WISE AIR 4.0®
MEASURE TO MANAGE

2026 · PRODUCT BROCHURE

Flow Sensors

WAFS-103

Pitot Tube Flow Meter

DIFFERENTIAL PRESSURE · INSERTION TYPE

Flow, pressure and temperature from one insertion probe — built for wet compressed air and high velocities.

Flow | Velocity | Consumption | Pressure | Temperature



5–300
Nm/s velocity range

±1 %
of reading + 0.3 % FS

0–16 bar
integrated pressure

DN25–300
pipe sizes

OVERVIEW

One probe. Every number your compressed air system needs.

The WAFS-103 measures compressed air flow by differential pressure across a Pitot probe and reads line pressure and temperature at the same point. It is designed for the places other flow meters struggle: wet air straight after the compressor's first separator, and very high velocities in undersized headers. Install it under pressure through a ½" ball valve, read the values on its colour touch display, and send them to your PLC or to WiseAir's WASM-604 monitoring platform.



MEASURES

- Flow
- Velocity
- Consumption
- Pressure
- Temperature

Wet-air capable

Heated anti-condensation design keeps the probe dry, so it measures reliably on wet compressed air.

Three values, one probe

Flow, line pressure and temperature from one installation point — no separate pressure transmitter needed.

Hot-tap installation

Fit and remove through a ½" ball valve without shutting down or depressurising the line.

5 to 300 Nm/s

A 60:1 range that covers start-up, base load and peak demand in DN25 to DN300 pipes.

Touch display and logger

2.8" colour touch screen, on-board logging of up to 10 million values and CSV export via micro USB.

Ready to connect

RS485 Modbus RTU, isolated 4–20 mA and pulse output as standard, plus Bluetooth for set-up from the WiseAir 4.0 app.

APPLICATIONS

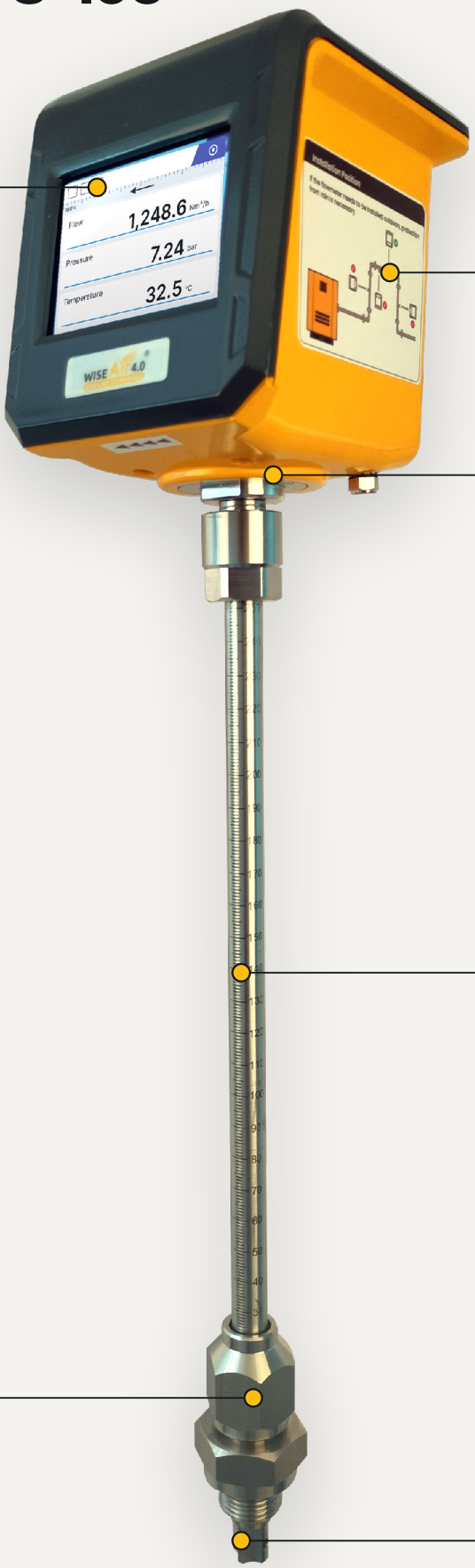
- Compressor output and FAD measurement
- Consumption by line, department or machine
- Leakage and non-productive demand assessment
- Peak and average demand profiling
- Temporary or permanent energy audits
- Nitrogen, oxygen, CO_2, argon and other technical gases

FLOW REFERENCE

Report flow as FAD, standard or normal — you set the reference temperature and atmospheric pressure (default 20 °C, 100 kPa).

