

FLOW METERS • VARIABLE AREA

Metal Tube Float (Rotor) Flowmeter

II-FM-001

Variable area



Full specification, variants, open points and ordering information. Variable-area flow measurement for almost any liquid or gas, including low flow and high-temperature media.

ENQUIRIESinfo@indianainstrutech.com

+91 75033 02545

+91 92893 62447

ISSUED

24 October 2026

Metal Tube Float (Rotor) Flowmeter

Indiana catalogue ID **II-FM-001** Flow Meters · Variable area

IDENTIFICATION

Product	Metal Tube Float (Rotor) Flowmeter
Indiana catalogue ID	II-FM-001
Category	Flow Meters · Variable area
Measuring principle	Variable area
Model line	DN10 – DN200
Document	Specification · issued 24 October 2026

01 Range and sizing

Standard diameters	DN15, DN25, DN50, DN80, DN100, DN150
Non-standard diameters	DN10, DN20, DN32, DN40, DN65, DN125, DN200
Measurement range — water	1 to 200,000 L/h
Measurement range — air	0.03 to 3,000 m ³ /h at 20 °C, 0.1013 MPa
Turndown ratio	10:1; 20:1 for the special type
Accuracy class	1.5; 1.0 for the special type

02 Process conditions

Pressure rating — flange, DN10 to DN50	≤4.0 MPa, maximum 32 MPa
Pressure rating — flange, DN65 to DN150	≤1.6 MPa, maximum 16 MPa
Pressure rating — flange, DN200	≤1.0 MPa, maximum 10 MPa
Pressure rating — hub connection	≤4.0 MPa
Medium temperature — normal type	–20 °C to 100 °C
Medium temperature — high temperature type	100 °C to 450 °C
Medium temperature — PTFE type	0 °C to 80 °C
Ambient temperature — local type	–30 °C to 120 °C
Ambient temperature — remote type	–20 °C to 80 °C
Medium viscosity — DN15	$\eta < 5 \text{ mPa}\cdot\text{s}$
Medium viscosity — DN25	$\eta < 250 \text{ mPa}\cdot\text{s}$

Medium viscosity — DN50 to DN150 $\eta < 300 \text{ mPa}\cdot\text{s}$

03 Connection and electrical

Flange connection standards	GB/T9112, HG 20592, DIN2501, ANSI, JIS, SH3406
Other connections	Tri-clamp, SMS clamp, threaded, clamp, hose
Power supply	12–36 V DC, 4–20 mA two-wire; 220 V AC 50 Hz; battery power supply for continuous use
Output load	500 Ω when powered at 24 V
Cable interface	M20 $\times$ 1.5; NPT; G thread
Protection rating	IP65
Communication	Supports all standard HART protocol software and hand controllers

04 Materials and construction

Measuring tube material	1Cr18Ni9Ti / 304 · 0Cr18Ni12Mo2Ti / 316 · 316L · PTFE lined · Hastelloy C · Titanium alloy
Additional structure	Damping type · clamp-on type · high-temperature modification · high-pressure type · HART communication
Indicator options	On-site indicator with no output · smart indicator 4–20 mA square, intrinsically safe Exia II CT3–6 · smart indicator 4–20 mA circular, explosion-proof Exd I CT4–6
Alarm control	Upper limit · lower limit · upper and lower limit
Supply voltage options	24 V DC · 220 V AC · 3.6 V lithium battery

05 Dimensions — vertical, local and intrinsically safe

A (mm) by DN15 / 25 / 50 / 80 / 100 / 150 / 200	215 / 225 / 250 / 265 / 275 / 365 / 395
B (mm) by DN15 / 25 / 50 / 80 / 100 / 150 / 200	150 / 150 / 155 / 210 / 230 / 285 / 345
Weight (kg) by DN15 / 25 / 50 / 80 / 100 / 150 / 200	5 / 7 / 10 / 16.5 / 18 / 36 / 51
Standard height	250 mm, minimum 200 mm; custom heights on request

06 Dimensions — vertical, flameproof

A (mm) by DN15 / 25 / 50 / 80 / 100 / 150 / 200	155 / 175 / 215 / 265 / 290 / 320 / 400
B (mm) by DN15 / 25 / 50 / 80 / 100 / 150 / 200	235 / 245 / 270 / 285 / 295 / 390 / 420

Weight (kg) by DN15 / 25 / 50 / 80 / 100 / 150 / 200 5 / 7 / 10 / 16.5 / 18 / 36 / 51

