

# Paddle Wheel

- Available with weldable insert for installation into pre-existing piping schemes
- Available with ANSI flanges and NPT threaded connections
- 4–20mA outputs for both flow and temperature
- Pulse output for flow
- 2 switching relays (PNP or NPN) for flow and / or temperature
- Accuracy: 2% of full span
- Wetted sensor easily removable for maintenance



## About

The P75 Paddle Wheel Flow Meter is high-pressure resistant and industrially designed to provide accurate flow and temperature measurement. It supports pipe size ranges from  $\frac{3}{4}$ " to 6". This product features a durable stainless-steel construction and offers output signals in 4...20mA, pulse, and PNP/NPN switching. The P75 can be delivered complete with inlet and outlet flow ports or as stand-alone with a weldable insert.

## Applications

- ✓ Hydraulic Oil and Lubricating Systems
- ✓ Water And Wastewater Treatment
- ✓ Cooling Systems for Industrial Equipment
- ✓ Braking Fluid Measurement
- ✓ Oil and Gas Flow Monitoring
- ✓ Machine Manufacturing Process Control
- ✓ More

**Series P75**

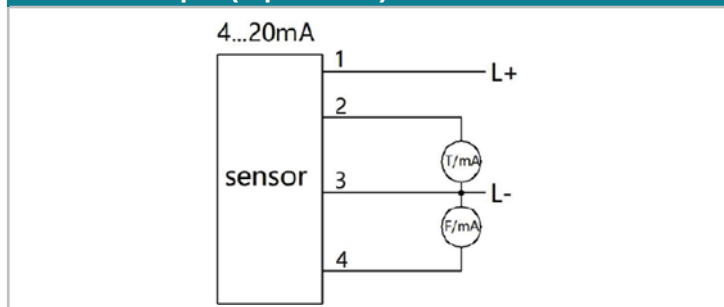
# Flow Rates

**Application Pipe Size & Flow Rates**

Pipe Size Inch	Flow Ranges	
	Gallons / minute	Liters / minute
¾	2.7...30	10...114
1	4.3...46	16...176
1 ¼	9...100	34...379
1 ½	10...120	40...452
2	17...186	63...706
2 ½	28...315	107...1194
3	43...480	163...1809
4	68...750	254...2827
6	15...1700	572...6361

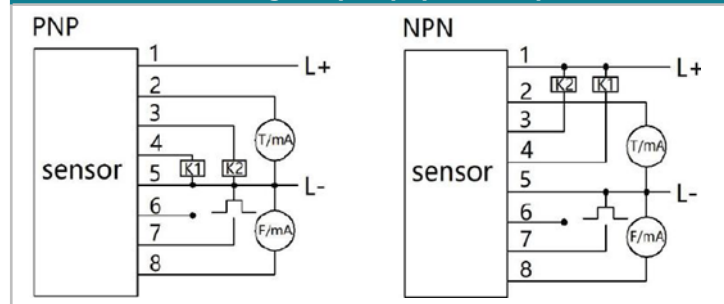
# Output Signals & Pin Out

**4...20mA Output (4-pin cable)**



Pin	Cable Color	Description
1	Brown	Power +
2	White	Temperature Output: 4...20mA
3	Blue	Power -
4	Black	Flow Output: 4...20mA

**4...20mA + Switching Output (8-pin cable)**



Pin	Cable Color	Description
1	Brown	Power +
2	Gray	Temperature Output: 4...20mA
3	White	K2: Switching Output 2
4	Pink	K1: Switching Output 1
5	Blue	Power -
6	Red	/
7	Yellow	Flow Output: 4...20mA
8	Green	Flow Output: Pulse

