



AUTROL[®]

Smart Pressure Transmitter with Diaphragm Seal



MODEL APT3100L

DUON System Co., Ltd.

298-29, GONDAN-RO, GUNPO-SI, GYEONGGI-DO, KOREA 15809

Tel : +82-31-389-6100 Fax : +82-31-429-7200

E-mail: autrol@duon.co.kr, Web: www.autrol.com

APT3100L

AUTROL®

Smart Pressure Transmitter with Diaphragm Seal

Description of Product

The APT-3100L Smart Pressure Transmitter is a micro processor-based high performance transmitter, which has flexible pressure calibration and output, automatic compensation of ambient temperature and process variable, configuration of various parameters, communication with HART protocol. All Data of Sensor (Tag No., Type, Range) is to be input, modified and stored in EEPROM.

Features

- Superior Performance
 - High Reference Accuracy :
±0.075% of Calibrated Span (without seal)
 - Long-Term Stability
 - High Rangeability (100 : 1)
- Flexibility
 - Data Configuration with HART Configurator
 - Zero Point Adjustment
- Reliability
 - Continuous Self-Diagnostic Function
 - Automatic Ambient Temperature Compensation
 - Fail-mode Process Function
 - EEPROM Write Protection
 - CE EMC Conformity Standards (2004/108/EC: EN 61326-1:2006, EN 61326-2-3:2006)

Type of Sensor & Configure Tools


- Selection of Various Pressure
 - Using Capacitive Pressure Sensor
 - Screw type. Diaphragm Seal as to Process Connection method
 - User can select measuring sensor for DP, GP.
- Transmitter Output
 - Analog : 4 ~ 20mA DC
 - Digital : HART Digital Data.
- Configure Tools
 - Hand-Held Terminal : portable use in job-site, convenient input, change, review, up-down loading
 - The Configurator Software Package can be loaded on PC for users convenience

Hazardous Location Certification (Option)

» KOSHA Approvals K1 Code :

- * KOSHA: Korea Occupational Safety & Health Agency
Flameproof for Class I, Zone 1 : Ex d IIC T6, IP67
Ambient Temperature : -20 to 60°C
Max. Process Temperature : 80°C
Power Supply : Max. 45 Vdc
Output : 4 to 20 mA + HART, Max. 22 mA

» ATEX Approvals E1 Code :

- CE 0344 II 2 G Ex d IIC T6, T5 or T4
Operating  Temperature: -20°C ≤ Tamb ≤ +60°C
T6 for process ≤ 85°C ; T5 for process ≤ 100°C
T4 ≤ 130°C

APT3100 ATEX Certification is according to the below standards : EN 60079-0 : 2006
EN 60079-1 : 2007

» KTL Certification K2 Code :

- * Intrinsic Safety: Ex ia IIC T6
Ambient Temperature : -40 to 60°C
Ui=30Vdc, Ii=200mA, Pi=0.9W, Ci=47nF, Li=94µH

» FM and FM Canada Approvals F1 Code :

- * FM: Factory Mutual explosion proof
- * FM Canada: Canadian requirements Explosion proof for Class I, Division 1 Groups A, B, C and D
Dust-ignition proof for Class II/III, Division 1, Groups E, F and G
Nonincendive for Class I, Division 2, Groups A, B, C & D; Class II, Division 2, Groups E, F & G; and Class III, Division 1,
Enclosure: indoors and outdoors, NEMA Type 4X

APT3100L

AUTROL®

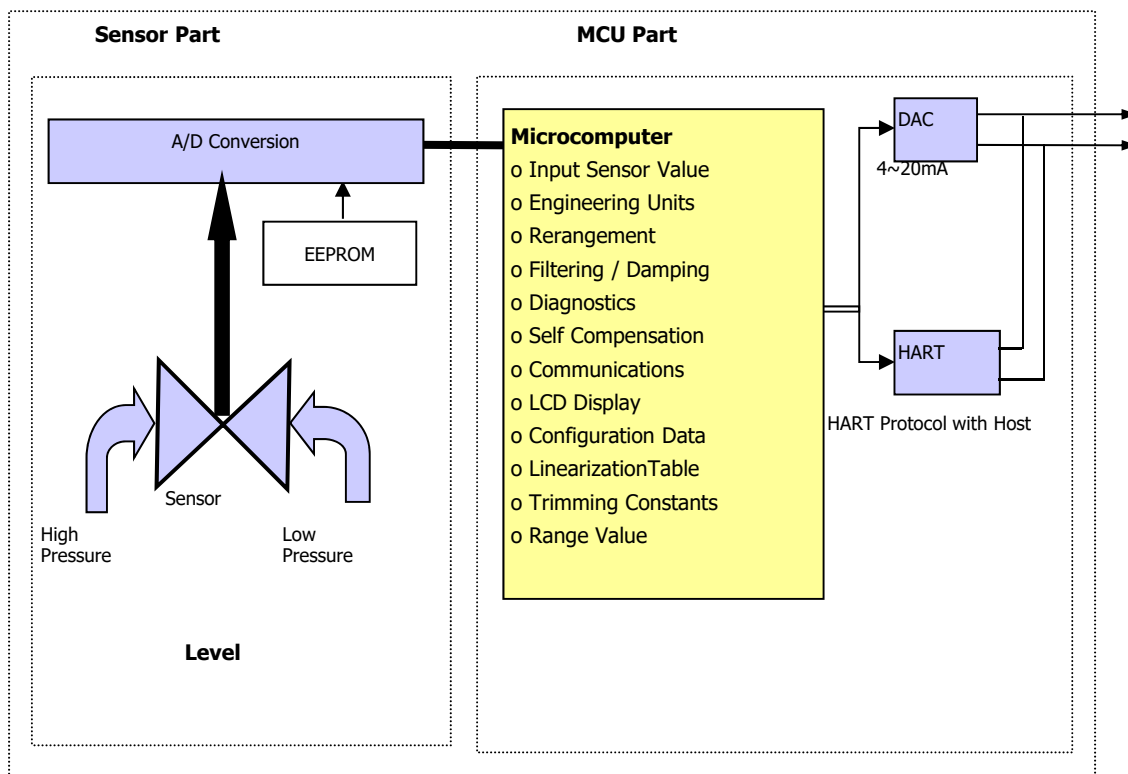
Smart Pressure Transmitter with Diaphragm Seal