PRODUCT ANATOMY

Inside the WAFS-103



2.8" colour touch display
Flow, pressure and temperature at a glance. Built-in logger, up to 10 million values.

Bluetooth set-up
Configure and read the meter from the WiseAir 4.0 Android app.

Heated anti-condensation design
Keeps the probe dry on wet compressed air for stable readings.



REAR CONNECTIONS

1. **M12 A** Power 18–30 VDC + RS485 Modbus RTU
2. **M12 B** Isolated 4–20 mA + pulse output
3. **Micro USB** Export logged data as CSV

250 or 400 mm stainless shaft
Set the tip to the pipe centre in DN25 to DN300 pipes.

Anti-ejection G ½" fitting
Fit and remove under pressure through a ½" ball valve.

Pitot measuring head
Differential pressure, line pressure and temperature measured at one point.

TECHNICAL DATA

Specifications

MEASUREMENT

Principle	Differential pressure (Pitot tube), insertion, anti-condensation
Velocity range	5 ... 300 Nm/s
Pressure range	0 ... 16 bar
Process temperature	−40 ... +200 °C; up to 390 °C on request
Measured values	Flow, velocity, consumption, pressure, temperature
Flow reference	FAD, standard or normal (user-set T and P)

ACCURACY

Flow	±(1 % of reading + 0.3 % FS)
Pressure	±0.5 % FS
Temperature	±0.5 °C

MEDIA

Gases	Air, N_2, O_2, CO_2, Ar, He, H_2, N_2O, natural gas
Condition	Wet and dry compressed air

OUTPUTS AND INTERFACE

Digital	RS485, Modbus RTU
Analogue	4–20 mA, isolated
Pulse	Consumption pulse, settable volume
Set-up	Touch screen; Bluetooth (WiseAir 4.0 Android app)

DISPLAY AND LOGGING

Display	2.8" colour LCD, touch panel
Data logger	Up to 10,000,000 values; CSV via micro USB

POWER AND ENVIRONMENT

Supply	18 ... 30 VDC
Consumption	6.5 W; 24 W with anti-condensation active
Ambient	−20 ... +60 °C, indoor
EMC	IEC 61326-1

MECHANICAL

Shaft length	250 mm (-A) or 400 mm (-B)
Process connection	G ½"
Electrical connection	2 × M12, 5-pin, female
Calibration interval	Every 2 years

FLOW
±1 %
of reading + 0.3 % FS

PRESSURE
±0.5 %
of full scale

TEMPERATURE
±0.5 °C

Calibration Every meter is calibrated before dispatch and ships with a calibration certificate. NABL-accredited certificate available as an option.

SIZING AND INSTALLATION

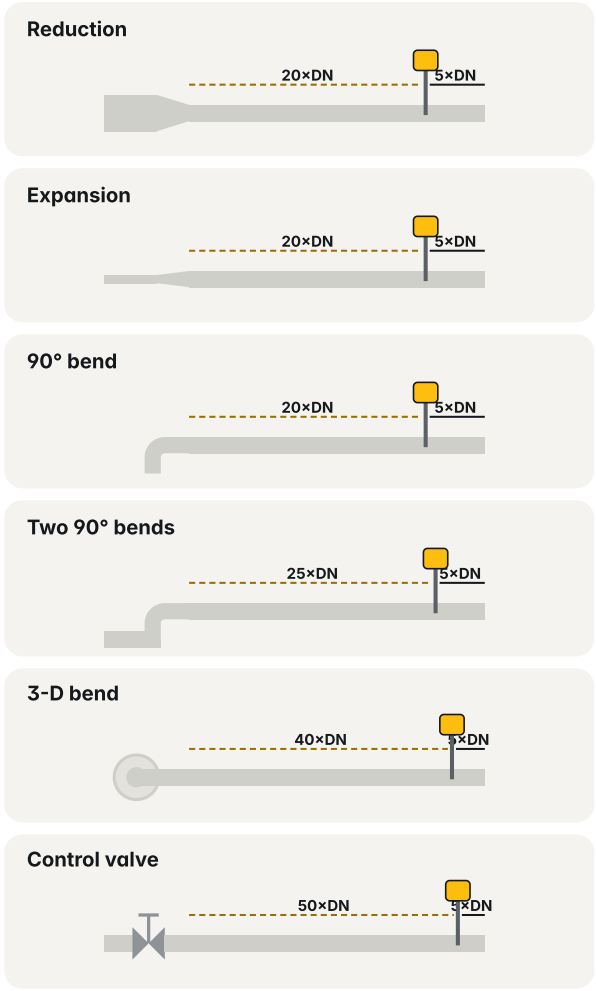
Choose the size. Fit it right.

