint (RTJ)	RT
	DIN (EN1092-1)	DN
	ASME B16.5 Large Tongue	AT
	ASME B16.5 Large Groove	AM
	JIS B 2220	JI
	Table AS2129	TB
	Special	XX
Connection Size	DN50 (2") (For ASME 900lb use Code 5 in "Connection Rating")	16
	DN80 (3")	24
	DN100 (4")	32
	Special	XX
Connection Rating	ASME 150lb, Table E	1
	ASME 300lb, DIN PN10-16, JIS 10K, Table F	2
	ASME 600lb, DIN PN25-40, JIS 16K, Table H	3
	ASME 900lb, DIN PN64, JIS20K Table J (ASME 900lb for DN80 (3") & above)	4
	ASME 1500lb, DIN PN100, JIS 30K, Table K	5
	ASME 2500lb, DIN PN160	6
Diaphragm Material	316/316L Stainless Steel	S
	304/304L Stainless Steel	A
	Hastelloy C-276 (MUST have the same Wetted parts)	H
	Monel 400 (MUST have the same Wetted parts – Bonded Diaphragm, Max. Process Temp.150°)	M
	Titanium Grade 2 (MUST have the same Wetted parts)	I
	Tantalum (MUST have the same Wetted parts)	T
	PFA (316/316L Stainless Steel coated) (MUST have the same Wetted parts)	F
	Gold Plated 316/316L Stainless Steel	G
	Duplex 2205	U
	Special	X
Wetted Parts	316/316L Stainless Steel	S
	304/304L Stainless Steel	A
	Hastelloy C-276 (MUST have the same Diaphragm Material)	H
	Monel 400 (MUST have the same Diaphragm Material – Bonded Diaphragm, Max. Process Temp.150°)	M
	Titanium Grade 2 (MUST have the same Diaphragm Material)	I
	Tantalum (MUST have the same Diaphragm Material)	T
	Duplex 2205	U
	PFA (316/316L Stainless Steel coated) (MUST have the same Diaphragm Material)	F
	Special	X
Backing Flange Material	316/316L Stainless Steel	S
	304/304L Stainless Steel	A
	Hastelloy C-276	H
	Titanium Grade 2	I
	Carbon Steel	C
	Duplex 2205	U
	Special	X
System Configuration	Gauge Pressure System with G-1/2" Connection Direct Mounted TX	G
	Gauge Pressure System with G-1/2" Connection Capillary mounted TX	S
	Gauge Pressure System with DP Type TX Direct Mounted	M
	Gauge pressure System with DP Type TX Capillary Mounted	P
	Differential Pressure System with Capillary	D
Capillary	1 Metre	01
	2 Metres	02
	3 Metres	03
	4 Metres	04
	5 Metres	05
	6 Metres	06
	7 Metres	07
	8 Metres	08
	9 Metres	09
	10 Metres	10
Fill Liquid	KN32 704 Silicon Oil 30cs (-10°C to +300°C)	A
	KN22 Silicon Oil 100cs (-40°C to +290°C)	B
	KN33 705 Silicon Oil 320cs (-10°C to +400°C)	C
	KN21 Fluorolube 7cs (-20°C to +120°C)	D
	KN55 Ethylene Glycol (-13°C to +196°C)	E
	KN59 Neobee 10.1cs (FDA app) (-20°C to +160°C for less than 0Bar. -20°C to +204°C for greater than 0Bar)	F
	Vegetable Oil (Food Grade) (10°C to +100°C)	V
	KN17 Silicon Oil 2cs (-90°C to +80°C for less than 1Bar. -90°C to +180°C for greater than 1Bar)	L
	Special	X