Function

- Superior Performance
 - High Reference Accuracy : $\pm 0.075\%$ of Calibrated Span (without seal)
 - Long-Term Stability
 - High Rangeability (100 : 1)
- Flexibility
 - Data Configuration with HART Configurator
 - Zero Point Adjustment
- Reliability
 - Continuous Self-Diagnostic Function
 - Automatic Ambient Temperature Compensation
 - Fail-mode Process Function
 - EEPROM Write Protection
 - CE EMC Conformity Standards (2004/108/EC: EN 61326-1:2006, EN 61326-2-3:2006)

Functional Block Diagram



Smart Transmitter with Diaphragm Seal

General Specifications

1. Diaphragm Sealed Sensor Range (Rangeability : 20 : 1)

Class	Code	mmH2O	KPa
Low Level	4	0 ~ 194 to 0 ~ 3800	0 ~ 1.9 to 0 ~ 37.3
Medium Level	5	0 ~ 960 to 0 ~ 19000	0 ~ 9.4 to 0 ~ 186.5
High Level	6	0 ~ 3518 to 0 ~ 70000	0 ~ 34.5 to 0 ~ 690

2. Electrical Specifications

Power Supply	12 ~ 45 V dc	Output Signal	4 ~ 20 mA dc /HART
HART loop resistance	250 ~ 550 ohm	Isolation	500 Vrms (707V DC)
Update Time	0.25 Sec.	Turn-on Time	5 Sec.

3. Performance Specifications (without seal)

Reference Accuracy	$\pm 0.075\%$ of Span ($0.2URL \leq \text{Span} \leq URL$) $\pm [0.05 + 0.005 \times (URL/\text{Span})]\%$ of Span ($0.05URL \leq \text{Span} < 0.2URL$)	Operating Temp.	-40 ~ +85 °C
		LCD Meter Operating Temp.	-30 ~ +80 °C
		Humidity Limits	5% ~ 98% RH
Ambient Temp. Effect	$\pm [0.025\%URL + 0.125\% \text{ Span}]/28$ °C	Process Temp. Limit	-40 ~ +120 °C
Stability	$\pm 0.1\%$ URL for 12 Months	Power Supply Effects	$\pm 0.005\%$ of Span per Volt
Static Pressure Effects	$\pm 0.1\%$ of URL per 7MPa (Zero Error) $\pm 0.2\%$ of Reading per 7Mpa (Span Error)	Mounting Position Effects	·Zero Shift up to 350Pa
			·No Span Effect

4. Physical Specifications

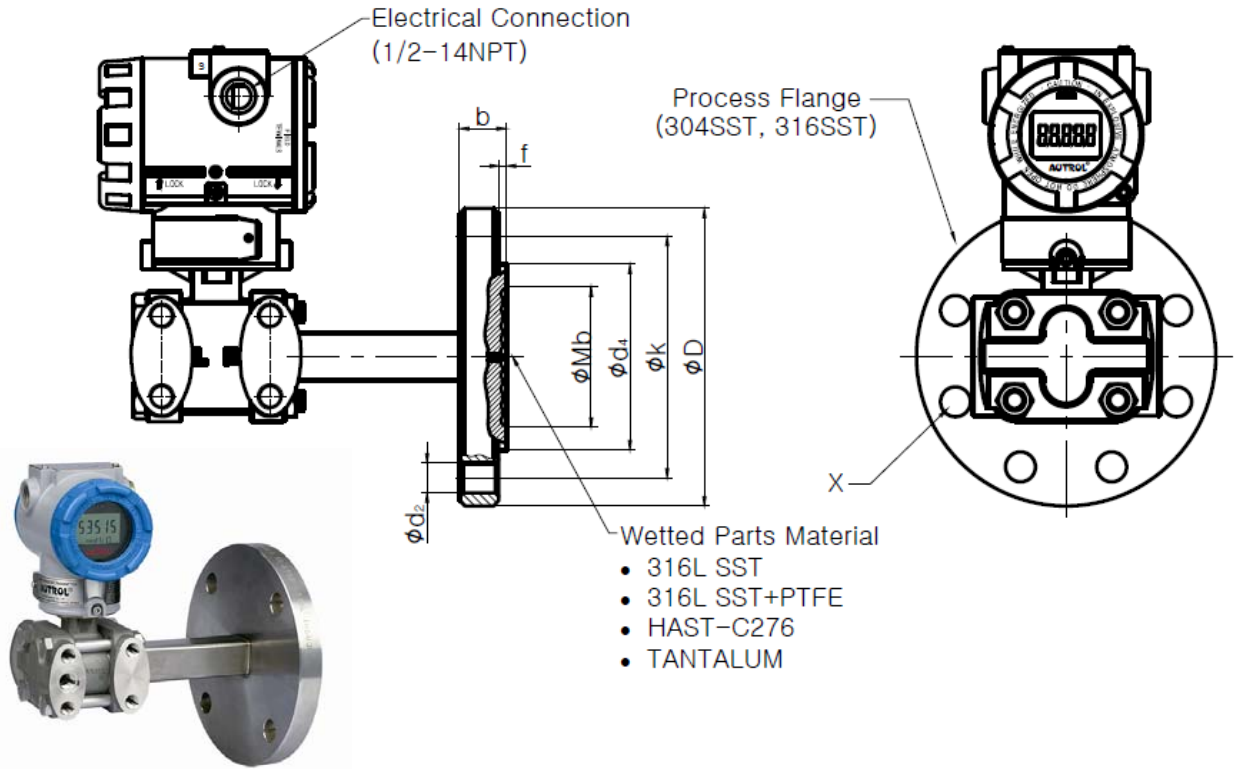
Isolating Diaphragm	316L SST	Process Connection Size	1/2" - 14 NPT
Drain & Vent Valve	316 SST	Diaphragm Seal(Flush/Extended)	2" or 3" / 3" or 4"
Flange & Adapter	316 SST	Electrical Connections	1/2" - 14 NPT
O-ring	Viton, PTFE	Weight (only transmitter)	3.9 Kg
Electronic Housing	Aluminum	2" Pipe Stanchion Type bracket	Angle or Flat type
Bolts & Bolting Flange	316 SST	Housing Class	Waterproof (IP67, 4X)

5. Hazardous Location Certifications - Option

Korea Standards Approval	Overseas Standards Approval
KC Flameproof Approval KC Intrinsic Safety Approval	FM & FMc Explosion proof / Intrinsic Safety Approval (*) ATEX Flame proof / Intrinsic Safety Approval

Dimensional Drawing (mm)

