

## Ve Series Pressure Transmitters



The Sailors Instruments Ltd. Ve Series of Pressure Transmitters incorporates recent R&D technical advances made by Sailors into a family of elite performance pressure transmitters. The entire series has been designed to minimize external influences on the pressure measurement. ISO certified manufacturing facilities and exacting design specifications ensure consistent, high-quality instruments. Design features such as electrical and mechanical isolation of the electronics' circuitry and the measuring cell eliminate the effects of environmental stresses reducing bias and precision errors. The Ve series of transmitter delivers nothing but pure, repeatable, long term, accurate pressure measurement!

**Specifications:** (see notes)

Specification\Model	Ve4 (1)	Ve6 (1)	Ve8	Ve10 (2)
<b>Accuracy</b>	0.25% (R)	0.1% (R)	0.075% (R)	0.075% (R)
<b>Static press. effect</b>	0.1% (R)	0.1% (R)	0.1% (R)	0.05% (R)
<b>Turn down</b>	10:1	30:1	100:1	100:1
<b>Output</b>	4-20mA	4-20mA	4-20mA + HART	4-20mA + HART
<b>Flange material</b>	Nickel-plated CS	Nickel-plated CS	316 SS	316 SS
<b>Ranges</b>	0~7 KPa - 7 MPa			
<b>Long term stability</b>	+/- 0.1% F.S. per year			
<b>Ambient Temp.</b>	-20~70°C			
<b>Relative Humidity</b>	0~100%RH Non-Condensing			
<b>Diaphragm Mat'l</b>	316LSS, Hastelloy, Tantalum			
<b>Fill fluid</b>	Silicone , Fluorocarbon			
<b>Housing material</b>	Cast Aluminum, epoxy resin coating, Acrylonitrile butadiene rubber 'O' ring			
<b>IP protection</b>	IP67			
<b>Design Approval</b>	I.S. Ex ia II CT4 (when used with approved barrier) Ex-proof Ex d II CT6			
<b>Start up time</b>	: 0.1~1.6s (Based on range and turn down)			
<b>Damping</b>	0~32 Sec (fully adjustable)			
<b>Update time</b>	22Hz			
<b>Supply Power</b>	<0.5W; 15 – 45 VDC			
<b>Power effect</b>	+/- 0.005% of reading / Volt			
<b>Shock Resistance</b>	Acceleration 50G, duration 11ms			
<b>EMI Compatibility</b>	Tested to IEC 61000-4-2			
<b>Total Loop Load</b>	Standard Operations:0-1290Ω, Digital Comms Requirement:250-600Ω			
<b>Electrical conns</b>	2 X ½"-14NPT or M20x1			
<b>Display</b>	4 Line LCD display (current value, output, units, %, status etc)			
<b>Keypad</b>	External Configuration via Magnetic Wand			
<b>Current O/P Alarm</b>	Min. 3.6mA, max. 21mA, User Configurable High or Low			
<b>Shipping Weights</b>	GP/AP: 1.5Kg	D/P: 3.5Kg	LT: 11 Kg	

NOTES: (1) Not available for LT configuration  
(2) Not available in GP/AP configuration

**Pressure & Temperature Limits (D/P, GP, AP only) (X= sensor range)**

Type		Pressure Limit	Storage Temp	Ambient Temp.
Silicon Piezoresistive Sensor		(1.5~3)X	-40~85C	-25~70C
Ceramic capacitive sensor		(3~100)X	-40~85C	-25~70C
Differential Capacitive sensor		7/14/31MPa	-40~85C	-25~70C
Electronic Parts		-----	-40~85C	-25~70C
LCD		-----	-40~85C	-25~70C
Sensor Type	Diaphragm	Seal	Fill Fluid	Process Connection
Silicon Sensor	316SS	Nitrile rubber	Silicon Oil	316SS
Ceramic sensor	AL <sub>2</sub> O <sub>3</sub>	Fluorine Rubber	N/A	316SS
Capacitive sensor	316SS/C276	Fluorine Rubber	Silicon Oil	316SS