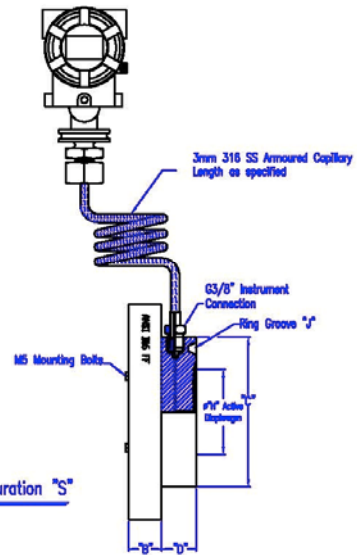
Model CWRT
 Wafer Flange Connections
 ASME B16.5:2003 Ring Joint with Backing Flange



Configuration "D"



Configuration "P"

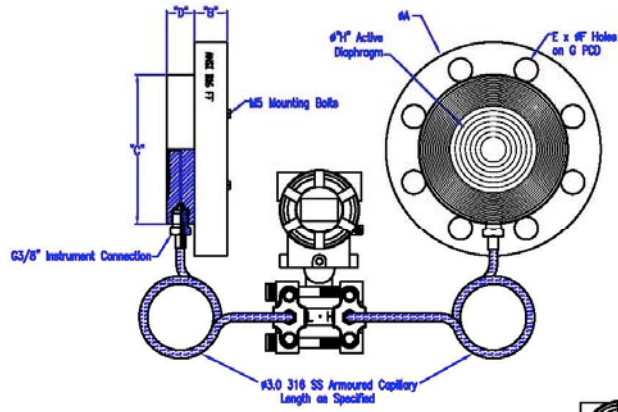


Configuration "S"

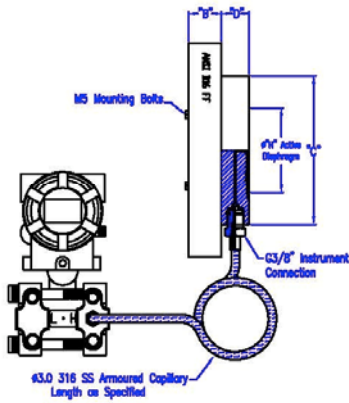
Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
2"	#150	150.0	18.0	102.0	34.0	4	19.0	120.7	58.0	R22
	#300	165.0	22.0	108.0	36.0	8	19.0	127.0		R23
	#600	165.0	26.0	108.0	36.0	8	19.0	127.0		R24
	#900/1500	215.0	39.0	124.0	36.0	8	26.0	165.1		R26
	#2500	235.0	51.0	127.0	36.0	8	29.0	171.4		R26
3"	#150	190.0	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		R35
	#1500	265.0	48.0	168.0	36.0	8	32.0	203.2		R32
4"	#2500	305.0	67.0	168.0	38.0	8	35.0	228.6	89.0	R36
	#150	230.0	23.0	172.0	34.0	8	19.0	190.5		R37
	#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		R39
	#1500	310.0	54.0	194.0	36.0	8	35.0	241.3		R38
	#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

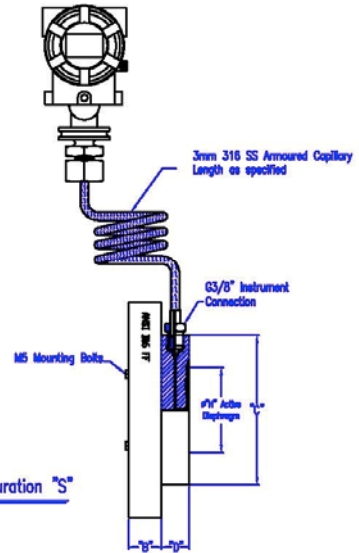
Model CWJ
Wafer Flange Connections
JIS B 2220:2004 with Backing Flange



Configuration "D"



