

Paddle Wheel Flow Meter

PF100T - Flow & Temperature Output

Introduction

Medium flowing through pipe causes the spinning of the paddle wheel, and the spin of paddle wheel is proportional to the speed of the medium flowing through. The sensor above the paddle wheel detects the past of each paddle and produce a pulse, the transmitter then processes the pulse signal to obtain of flow rate.



Characteristics

3/4...6" / DN20...DN150

Cost-efficient

Compact design

Easy to install and maintain

One unit works with various size pipes.

One 4...20mA for flow

One 4...20mA for temperature

One Pulse for flow

Two switching output for flow or temperature

Applications

Hydraulic oil/lubricating

Water / water treatment

Cooling system

Braking fluid

Oil/gas

Machine manufacturing

Specifications

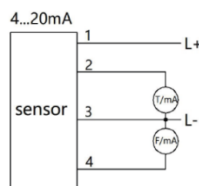
Flow measuring range	See below for details
Temperature measuring range	32...212°F (0...100°C)
Applicable to pipe size	3/4...6" (DN20...DN150)
Accuracy	2% of full span
Output	One 4...20mA for flow One 4...20mA for temperature One Pulse output for flow Two switching output for flow or temperature (NPN / PNP)
Operating voltage	24VDC ± 20%
Operating current	<50 mA
Display	LCD
Max. pressure resistance	435 psi (30 bar)
Ambient temperature	-4...176°F (-20...80°C)
Material	Housing: Aluminum Body: stainless steel Rotor: PVDF
Electrical connection	8-pin M12 x 1 1 analog (flow) + 1 analog (temperature) + 1 pulse (flow) + 2 switching (flow or temperature) 4-pin M12 x 1 1 analog (flow) + 1 analog (temperature)
Process connection	Welding Socket / Thread / Flange (see accessories for details)
Protection class	IP65

Measurable flow range

Size		Flow range	
Inch	DN	gal/min	L/min
3/4"	20	2.7...30	10...114
1"	25	4.3...46	16...176
1-1/4"	32	9...100	34...379
1-1/2"	40	10...120	40...452
2"	50	17...186	63...706
2-1/2"	65	28...315	107...1194
3"	80	43...480	163...1809
4"	100	68...750	254...2827
6"	150	151...1700	572...6361

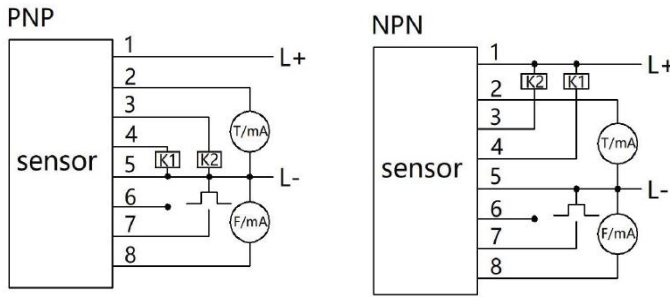
Wiring

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

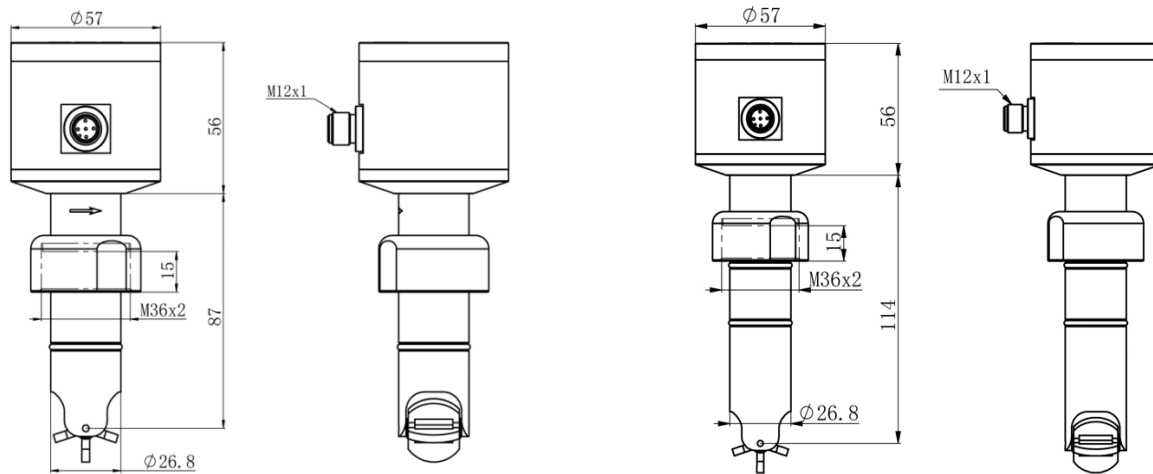
4...20mA + pulse + switching output (8-pin cable)