**Range & Sensor Code Selector**

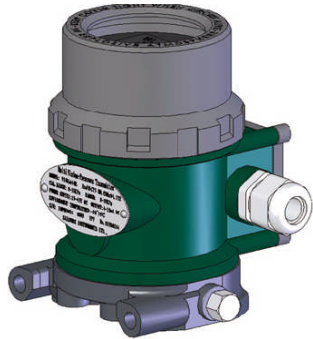
Range Code	Range	Measuring style Code				
		GP	DP	AP	HP	DR
2	0-0.22 PSI / 0-1.5KPa	E	N/A	N/A	N/A	E
3	0-1 PSI / 0-7KPa	E/C	E	N/A	N/A	N/A
4	0-7 PSI / 0-35KPa	E/C/S	E	N/A	E	N/A
5	0-30 PSI / 0-200KPa	E/C/S	E	S	E	N/A
6	0-100 PSI / 0-700KPa	E/C/S	E	S	E	N/A
7	0-300 PSI / 0-2.1MPa	E/C/S	E	S	E	N/A
8	0-500 PSI / 0-3.5MPa	E/C/S	E	N/A	N/A	N/A
9	0-1000 PSI / 0-7MPa	E/C/S	E	N/A	N/A	N/A
10	0-3000 PSI / 0-21MPa	E/S	N/A	N/A	N/A	N/A
11	0-5000 PSI / 0-35MPa	S	N/A	N/A	N/A	N/A
12	0-6000 PSI / 0-42MPa	S	N/A	N/A	N/A	N/A

S-- Silicon Piezoresistive Sensor; C-- Ceramic capacitive sensor; E-- Differential Capacitive sensor; (N/A—Not Available)

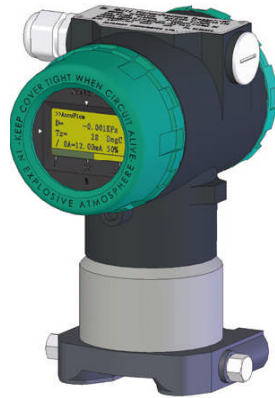
**Units Code Selector**

Units	1	2	3	4	5	6	7	8	9	10	11	12
Code	psi	Pa/ KPa/ MPa	Mbar/ bar	mmHg	torr	atm	%	mm/ cm/ m	in.H <sub>2</sub> O	in.H <sub>g</sub>	g,kg/cm <sup>2</sup>	mA