07 Tables

FLOW RANGES BY BORE AND FLOAT

BORE	FLOAT CODE	WATER, STAINLESS STEEL FLOAT (L/H)	WATER, PTFE OR TI FLOAT (L/H)	AIR (M ³ /H)
DN15	S15.0 – S15.10	10 – 1,000	25 – 400	0.5 – 30
DN25	S25.0 – S25.9	1,000 – 10,000	600 – 3,000	30 – 300
DN50	S50.0 – S50.6	6,000 – 25,000	4,000 – 16,000	180 – 750
DN80	S80.0 – S80.4	25,000 – 60,000	16,000 – 40,000	750 – 1,800
DN100	S100.0 – S100.3	60,000 – 125,000	40,000 – 100,000	1,800 – 3,000
DN150	S150.1 – S150.2	130,000 – 160,000	100,000 – 130,000	4,000
DN200	S200.1 – S200.2	165,000 – 200,000	135,000 – 170,000	—

08 Installation

- 01 Vertical installation is the most widely used configuration, usually bottom-inlet to top-outlet. Horizontal spring and horizontal T-type installations are also available.
- 02 Straight pipe requirement: inlet 5 times the nominal diameter, outlet 250 mm.
- 03 Where the medium contains ferromagnetic material, fit a magnetic filter at the flowmeter inlet — diameter height 100 mm up to DN100, 150 mm above DN100. For non-ferromagnetic impurities, fit a filter at the inlet.
- 04 Keep the instrument more than 300 mm away from ferromagnetic metal material and away from strong magnetic fields.
- 05 Remove the buffer paper pad at the inlet end before installation.
- 06 Open the valve slowly. Opening it quickly drives the float into the stopper and can damage the instrument.
- 07 Clean the sensor interior periodically — impurities or ferromagnetic material adsorbed on the float will stick it or spoil accuracy.
- 08 Keep the relative position of sensor and indicator unchanged; changing it directly affects measurement accuracy.
- 09 Store at –40 to +55 °C, protected from rain, snow, direct exposure and corrosive media.

09 Applications and industries

APPLICATIONS

- Low flow rate and small flow measurement
- High temperature and high pressure media
- Liquid and gas flow across process lines
- Hygienic service with tri-clamp or SMS connections

INDUSTRIES

- Petroleum
- Chemical
- Steel and metallurgy
- Pharmaceutical water production
- Environmental protection

10 Views



PRIMARY VIEW Metal tube float flowmeters in vertical and horizontal flanged configurations with local indicators
Product photograph



ALTERNATE VIEW Metal tube float flowmeter with flanged connections and local indicator
Product photograph



APPLICATION Gate valves and flanged pipework in a pumping station — illustrative environment, not an installation of this product
Illustrative scene

11 Ordering

Quote reference	II-FM-001
Model / variant options	DN10 · DN15 · DN20 · DN25 · DN32 · DN40 · DN50 · DN65 · DN80 · DN100 · DN125 · DN150 · DN200
Lead time, terms, documentation	Confirmed in the quotation

TO PREPARE A QUOTATION WE NEED

- Line size and connection standard
- Medium — liquid or gas — with density and viscosity

- Flow range required, minimum and maximum
- Operating pressure and temperature
- Structural style — bottom-in top-out, side-in side-out, and so on
- Measuring tube material
- Indicator type and hazardous-area requirement
- Alarm contacts required
- Supply voltage — 24 V DC, 220 V AC or lithium battery

TELEPHONE

+91 75033 02545
+91 92893 62447

EMAIL

info@indianainstrutech.com

QUOTATION

List the product, ID and quantity; add process conditions. We reply with a quotation.

CONFIRM BEFORE ORDERING

- Pressure loss values and float selection should be confirmed against the actual medium, density and viscosity before ordering.

Water and air figures are the maximum flow for each float code at 0.1013 MPa absolute and 20 °C. Pressure loss figures in the manual should be checked against the application; low pressure loss requires negotiation with the manufacturer.

INDIANA INSTRUTECH · Metal Tube Float (Rotor) Flowmeter — operating instruction Values are reproduced from the source documentation as stated there; where a source gives two different values for the same property, both are shown with their source. Unstated values are listed under “Open points”. This document is not a certificate, and no approval, certification or hazardous-area suitability is implied. INDIANA SALES (INDIANA INSTRUTECH) · info@indianainstrutech.com · +91 75033 02545 · +91 92893 62447 · issued 24 October 2026.