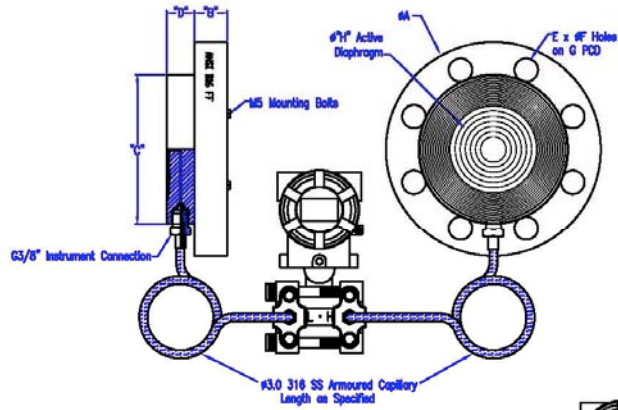
Configuration "P"



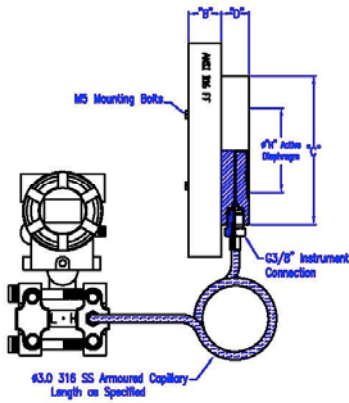
Configuration "S"

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	

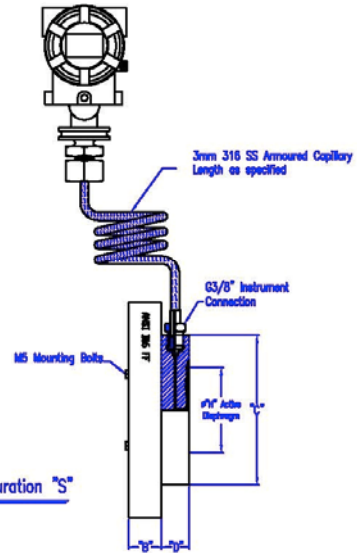
Model CWDN
 Extended Flange Connections
 BS EN 1092-1:2007 with Backing Flange



Configuration "D"



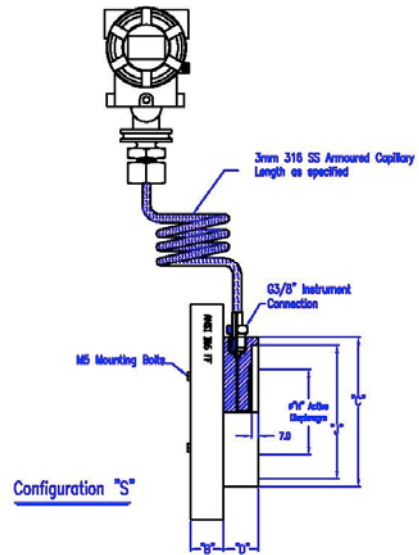
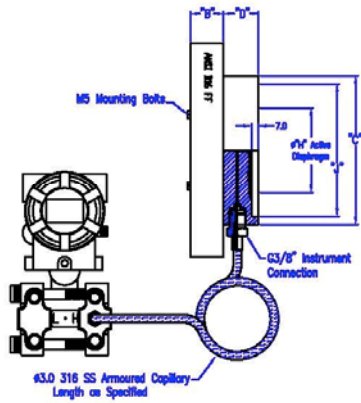
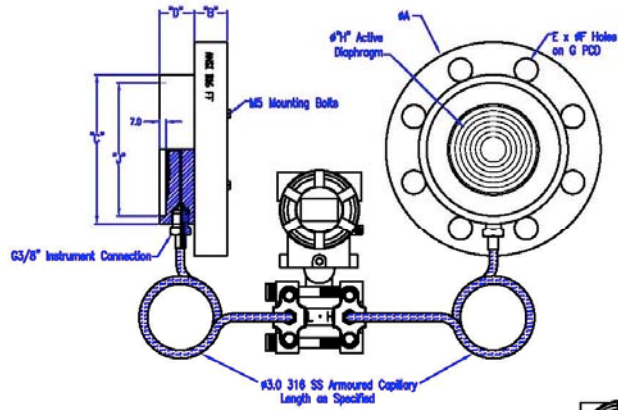
Configuration "P"