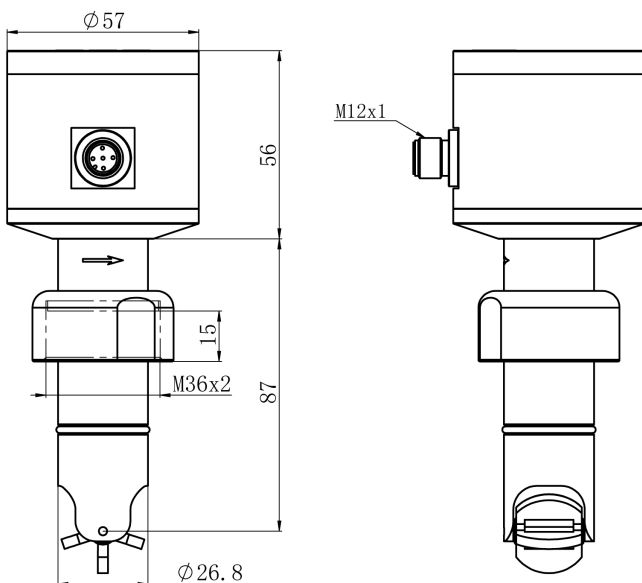
**Series P75**

**Process Connections**

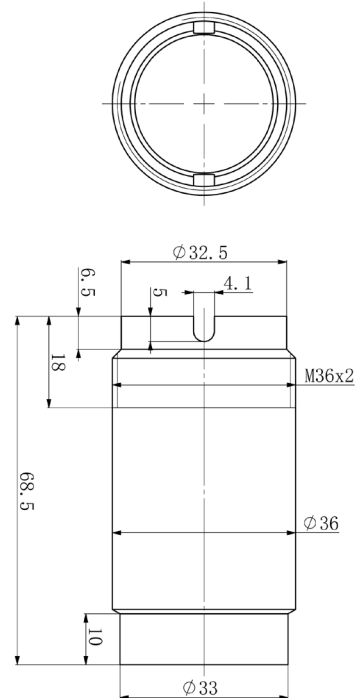
**M36 X 2 Threaded Housing Connection with Weldable Hub**

(recommended for installation into T fitting or pipe sizes 2, 2 ½", 3", 4")

M36 x 2 Thread

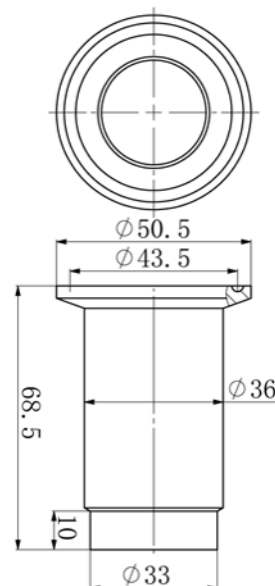
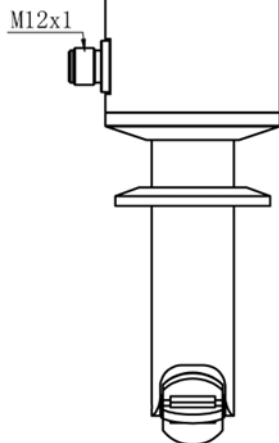
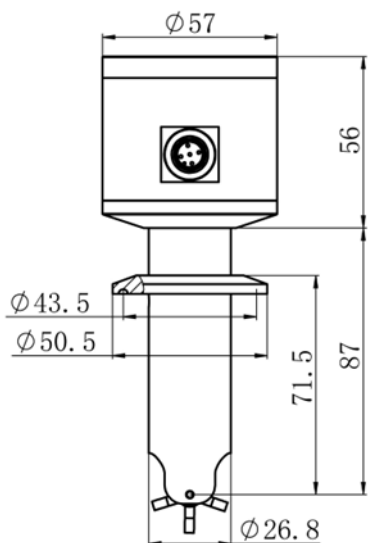


M36 x 2 Weldable Hub



**1.5" Tri-Clamp Housing Connection with Weldable Hub**

(recommended for installation into T fitting or pipe sizes 2, 2 ½", 3", 4")