For Flush Diaphragm Seal and Direct Mount Type Transmitter



Flange Size: 100mm (4 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	89	229	24	19	190	1.5	157	8
ANSI Class 300		254	32	22	200			
JIS 10K	89	210	18	19	175	2	157	8
JIS 20K		225	24	23	185			
DIN PN 10/16	89	220	20	18	180	3	157	8
DIN PN 25/40		235	24	22	190			

Flange Size: 80mm (3 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	89	190	24	19	152.5	1.5	127	4
ANSI Class 300		210	29	22	168.5			8
JIS 10K	89	185	18	19	150	2	127	8
JIS 20K		200	22	23	160			
DIN PN 10/16	89	200	20	18	160	3	138	8
DIN PN 25/40			24	22				

Flange Size: 50mm (2 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	61	152	19	19	120.5	1.5	92	4
ANSI Class 300		165	22		127			8
JIS 10K	61	155	16	19	120	2	96	4
JIS 20K			18					8
DIN PN 10/16	61	165	20	18	125	3	102	4
DIN PN 25/40								

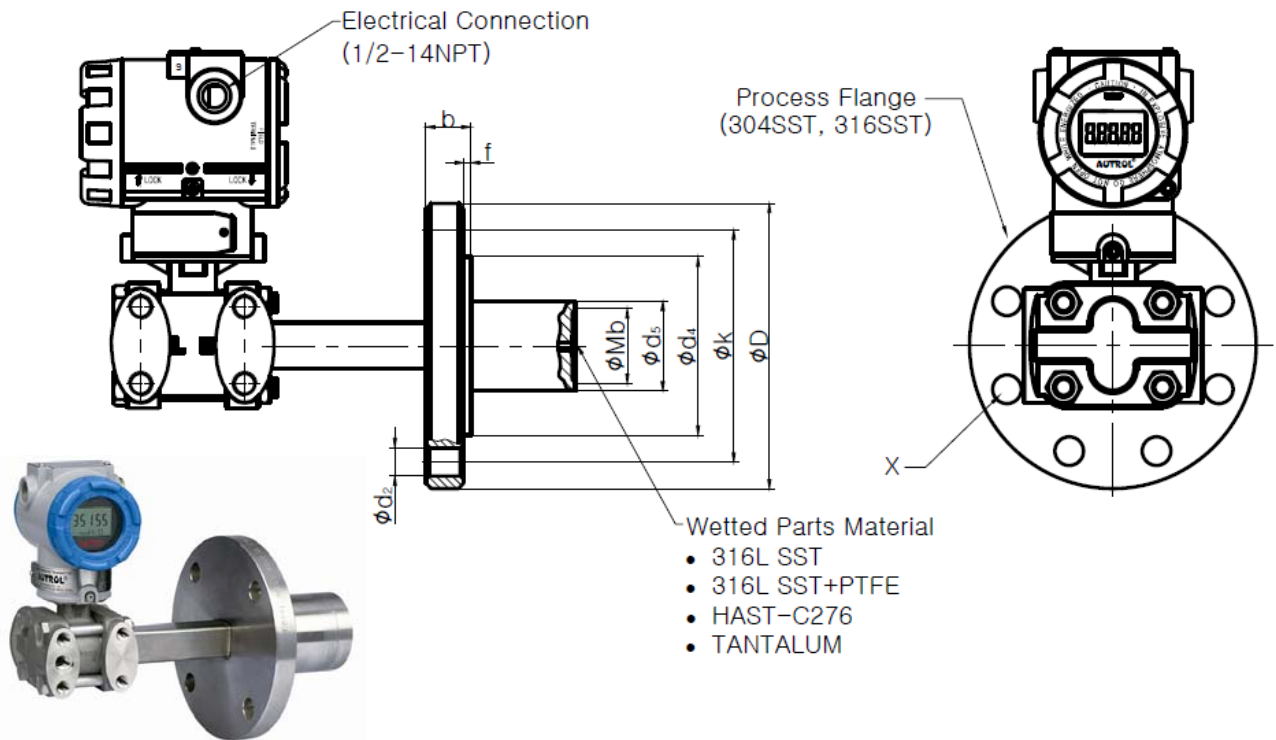
Ordering Information

MODEL NO.	Code	Description					
APT3100	LFD	Flush Diaphragm Seal and Direct Mount Type Transmitter					
Ranges	4	0-194 to 0-3800mmH2O (0-1.9 to 0-37.3 KPa)					
	5	0-960 to 0-19000mmH2O (0-9.4 to 0-186.5 KPa)					
	6	0-3518 to 0-70000mmH2O (0-34.5 to 0-690 KPa)					
	X	Special					
Mounting Flange Size / Material	S2	ANSI		DIN		JIS	
		2-inch	SST	DN 50	SST	50 A	SST
		3-inch	SST	DN 80	SST	80 A	SST
		4-inch	SST	DN 100	SST	100 A	SST
Mounting Flange Rating	SX	Special	SST	Special	SST	Special	SST
		ANSI		DIN		JIS	
		A1	Class 150	D1	PN 10/16	J1	10 K
		A2	Class 300	D2	PN 25/40	J2	20 K
Wetted Parts Material Diaphragm / Others	S	DIAPHRAGM			OTHERS		
		316L SST	316L SST				
		316L SST + Teflon	316L SST				
		Hastelloy C-276	316L SST				
Fill Fluid	2	FILL FLUID			TEMPERATURE LIMITS		
		D.C Silicone 200	-45 to 205 °C (-49 to 400 °F)				
		D.C Silicone 704	0 to 315 °C (32 to 600 °F)				
Materials of Construction	SS	FLANGE			VENT / DRAIN VALVE		
		316 SST			316 SST		
Low Side	W	Without Process Adapter					
	N	With 1/2"-14 NPT F Process Adapter (316 SST)					
	C	Closed					
	X	Special					
Electrical Connection	1	1/2"-14NPT F					
	2	G1/2					
	X	Special					
Hazardous Locations Certifications	K0	Maker Standard (Waterproof: IP67 / NEMA 4X)					
	K1	KCs Flameproof	*K2		KCs Intrinsic Safety		
	E1	ATEX Flameproof	E2		ATEX Intrinsic Safety		
	F1	FM & FM Canada Explosion proof	*F2		FM & FM Canada Intrinsic Safety		
Option	M1	LCD Indicator (5-Digit)		LPI	Lightning Protector (Internal)		
	K	Oil Free Finish		ST	Stainless Steel Housing		
	A	Vaccum Service		X	Special Order		

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vaccum) and items marked "*" before order.

