

# **AUTROL<sup>®</sup>** **Smart Pressure Transmitter** **with Diaphragm Seal**



## **MODEL APT3500L**

**DUON System Co., Ltd.**

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# APT3500L with Diaphragm Seal



### Description of Product

The APT3500L 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.

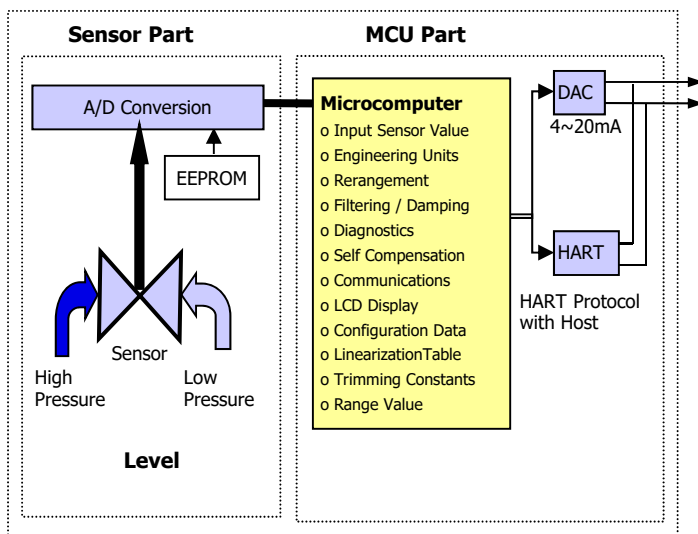
### Function

- Flexible Sensor input : Measuring hydrostatic pressure head and transmitting liquid level
- Various output: 4 ~20mA(Analog), Digital Signals
- Automatic Compensation of Ambient Temperature
- Setting Various Parameters : Zero/Span, Fail-mode, Unit, Trim, etc.
- Self Diagnostic Function : Sensor, A/D Converter, Memory, Power, etc.
- Digital Communication with HART protocol, Command.
- Explosion-proof Approval & Intrinsic Safety Approval : KCs, ATEX

### Features

- Superior Performance
  - High Reference Accuracy :  $\pm 0.04\%$  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



### 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

### General Specifications

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

Class	Code	mmH2O	KPa
Low Level	3	0 ~ 331 to 0~ 6628	0 ~ 3.3 to 0 ~ 65
Medium Level	4	0 ~ 1275 to 0 ~ 25493	0 ~ 12.5 to 0 ~ 250
High Level	5	0 ~ 10707 to 0 ~ 214140	0 ~ 105 to 0 ~ 2100

#### 2. Electrical Specifications

Power Supply	12 ~ 45 V dc	Output Signal	4 ~ 20 mA dc / HART/ FF
HART loop resistance	250 ~550 ohm	Isolation	500 Vrms (707V DC)
Update Time	80 mSec	Turn-on Time	Less than 1 Sec.

#### 3. Performance Specifications (Without Seal)

Reference Accuracy	$\pm 0.04\%$ of Span ( $0.2URL \leq \text{Span} \leq URL$ )*	Operating Temp.	-40 ~ +85 °C
	$\pm [0.015 + 0.005x(URL/Span)]\%$ of Span* (Span Less Than 0.2 URL)	LCD Meter Operating Temp	-30 ~ +80 °C
		Humidity Limits	5% ~ 100% RH
Ambient Temp. Effect	$\pm [0.024\%URL + 0.045\% \text{Span}] / 28$ °C	Process Temp. Limit	-40 ~ +120 °C
Stability	$\pm 0.125\%$ URL for 60 Months	Power Supply Effects	$\pm 0.005\%$ of Span per Volt
Static Pressure Effects	$\pm 0.05\%$ of URL per 7MPa (Zero Error)	Mounting Position Effects	Zero Shift up to 400Pa
	$\pm 0.1\%$ of Reading per 7MPa (Span Error)		No Span Effect