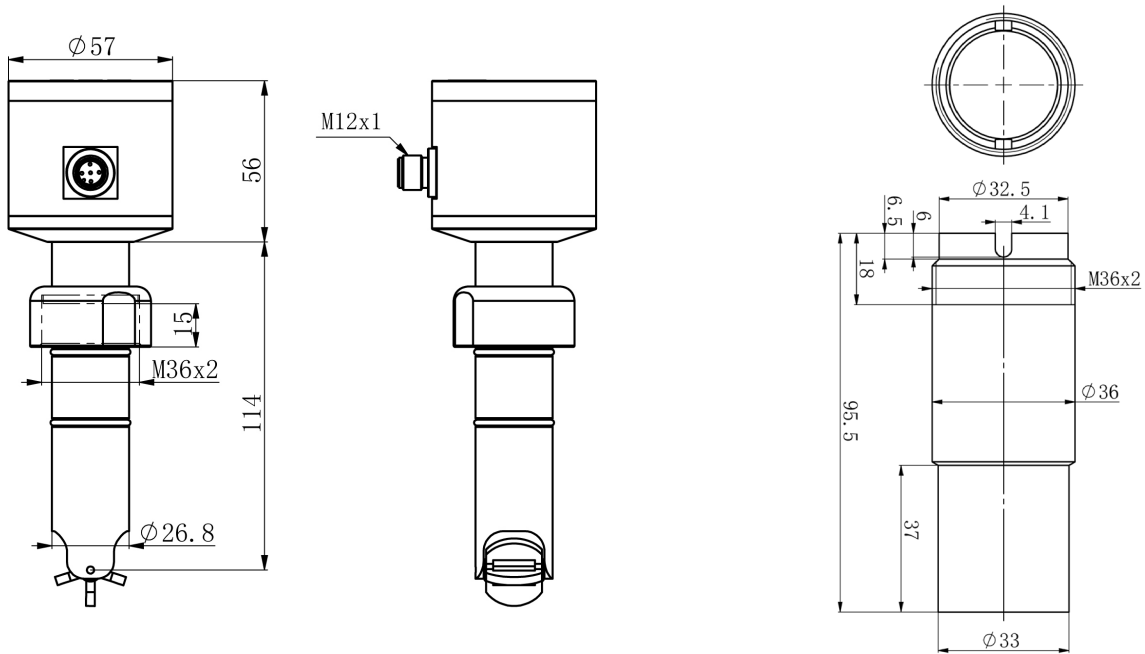


**Series P75**

**Process Connections**

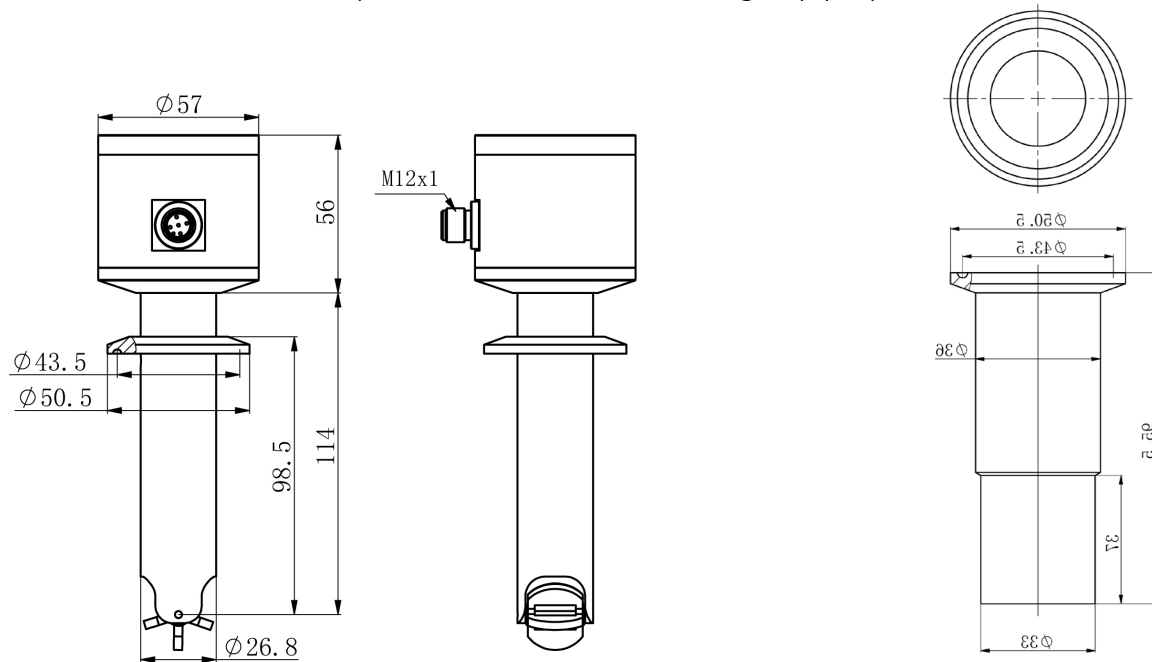
**M36 X 2 Threaded Housing Connection with Weldable Hub**