Dimensional Drawing (mm)

For Extended Diaphragm Seal and Direct Mount Type Transmitter



Flange Size: 100mm (4 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	89	229	24	19	190	1.5	157	89	8
ANSI Class 300		254	32	22	200				
JIS 10K	89	210	18	19	175	2	157	89	8
JIS 20K		225	24	23	185				
DIN PN 10/16	89	220	20	18	180	3	157	89	8
DIN PN 25/40		235	24	22	190				

Flange Size: 80mm (3 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	76	190	24	19	152.5	1.5	127	76	4
ANSI Class 300		210	29	22	168.5				8
JIS 10K	76	185	18	19	150	2	127	76	8
JIS 20K		200	22	23	160				
DIN PN 10/16	76	200	20	18	160	3	138	76	8
DIN PN 25/40			24	22					

Flange Size: 50mm (2 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	48	152	19	19	120.5	1.5	92	48	4
ANSI Class 300		165	22		127				8
JIS 10K	48	155	16	19	120	2	96	48	4
JIS 20K			18						8
DIN PN 10/16	48	165	20	18	125	3	102	48	4
DIN PN 25/40									

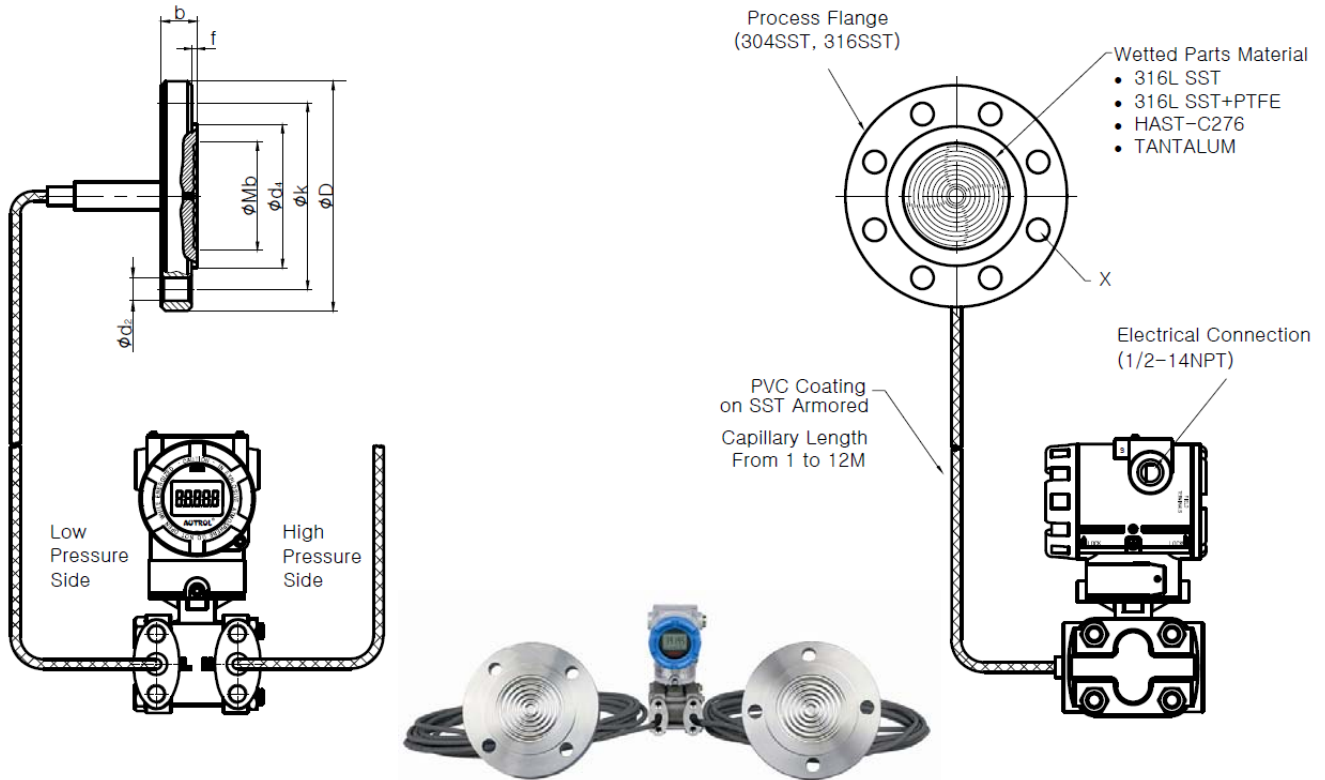
Ordering Information

MODEL NO.	Code	Description						
APT3100	LED	Extended Diaphragm Seal and Direct Mount Type Transmitter						
Ranges	4	0-194 to 0-3800mmH2O (0-1.9 to 0-37.3 KPa)						
	5	0-960 to 0-19000mmH2O (0-9.4 to 0-186.5 KPa)						
	6	0-3518 to 0-70000mmH2O (0-34.5 to 0-690 KPa)						
	X	Special						
Mounting Flange Size / Material	S2	ANSI		DIN		JIS		
		2-inch	SST	DN 50	SST	50 A	SST	
		3-inch	SST	DN 80	SST	80 A	SST	
		4-inch	SST	DN 100	SST	100 A	SST	
SX	Special	SST	Special	SST	Special	SST		
Mounting Flange Rating		ANSI		DIN		JIS		
		A1	Class 150	D1	PN 10/16	J1	10 K	
		A2	Class 300	D2	PN 25/40	J2	20 K	
		A3	Class 600	-	-	-	-	
AX	Special	DX	Special	JX	Special			
Extension Length	<input type="checkbox"/>	<input type="checkbox"/> x 10 mm Exp: 15 --> 150mm, 12--> 120mm						
Wetted Parts Material Diaphragm / Others		DIAPHRAGM			OTHERS			
		S	316L SST			316L SST		
		P	316L SST + Teflon			316L SST		
		H	Hastelloy C-276			316L SST		
		T	Tantalum			316L SST		
X	Special			Special				
Fill Fluid		FILL FLUID			TEMPERATURE LIMITS			
		2	D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)		
		7	D.C Silicone 704			0 to 315 °C (32 to 600 °F)		
X	Special			Special				
Materials of Construction	SS	FLANGE			VENT / DRAIN VALVE			
		316 SST			316 SST			
Low Side	W	Without Process Adapter						
	N	With 1/2"-14 NPT F Process Adapter (316 SST)						
	C	Closed						
	X	Special						
Electrical Connection	1	1/2"-14NPT F						
	2	G1/2						
	X	Special						
Hazardous Locations Certifications	K0	Maker Standard (Waterproof: IP67 / NEMA 4X)						
	K1	KCs Flameproof			*K2	KCs Intrinsic Safety		
	E1	ATEX Flameproof			E2	ATEX Intrinsic Safety		
	F1	FM & FM Canada Explosion proof			*F2	FM & FM Canada Intrinsic Safety		
Option	M1	LCD Indicator (5-Digit)			LPI	Lightning Protector (Internal)		
	K	Oil Free Finish			ST	Stainless Steel Housing		
	A	Vaccum Service			X	Special Order		

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vaccum) and items marked "*" before order.