#### 4. Physical Specifications

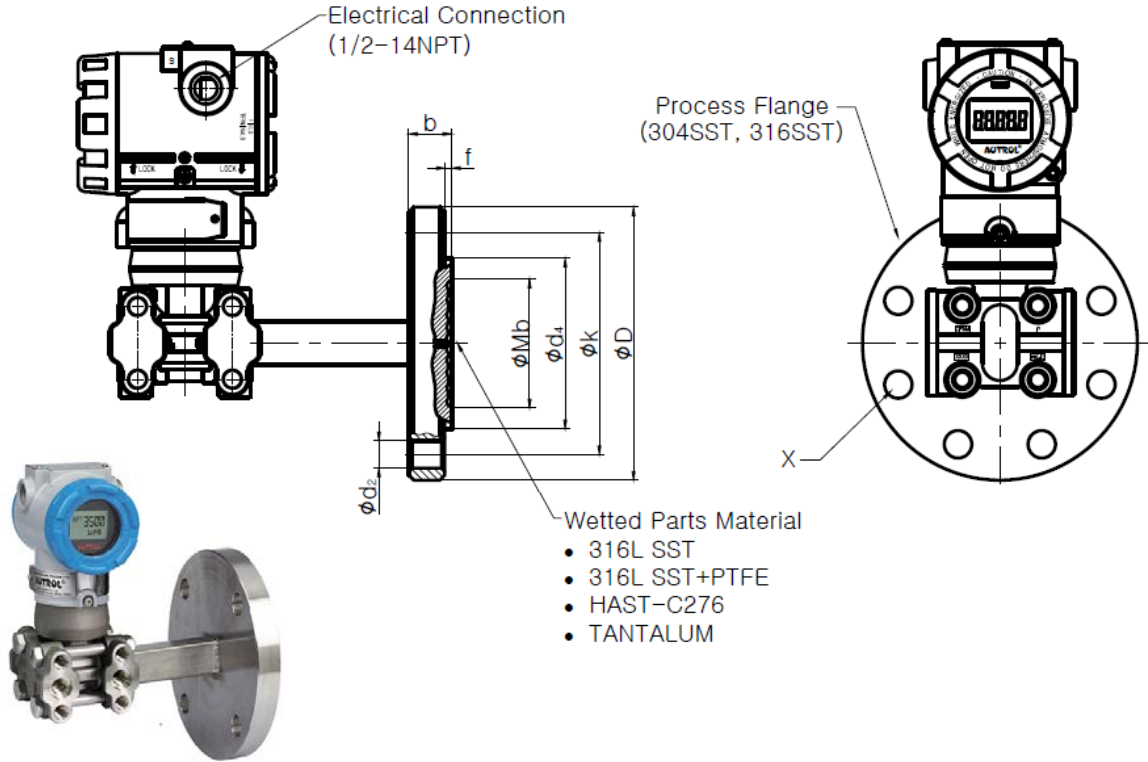
Isolating Diaphragm	316L SST, HAST-C, Tantal, Monel	Process Connection Size	1/4"-18 NPT F, 1/2"-14 NPT F
Sensor Body, Vent plug	316 SST	Diaphragm Seal Size	2", 3", 4"
Flange & Adapter	316 SST	Electrical Connections	1/2" -14 NPT F
O-ring	Viton, PTFE	Weight (only Transmitter)	3.48 Kg
Electronic Housing	Aluminum, 316 SST	2" Pipe Stanchion Type Bracket	Angle & Flat type
Bolts & Bolting Flange	316 SST	Housing Class	Waterproof (IP66 / IP67)