### Differential Pressure Transmitter



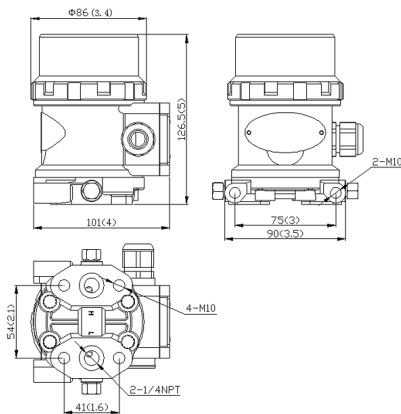
**Standard / I.S. Configuration**



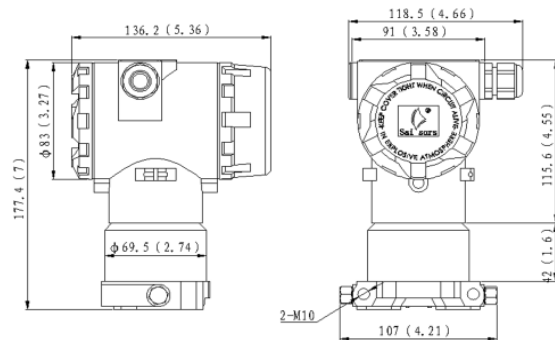
**Explosion Proof/Isolated Diaphragm**

The Ve Series Differential Pressure Transmitter features a radical departure from the standard type of D/P pressure cell. The measurement diaphragms are arranged side by side in a co-planar arrangement. The pressure measurement chamber no longer requires to two flanges in its assembly.. Utilizing a single flange this reduces the volume of the measurement chamber and the overall weight of the transmitter. A reduced measurement chamber makes the transmitter less susceptible to temperature error issues and can provide a faster response time to pressure fluctuations. The instrument housing is available in two configurations,. the standard housing, which is also rated intrinsically safe or in an explosion-proof housing. The Ve-D/P is available in four performance levels, based on accuracy, turndown, communications output and of course the price. There is a level of performance to fit any application. The entry level Ve4 trades off low cost for premium performance and materials. The Ve10 features Stainless Steel components, HART communications and a 4-20mA analog output.

#### Dimensions (Coplanar D/P )



**Standard & I.S. Configuration**



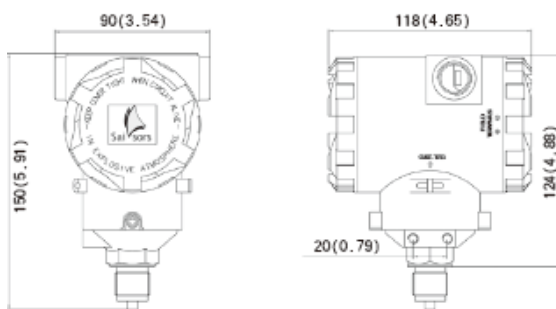
**Explosion-Proof Configuration**

### Gauge or Absolute Pressure Transmitter

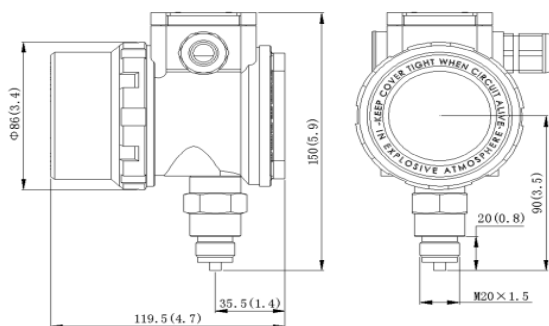


The Ve Series Gauge/Absolute Pressure Transmitters are full featured, direct mounting instruments. They are available in two instrument housing configurations and further differentiated according their performance specifications and built materials. The enclosures are available as either standard or explosion proof. The electronics in the standard housing are rated intrinsically safe. The models are differentiated by performance levels, based on accuracy, turndown and communications output. . The entry level Ve4 provides an economical pressure measurement for applications where exotic materials or capabilities are not required. The Ve6 delivers superior performance at a modest cost increase. The Ve8 is a feature rich transmitter that delivers unparalleled performance specifications and is built using premium construction materials where the application demands tough products..