Flow range by pipe size (nominal ID, normal conditions)

PIPE	DN	MIN NM³/H	MAX NM³/H	MAX CFM
1"	25	8.8	**530**	312
1¼"	32	14.5	**868**	511
1½"	40	22.6	**1,357**	799
2"	50	35.3	**2,120**	1,248
2½"	65	59.7	**3,583**	2,109
3"	80	90.5	**5,428**	3,194
4"	100	141	**8,482**	4,992
5"	125	221	**13,253**	7,799
6"	150	318	**19,085**	11,232
8"	200	566	**33,929**	19,967
10"	250	884	**53,014**	31,199
12"	300	1,272	**76,340**	44,926

Minimum at 5 Nm/s, maximum at 300 Nm/s, from nominal pipe ID.

Minimum straight pipe runs



Inlet (before) and outlet (after) lengths in multiples of pipe diameter DN.

1

Choose the point

Straight horizontal pipe, after the first filter or separator on wet air.

2

Fit the valve

Weld a G ½" nipple and fit the ½" ball valve (bore ≥ 13 mm).

3

Insert and align

Set the tip to pipe centre and align the flow arrow.

4

Connect and go

Plug in the M12 cable; WiseAir supports remote commissioning.

ORDERING INFORMATION

WAFS-103-A	Pitot tube flow meter with pressure and temperature, 250 mm shaft, 5 … 300 Nm/s, Modbus RTU / 4–20 mA / pulse, Bluetooth
WAFS-103-B	As WAFS-103-A, with 400 mm shaft for larger pipes
WAFS-103-DB	Bi-directional version, 400 mm shaft, 2.5" LCD display — details on request

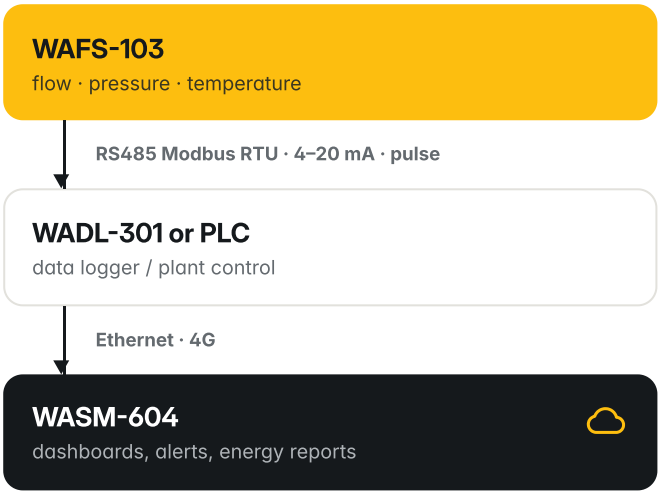
OPTIONS AND ACCESSORIES

High-temperature version	Process temperature up to 390 °C
NABL calibration certificate	Accredited calibration, optional extra
Y-type M12 splitter	Several sensors on one RS485 bus
WADL-301 data logger	Collects data from several WiseAir sensors
WASM-604 Smart Monitoring	Online dashboards, analysis and reports

IN THE BOX

- WAFS-103 flow meter
- M12 connection cable, 2 m
- Stainless-steel nipple and ½" ball valve
- Connection spanner
- Calibration certificate
- User manual

CONNECT TO WISEAIR 4.0



WISEAIR 4.0 MEASURE TO MANAGE

Make every cubic metre count.

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