Dimensional Drawing (mm)

For Flush Diaphragm Seal and Capillary Type Transmitter



Flange Size: 100mm (4 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	89	229	24	19	190	1.5	157	8
ANSI Class 300		254	32	22	200			
JIS 10K	89	210	18	19	175	2	157	8
JIS 20K		225	24	23	185			
DIN PN 10/16	89	220	20	18	180	3	157	8
DIN PN 25/40		235	24	22	190			

Flange Size: 80mm (3 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	89	190	24	19	152.5	1.5	127	4
ANSI Class 300		210	29	22	168.5			8
JIS 10K	89	185	18	19	150	2	127	8
JIS 20K		200	22	23	160			
DIN PN 10/16	89	200	20	18	160	3	138	8
DIN PN 25/40			24	22				

Flange Size: 50mm (2 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	61	152	19	19	120.5	1.5	92	4
ANSI Class 300		165	22		127			8
JIS 10K	61	155	16	19	120	2	96	4
JIS 20K			18					8
DIN PN 10/16	61	165	20	18	125	3	102	4
DIN PN 25/40								

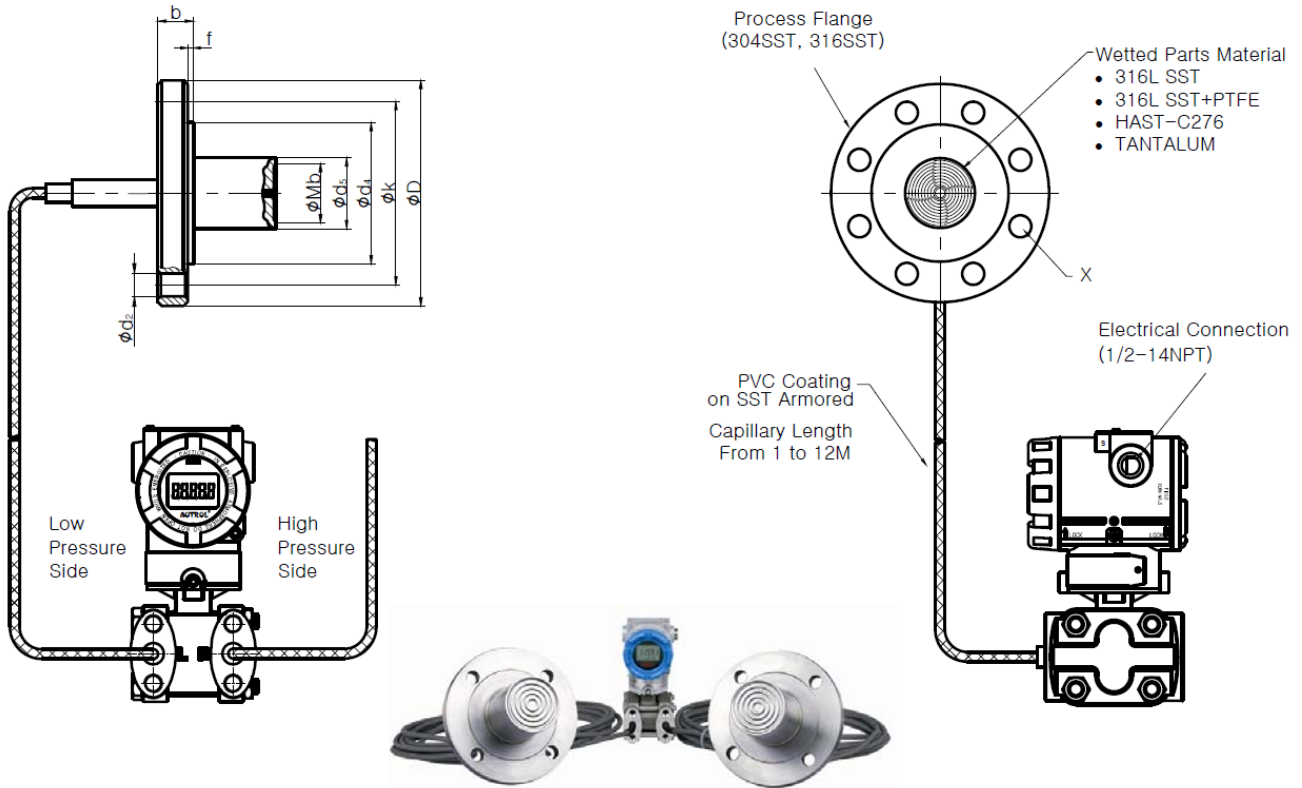
Ordering Information

MODEL NO.	Code	Description						
APT3100	LFC	Flush Diaphragm Seal and Capillary Type Transmitter (Two Remote Seal)						
Ranges	4	0-194 to 0-3800mmH2O (0-1.9 to 0-37.3 KPa)						
	5	0-960 to 0-19000mmH2O (0-9.4 to 0-186.5 KPa)						
	6	0-3518 to 0-70000mmH2O (0-34.5 to 0-690 KPa)						
	X	Special						
Mounting Flange Size / Material	S2	ANSI		DIN		JIS		
		2-inch	SST	DN 50	SST	50 A	SST	
		3-inch	SST	DN 80	SST	80 A	SST	
		4-inch	SST	DN 100	SST	100 A	SST	
Mounting Flange Rating	SX	ANSI		DIN		JIS		
		A1	Class 150	D1	PN 10/16	J1	10 K	
		A2	Class 300	D2	PN 25/40	J2	20 K	
		A3	Class 600	-	-	-	-	
Wetted Parts Material Diaphragm / Others	X	DIAPHRAGM			OTHERS			
		S	316L SST			316L SST		
		P	316L SST + Teflon			316L SST		
		H	Hastelloy C-276			316L SST		
Fill Fluid	X	FILL FLUID			TEMPERATURE LIMITS			
		2	D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)		
		7	D.C Silicone 704			0 to 315 °C (32 to 600 °F)		
		X	Special			Special		
Capillary Length	□□	Capillary Length from 1 to 12m Exp: 01 --> 1m, 10-->10m						
Materials of Construction	SS	FLANGE			VENT / DRAIN VALVE			
		316 SST			316 SST			
Electrical Connection	1	1/2"-14NPT F						
	2	G1/2						
	X	Special						
Hazardous Locations Certifications	K0	Maker Standard (Waterproof : IP67 / NEMA 4X)						
	K1	KCs Flameproof			*K2	KCs Intrinsic Safety		
	E1	ATEX Flameproof			E2	ATEX Intrinsic Safety		
	F1	FM & FM Canada Explosion proof			*F2	FM & FM Canada Intrinsic Safety		
Option	M1	LCD Indicator (5-Digit)			LPI	Lightning Protector (Internal)		
	BA	SST Bracket (Angle Type) with Bolts & Nuts			K	Oil Free Finish		
	BF	SST Bracket (Flat Type) with Bolts & Nuts			ST	Stainless Steel Housing		
	A	Vaccum Service			X	Special Order		