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

Dimension in mm

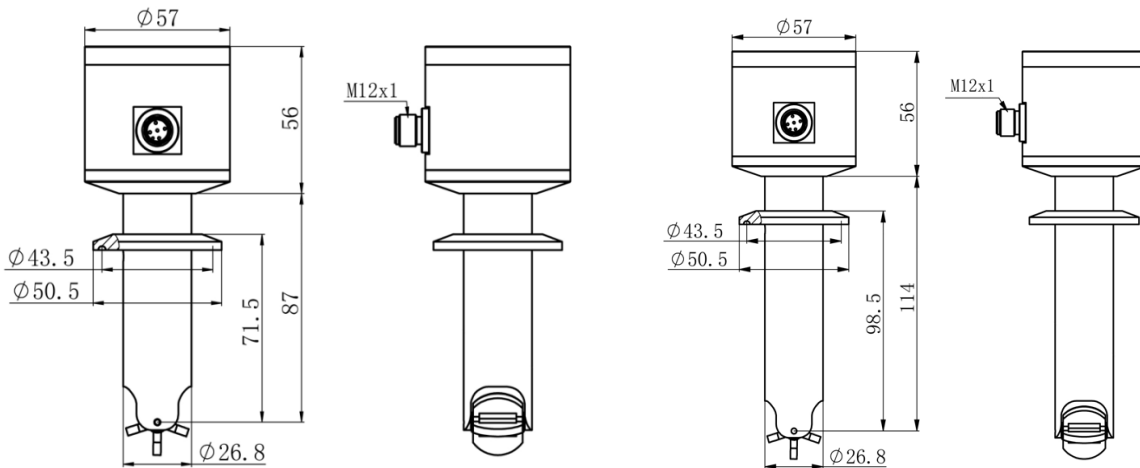
Thread(M36 x 2 coupling) connection



Pipe size: 3/4" ... 4"

Pipe size: 6"

Tri-Clamp(1.5") connection



Pipe size: 3/4" ... 4"

Pipe size: 6"

Order Code

Example: PF100T-S1TA

1. Model

PF100T- Paddle wheel flow meter with temperature output

2. Pipe size

S1 3/4"...4" (DN20...DN100)
S2 6" (DN150)

3. Connection

T Thread connection
C Tri-clamp connection

3. Output

A One 4...20mA (flow)
One 4...20mA (temperature)
P One 4...20mA (flow)
One 4...20mA (temperature)
One pulse (flow)
Two switching PNP (flow or temperature)
N One 4...20mA (flow)
One 4...20mA (temperature)
One pulse (flow)
Two switching NPN (flow or temperature)

Accessory - Cable

1. Model

ET04- 4-pin M12 x 1 cable
ET08- 8-pin M12 x 1 cable
ST04- Self-lock 4-pin M12 x 1 cable
ST08- Self-lock 8-pin M12 x 1 cable



2. Material

PU Material: PUR

3. Length

02 6.5ft / 2m (default)
05 16.5ft / 5m
10 33ft / 10m

4. Material

G Straight
W Angled

Mounting Accessory 1 - Flange Tee fittings (ASME Class 150 / EN1092-1)

1. Model

- AT001- For thread product
- AT002- For Tri-clamp product



2. Flange

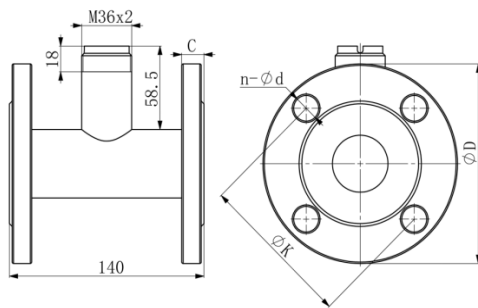
- FA ASME B16.5
- FU EN1092-1

2. Pipe size

- 20 3/4" (DN20)
- 25 1" (DN25)
- 32 1-1/4" (DN32)
- 40 1-1/2" (DN40)
- 50 2" (DN50)
- 65 2-1/2" (DN65)
- 80 3" (DN80)
- 100 4" (DN100)
- 150 6" (DN150)

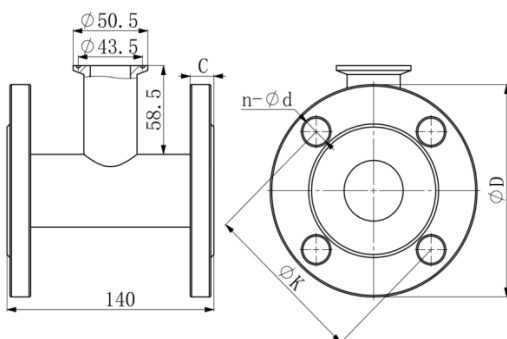
Dimensions in mm

For thread product (diagram with flange ASME-B16.5)



Inch	C	D	K	n-Ød
3/4"	13	100	70	4-Ø16
1"	14.5	110	79.5	4-Ø16
1-1/4"	16	120	89	4-Ø16
1-1/2"	17.5	130	98.5	4-Ø16
2"	19.5	150	120.5	4-Ø18
2-1/2"	22.5	180	139.5	4-Ø18
3"	24	190	152.5	4-Ø18
4"	24	230	190.5	8-Ø18
6"	25.5	280	241.5	8-Ø22

