PRESSURE AND LEVEL TRANSMITTERS
For the Pulp and Paper Industry

SERIES 8000

“All Stainless” Design
Flush mounted Diaphragms
Rugged and Compact
Strong Diaphragms
High overpressures
Accuracy 0.2%

DESCRIPTION
The series 8000 Pressure transmitter is designed for reliable pressure measurement in the Pulp and Paper industry.

The small size and rugged Stainless steel housing make it ideal for paper mill applications on stock lines, refiners, screens, cleaners, vacuum boxes and tanks. The transmitters have a strong flush mounted diaphragm and can withstand high overpressures. Zero and span are adjustable in wide ranges. All common process connections are available.

Made by: KLAY-INSTRUMENTS B.V.
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**Specifications**

- Measuring ranges: 0.1 bar to 50 bar
- Output signal: 4-20 mA, 2-wire
- Adjustment: Zero and span internally
- Overall accuracy: 0.2% of adjusted span
- Power supply: 13 to 40 VDC
- Electrical connection: PG9 / ½” NPT / M20
- External load (max.): 550 Ohms/24 V to 1250 Ohms/40 VDC
- Protection grade: IP66
- Process temperature: –20°C to +80°C
- Ambient temperature: –20°C to +65°C
- Temperature sensitivity: +/- 0.015%/K
- Process connections: See Ordering Code
- Wetted parts: AISI 316 (standard) other materials on request
- Electronic housing: AISI 304 (standard) other materials on request
- Zero elevation/suppression available (specify)
- Vacuum and compound ranges available (specify)

Specifications can change without notice

**How to choose the right range?**

When you choose the range, **take the range with the highest overpressure.**

**Example 1:** Your calibrated range must be 0-3 bar. Now you can choose between our range E or F. Both ranges can be calibrated at 0-3 bar (E = 1-4 bar and F = 2.5-10 bar). In this case take range F because it can withstand a much higher overpressure (30 bar) against range E (16 bar). By doing this, the lifetime of the transmitter will be much longer.

**Example 2:** Your calibrated range must be 0-10 bar. Choose between range F (2.5-10 bar) or G (7.5-16 bar). Take range G because the overpressure for range G is 80 bar and over-pressure range F is 30 bar.

**Ordering Code**

<table>
<thead>
<tr>
<th>Order code</th>
<th>SERIES 8000-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order code for Flanged process connection</td>
<td>8000-SAN-</td>
</tr>
<tr>
<td>measuring range bar</td>
<td>max. overpressure bar</td>
</tr>
<tr>
<td>0 - 0.1 ...0.4</td>
<td>6.4</td>
</tr>
<tr>
<td>0 - 0.4 ...0.7</td>
<td>6.4</td>
</tr>
<tr>
<td>0 - 0.7 ...1.5</td>
<td>10.5</td>
</tr>
<tr>
<td>0 - 1 ...4</td>
<td>16</td>
</tr>
<tr>
<td>0 - 2.5 ...10</td>
<td>30</td>
</tr>
<tr>
<td>0 - 7.5 ...16</td>
<td>80</td>
</tr>
<tr>
<td>0 - 16 ...50</td>
<td>120</td>
</tr>
</tbody>
</table>

**PROCESS CONNECTIONS:**

- Weld-on nipple diam. 33 mm (flush diaphragm)(equal to 1” PMC) W
- G1” (1” BSP) threaded connection S
- 1” NPT threaded connection N
- M 44 x 1.25 with lock ring (equal to PMC, Vega, Rosemount) X2
- Valmet/Satron G1” connection (fits in PASVE valve) X12
- Other process connections, i.e. Valcom, etc. (specify) X
- Flanged DIN or ANSI, all sizes available (specify size) Typecode: 8000-SAN-range F

**OPTIONS:**

- Digital local Indicator 3½ digit, programmable I
- Vacuum Ranges (Specify relative or absolute). Compound range available (example -1 / +1 bar) V
- Intrinsically safe: ATEX II 1 G EEx ia IIC T4 Ex
- Special versions: Other wetted parts; example: Hasteloy C Diaphragm. G

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[Image: Model 8000-Range-W with diam 33 mm weld-on nipple.]