#### 5. Hazardous Location Certifications - Option

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

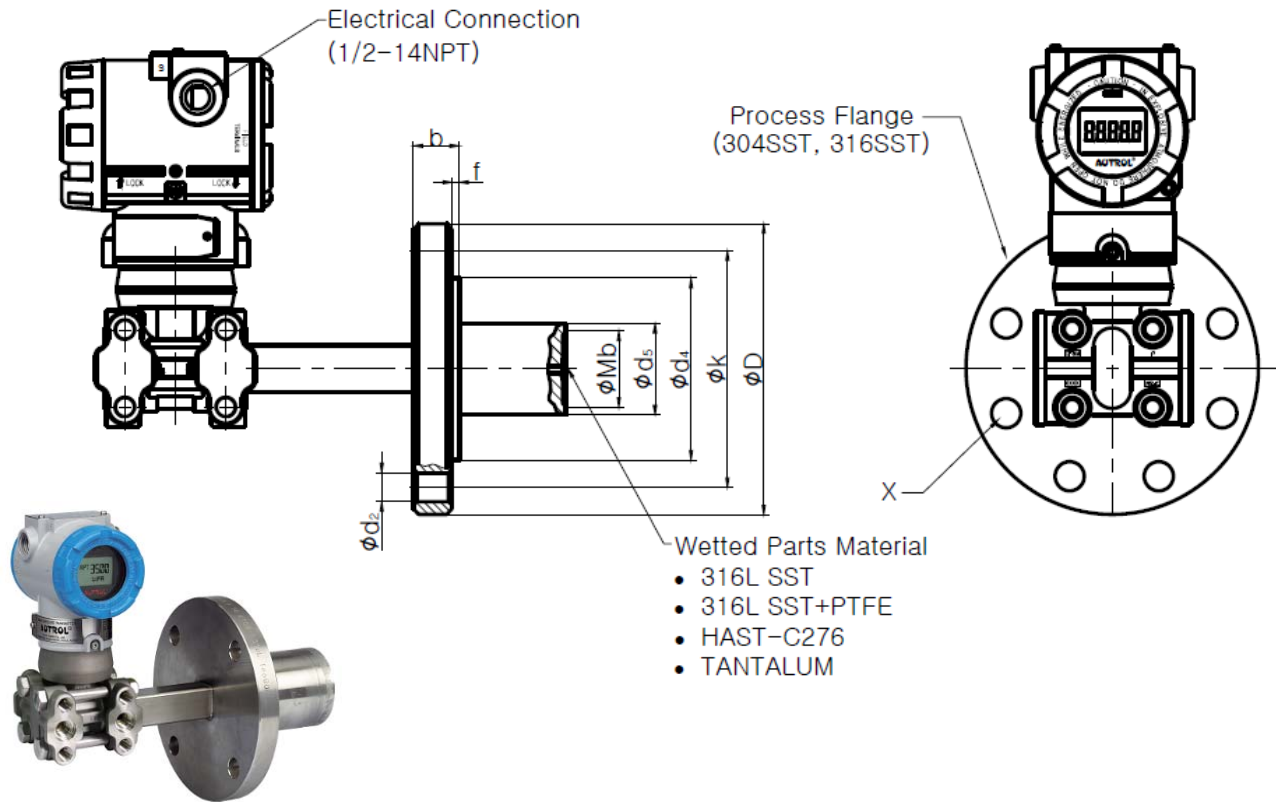
## Ordering Information

MODEL NO.	Code	Description					
APT3500	LFD	Flush Diaphragm Seal and Direct Mount Type Transmitter					
Ranges	3	0-331 to 0-6628mmH <sub>2</sub> O (0-3.3 to 0-65.0 KPa)					
	4	0-1275 to 0-25493mmH <sub>2</sub> O (0-12.5 to 0-250 KPa)					
	5	0-10707 to 0-214140 mmH <sub>2</sub> O (0-105 to 0-2100 KPa)					
	X	Special					
Mounting Flange Size / Material		ANSI		DIN		JIS	
	S2	2-inch	SST	DN 50	SST	50 A	SST
	S3	3-inch	SST	DN 80	SST	80 A	SST
	S4	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
	AX	Special		DX	Special	JX	Special
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		FLANGE			VENT / DRAIN VALVE		
	SS	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)					
	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

