

PRESSURE TRANSMITTER

Models 550 / 551



FEATURES

- **Solid state, no oil fill**
- **Corrosion resistant**
- **Flush mount design**
- **Rugged diaphragm design**

TYPICAL APPLICATIONS

- **Tank level**
- **Pulp slurries**
- **Head box feed**
- **Paper coating systems**
- **Black liquor flow**
- **Digesters**

RUGGED TRANSMITTERS FOR THE PULP AND PAPER INDUSTRY

Viatran's Models 550 and 551 are the most rugged transmitters available for the pulp and paper industry. With a standard M44 X 1.25 flush pressure fitting (1-1/2" NPT optional) and 17-4PH NACE diaphragm, they are ideal for use with the corrosive media that accumulates and clogs standard fittings. Unlike capacitance or micro-machined silicon sensors, Viatran's flush bonded foil sensor has no oil fill which means easy cleaning with no damage to the unit or its performance.

Standard pressure ranges are from 50 PSI to 1000 PSI (3.4 to 68.0 bar) sealed gage and absolute formats. A vented cable option with a filter plug is available for lower gage pressure ranges.

Compact and hermetically sealed, the 550 and 551 are built for the harsh environments encountered in pulp and paper measurement. With Inconel X750 wetted parts available, they are designed for protection against the most corrosive environments.

INTERNAL CALIBRATION CIRCUIT

The model 551 employs unique, magnetically coupled external adjustments. This hermetically sealed enclosure has internal and external magnets that function as adjustments for zero, span, calibration and fine zero. The 551 also features an internal calibration circuit for easy field setup without the need for a calibrated pressure source. The span control allows 5:1 ranging.

Viatran also offers HART version of the 550, providing enhanced digital performance, rangeability and HART communications. Viatran Models 553 and 554 are direct replacements for one inch PMC flush mount pneumatic transmitters.

PERFORMANCE

	Full Scale Pressure Range (FSPR)	0-50, 100, 150, 200, 250, 300, 500, 750, 1000, PSIG, PSIS, PSIA
Accuracy	Combined Linearity, Hysteresis and Repeatability.....	$\leq \pm 0.45\%$
	Full Scale Output (FSO)	16 mA at $\pm 0.5\%$ FSO
	Resolution	Infinite
	Long Term Stability	$\leq \pm 0.5\%$ FSO per 6 months
	Pressure Connection Effect Zero Balance	$\leq \pm 0.5\%$ FSO
Response time	Mechanical & Electrical Combined	≤ 0.1 mSec
	Temperature Effect on Zero	$\leq \pm 2\%$ FSO per 100°F (37°C)
	Temperature Effect on Span	$\leq \pm 2\%$ FSO per 100°F (37°C)
	Compensated Temperature Range	0°F to 185°F (-17°C to 85°)
	Operating Temperature Range	-40°F to 250°F (-40°C to 121°) - Process
	-40°F to 185°F (-40°C to 85°) - Ambient
	Storage Temperature.....	-40°F to 250°F (-40°C to 121°C)

ELECTRICAL

	Sensor Technology	Bonded foil strain gage
Supply Voltage	550	12 to 40 Vdc
	551	12 to 40 Vdc
	Power Supply Regulation	$\leq \pm 0.04\%$ FSO per Volt
	Output Signal	4 - 20 mA at 70°F (21°C)
	Load Impedance	1400 Ohms max at 40 Vdc
	Ripple	$\leq 1\%$ FSO
Zero Balance	550	4 mA $\pm 1\%$ FSO
	551	4 mA $\pm 0.5\%$ FSO
Zero Adjustment	550	Not applicable
	551	-50% FSPR (elevation) to 100% FSPR (suppression). Coarse and fine adjustments standard.
Span Adjustment	550	Not applicable
	551	5:1 turndown, externally
Range Calibration Signal	550	Not applicable
	551	20% $\pm 1\%$ of FSPR, externally switched. The exact signal to pressure correlation is provided with each unit.
	Circuit Protection	Varistor protected across the input leads for surges above 38 V and currents to 250 Amps peak with a pulse width of 8-20 μ Sec. Reverse polarity protected
	Bridge Resistance.....	5000 Ohms nominal
	Insulation Resistance	≥ 2000 MegOhms at 50 Vdc
	RFI/EMI Suppression	$\leq 1\%$ FSO output change at 30 V/meter, 10-1000 Mhz
	Electrical Connection.....	1/2" NPT male conduit, 3 wires, 18 AWG, 36"L
	Red.....	+Power/Signal
	Black	-Power/Signal
	Green.....	Case Ground

