WISE AIR 4.0®
MEASURE TO MANAGE

2026 · PRODUCT BROCHURE

Liquid Flow Meters

WUFS-904

Ultrasonic Flow Meter

CLAMP-ON · TRANSIT TIME

Measure liquid flow from the outside of the pipe — no cutting, no shutdown, no pressure loss.

Flow | Velocity | Consumption | Heat energy





±1 %
of reading

0.03–12
m/s, both directions

DN15–1200
pipe sizes

IP68
sealed transducers

OVERVIEW

Know the flow without touching the pipe.

The WUFS-904 measures the flow of liquids in full pipes by the transit-time ultrasonic method. Two matched transducers clamp onto the outside of the pipe and send pulses with and against the flow; the time difference gives the velocity, and the transmitter calculates flow and totals from the pipe data you enter. Nothing is cut, nothing enters the liquid and the process keeps running. One transmitter covers pipes from DN15 to DN1200. Read the values on the backlit display, or send them to your PLC, SCADA or WiseAir's WASM-604 monitoring platform. An optional RTD module turns it into a heating and cooling energy meter.



MEASURES

- Flow
- Velocity
- Consumption
- Heat energy

No pipe cutting

Transducers clamp onto the outside of the pipe. No cutting, no pressure drop, no process shutdown.

DN15 to DN1200

One transmitter for small and large pipes. Choose the transducer pair for your pipe size and temperature.

Sealed IP68 transducers

Encapsulated transducers with integrated double-shielded cable, supplied as matched pairs within 2 ns.

Bidirectional totals

Positive, negative and net totals in parallel, plus daily, monthly and yearly history stored in the meter.

Every output you need

4–20 mA, pulse/frequency, relay, RS485 Modbus RTU and RS232 — ready for PLC, SCADA or WASM-604.

Energy metering option

Add the RTD module and a PT1000 sensor pair to measure heating and cooling energy.

APPLICATIONS

- Cooling tower and chiller water
- Process and utility water
- Purified and RO water
- Water treatment and effluent lines
- Water balance checks on existing pipes
- Heating and cooling energy metering

LIQUIDS ONLY

For homogeneous liquids in completely full pipes. For compressed air and gases, use a WiseAir thermal mass flow sensor.

PRODUCT ANATOMY

Inside the WUFS-904

240 × 128 backlit LCD
Flow, velocity, totals and signal status in numbered menu windows.

Membrane keypad
Enter pipe data and settings directly; lock them with a 6-digit password.

Four cable glands
Power, transducers, analogue, pulse, relay and RS485 wiring.

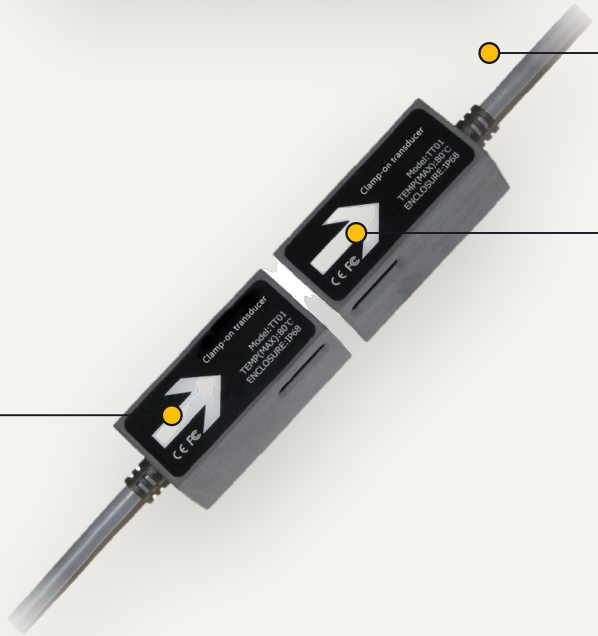


IP65 wall-mount housing
PC/ABS enclosure for indoor or sheltered wall mounting.

Double-shielded cable
5 m as standard, extendable up to 300 m.

Flow-direction arrows
Mount both transducers with the arrows pointing in the flow direction.

Matched transducer pair
Sealed IP68, pair matching ≤ 2 ns, for V or Z mounting.



TECHNICAL DATA

Specifications

MEASUREMENT

Principle	Transit-time ultrasonic, clamp-on (insertion optional)
Velocity range	±0.03 … ±12 m/s, bidirectional
Accuracy	±1 % of reading
Repeatability	0.2 % of reading
Linearity	±1 %
Pipe size	DN25 … DN1200; DN15 … DN40 with small-pipe pair
Medium	Homogeneous liquids, pipe completely full

PIPE MATERIALS

Metals	Carbon steel, stainless steel, cast and ductile iron, copper, aluminium
Non-metals	PVC, fibreglass, asbestos cement; lined pipes

OUTPUTS AND COMMUNICATION

Analogue	4–20 mA (0–20 / 0–4–20 mA), max. 750 Ω
Pulse / frequency	Open collector, 0 … 10 kHz
Relay	1 × alarm or totaliser pulse
Digital	RS485 Modbus RTU (up to 1000 m); RS232

TRANSMITTER

Supply	90 … 245 VAC or 10 … 36 VDC — specify at order
Display	240 × 128 backlit LCD, membrane keypad
Housing	PC/ABS, IP65, wall mounting
Ambient	−20 … +60 °C, ≤ 99 % RH non-condensing

TRANSDUCERS

Standard clamp-on	−40 … +80 °C
High-temperature	−40 … +130 °C or −40 … +180 °C
Insertion (hot-tap)	−40 … +130 °C
Small-pipe pair	DN15 … DN40, up to 70 °C
Construction	Encapsulated, IP68, matched ≤ 2 ns
Cable	Double-shielded, 5 m standard, 300 m max.