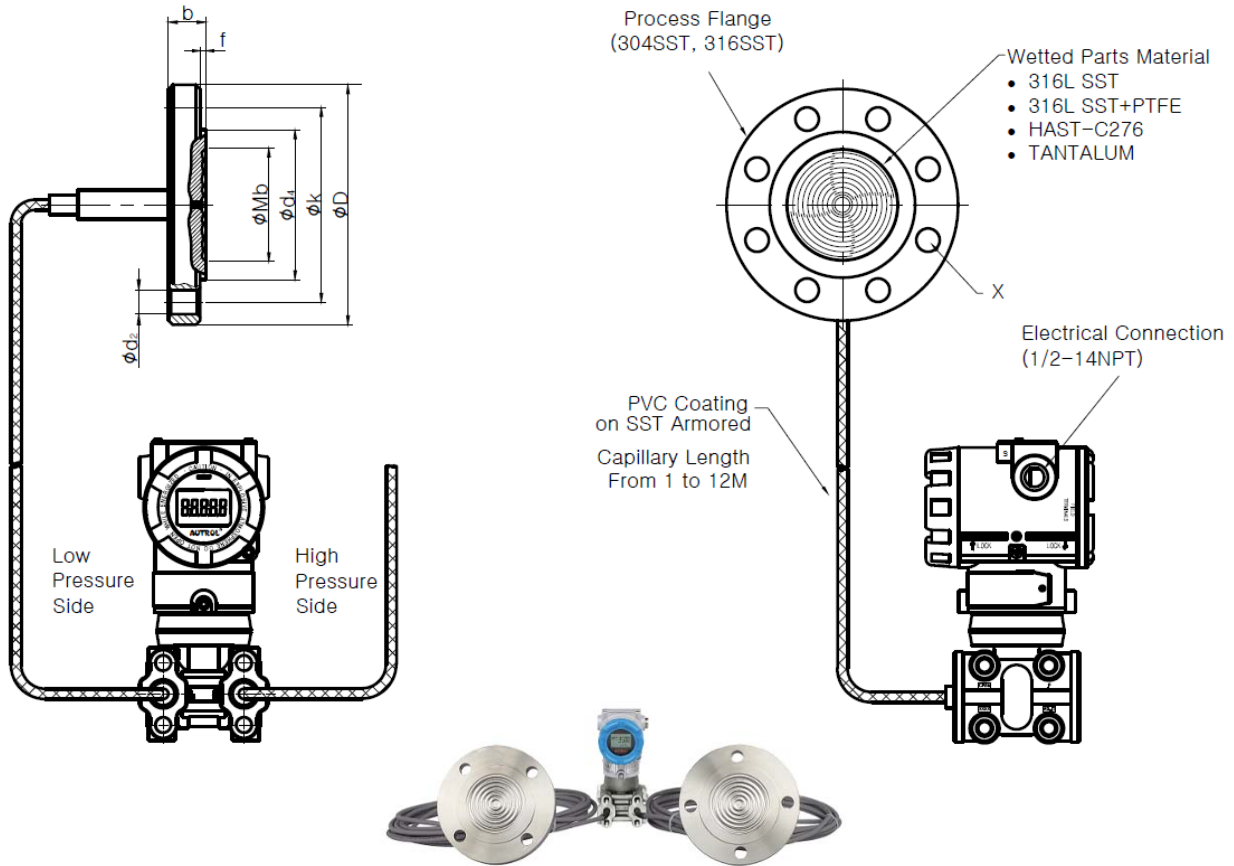
MODEL NO.	Code	Description					
APT3500	<b>LED</b>	Extended Diaphragm Seal and Direct Mount Type Transmitter					
Ranges	<b>3</b>	0-331 to 0-6628mmH2O (0-3.3 to 0-65.0 KPa)					
	<b>4</b>	0-1275 to 0-25493mmH2O (0-12.5 to 0-250 KPa)					
	<b>5</b>	0-10707 to 0-214140 mmH2O (0-105 to 0-2100 KPa)					
	<b>X</b>	Special					
Mounting Flange Size / Material		<b>ANSI</b>		<b>DIN</b>		<b>JIS</b>	
	<b>S2</b>	2-inch	SST	DN 50	SST	50 A	SST
	<b>S3</b>	3-inch	SST	DN 80	SST	80 A	SST
	<b>S4</b>	4-inch	SST	DN 100	SST	100 A	SST
	<b>SX</b>	Special	SST	Special	SST	Special	SST
Mounting Flange Rating		<b>ANSI</b>		<b>DIN</b>		<b>JIS</b>	
	<b>A1</b>	Class 150		<b>D1</b>	PN 10/16	<b>J1</b>	10 K
	<b>A2</b>	Class 300		<b>D2</b>	PN 25/40	<b>J2</b>	20 K
	<b>AX</b>	Special		<b>DX</b>	Special	<b>JX</b>	Special
Extension Length	<input type="checkbox"/>	<input type="checkbox"/> x 10 mm Exp: 15 --> 150mm, 12--> 120mm					
Wetted Parts Material Diaphragm/Others		<b>DIAPHRAGM</b>			<b>OTHERS</b>		
	<b>S</b>	316L SST			316L SST		
	<b>P</b>	316L SST + Teflon			316L SST		
	<b>H</b>	Hastelloy C-276			316L SST		
	<b>T</b>	Tantalum			316L SST		
<b>X</b>	Special			Special			
Fill Fluid		<b>FILL FLUID</b>			<b>TEMPERATURE LIMITS</b>		
	<b>2</b>	D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)		
	<b>7</b>	D.C Silicone 704			0 to 315 °C ( 32 to 600 °F)		
	<b>X</b>	Special			Special		
Materials of Construction		<b>FLANGE</b>			<b>VENT / DRAIN VALVE</b>		
	<b>SS</b>	316 SST			316 SST		
Low Side	<b>W</b>	Without Process Adapter					
	<b>N</b>	With 1/2"-14 NPT F Process Adapter (316 SST)					
	<b>C</b>	Closed					
	<b>X</b>	Special					
Electrical Connection	<b>1</b>	1/2"-14NPT F					
	<b>2</b>	G1/2					
	<b>X</b>	Special					
Hazardous Locations Certifications	<b>K0</b>	Maker Standard (Waterproof : IP67)					
	<b>K1</b>	KCs Flameproof			<b>*K2</b>	KCs Intrinsic Safety	
	<b>E1</b>	ATEX Flameproof			<b>E2</b>	ATEX Intrinsic Safety	
	<b>F1</b>	FM & FM Canada Explosion proof			<b>*F2</b>	FM & FM Canada Intrinsic Safety	
Option	<b>M1</b>	LCD Indicator (5-Digit)			<b>LPI</b>	Lightning Protector (Internal)	
	<b>K</b>	Oil Free Finish			<b>ST</b>	Stainless Steel Housing	
	<b>A</b>	Vaccum Service			<b>X</b>	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			8
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								



