

# JRU CONTROL PVT LTD

(FORMERLY PLACKA INSTRUMENTS & CONTROLS PVT LTD)

An ISO 9001:2000  
COMPANY

## TYPE PMTR - 3

METAL TUBE Variable Area Flow Meter



QMS 009

Reg No: RC91/4527

## DESCRIPTION

The Type PMTR variable area flow meter is designed for measurement of small and large flow rate of fluids that are transparent as well as opaque. The conical metal metering tube has a guiding float. The flow is indicated by a needle and can be read from standard scale on the indicator box. Models can be fitted with switches for low & high flows. Models can be also be fitted with electrical signal output 4 to 20mA with hart communication.

## FEATURES

- ❖ Direct Flow Indication
- ❖ Wide selection of measuring ranges
- ❖ High accuracy even at high flow rates
- ❖ Low pressure loss
- ❖ Non – Powered local indication
- ❖ Measuring section of rugged all – metal construction.
- ❖ Tapered Measuring tube
- ❖ Resistance to extreme chemical, mechanical & thermal loss.
- ❖ Option Built – in valve.



## APPLICATION

## PMTR- 3

The type PMTR is an ideal for any application that requires flow measuring of either gas or liquid.

- ❖ Fine metering and gas chromatography
- ❖ For on – line flow measurement
- ❖ For very High pressure fluid system monitoring.
- ❖ For very High Temperature fluid system monitoring.

## PRINCIPLE OF OPERATION

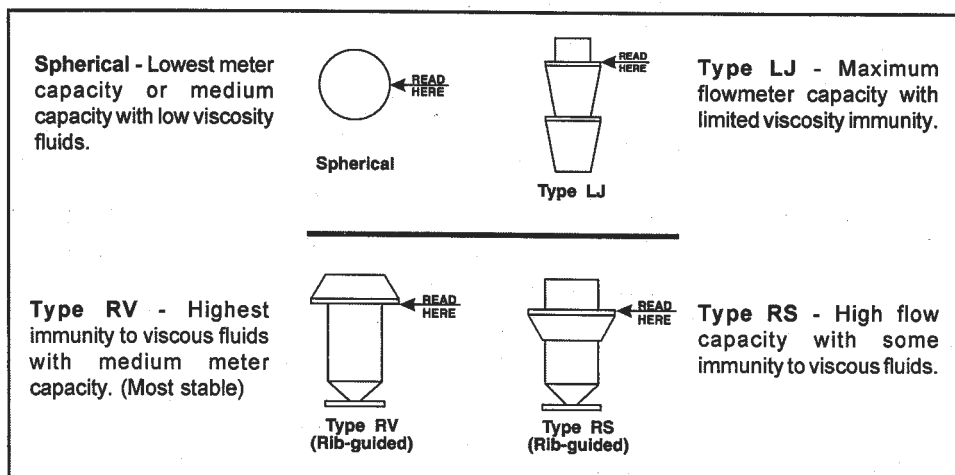
The type PMTR is made of stainless steel continuously tapered tube. The outlet will be of larger diameter than inlet and the plummet / float is designed so that it occupies almost all the total tube area when it is at the small end of the tube. As the fluid is allowed into the tube, the float will be pushed up until the differential pressure across the float results in a force under it that is just equal to the effective weight of the float. The effective weight is equal to the weight of the float minus the buoyant force of the fluid being measured. For a given fluid and a particular plummet, the effective weight is constant. Since the effective weight is constant, the differential pressure across the plummet is constant. As the flow rate changes, the annular area must change to accommodate the various flow rates. Since variable in area, the position of the float within the length of the tube can be used as a measure of the flow for a given tube. Hence the float position can be used to determine flow. The float is coupled with the indicator needle by magnet thus a non – contact transfer of the flow indication takes place.