(for installation into 6" T fitting or pipes)



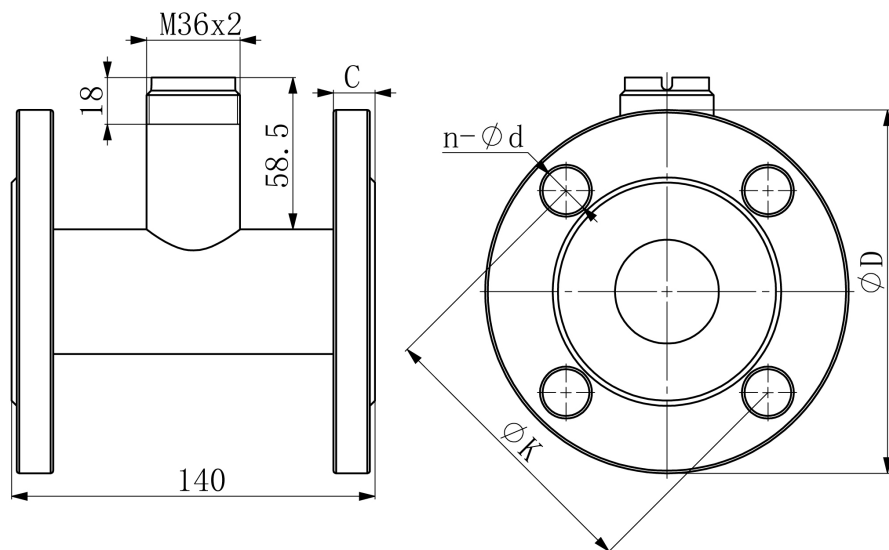
**1.5" Tri-Clamp Housing Connection with Weldable Hub**

(for installation into 6" T fitting or pipes)