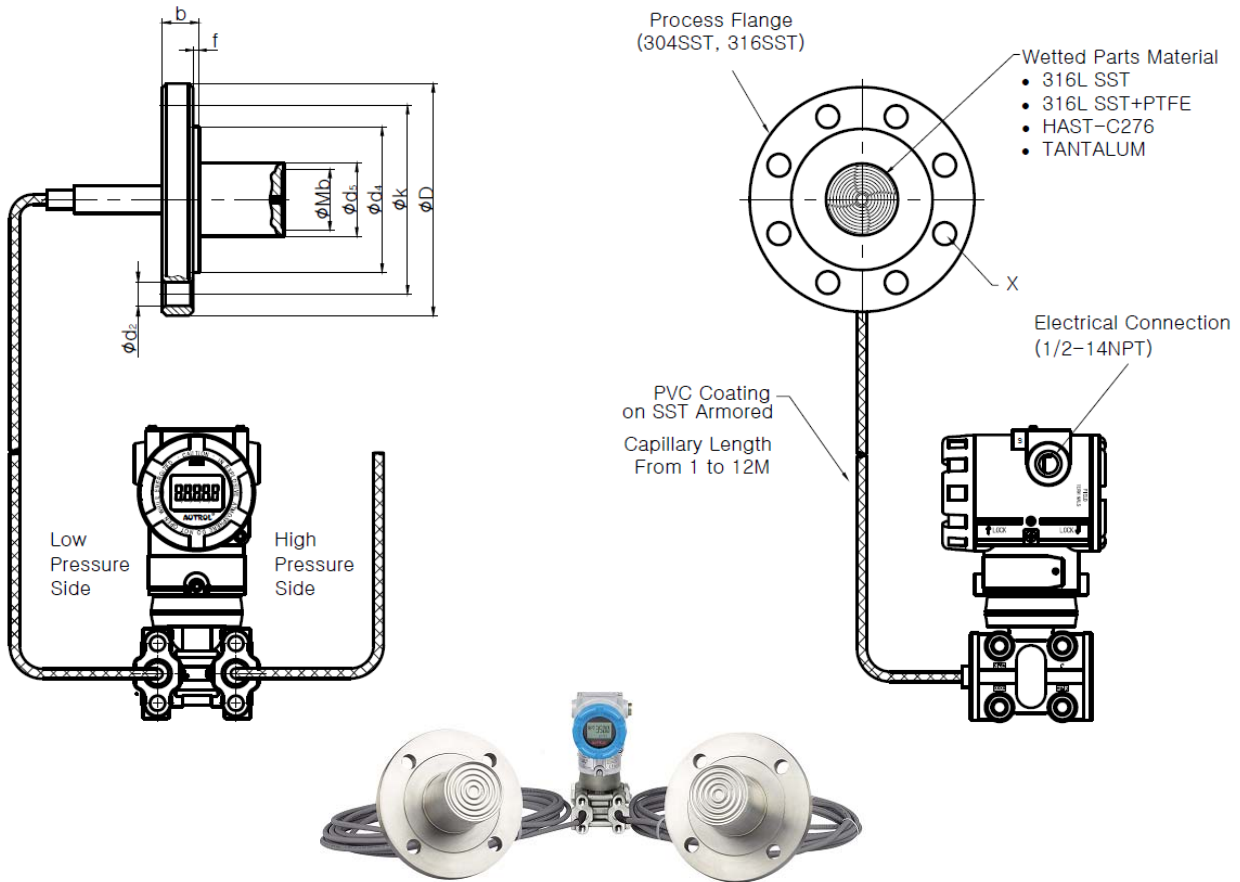
## Ordering Information

MODEL NO.	Code	Description					
APT3500	LFC	Flush Diaphragm Seal and Capillary Type Transmitter (Two Remote Seal)					
Ranges	3	0-331 to 0-6628mmH <sub>2</sub> O (0-3.3 to 0-65.0 KPa)					
	4	0-1275 to 0-25493mmH <sub>2</sub> O (0-12.5 to 0-250 KPa)					
	5	0-10707 to 0-214140 mmH <sub>2</sub> O (0-105 to 0-2100 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	AX	ANSI		DIN		JIS	
		A1	Class 150	D1	PN 10/16	J1	10 K
		A2	Class 300	D2	PN 25/40	J2	20 K
		AX	Special	DX	Special	JX	Special
Wetted Parts Material Diaphragm /Others	S	DIAPHRAGM			OTHERS		
		316L SST			316L SST		
		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)		
Capillary Length	□□	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)					
	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									

