PRESSURE AND LEVEL TRANSMITTERS

For the Pulp and Paper Industry

Series 8000
"Conventional"

Series 2000
"Intelligent"

HART COMMUNICATION PROTOCOL

- "All Stainless Steel" Design
- Rugged and Compact
- Strong Flush Diaphragms
- High Overpressures
- Accuracy 0.2%

Additional Features on Series 2000:

- Accuracy 0.1%
- Easy calibration without test pressure
- 3 push buttons + display
- 4-20 mA + HART® Protocol

DESCRIPTION

The series 8000 and 2000 are compact and robust "**All stainless steel**" pressure and level transmitters. They are designed to use in pulp and papermill applications on stock lines, refiners, screens, cleaners, tanks, etc. The "conventional" series 8000 and "intelligent" series 2000 are both fully temperature compensated and have **very strong, flush mounted diaphragms**. Series 8000 is internally adjustable on zero and span while the **"intelligent"** series 2000 is **very easy to adjust without test pressure by using the 3 push buttons and a display**, or by hand held terminal (HART®, option). All pulp and paper process connections are available.

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Specifications Series 8000

Accuracy	:	0.2% of adjusted span
Measuring ranges	:	0 - 100 mbar to 0 - 80 bar
Output signal	:	4-20 mA, 2-wire
Adjustment	:	Zero and span internally
Power supply	:	12 to 36 Vdc (Ex: 13 - 26.5 Vdc)
Electrical connection	:	PG9, M20 x 1.5 or 1/2" NPT
Protection grade	:	IP66 (Option IP68)
Process temperature	:	-20°C to + 85°C
Process connections	:	See Ordering Code
Wetted parts	:	AISI 316L (standard), other materials on request
Electronic housing	:	AISI 304 (standard), AISI 316 on request

Vacuum and compound ranges available (specify)

Specifications can change without notice

Strong flush and flat diaphragm with code W connections (from range E and up).

Code W

Code S/N

Ordering Code Series 8000

Order code	8000-					
Order code for FLANGED process connection	**8000-SAN-**		F			
Adjustable range **Min. Span ... Max. Span**	Max. Overpressure	↑	↑	↑	↑	↑
0 - 100 to 0 - 400 mbar	6.4 bar	B				
0 - 400 to 0 - 700 mbar	6.4 bar	C				
0 - 0.7 to 0 - 1.5 bar	10.5 bar	D				
0 - 1 to 0 - 4 bar	16 bar	E				
0 - 2.5 to 0 - 10 bar	30 bar	F				
0 - 7.5 to 0 - 16 bar	60 bar	G				
0 - 16 to 0 - 50 bar	120 bar	H				
0 - 40 to 0 - 80 bar	200 bar	I				
PROCESS CONNECTIONS:						
- Weld-on nipple diam. 33 mm. 1-inch Flush mount (equal to 1" PMC)			W			
- G1" (1" BSP) threaded connection			S			
- 1" NPT threaded connection			N			
- M44 x 1.25 threaded lock ring (equal to 11/2" PMC, Rosemount and Vega)			X2			
- Valmet/Satron G1" connection (fits in PASVE valve)			X12			
- Other process connections, i.e. E+H, Vega, etc. (specify)			X			
- Flanged DIN or ANSI, all sizes available (specify size) Typecode: **8000-SAN-range-**			F			
OPTIONS:						
- Digital local Indicator 4 1/2 digit, programmable				I		
- Vacuum Ranges (Specify relative or absolute). Compound range available (example -1 / +1 bar)					V	
- Special versions: example: Hastelloy C Diaphragm (G7)						G

Code X2

Code X12 PASVE

Specifications Series 2000

Accuracy	:	0.1% of adjusted span
Measuring ranges	:	0 - 40 mbar to 0 - 100 bar
Output signal	:	4-20 mA / 2-wire HART® protocol (option)
Adjustment	:	by 3 pushbuttons or H.H.T.
Power supply	:	12 - 36 Vdc (Ex: 13 - 26.5 Vdc)
Protection grade	:	IP66 (Option IP68)
Process temperature	:	-20°C to +85°C
Wetted parts	:	AISI 316 L (standard)
Electronic housing	:	AISI 304
Process connections	:	See ordering code. Many others available

Specifications can change without notice

Local Indicator
The series 2000 is delivered with 2 closed covers, so the 3 push buttons and the standard display are protected behind the cover.