Configuration "S"

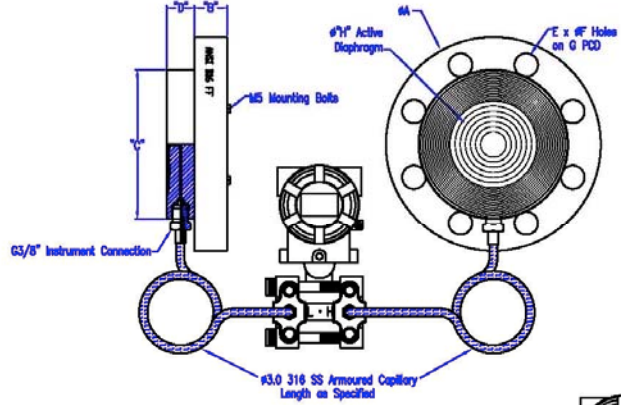
Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
DN50	PN10-16	165.0	17.0	102.0	25.0	4	18.0	125.0	58.0
	PN25-40	165.0	17.0			4	18.0	125.0	
	PN63	180.0	23.0			4	22.0	135.0	
	PN100	195.0	25.0			4	26.0	145.0	
	PN160	195.0	27.0			4	26.0	145.0	
DN80	PN10-16	200.0	17.0	138.0	25.0	4	18.0	160.0	89.0
	PN25-40	200.0	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	162.0	25.0	8	18.0	180.0	89.0
	PN25-40	235.0	23.0			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

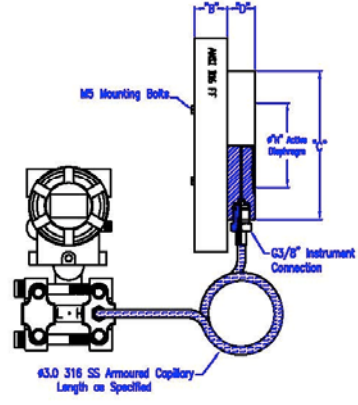


Size	Rating	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
2"	#150	150.0	18.0	92.1	34.0	4	19.0	120.7	58.0	73.0
	#300	165.0	22.0			8	19.0	127.0		
	#600	165.0	26.0			8	19.0	127.0		
	#900/1500	215.0	39.0			8	26.0	165.1		
	#2500	235.0	51.0			8	29.0	171.4		
3"	#150	190.0	23.0	127.0	34.0	4	19.0	152.4	89.0	108.00
	#300	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					

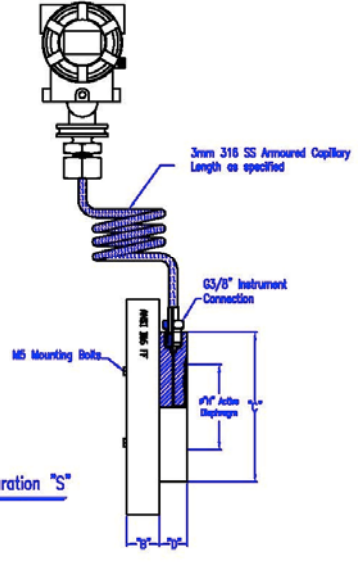
Model CWAR
 Wafer Flange Connections
 ASME B16.5:2003 Flat Face with Backing Flange



Configuration "D"



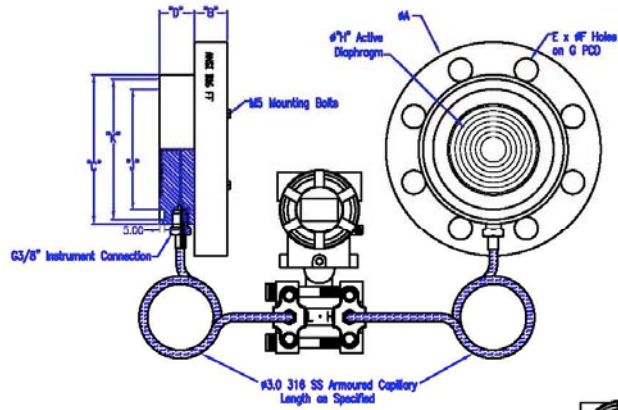
Configuration "P"