**KRAY-INSTRUMENTS B.V.**

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### General Information

**Active Temperature compensation:**
The series 8000 are all fully temperature compensated. A temperature sensor, which monitors the process temperature, is mounted directly behind the diaphragm.

**Zero / span adjustability:**
All transmitters from series 8000 are internally adjustable on zero and span over wide ranges.

**Stainless steel electronics housing:**
The electronics housing from series 8000 transmitters are standard made out of stainless steel. This creates a very compact and rugged transmitter suitable for many heavy industries.

Standard protection grade IP 66, optional IP 68.

### Parts description

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cover</td>
<td>AISI 304</td>
</tr>
<tr>
<td>2. O-ring</td>
<td>EPDM</td>
</tr>
<tr>
<td>3. Venting</td>
<td>PA</td>
</tr>
<tr>
<td>4. Cable entry</td>
<td>PA</td>
</tr>
<tr>
<td>5. Electronic housing</td>
<td>AISI 304</td>
</tr>
<tr>
<td>6. Foot/cooling fins</td>
<td>AISI 304</td>
</tr>
<tr>
<td>7. Diaphragm flush</td>
<td>AISI 316</td>
</tr>
<tr>
<td>8. M8 lock screw</td>
<td>AISI 304</td>
</tr>
<tr>
<td>9. Weld-on nipple</td>
<td>AISI 316</td>
</tr>
<tr>
<td>10. O-ring</td>
<td>Viton</td>
</tr>
<tr>
<td>11. O-ring</td>
<td>Viton</td>
</tr>
</tbody>
</table>

### Applications

The series 8000 pressure transmitters are suitable for all pressure applications in the Pulp and paper industry, like on:
- stock lines
- refiners
- screens
- cleaners
- vacuum boxes, etc.

For Level applications, see description below.

### Level transmitters

Klay Instruments manufactures a wide range of hydrostatic Level transmitters series 8000-SAN with flush diaphragm for various applications.

These series 8000-SAN are fully temperature compensated and can also be adjusted on zero and span over wide ranges. All common process connections are available, like Flanges (DIN or ANSI sizes), G1½” threaded connections, etc.

Both series 8000 and 8000-SAN are available in "Intelligent" execution, our series 2000. See information on page 4. A detailed brochure is available for all versions.
More Klay Process Instrumentation

Series 8000-VALVE
The series 8000-Valve is a combination of a level transmitter and a special ball-valve. The design permits flush installation of the diaphragm and a transmitter which can be removed without shutting down the process. Process connections are DIN or ANSI size Flanges, G 11/2” threaded connection or a special weld on nipple.

Extended Diaphragms
The series 8000-SAN-EXTD are Flange mounted level transmitters with an extended diaphragm. The extension length and diameter must be specified, always refer to Klay drawing no. 8000-61. The technical specifications are equal to the series 8000 mentioned in this brochure.

“INTELLIGENT” Pressure/Level Transmitters
The series 2000 is a complete range of “Intelligent” Pressure and Level Transmitters. Zero and span can be calibrated very easily by 3 pushbuttons and a local display, without test pressure or bij HART® HHT or PC. All process connections from series 8000 are also available for series 2000 transmitters (more than 40).

- Easy calibration without test pressure by 3 push buttons and display
- Accuracy 0,1%
- “All Stainless” design
- Wide rangeability
- Adjustable damping
- HART® Protocol
- Profibus PA

Submersible level transmitter
For level measurement in open basins, concrete bunkers, etc.. Klay manufactures a range of submersible level transmitters with cable or SS extension, series “Hydrobar”

Pressure transmitter
The “Peramic” is a Pressure transmitter with a ceramic sensor and a G1/2” (½”BSP) or ½”NPT process connection. These series CER-8000 are designed for pressure measurement on clean fluids, gases and vapours.

Brochures
A detailed brochure is available from all mentioned instruments on this page.

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