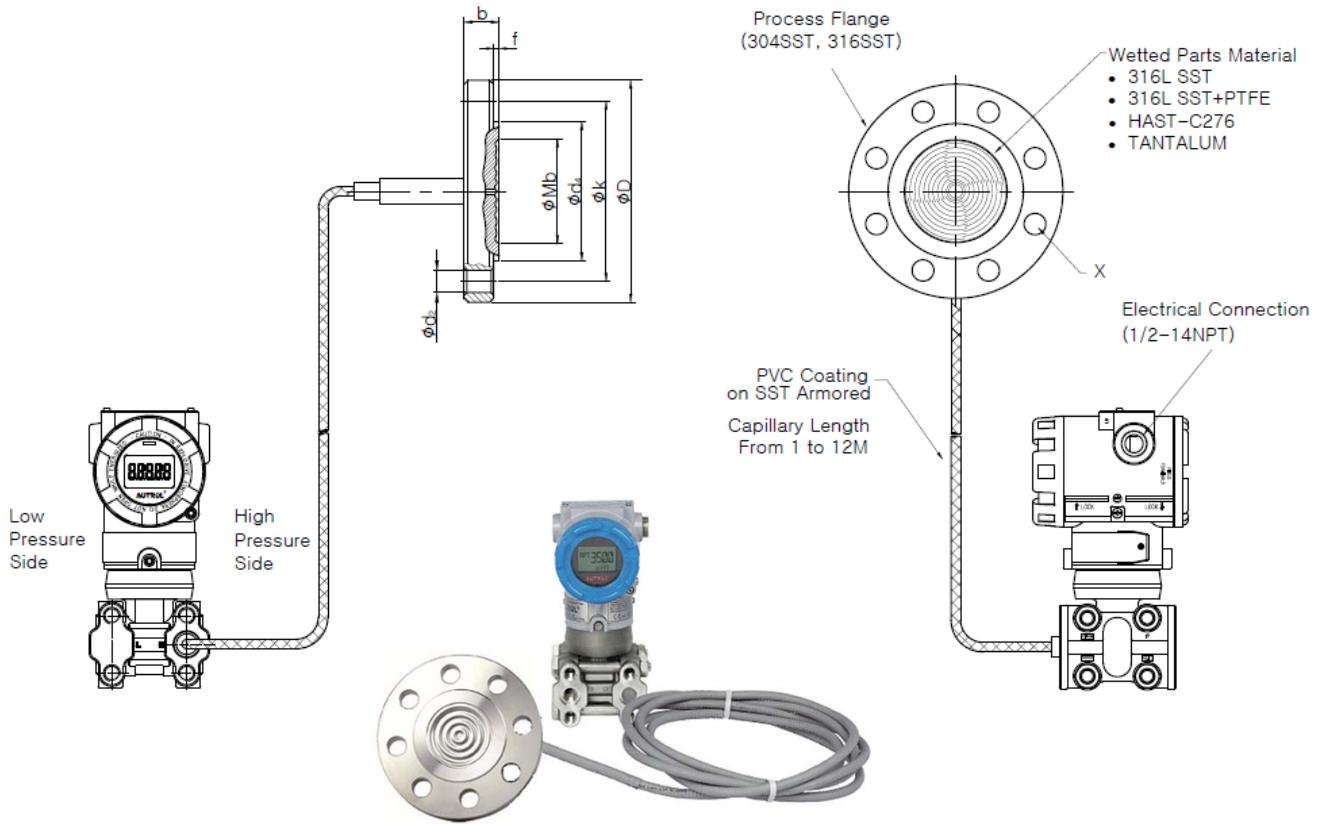
## Ordering Information

MODEL NO.	Code	Description					
APT3500	LEC	Extended Diaphragm Seal and Capillary Type Transmitter (Two Remote Seal)					
Ranges	3	0-331 to 0-6628mmH2O (0-3.3 to 0-65.0 KPa)					
	4	0-1275 to 0-25493mmH2O (0-12.5 to 0-250 KPa)					
	5	0-10707 to 0-214140 mmH2O (0-105 to 0-2100 KPa)					
	X	Special					
Mounting Flange Size / Material		ANSI		DIN		JIS	
	S2	2-inch	SST	DN 50	SST	50 A	SST
	S3	3-inch	SST	DN 80	SST	80 A	SST
	S4	4-inch	SST	DN 100	SST	100 A	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
	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			
Capillary Length	<input type="checkbox"/>	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)					
	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 Vacuum) and items marked \*\*\* before order.