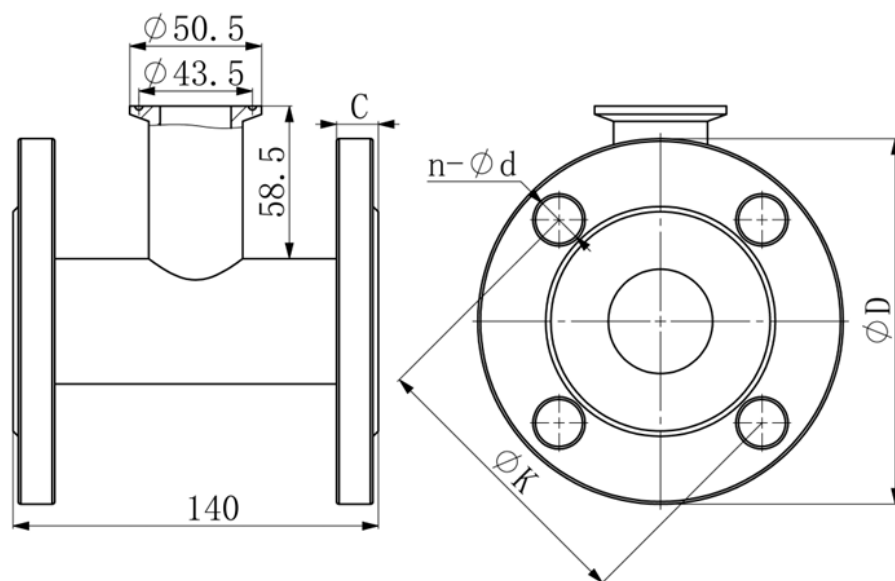
# Process Connections (con't)

## M36 X 2 Threaded Housing Connection - ANSI T Flanges Class 150, ASME B16.5



Flange (ANSI CLASS 150)				
Inch	D	K	C	n - Ø d
¾	100	70	13	4 - Ø 16
1	110	79.5	14.5	4 - Ø 16
1 ¼	120	89	16	4 - Ø 16
1 ½	130	98.5	17.5	4 - Ø 16
2	150	120.5	19.5	4 - Ø 18
2 ½	180	139.5	22.5	4 - Ø 18
3	190	152.5	24	4 - Ø 18
4	230	190.5	24	8 - Ø 18
6	280	241.5	25.5	8 - Ø 22

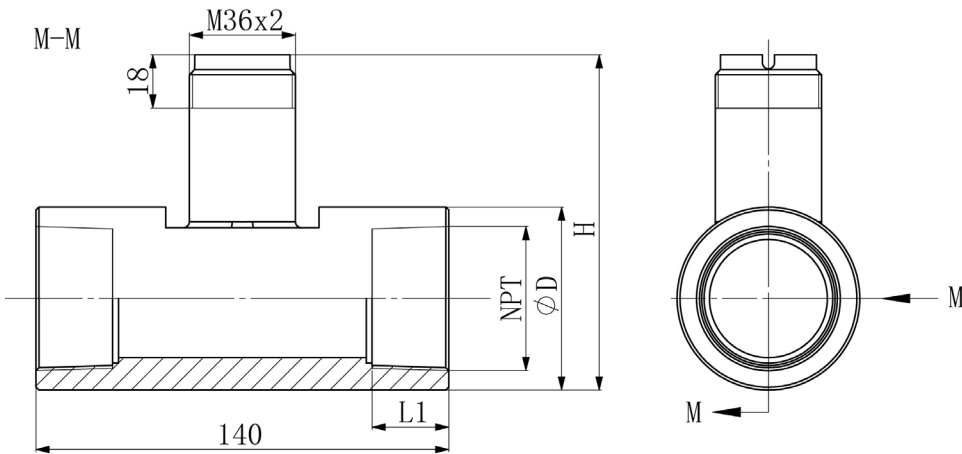
## 1.5" Tri-Clamp Housing Connection - ANSI T Flanges Class 150, ASME B16.5



Flange (ANSI CLASS 150)				
Inch	D	K	C	n - Ø d
¾	100	70	13	4 - Ø 16
1	110	79.5	14.5	4 - Ø 16
1 ¼	120	89	16	4 - Ø 16
1 ½	130	98.5	17.5	4 - Ø 16
2	150	120.5	19.5	4 - Ø 18
2 ½	180	139.5	22.5	4 - Ø 18
3	190	152.5	24	4 - Ø 18
4	230	190.5	24	8 - Ø 18
6	280	241.5	25.5	8 - Ø 22

