

Pressure Transmitter

Model #550/551

Pulp & Paper

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



Viatran's Model 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 1,000 PSI sealed gage and absolute formats. A vented cable option with a filter plug is available for lower gage pressure ranges.

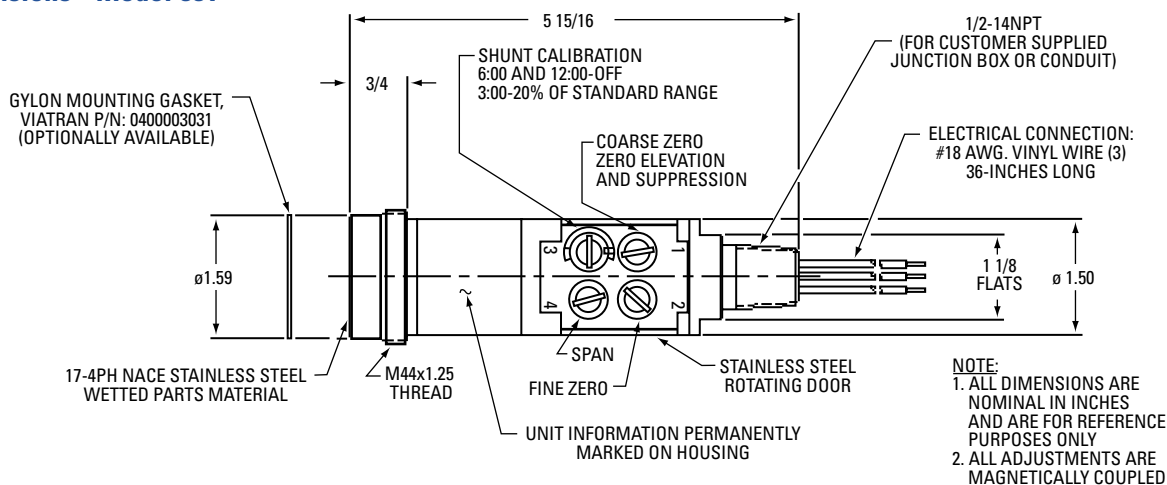
Compact and hermetically sealed, the 550 and 551 are built for the harsh environments encountered in pulp and paper measurement. With Inconel X750 wetted parts available, they are designed for protection against the most corrosive environments.

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 set-up without the need for a calibrated pressure source. The span control allows 5:1 ranging.

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

Call Viatran today for more information on our full line of pressure measurement products for the pulp and paper industry.

Dimensions - Model 551



Viatran Model 550/551 Specifications

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 $\pm 0.5\%$ FSO |
| Resolution | Infinite |
| Long Term Stability | $\leq \pm 0.5\%$ FSO per 6 months |
| Pressure Connection Effect on Zero Balance | $\leq \pm 0.05\%$ FSO |
| Response Time (Mechanical and Electrical Combined) | ≤ 0.1 mSec |
| Temperature Effect on Zero | $\leq \pm 2.0\%$ FSO per 100° F |
| Temperature Effect on Span | $\leq \pm 2.0\%$ FSO per 100° F |
| Compensated Temperature Range | 0° F to +185° F |
| Operating Temperature Range | -40° F to +250° F Process -40° F to +185° F Ambient |
| Non-Operating Temperature Range | -40° F to +250° F |

Electrical

| | |
|--------------------------|---|
| Sensor Technology | Bonded Foil Strain Gage |
| Supply Voltage | |
| Model 550 | 12 to 40 VDC |
| Model 551 | 12 to 40 VDC |
| Power Supply Regulation | $\leq \pm 0.04\%$ FSO per Volt |
| Output Signal | 4 to 20 mA at 70° F |
| Load Impedance | 1400 Ohms maximum at 40 VDC |
| Ripple | $\leq 1\%$ FSO |
| Zero Balance | |
| Model 550 | 4 mA $\pm 1\%$ FSO |
| Model 551 | 4 mA $\pm 0.5\%$ FSO |
| Zero Adjustment | |
| Model 550 | Not Applicable |
| Model 551 | -50% FSPR (elevation) to 100% FSPR (suppression). Coarse and fine adjustments standard. |
| Span Adjustment | |
| Model 550 | Not Applicable |
| Model 551 | 5:1 turndown, externally |
| Range Calibration Signal | |
| Model 550 | Not applicable |
| Model 551 | 20% $\pm 1.0\%$ 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 38V and currents to 250 Amps peak with a pulse width of 8 to 20 μ sec. Reverse polarity protected. |
| Bridge Resistance | 5000 Ohms nominal |
| Insulation Resistance | ≥ 2000 MegOhms at 50 VDC |
| RFI/EMI Suppression | $\leq 1.0\%$ FSO output change at 30V/meter, 10 to 1000 Mhz |
| Electrical Connection | 1/2" NPT Male conduit, 3 Wires, 18AWG, 36"L |
| Red | + Signal |
| Black | - Signal |
| Green | Case Ground |

Mechanical

| | |
|--------------------------|--|
| Pressure Connection | M44 X 1.25 fitting |
| Proof Pressure | 1.5X rated range |
| Burst Pressure | ≥ 3 times rated range or maximum range of clamp and tubing, whichever is less |
| Weight | |
| Model 550 | 16 Oz |
| Model 551 | 22 Oz |
| Enclosure Materials | 304 & 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 |

Options

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|-------|---|
| Codes | Alternate Connector |
| BZ | Micro change connector |
| ZP | 6-Pin Hermetic (Bendix Style) |
| Codes | Performance Options |
| DG | Improved temperature compensation |
| DH | Special range (Model 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 (Model 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 |

Dimensions - Model 550

NOTE:
1. ALL DIMENSIONS ARE NOMINAL, IN INCHES
AND ARE FOR REFERENCE PURPOSES ONLY