A transparent cover is an option (I). Using a transparent cover allows you to use the display as a local indicator.

Easy to Program

Adjustable points

P101	Zero adjustment (4 mA)
P102	Span adjustment (20 mA)
P103	Cancel mounting position effect
P104	Adjustment pressure unit (see conversion table)
P105	4 - 20 mA * 20 - 4 mA * (reverse output)
P106	Damping adjustment (0 to 25 sec)
P107	Indication of process temperature (read out on display)
P108	0 = CELC °C * 1 = FAHR °F
P109	Read out on display: 0 = current (4 - 20 mA) * 1 = pressure unit 2 = percent %
P110	Current simulation (4 - 20 mA)
P111	Linearisation (Various tankshapes)

* = factory settings

Display with 3 push buttons (Standard)

Code W

Ordering Code Series 2000

Order code	2000-						
Order code for FLANGED process connection	**2000-SAN*-**		F				
Adjustable range **Min. Span ... Max. Span**	Max. Overpressure						
0 - 0.1 to 0 - 0.4 bar*	6.4 bar	1					
0 - 0.3 to 0 - 1.2 bar*	10.5 bar	2					
0 - 1 to 0 - 10 bar	30 bar	3					
0 - 5 to 0 - 30 bar	100 bar	4					
0 - 20 to 0 - 100 bar	200 bar	5					
PROCESS CONNECTIONS:							
- Weld-on nipple diam. 33 mm. 1-inch Flush mount (equal to 1" PMC)			W				
- G1" (1" BSP) threaded connection			S				
- 1" NPT threaded connection			N				
- M44 x 1.25 threaded lock ring (equal to 11/2" PMC, Rosemount and Vega)			X2				
- Valmet/Satron G1" connection (fits in PASVE valve)			X12				
- Other process connections, i.e. E+H, Vega, etc. (specify)			X				
- Flanged DIN or ANSI, all sizes available (specify size) Typecode: **2000-SAN-range-**			F				
OPTIONS:							
- Transparent cover, display functions as a local indicator				I			
- Vacuum ranges (Specify relative or absolute) Compound ranges available (example -1 / +1 bar)					V		
- HART® Protocol						H	
- Special versions: example Hastelloy C diaphragm (G7)							G

Code S/N

Code X12 PASVE

***Series 2000-SAN with process connection Flange:**
Range 1 and 2 have a larger span with 2000-SAN series !
Range 1: 0 – 0.04 to 0 – 0.04 bar
Range 2: 0 – 0.12 to 0 – 1.2 bar

More Klay Process Instrumentation

For the Pulp and Paper Industry

Remote electronics
Both series 8000 and 2000 are available with remote electronics. The ordercodes are:
8000-cable(...m)-range-...
2000-cable(...m)-range-...
The required cable length must be specified in the order code. All ranges mentioned in this brochure on page 2 and 3 are available.

Series 8000-VALVE
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.

Extended Diaphragms
The series 8000-SAN-EXTD are flange mounted level transmitters with an extended diaphragm. The extension length and diameter must be specified, refer to Klay drawing no. 8000-61 or 2000-61.
The technical specifications are equal to the series 8000/2000 mentioned in this brochure.

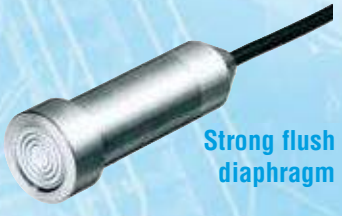
Applications

Series 8000 and 2000 pressure transmitters are suitable for all **pressure applications** in the pulp and paper industry, such as:

- stock lines
- refiners
- screens
- cleaners
- vacuum boxes, etc.

For tank level measurement, use our Series 8000-SAN or 2000-SAN.

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



Strong flush diaphragm

Brochures
A detailed brochure is available for all instruments mentioned in this brochure.

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