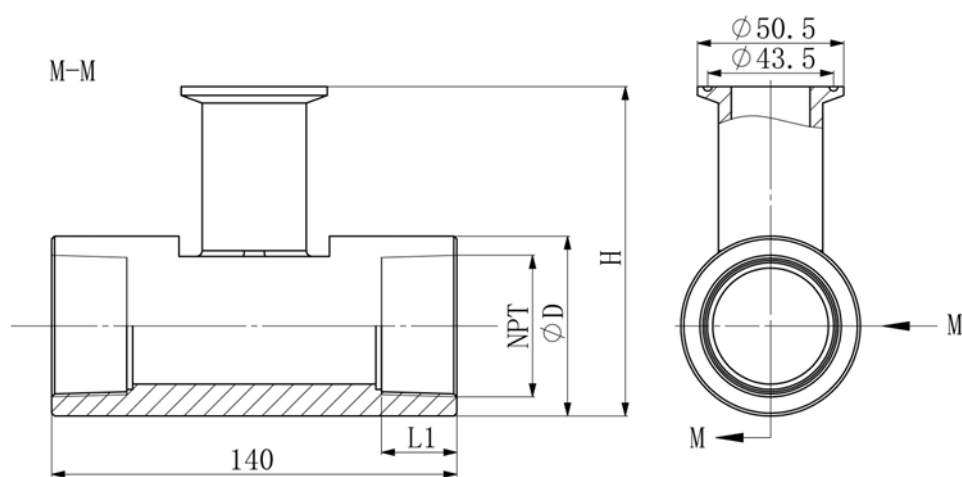
# Process Connections (con't)

## M36 X 2 Threaded Housing Connection – T Fitting with NPT Female Threads



T Fitting with NPT threads			
Inch	D	H	L1
¾	46	97	17
1	50	102	19
1 ¼	55	108	22
1 ½	62	115	26

## 1.5" Tri-Clamp Housing Connection - T Fitting with NPT Female Threads



T Fitting with NPT threads			
Inch	D	H	L1
¾	46	97	17
1	50	102	19
1 ¼	55	108	22
1 ½	62	115	26

# Build Your Part Number

## Series P75

Example: P755AA

### Series

P75

### Process Connection - *select one*

#### With Weldable Hub

4A	M36 x 2 threaded with weldable hub for T fitting or pipe sizes 2", 2 ½", 3" 4" (see page 3)
4B	1.5" Tri-Clamp with weldable hub T fitting or pipe sizes 2", 2 ½", 3" 4" (see page 3)
5A	M36 x 2 threaded with weldable hub for 6" T fitting or pipes (see page 4)
5B	1.5" Tri-Clamp with weldable hub for 6" T fitting or pipes (see page 4)

#### M36 X 2 Threaded Housing Connection with ANSI Flange Class 150, ASME B16.5

5C	¾" ANSI flange with M36 X 2 housing connection (see page 4)
5D	1" ANSI flange with M36 X 2 housing connection (see page 4)
5E	1 ¼" ANSI flange with M36 X 2 housing connection (see page 4)
5F	1 ½" ANSI flange with M36 X 2 housing connection (see page 4)
5G	2" ANSI flange with M36 X 2 housing connection (see page 4)
5H	2 ½" ANSI flange with M36 X 2 housing connection (see page 4)
5J	3" ANSI flange with M36 X 2 housing connection (see page 4)
5K	4" ANSI flange with M36 X 2 housing connection (see page 4)
5L	6" ANSI flange with M36 X 2 housing connection (see page 4)

#### 1 ½" Tri-Clamp Housing Connection with ANSI Flange Class 150, ASME B16.5

5M	¾" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5N	1" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5P	1 ¼" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5Q	1 ½" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5R	2" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5S	2 ½" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5T	3" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5U	4" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)
5V	6" ANSI flange with 1.5" Tri-Clamp sensor connection (see page 4)