**TABLE - 1**

S.No	Model No	End Con. size NB	CONE	FLOAT TYPE	Water inLPM	Air in SCFM	Air in NM3/HR	Pressure Drop kg /cm2
1	PMTR-3-15-W-0.5	DN 15 1/2"	JC 15.1	JFT - 3 - 15	0.05 -0.5	0.06 - 0.6	0.1 - 1	0.1
2	PMTR-3-15-W-0.7	DN 15 1/2"	JC 15.2	JFT - 3 - 15	0.7 -0.7	0.08 - 0.8	0.15 - 1.5	0.1
3	PMTR-3-15-W-1.1	DN 15 1/2"	JC 15.3	JFT - 3 - 15	0.11-1.1	0.12 -1.2	0.22 - 2.2	0.1
6	PMTR-3-15-W-1.8	DN 15 1/2"	JC 15.4	JFT - 3 - 15	0.18 -1.8	0.2 -'2.0	0.36 - 3.6	0.1
4	PMTR-3-15-W-2.1	DN 15 1/2"	JC 15.5	JFT - 3 - 15	0.21 -2.1	0.23 -2.3	0.42 - 4.2	0.15
5	PMTR-3-15-W-3.0	DN 15 1/2"	JC 15.6	JFT - 3 - 15	0.30 -'3.0	0.33 - 3.3	0.60 - 6.0	0.15
7	PMTR-3-15-W-4.2	DN 15 1/2"	JC 15.7	JFT - 3 - 15	0.42 - 4.2	0.47 -4.7	0.85 - 8.5	0.15
8	PMTR-3-15-W-5.5	DN 15 1/2"	JC 15.8	JFT - 3 - 15	0.50 -'5.0	0.55 - 5.5	1.0 - 10	0.2
9	PMTR-3-20-W-7.0	DN 20 3/4"	JC 20.1	JFT - 3 - 20	0.70 -7.0	0.77 -7.7	1.4 - 14	0.2
10	PMTR-3-20-W-11.5	DN 20 3/4"	JC 20.2	JFT - 3 - 20	0.115 -11.5	0.127 -12.7	2.3 - 23	0.3
11	PMTR-3-20-W-17.5	DN 20 3/4"	JC 20.3	JFT - 3 - 20	0.175 - 17.5	0.19 -'19.0	3.5 - 35	0.3
12	PMTR-3-25-W-25	DN 25 1"	JC 25.1	JFT - 3 - 25	0.250 - '25.0	0.275 -27.5	5.0 - 50	0.3
13	PMTR-3-25-W-40	DN 25 1"	JC 25.2	JFT - 3 - 25	0.40 -'40.0	0.44 -'44.0	8.0 - 80	0.40
14	PMTR-3-25-W-50	DN 25 1"	JC 25.3	JFT - 3 - 25	0.50 -'50.0	0.55 -'55.0	10.0 - 100	0.40
15	PMTR-3-40-W-60	DN 40 11/2"	JC 40.1	JFT - 3 - 40	0.60 -'60.0	0.66 -'66.0	12.0 - 120	0.45
16	PMTR-3-40-W-75	DN 40 11/2"	JC 40.2	JFT - 3 - 40	0.75 -'75.0	0.825 -82.5	15.0 - 150	0.45
17	PMTR-3-40-W-90	DN 40 11/2"	JC 40.3	JFT - 3 - 40	0.90 -'90.0	0.99 -'99.0	18.0 - 180	0.50
18	PMTR-3-50-W-100	DN 50 2"	JC 50.1	JFT - 3 - 50	0.100 - '100.0	0.110- '110.0	20.0 - 200	0.55
19	PMTR-3-50-W-125	DN 50 2"	JC 50.2	JFT - 3 - 50	0.125 -'125.0	0.137 -137.5	25.0 - 250	0.60
20	PMTR-3-80-W-150	DN 80 3"	JC 80.1	JFT - 3 - 80	0.150 -'150.0	0.165 -'165.0	30.0 - 300	0.60
21	PMTR-3-80-W-175	DN 80 3"	JC 80.2	JFT - 3 - 80	0.175 -'175.0	0.192 -192.5	35.0 - 350	1
22	PMTR-3-80-W-200	DN 80 3"	JC 80.3	JFT - 3 - 80	0.200 -'200.0	0.220 -'220.0	40.0 - 400	1
23	PMTR-3-80-W-225	DN 80 3"	JC 80.4	JFT - 3 - 80	0.225 - 225.0	0.247 - 247.0	45.0 - 450	1.5
24	PMTR-3-80-W-250	DN 80 3"	JC 80.5	JFT - 3 - 80	0.250 - 250.0	0.275 - 275.0	50.0 - 500	1.5
25	PMTR-3-80-W-300	DN 80 3"	JC 80.6	JFT - 3 - 80	0300 - 300.0	0.330 - 330.0	60.0 - 600	2
26	PMTR-3-80-W-325	DN 80 3"	JC 80.7	JFT - 3 - 80	0.325 - 325.0	0.357 - 357.0	65.0 - 650	2
27	PMTR-3-80-W-350	DN 80 3"	JC 80.8	JFT - 3 - 80	0.350 - 350.0	0.385 - 385.0	70.0 - 700	3

• Air flow is based on Temperature & pressure, the value indicated is an approx. conversation.