MECHANICAL

	Pressure Connection.....	M44 X 1.25 fitting
	Proof Pressure.....	1.5 times rated range
	Burst Pressure.....	≥ 3 times rated range or max range of clamp and tubing, whichever is less
Weight	550	16 oz
	551	22 oz

MATERIALS OF CONSTRUCTION

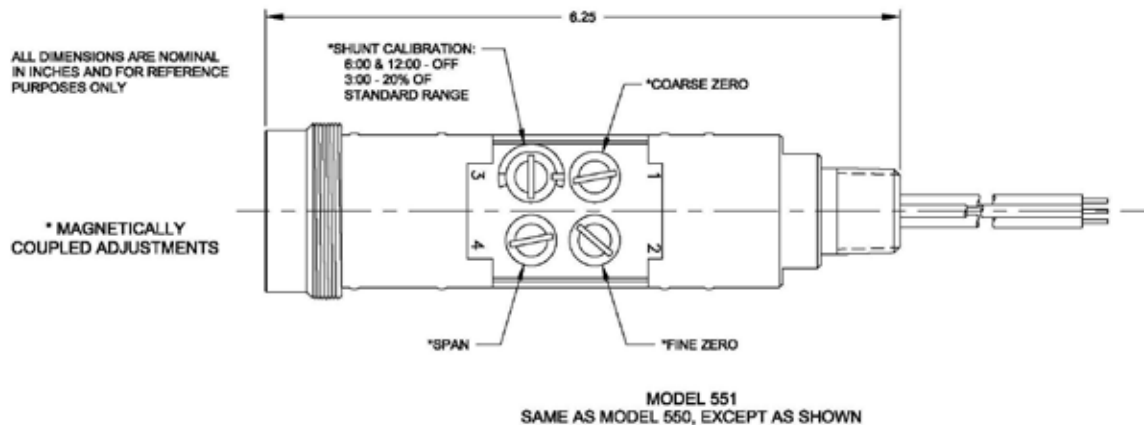
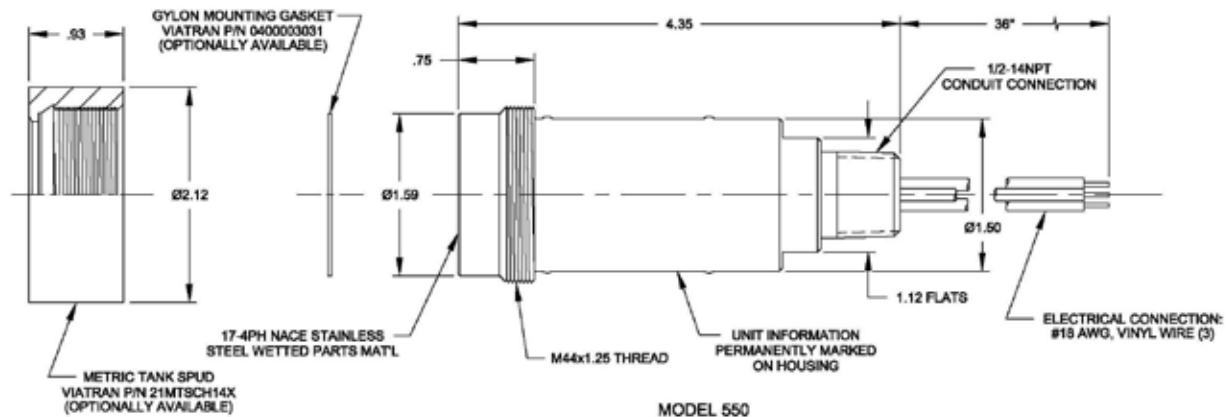
Enclosure Materials	304 and 316 stainless steel
Wetted Materials	17-4PH NACE (Inconel X750 optional)
Identification.....	Laser etched onto body
Measured Fluids.....	Any gas or liquid compatible with 17-4PH NACE
Enclosure Classification.....	NEMA 4X, 5, 6, 12

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OPTIONS	<i>Alternate Connector</i>	BZ.....Micro change connector
		ZP.....6-pin hermetic (Bendix style)
	<i>Performance Options</i>	DG.....Improved temperature compensation
		DH.....Special range (550 only)
		EA.....Special calibration
		JJ.....Direct mount indicator with Explosion Proof housing
		JS.....Direct mount indicator
		NH.....Customer specified identification
		NSR.....Non-standard range (551 only)
		PW.....1/8 DIN digital indicator
		QB.....Inconel wetted parts

Note: Application of some available options may affect standard performance. Consult your Viatran Representative for details.

ACCESSORIES	Conduit connection box
	Tank fittings
	Gylon sealing gasket



Information is accurate to the best of Viatran's knowledge. We reserve the right to change specifications at any time. Please

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