DATA AND ENERGY

History	Net totals: 31 days, 12 months, 6 years
Data memory	Micro SD (option), logging every 1 … 3600 s
Energy option	RTD module + PT1000 pair; heat and cool totals

FLOW
±1 %
of reading

REPEATABILITY
0.2 %
of reading

TRANSDUCERS
≤ 2 ns
pair matching

Quality Every meter is tested before dispatch. Transducers are supplied as matched pairs for stable, repeatable readings.

SIZING AND INSTALLATION

Pick the point. Clamp it right.

Flow range by pipe size (nominal ID)

PIPE	DN	MIN M³/H	MAX M³/H
½"	15	0.02	**7.6**
1"	25	0.05	**21.2**
2"	50	0.21	**84.8**
3"	80	0.54	**217**
4"	100	0.85	**339**
6"	150	1.91	**763**
8"	200	3.39	**1,357**
12"	300	7.63	**3,054**
16"	400	13.6	**5,429**
24"	600	30.5	**12,215**
32"	800	54.3	**21,715**
48"	1200	122	**48,858**

Minimum at 0.03 m/s, maximum at 12 m/s. 1 m³/h = 1 kL/h.

Minimum straight pipe runs

UPSTREAM DISTURBANCE	BEFORE	AFTER
90° bend	≥ 10 D	≥ 5 D
Reducer	≥ 10 D	≥ 5 D
Expansion (diffuser)	≥ 30 D	≥ 5 D
Valve	≥ 30 D	≥ 10 D
Tee	≥ 50 D	≥ 10 D
Pump	≥ 50 D	—

D = pipe diameter. On horizontal pipes mount the transducers at 3 or 9 o'clock — never at the top (air) or bottom (sediment). V method for most pipes up to about DN300; Z method for larger pipes, scaled pipes or weak signals.

1

Enter the pipe data

Outside diameter, wall thickness, material, lining and liquid — measured, not nominal.

2

Read the spacing

The transmitter calculates the transducer spacing for the V or Z method.

3

Clean and clamp

Clean the pipe to bare metal, apply coupling compound and strap the transducers.

4

Check the signal

Signal strength above 75, quality above 60, transit-time ratio 100 ± 3 %.

ORDERING INFORMATION

WUFS-904	Clamp-on ultrasonic flow meter: wall-mount transmitter, matched transducer pair with 5 m cable, 4–20 mA / pulse / relay / RS485 Modbus RTU. Specify 90–245 VAC or 10–36 VDC
GAC 11	Transducer pair for DN15–DN100, 5 m cable and metal stretcher
GAC 12	Transducer pair for DN50–DN700, 5 m cable and metal stretcher
GAC 13	Transducer pair for DN300–DN600, 5 m cable and metal stretcher

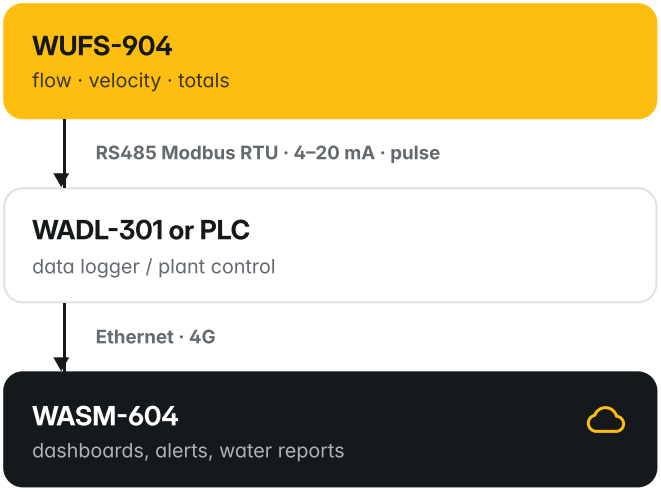
OPTIONS AND ACCESSORIES

Energy-meter version	RTD module with clamp-on or insertion PT1000 sensor pair
High-temperature transducers	Clamp-on pairs up to 130 °C or 180 °C
Insertion transducers	Hot-tap fittings with ball valve, up to 130 °C
Micro SD data memory	Logs flow, velocity and totals as text files
Double guide bracket	Accurate transducer spacing on the pipe
WADL-301 / WASM-604	Data logger and online dashboards, alerts, reports

IN THE BOX

- WUFS-904 wall-mount transmitter
- Matched transducer pair, 5 m cable
- Pipe straps and mounting fixtures
- User manual

CONNECT TO WISEAIR 4.0



Measure the flow. Leave the pipe alone.

CALL
+91 90477 78715
+91 98944 49015

EMAIL
info@wiseair.in

WEB
www.wiseair.in

OFFICE
Plot No. 12, Sri Venkatalakshmi Nagar,
Singanallur, Coimbatore 641 005, India

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