## Dimensional Drawing (mm)

For Flush Diaphragm Seal and Capillary Type Transmitter



### Flange Size: 100mm (4 inch)

Unit : mm

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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								

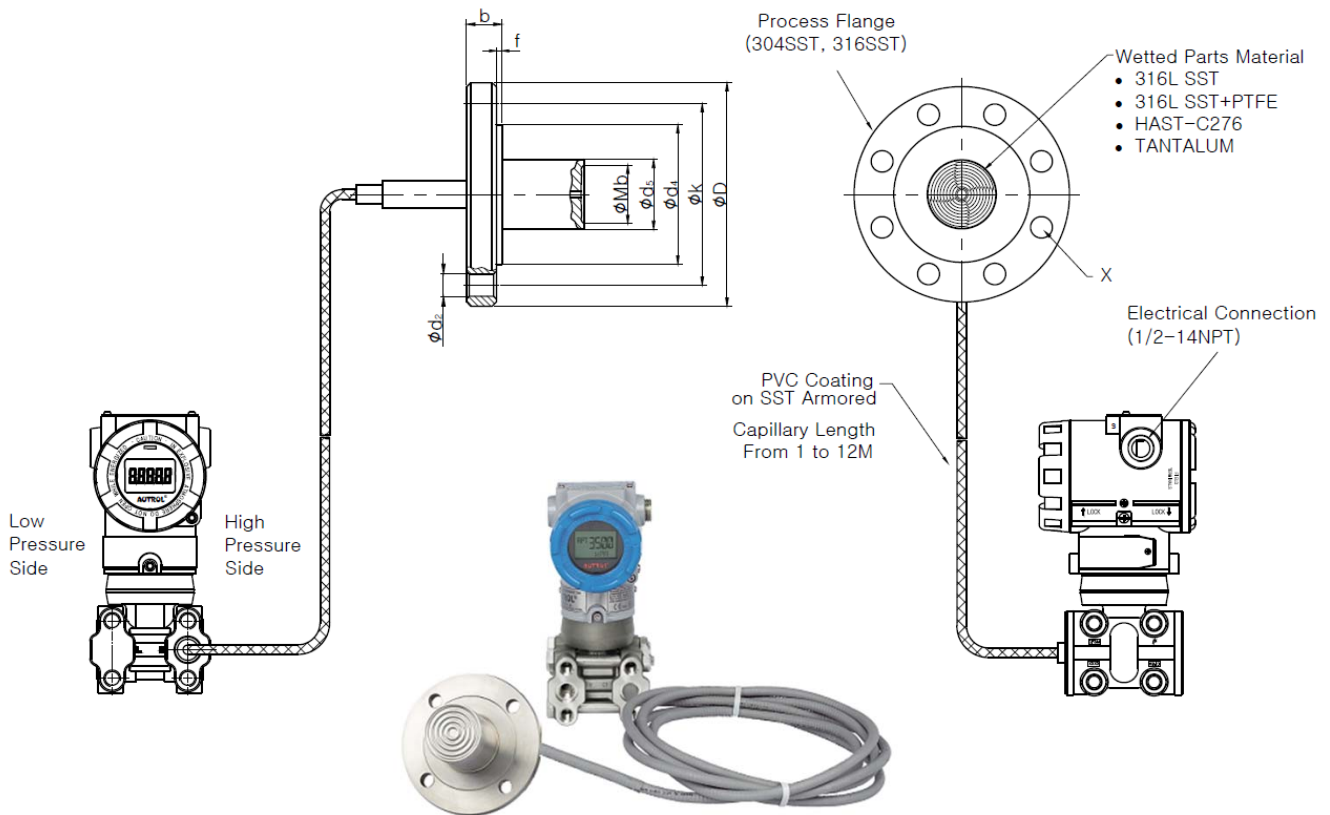
## Ordering Information

MODEL NO.	Code	Description					
APT3500	<b>LFS</b>	Flush Diaphragm Seal and Capillary Type Transmitter (One Remote Seal)					
Ranges	<b>3</b>	0-331 to 0-6628mmH2O (0-3.3 to 0-65.0 KPa)					
	<b>4</b>	0-1275 to 0-25493mmH2O (0-12.5 to 0-250 KPa)					
	<b>5</b>	0-10707 to 0-214140 mmH2O (0-105 to 0-2100 KPa)					
	<b>X</b>	Special					
Mounting Flange Size / Material		<b>ANSI</b>		<b>DIN</b>		<b>JIS</b>	
	<b>S2</b>	2-inch	SST	DN 50	SST	50 A	SST
	<b>S3</b>	3-inch	SST	DN 80	SST	80 A	SST
	<b>S4</b>	4-inch	SST	DN 100	SST	100 A	SST
	<b>SX</b>	Special	SST	Special	SST	Special	SST
Mounting Flange Rating		<b>ANSI</b>		<b>DIN</b>		<b>JIS</b>	
	<b>A1</b>	Class 150		<b>D1</b>	PN 10/16	<b>J1</b>	10 K
	<b>A2</b>	Class 300		<b>D2</b>	PN 25/40	<b>J2</b>	20 K
	<b>AX</b>	Special		<b>DX</b>	Special	<b>JX</b>	Special
Wetted Parts Material Diaphragm /Others		<b>DIAPHRAGM</b>			<b>OTHERS</b>		
	<b>S</b>	316L SST			316L SST		
	<b>P</b>	316L SST + Teflon			316L SST		
	<b>H</b>	Hastelloy C-276			316L SST		
	<b>T</b>	Tantalum			316L SST		
	<b>X</b>	Special			Special		
Fill Fluid		<b>FILL FLUID</b>			<b>TEMPERATURE LIMITS</b>		
	<b>2</b>	D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)		
	<b>7</b>	D.C Silicone 704			0 to 315°C ( 32 to 600 °F)		
	<b>X</b>	Special			Special		
Capillary Length	<input type="checkbox"/>	Capillary Length from 1 to 12m Exp: 01 --> 1m, 10-->10m					
Materials of Construction	<b>SS</b>	<b>FLANGE</b>			<b>VENT / DRAIN VALVE</b>		
		316 SST			316 SST		
Low Side	<b>W</b>	Without Process Adapter					
	<b>N</b>	With 1/2"-14 NPT F Process Adapter (316 SST)					
	<b>C</b>	Closed					
	<b>X</b>	Special					
Electrical Connection	<b>1</b>	1/2"-14NPT F					
	<b>2</b>	G1/2					
	<b>X</b>	Special					
Hazardous Locations Certifications	<b>K0</b>	Maker Standard (Waterproof : IP67)					