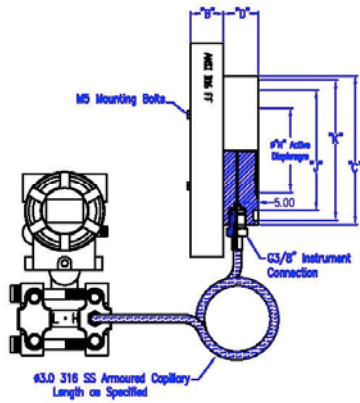
Configuration "S"

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	

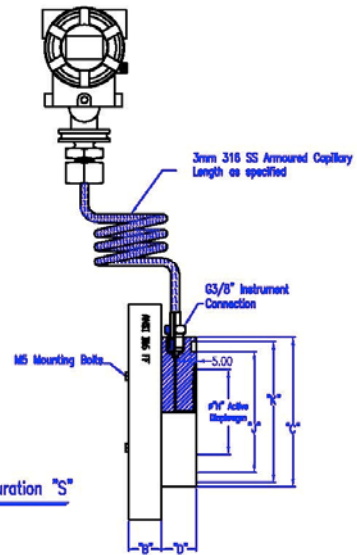
Model CWAM
 Wafer Flange Connections
 ASME B16.5:2003 Large Groove with Backing Flange



Configuration "D"



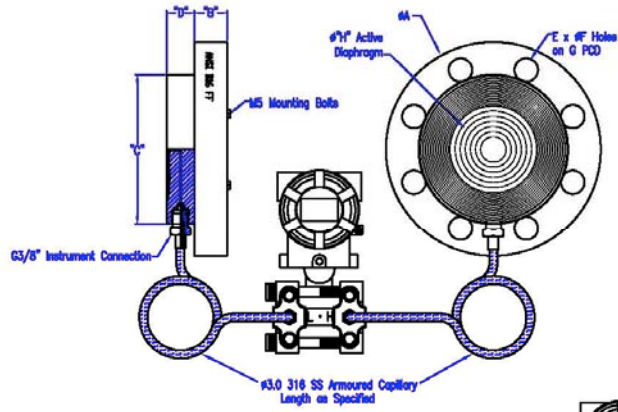
Configuration "P"



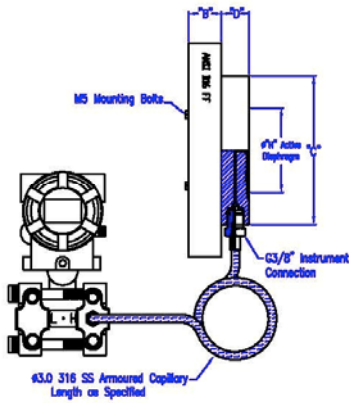
Configuration "S"

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			

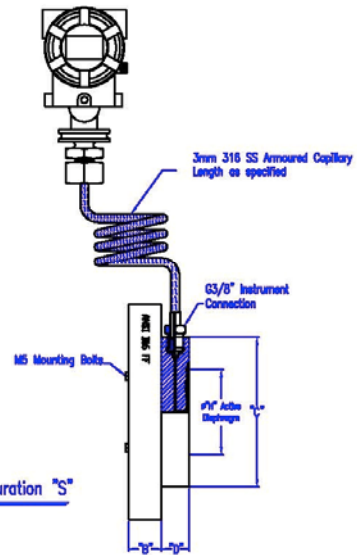
Model CWTB
Wafer Flange Connections
AS2129:2004 with Backing Flange



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	