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vaccum) and items marked "*" before order.

Dimensional Drawing (mm)

For Extended Diaphragm Seal and Capillary Type Transmitter



Flange Size: 100mm (4 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	89	229	24	19	190	1.5	157	89	8
ANSI Class 300		254	32	22	200				
JIS 10K	89	210	18	19	175	2	157	89	8
JIS 20K		225	24	23	185				
DIN PN 10/16	89	220	20	18	180	3	157	89	8
DIN PN 25/40		235	24	22	190				

Flange Size: 80mm (3 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	76	190	24	19	152.5	1.5	127	76	4
ANSI Class 300		210	29	22	168.5				8
JIS 10K	76	185	18	19	150	2	127	76	8
JIS 20K		200	22	23	160				
DIN PN 10/16	76	200	20	18	160	3	138	76	8
DIN PN 25/40			24	22					

Flange Size: 50mm (2 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	48	152	19	19	120.5	1.5	92	48	4
ANSI Class 300		165	22		127				8
JIS 10K	48	155	16	19	120	2	96	48	4
JIS 20K			18						8
DIN PN 10/16	48	165	20	18	125	3	102	48	4
DIN PN 25/40									

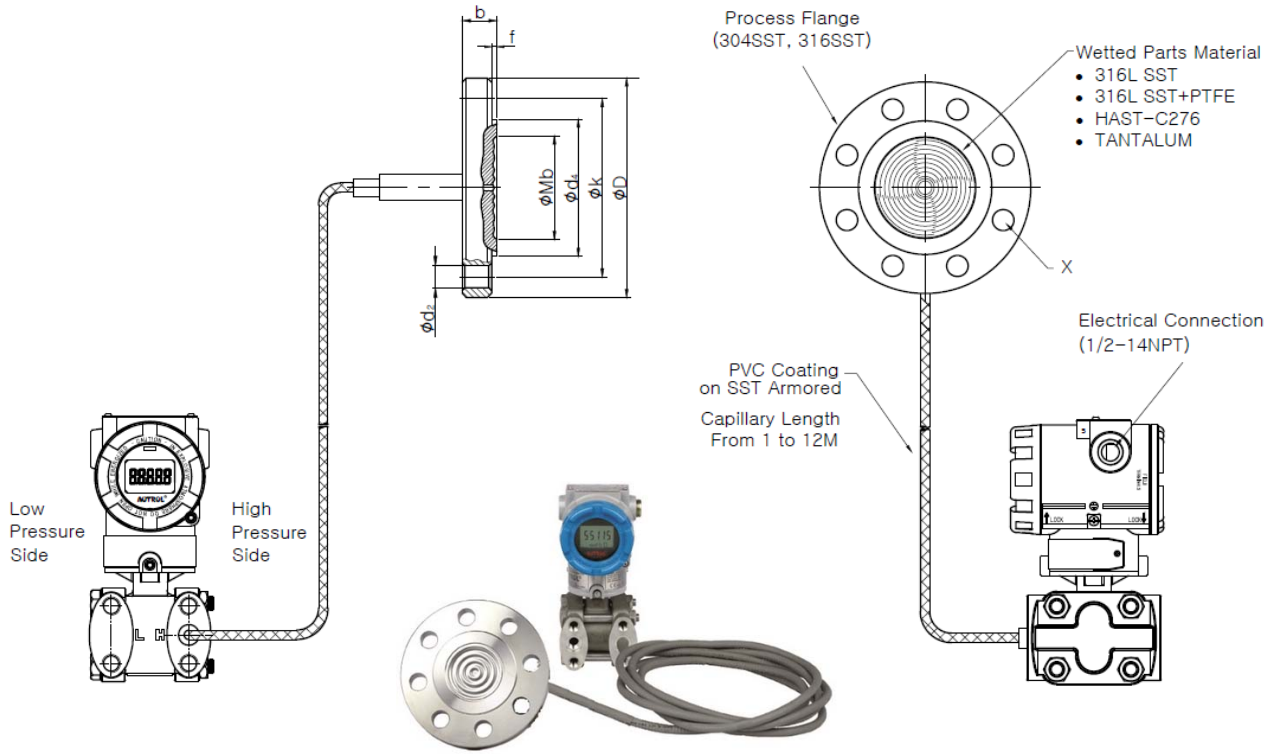
Ordering Information

MODEL NO.	Code	Description						
APT3100	LEC	Extended Diaphragm Seal and Capillary Type Transmitter (Two Remote Seal)						
Ranges	4	0-194 to 0-3800mmH2O (0-1.9 to 0-37.3 KPa)						
	5	0-960 to 0-19000mmH2O (0-9.4 to 0-186.5 KPa)						
	6	0-3518 to 0-70000mmH2O (0-34.5 to 0-690 KPa)						
	X	Special						
Mounting Flange Size / Material	S2 S3 S4 SX	ANSI		DIN		JIS		
		2-inch	SST	DN 50	SST	50 A	SST	
		3-inch	SST	DN 80	SST	80 A	SST	
		4-inch	SST	DN 100	SST	100 A	SST	
Mounting Flange Rating	S2 S3 S4 SX	ANSI		DIN		JIS		
		A1	Class 150	D1	PN 10/16	J1	10 K	
		A2	Class 300	D2	PN 25/40	J2	20 K	
		A3	Class 600	-	-	-	-	
Mounting Flange Rating	S2 S3 S4 SX	ANSI		DIN		JIS		
		AX	Special	DX	Special	JX	Special	
		Exp: 15 --> 150mm, 12--> 120mm						
		Exp: 15 --> 150mm, 12--> 120mm						
Wetted Parts Material Diaphragm / Others	S P H T X	DIAPHRAGM			OTHERS			
		316L SST			316L SST			
		316L SST + Teflon			316L SST			
		Hastelloy C-276			316L SST			
		Tantalum			316L SST			
Fill Fluid	2 7 X	FILL FLUID			TEMPERATURE LIMITS			
		D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)			
		D.C Silicone 704			0 to 315 °C (32 to 600 °F)			
Capillary Length	□□	Capillary Length from 1 to 12m						
		Exp: 01 --> 1m, 10-->10m						
Materials of Construction	SS	FLANGE			VENT / DRAIN VALVE			
		316 SST			316 SST			
Electrical Connection	1 2 X	1/2"-14NPT F						
		G1/2						
		Special						
Hazardous Locations Certifications	K0 K1 E1 F1	Maker Standard (Waterproof : IP67 / NEMA 4X)						
		KCs Flameproof			*K2	KCs Intrinsic Safety		
		ATEX Flameproof			E2	ATEX Intrinsic Safety		
		FM & FM Canada Explosion proof			*F2	FM & FM Canada Intrinsic Safety		
Option	M1 BA BF A	LCD Indicator (5-Digit)			LPI	Lightning Protector (Internal)		
		SST Bracket (Angle Type) with Bolts & Nuts			K	Oil Free Finish		
		SST Bracket (Flat Type) with Bolts & Nuts			ST	Stainless Steel Housing		
		Vaccum Service			X	Special Order		

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vaccum) and items marked "*" before order.

Dimensional Drawing (mm)

For Flush Diaphragm Seal and Capillary Type Transmitter



Flange Size: 100mm (4 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	89	229	24	19	190	1.5	157	8
ANSI Class 300		254	32	22	200			
JIS 10K	89	210	18	19	175	2	157	8
JIS 20K		225	24	23	185			
DIN PN 10/16	89	220	20	18	180	3	157	8
DIN PN 25/40		235	24	22	190			

Flange Size: 80mm (3 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	89	190	24	19	152.5	1.5	127	4
ANSI Class 300		210	29	22	168.5			8
JIS 10K	89	185	18	19	150	2	127	8
JIS 20K		200	22	23	160			
DIN PN 10/16	89	200	20	18	160	3	138	8
DIN PN 25/40			24	22				

Flange Size: 50mm (2 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	X
ANSI Class 150	61	152	19	19	120.5	1.5	92	4
ANSI Class 300		165	22		127			8
JIS 10K	61	155	16	19	120	2	96	4
JIS 20K			18					8
DIN PN 10/16	61	165	20	18	125	3	102	4
DIN PN 25/40								