#### M36 X 2 Threaded Housing Connection with NPT Female T Fitting

5W	¾" NPT female with M36 X 2 sensor connection (see page 5)
5X	1" NPT female with M36 X 2 sensor connection (see page 5)
5Y	1 ¼" NPT female with M36 X 2 sensor connection (see page 5)
5Z	1 ½" NPT female with M36 X 2 sensor connection (see page 5)

#### 1 ½" Tri-Clamp Housing Connection with NPT Female T Fitting

6A	¾" NPT female with 1.5" Tri-Clamp sensor connection (see page 5)
6B	1" NPT female with 1.5" Tri-Clamp sensor connection (see page 5)
6C	1 ¼" NPT female with 1.5" Tri-Clamp sensor connection (see page 5)
6D	1 ½" NPT female with 1.5" Tri-Clamp sensor connection (see page 5)

# Build Your Part Number

Series P75

Example: P755AB

Example: PSE35

Continued...

	Output Signals - select one (see diagrams page 2)	Supply
A	4 ... 20 mA flow output + 4 ... 20 mA temperature output	24 (19.5...28.5) VDC
B	4 ... 20 mA flow output + 4...20mA temperature output + pulse flow output + 2 X PNP switching relays Note: Relays are user programmable and can be set for flow, temperature or one of each	24 (19.5...28.5) VDC
C	4 ... 20 mA flow output + 4...20mA temperature output + pulse flow output + 2 X NPN switching relays Note: Relays are user programmable and can be set for flow, temperature or one of each	24 (19.5...28.5) VDC

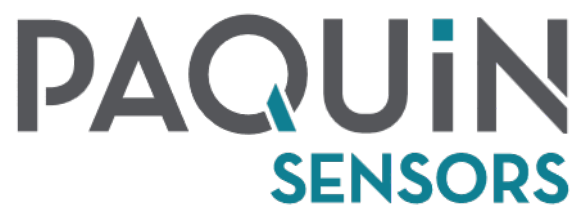
## Mating Electrical Connection Assembly - optional; will be quoted as a separate line item

Part#	
PSE1	M12x1, 5 pole - straight with cable gland (field wireable)
PSE2	M12x1, 5 pole - straight with 1 meter PUR cable
PSE3	M12x1, 5 pole - straight with 3 meter PUR cable
PSE29	M12x1, 5 pole - straight with 5 meter PUR shielded cable
PSE30	M12x1, 5 pole - straight with 10 meter PUR shielded cable
PSE31	M12x1, 8 pole - M12x1, 8 pole - straight with cable gland (field wireable)
PSE32	M12x1, 8 pole - straight with 1 meter PUR cable
PSE33	M12x1, 8 pole - straight with 3 meter PUR cable
PSE34	M12x1, 8 pole - straight with 5 meter PUR cable
PSE35	M12x1, 8 pole - straight with 10 meter PUR cable

# Technical Parameters

Technical Parameters		
<b>Measuring</b>	Flow Measuring Ranges	See below table for references
	Temperature Measuring Range	32...212°F (0...100°C)
	Applicable to Pipe Size	¾", 1", 1 ¼", 1 ½", 2", 2 ½", 3", 4", 6" (DN20, 25, 32, 40, 50, 65, 80, 100, 150)
	Accuracy	2% of full span
<b>Electrical</b>	Outputs	1 X 4...20mA flow 1 X 4...20mA temperature 1 X Pulse output flow 2 X switching outputs (NPN or PNP) Note: Relays are user programmable and can be set for flow, temperature or one of each
	Operating Voltage	24VDC ± 20%
	Operating Current	<50mA
	Electrical Connections	M12x1, 8 - pole
		M12x1, 4 - pole
	<b>Environmental</b>	Maximum Pressure Resistance
Ambient Temperature		-20...80°C (-4...176°F)
Protection Class		IP65
<b>Materials</b>	Housing	Aluminum
	Body	Stainless Steel
	Rotor	PVDF
	Display	LCD
	Process Connection Options	Thread, Tri-Clamp





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