### Dimensions mm(in)

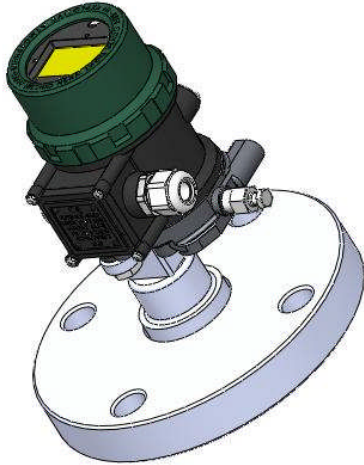


Standard /I.S. Housing



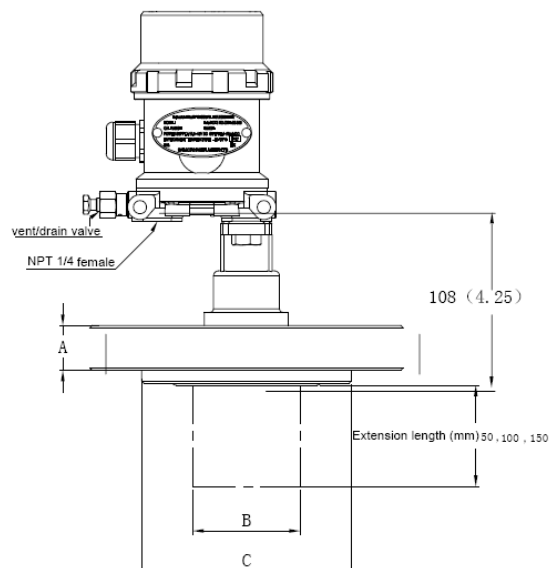
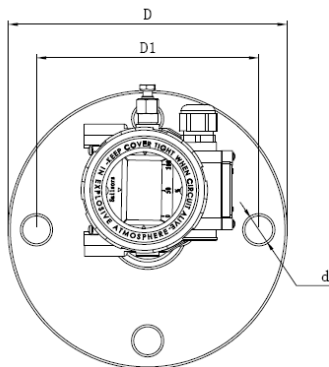
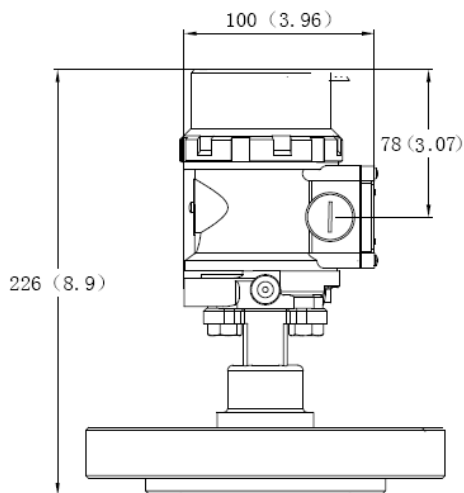
Explosion-Proof Housing

### Flange Mounting Hydrostatic Level Transmitter



The V10LT is a two-wire, flange type level transmitter. This hydrostatic level measuring device features a differential capacitive sensor with a remote seal mounted on the high pressure side of the differential pressure cell. The instrument is perfect for measuring hydrostatic level and/or density in storage tanks and pressure vessels. The V10LT is a microprocessor-based smart transmitter. The transmitter is shipped calibrated and ready for field installation. The instrument can be re-ranged in the field and subsequently trimmed to comply with plant calibration standards or to eliminate installation induced systematic (bias) error. The V10LT is available with either a flush diaphragm or a diaphragm that can be extended in 2" increments up to 6" for high viscosity, fouling or crystallizing applications. The diaphragm is available standard in 316L or optional in Hastelloy C.

**Dimensions:** mm (in)



### Ve Series Coplanar DP Transmitter

Base Model Number			
Ve4.DP			
Range	3E		Differential Capacitive sensor
	4~6E		Differential Capacitive sensor
	7~9E		Differential Capacitive sensor
Ve6.DP			
Range	3E		Differential Capacitive sensor
	4~6E		Differential Capacitive sensor
	7~9E		Differential Capacitive sensor
Ve8.DP			
Range	3E		Differential Capacitive sensor
	4~6E		Differential Capacitive sensor
	7~9E		Differential Capacitive sensor
Ve10.DP			
Range	3E		Differential Capacitive sensor
	4~6E		Differential Capacitive sensor
	7~9E		Differential Capacitive sensor
Isolating diaphragm	B		316LSS
	H		Hastelloy C-276
	T		Tantalum
Fill fluid	G		Silicone
	F		Fluorocarbon
Engineering units	Refer to Data Sheet selection table		
Process connection	C0		1/2-14NPT(female)
	C1		1/4-14NPT(female)
Agency approval	E0		Without approval
	E3		NEPSI, Intrinsic Safety
	E4		NEPSI, Ex-proof
Accessories	B0		No Bracket
	B1		CS Pipe Mount Bracket (Flange Connection)
	B2		CS Flat Pipe Mount Bracket
	B3		CS Panel Mount Bracket
	B4		CS Wall Mount Bracket
	B5		CS Pipe Mount Bracket (Threaded Connection)
Configuration Selection	W1		Calibrated & Configured to Factory Defaults
	W2		User-defined calibration and configuration