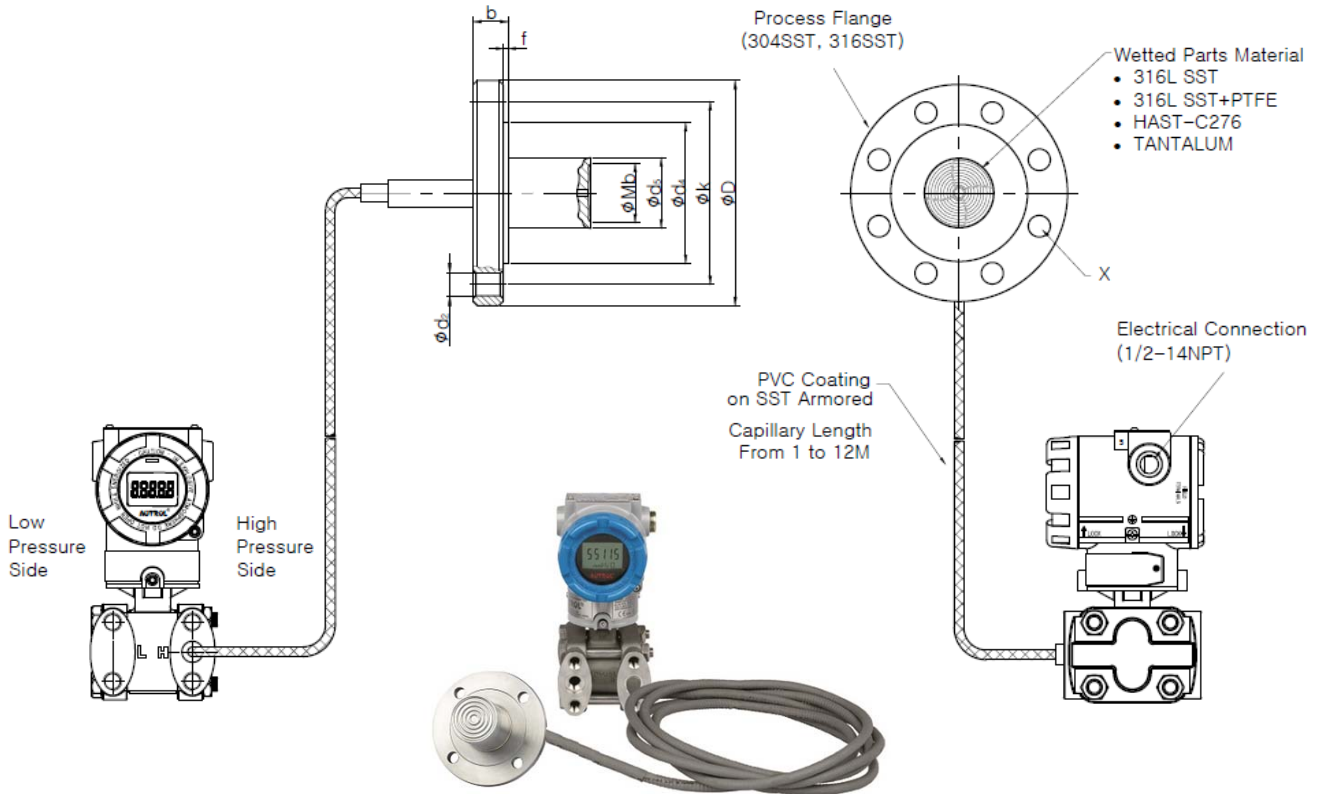
Ordering Information

MODEL NO.	Code	Description						
APT3100	LFS	Flush Diaphragm Seal and Capillary Type Transmitter (One Remote Seal)						
Ranges	4	0-194 to 0-3800mmH2O (0-1.9 to 0-37.3 KPa)						
	5	0-960 to 0-19000mmH2O (0-9.4 to 0-186.5 KPa)						
	6	0-3518 to 0-70000mmH2O (0-34.5 to 0-690 KPa)						
	X	Special						
Mounting Flange Size / Material	S2	ANSI		DIN		JIS		
		2-inch	SST	DN 50	SST	50 A	SST	
		3-inch	SST	DN 80	SST	80 A	SST	
		4-inch	SST	DN 100	SST	100 A	SST	
Mounting Flange Rating	SX	ANSI		DIN		JIS		
		A1	Class 150	D1	PN 10/16	J1	10 K	
		A2	Class 300	D2	PN 25/40	J2	20 K	
		A3	Class 600	-	-	-	-	
Wetted Parts Material Diaphragm / Others	X	DIAPHRAGM			OTHERS			
		S	316L SST			316L SST		
		P	316L SST + Teflon			316L SST		
		H	Hastelloy C-276			316L SST		
Fill Fluid	X	FILL FLUID			TEMPERATURE LIMITS			
		2	D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)		
		7	D.C Silicone 704			0 to 315 °C (32 to 600 °F)		
		X	Special			Special		
Capillary Length	□□	Capillary Length from 1 to 12m Exp: 01 --> 1m, 10-->10m						
Materials of Construction	SS	FLANGE			VENT / DRAIN VALVE			
Low Side	W	Without Process Adapter						
		With 1/2"-14 NPT F Process Adapter (316 SST)						
		Closed						
		Special						
Electrical Connection	1	1/2"-14NPT F						
		G1/2						
		Special						
Hazardous Locations Certifications	K0	Maker Standard (Waterproof : IP67 / NEMA 4X)						
		K1			*K2			
		KC's Flameproof			KC's Intrinsic Safety			
		ATEX Flameproof			ATEX Intrinsic Safety			
Option	M1	LCD Indicator (5-Digit)			LPI			
		Lightning Protector (Internal)			K			
		Oil Free Finish			ST			
		Stainless Steel Housing			X			
Option	BA	SST Bracket (Angle Type) with Bolts & Nuts			Special Order			
		SST Bracket (Flat Type) with Bolts & Nuts						
		Vaccum Service						

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vaccum) and items marked "*" before order.

Dimensional Drawing (mm)

For Extended Diaphragm Seal and Capillary Type Transmitter



Flange Size: 100mm (4 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	89	229	24	19	190	1.5	157	89	8
ANSI Class 300		254	32	22	200				
JIS 10K	89	210	18	19	175	2	157	89	8
JIS 20K		225	24	23	185				
DIN PN 10/16	89	220	20	18	180	3	157	89	8
DIN PN 25/40		235	24	22	190				

Flange Size: 80mm (3 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	76	190	24	19	152.5	1.5	127	76	4
ANSI Class 300		210	29	22	168.5				8
JIS 10K	76	185	18	19	150	2	127	76	8
JIS 20K		200	22	23	160				
DIN PN 10/16	76	200	20	18	160	3	138	76	8
DIN PN 25/40			24	22					