For Tri-clamp product (diagram with flange ASME-B16.5)



Inch	C	D	K	n-Ød
3/4"	13	100	70	4-Ø16
1"	14.5	110	79.5	4-Ø16
1-1/4"	16	120	89	4-Ø16
1-1/2"	17.5	130	98.5	4-Ø16
2"	19.5	150	120.5	4-Ø18
2 1/2"	22.5	180	139.5	4-Ø18
3"	24	190	152.5	4-Ø18
4"	24	230	190.5	8-Ø18
6"	25.5	280	241.5	8-Ø22

Mounting Accessory 2 - Tee fittings (Thread 3/4" ...1-1/2")

1. Model

- NT001- For thread product
- NT002- For Tri-clamp product



2. Thread

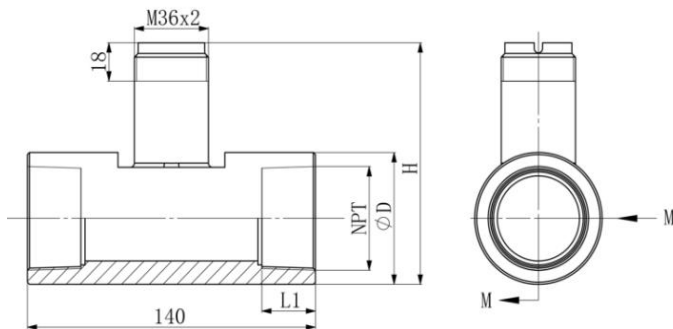
- NM NPT male thread
- NF NPT female thread
- GM G male thread
- GF G female thread

3. Pipe size

- 20 3/4" (DN20)
- 25 1" (DN25)
- 32 1-1/4" (DN32)
- 40 1-1/2" (DN40)

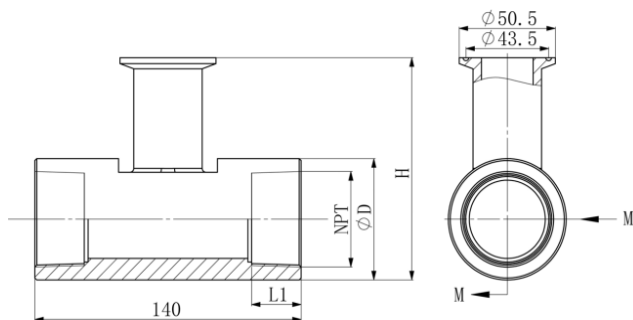
Dimensions in mm

For thread product



Inch	L1	ØD	K
3/4"	17	46	97
1"	19	50	102
1-1/4"	22	55	108
1-1/2"	26	62	115

For Tri-clamp product



Inch	L1	ØD	K
3/4"	17	46	97
1"	19	50	102
1-1/4"	22	55	108
1-1/2"	26	62	115

Mounting Accessory 3 - Welding socket (for pipe size 1-1/2" ... 6")

1. Model

- WS001- For thread product
- WS002- For Tri-clamp product

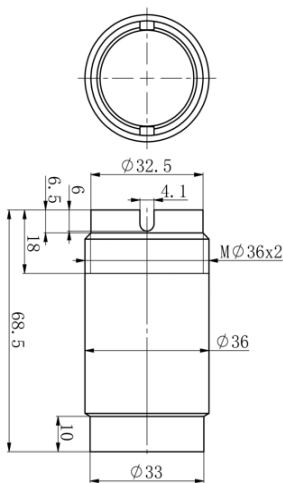
2. Pipe size

- S1 1-1/2" ... 4" (DN40 ... DN100)
- S2 6" (DN150)

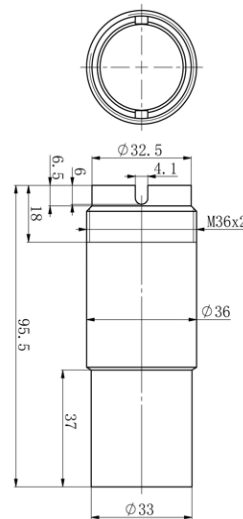


Dimensions in mm

For thread product

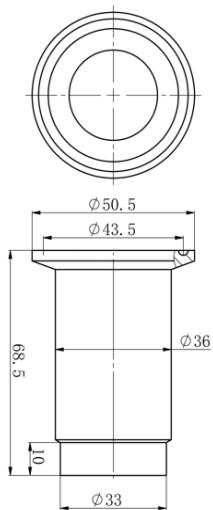


Pipe size: 1-1/2" ... 4"

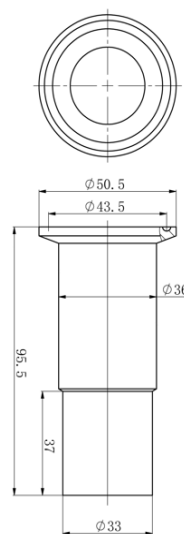


Pipe size: 6"

For Tri-clamp product



Pipe size: 1-1/2" ... 4"



Pipe size: 6"