**Ve Series Direct Mount Gauge/Absolute Pressure Transmitter**

Base Model Number				
V4e	GP	Economy Gauge Pressure Transmitter		
	AP	Economy Absolute Pressure Transmitter		
V6e	GP	Value Gauge Pressure Transmitter		
	AP	Value Absolute Pressure Transmitter		
V8e	GP	Premier Gauge Pressure Transmitter		
	AP	Premier Absolute Pressure Transmitter		
Ranges			Standard range	Max. Working Pressure
				GP      AP
		2S	0-0.22psi/0-1.5kPa	3X      -
		3S	0-1psi/0-7kPa	3X      -
		4S	0-7psi/0-35kPa	3X      -
		5S	0-30psi/0-200kPa	3X      3X
		6S	0-100psi/0-700kPa	3X      3X
		7S	0-300psi/0-2.1MPa	3X      3X
		8S	0-500psi/0-3.5MPa	3X      -
		9S	0-1000psi/0-7MPa	2X      -
		10S	0-3000psi/0-21MPa	1.5X      -
		11S	0-500psi/0-35MPa	1.5X      -
	12S	0-600psi/0-42MPa	1.5X      -	
Engineering units	Please see the unit selection chart			
Process connection	N1	1/2-14NPT(male)		
	M1	M20x1.5(male)		
	G1	G1/2(male)		
Agency approval	E0	Without approval		
	E3	NEPSI, Intrinsic Safety		
	E5	NEPSI, Ex-proof		
Accessories	B0	No bracket		
	B4	Wall mount bracket		
	B5	Pipe mount bracket		
Configuration Selection	W1	Calibrated w/ Factory Default Settings		
	W2	User-defined calibration and configuration		



**Ve Series Flange Level Transmitter**

Ve8 / Ve10								
Ranges	LT4E						0-35kPa	
	LT5E						0-200kPa	
	LT6E						0-700kPa	
	LT7E						0-2.1MPa	
	LT8E						0-3.5MPa	
	LT9E						0-7MPa	
Extension Length & diaphragm material					Diameter (mm )	Extension (mm)	Material	
	A0				80	Flush mount	316L LST	
	A2				80	50	316L LST	
	A4				80	100	316L LST	
	A6				80	150	316L LST	
	B0				100	Flush mount	316L LST	
	B2				100	50	316L LST	
	B4				100	100	316L LST	
	B6				100	150	316L LST	
	C0				80	Flush mount	Hastelloy C-216	
	C2				80	50	Hastelloy C-216	
	C4				80	100	Hastelloy C-216	
	C6				80	150	Hastelloy C-216	
	D0				100	Flush mount	Hastelloy C-216	
	D2				100	50	Hastelloy C-216	
	D4				100	100	Hastelloy C-216	
D6				100	150	Hastelloy C-216		
Engineering units		Please see unit selection chart page 2						
Mounting flange	A						3"150lb	
	B						4"150lb	
Wetted Parts						flange connector	drain/vent valve	diaphragm
	22					316L	316L	316L
	23					316L	316L	Hastelloy C
Agency approval	E0					Without approval		
	E3					NEPSI, Intrinsic Safety		
	E4					NEPSI, Ex-proof		
Accessories	B0					No bracket		
	B6					wall mount bracket		
	B7					pipe mount bracket		
Configuration Selection	W1					Calibrated to upper limit, default settings		
	W2					User-defined calibration and configuration		

NOTE: Standard Fill is Silicone Rated: -29 to +149C (optional Hi-Temp rated:fill available on request)

**NOTES:**

**Contact Details:**