Flange Size: 50mm (2 inch)

Unit : mm

Flange Rating	Mb	D	b	d2	k	f	d4	d5	X
ANSI Class 150	48	152	19	19	120.5	1.5	92	48	4
ANSI Class 300		165	22		127				8
JIS 10K	48	155	16	19	120	2	96	48	4
JIS 20K			18						8
DIN PN 10/16	48	165	20	18	125	3	102	48	4
DIN PN 25/40									

Ordering Information

MODEL NO.	Code	Description							
APT3100	LES	Extended Diaphragm Seal and Capillary Type Transmitter (One Remote Seal)							
Ranges	4	0-194 to 0-3800mmH2O (0-1.9 to 0-37.3 KPa)							
	5	0-960 to 0-19000mmH2O (0-9.4 to 0-186.5 KPa)							
	6	0-3518 to 0-70000mmH2O (0-34.5 to 0-690 KPa)							
	X	Special							
Mounting Flange Size / Material	S2	ANSI		DIN		JIS			
		2-inch	SST	DN 50	SST	50 A	SST		
		3-inch	SST	DN 80	SST	80 A	SST		
		4-inch	SST	DN 100	SST	100 A	SST		
Mounting Flange Rating	SX	ANSI		DIN		JIS			
		A1	Class 150	D1	PN 10/16	J1	10 K		
		A2	Class 300	D2	PN 25/40	J2	20 K		
		A3	Class 600	-	-	-	-		
Extension Length	□□	□□ x 10 mm							
		Exp: 15 --> 150mm, 12--> 120mm							
		DIAPHRAGM			OTHERS				
		S	316L SST	316L SST					
Wetted Parts Material Diaphragm / Others	P	316L SST + Teflon			316L SST				
		Hastelloy C-276			316L SST				
		Tantalum			316L SST				
		Special			Special				
Fill Fluid	2	FILL FLUID			TEMPERATURE LIMITS				
		D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)				
		D.C Silicone 704			0 to 315 °C (32 to 600 °F)				
		Special			Special				
Capillary Length	□□	Capillary Length from 1 to 12m							
		Exp: 01 --> 1m, 10-->10m							
Materials of Construction	SS	FLANGE			VENT / DRAIN VALVE				
		316 SST			316 SST				
Low Side	W	Without Process Adapter							
		N	With 1/2"-14 NPT F Process Adapter (316 SST)						
			Closed						
			Special						
Electrical Connection	1	1/2"-14NPT F							
		2	G1/2						
			Special						
Hazardous Locations Certifications	K0	Maker Standard (Waterproof : IP67 / NEMA 4X)							
		K1	KCs Flameproof			*K2	KCs Intrinsic Safety		
			ATEX Flameproof				ATEX Intrinsic Safety		
		E1	FM & FM Canada Explosion proof			*F2	FM & FM Canada Intrinsic Safety		
Special									
Option	M1	LCD Indicator (5-Digit)							
		BA	SST Bracket (Angle Type) with Bolts & Nuts			LPI	Lightning Protector (Internal)		
			SST Bracket (Flat Type) with Bolts & Nuts				Oil Free Finish		
		BF	Vaccum Service			ST	Stainless Steel Housing		
Special Order			Special Order						

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vaccum) and items marked "*" before order.

Smart Transmitter with Diaphragm Seal

Direct Mount Type**APT3100LFD / LED****Two Remote Type****APT3100LFC / LEC****One Remote Type****APT3100LFS / LES**