	<b>K1</b>	KCs Flameproof			<b>*K2</b>	KCs Intrinsic Safety	
	<b>E1</b>	ATEX Flameproof			<b>E2</b>	ATEX Intrinsic Safety	
	<b>F1</b>	FM & FM Canada Explosion proof			<b>*F2</b>	FM & FM Canada Intrinsic Safety	
Option	<b>M1</b>	LCD Indicator (5-Digit)				<b>LPI</b>	Lightning Protector (Internal)
	<b>BA</b>	SST Bracket (Angle Type) with Bolts & Nuts				<b>K</b>	Oil Free Finish
	<b>BF</b>	SST Bracket (Flat Type) with Bolts & Nuts				<b>ST</b>	Stainless Steel Housing
	<b>A</b>	Vaccum Service				<b>X</b>	Special Order

Note : Request to manufacturer for Draft Range, Absolute (Small Pressure and Vacuum) 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					
APT3500	LES	Extended Diaphragm Seal and Capillary Type Transmitter (One Remote Seal)					
Ranges	3	0-331 to 0-6628mmH <sub>2</sub> O (0-3.3 to 0-65.0 KPa)					
	4	0-1275 to 0-25493mmH <sub>2</sub> O (0-12.5 to 0-250 KPa)					
	5	0-10707 to 0-214140 mmH <sub>2</sub> O (0-105 to 0-2100 KPa)					
	X	Special					
Mounting Flange Size / Material		<b>ANSI</b>		<b>DIN</b>		<b>JIS</b>	
	S2	2-inch	SST	DN 50	SST	50 A	SST
	S3	3-inch	SST	DN 80	SST	80 A	SST
	S4	4-inch	SST	DN 100	SST	100 A	SST
Mounting Flange Rating		<b>ANSI</b>		<b>DIN</b>		<b>JIS</b>	
	A1	Class 150		D1	PN 10/16	J1	10 K
	A2	Class 300		D2	PN 25/40	J2	20 K
	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		<b>DIAPHRAGM</b>			<b>OTHERS</b>		
	S	316L SST			316L SST		
	P	316L SST + Teflon			316L SST		
	H	Hastelloy C-276			316L SST		
	X	Special			Special		
Fill Fluid		<b>FILL FLUID</b>			<b>TEMPERATURE LIMITS</b>		
	2	D.C Silicone 200			-45 to 205 °C (-49 to 400 °F)		
	X	Special			Special		
Capillary Length	<input type="checkbox"/>	Capillary Length from 1 to 12m Exp: 01 --> 1m, 10-->10m					
Materials of Construction		<b>FLANGE</b>			<b>VENT / DRAIN VALVE</b>		
	SS	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)					
	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.



**Direct Mount Type**

APT3500-LFD



APT3500-LED

**Two Remote Capillary Type**

APT3500-LFC



APT3500-LEC

**One Remote Capillary Type**

APT3500-LES



APT3500-LFS