## CONE SHAPES

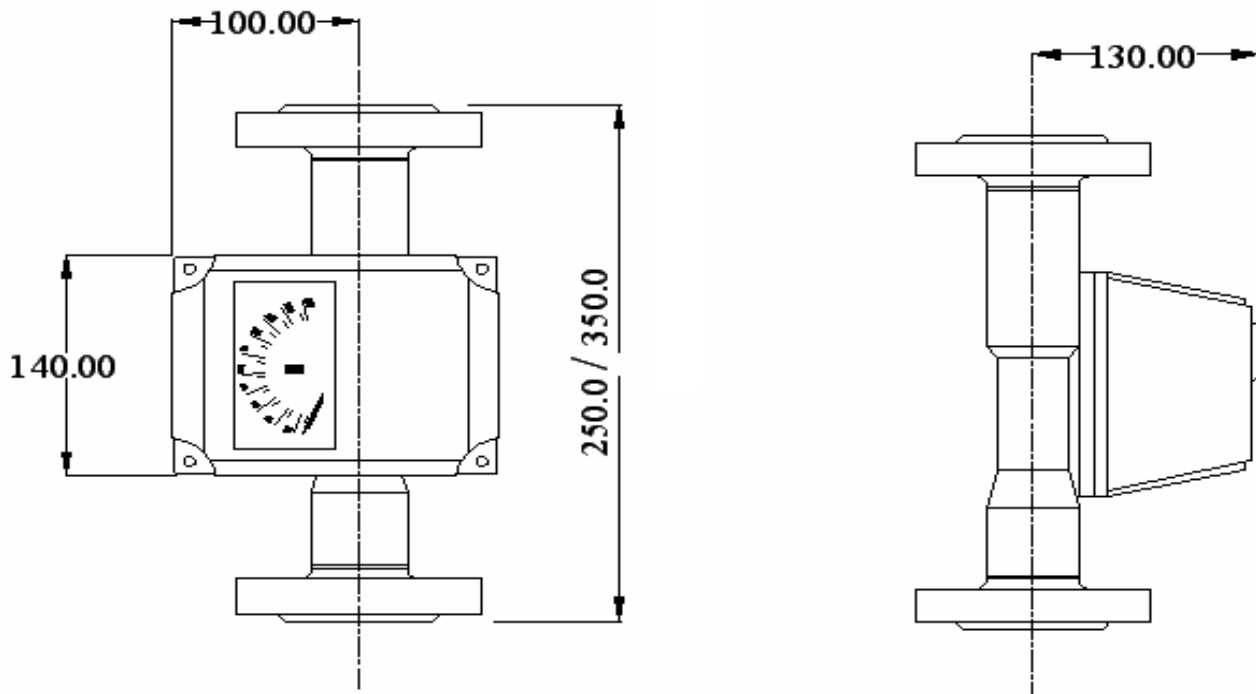


## STANDARD SPECIFICATION

MAX. PRESSURE	60Kg/Sq.cm
INSTALLATION POSITION	Vertical, flow from bottom
TURN – DOWN RATIO	10: 1
ACCURACY	Category 2.5 (As per VDI / VDE 3513 ( $\pm 2\%$ of FSD) / 1.6 ( $\pm 1\%$ of FSD)
MAX. TEMPERATURE	200 °C
END CONNECTION SIZE	Refer table
END CONNECTION MATERIAL	Stainless Steel / Carbon Steel
MEASURING TUBE	Stainless Steel
FLOW ADJ. VALVE (NEEDLE VALVE)	Brass or Stainless Steel (STEM only SS)
GASKET / 'O' RING	Nitrile / Neoprene / PTFE
FRONT SHIELD	Clear Plastic/ Polycarbonate / Glass
INDICATOR BOX	Aluminum (for ex – proof) / SS with CS cover for Non – Ex Proof / ABS Plastic Cover with Aluminum Back plate also Available on request.
FLOAT MATERIAL	Stainless Steel
SCALE LENGTH	100 mm (Approx.)
PROTECTION CATEGORY	I P 65, equivalent to NEMA 1 & 2

FOR PMTR – 3 WITH NEEDLE VALVE THE MODEL NO TO BE READ AS PMTR – 3N IN THE TABLE - 1

## MOUNTING DETAILS



## A BRIEF PROFILE:

The company JRU CONTTROL (formerly placka instruments & control pvt ltd) was started in the year 1984. It is located 25 km from Chennai airport by the main grand trunk road. It has a land area of 2.5 acres with a built-up area of 10,000sq.ft. The products manufactured are Air Filter Regulator, Lubricator, Air Lock-up relay, Volume Booster, orifice plates, High Flow & Metal Tube Rotameters, Electronic & Pneumatic Level transmitters & Displacement Type Level transmitter. The Factory is equipped with all modern testing facilities for inspection, measuring and testing for quality control.. The products are approved by EIL, BHEL, DAE, ONGC, HPCL, BPCL, IPCL, CPCL, BALCO, NALCO, GSFC , NPCL AND many more. We are an ISO 9001:2000 company. We adhere to strict quality systems.

## OUR OTHER PRODUCTS



**PRECISION AIR REGULATOR**



**MIDI AFR**



**AIR VOLUME BOOSTER**



**FRL'S**

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