



MICRONICS

**CLAMP-ON, NON-INVASIVE SENSING
SOLUTION**

ULTRASONIC LIQUID FLOW METER

ACCURATELY MEASURE
“TURBID” AS WELL AS “CLEAN”
LIQUIDS



Portaflow PF-300



Portaflow PF-204



Dopplerflow PDFM-IV



Ultraflow UF-2000

Portaflow PF-300, 204, 216, SE

Ultraflow UF-2000

Dopplerflow PDFM-IV

ACCURATELY MEASURE "TURBID" AS WELL AS "CLEAN" FLUIDS !

To suit existing pipes with no adjustment
Possibly measure accurately and instantly from outside the pipe.
See instantaneous flow, velocity and total flow from digital display.
A variety of outputs (RS232, 4-20mA, pulse)

Portable, easy to commission and service.
Best choice out of many types depending on pipe diameter, flow velocity.
Metal pipe, resin pipe, lining pipe can be accepted.
Just follow instruction for set-up input.
"Time of Flight" for clean water and "Doppler" for solids liquid

OPERATING PRINCIPLE

It measures a Transit Time ultrasonic flow. It can accurately measure with clamp-on transducers without the need for any mechanical parts to be inserted through the pipe wall or to protrude into the flow system.

FLOW RANGE

The flow range depends on the flow velocity of measured liquids and the pipe diameter. The sensor is designed to cover the wider range of flow and wider diameter. You can make a choice by application. The sensor is designed to make the best performance to any applications in either Reflex Mode or Diagonal Mode.



APPLICATIONS

Balancing system monitoring	Environmental monitoring	Indicator
Leak detection maintenance	Pump efficiency check	Planning
Flow check	Check of emergency stand-by pump	
Commissioning adjustment		

APPLICABLE INDUSTRIES

Water and sewerage	Water treatment	Deionized water facility
Water feed for building	Heat Control system	Pharmaceutical
Chip MFG facility	Chemical	Petrochemical
Food	Power Plant	Iron making

Pipe Dia (mm)	Flow Velo(m/s)	Applicable Type
13 - 100	0.02 - 8	PF-300 / PF-204
50 - 400	0.02 - 12	PF-300
	0.50 - 8	PF-216
50 - 1000	0.02 - 12	PF-300
	0.50 - 12	PF-SE
300 - 2000	0.02 - 7	PF-300*
1000 - 5000	0.02 - 7	PF-300*

*Sensor is optional.

Portaflow 300 & SE

HIGHLY FUNCTIONAL /PORTABLE MODEL

A back light LCD display in large size being adopted, it is easy to read, and the set-up is simple and quick thanks to the track system.

You can make a choice so as to suit your application out of various sensors that can work on a wide variety of pipe sizes and flow velocity. May we recommend SE Model that is highly functional and price competitive if the pipe diameter is 50 to 1000mm. The 300 model with self-check functionality is best suited to control various applications from small to large pipe diameter.



Portaflow PF-300



Portaflow PF-300キット

STANDARD SPECIFICATION

Enclosure : IP66 CE (300) High Density Polyurethane, IP66 (SE) ABS
 Dimensions : 275 x 150 x 55mm(300)
 236 x 125 41mm (SE)
 Display : LCD
 Keypad : 16 key
 Connector : Lemo IP66
 Temperature : Operating 0 - +50
 Storage -10 - +50
 Supply Voltage: 110 - 220VAC ± 10% 50/60Hz 9W
 Battery : 24-30 hrs continuous operating on fully charged battery cells (300)
 10 hrs (SE)
 Display : Volumetric flow m³, Gallons, L
 Flow velocity m/sec, f/sec
 Total flow 12 digits
 Battery level
 Signal level
 Error messages
 Graphic (300 only)
 Output : 4-20mA 750 resolution 0.1% FS
 0 - 5V 1pulse/sec Max (300only)
 RS232C
 Memory capacity: 100K (50,000 data points)
 Temperature range: - 20 - + 200 (300)
 - 20 - +125 (SE)
 Accuracy : 1% or ± 0.02m/sec
 (turbulent flow profile with Reynold numbers above 4000)
 Self-check : PF-300 only
 Response Time: below 2 sec
 Repeatability: ± 0.5% with unchanged transducer positions.

Dopplerflow PDFM-IV

HIGHLY FUNCTIONAL PORTABLE DOPPLER FLOW METER

Flow meter utilizing the ultrasonic Doppler effect, suitable for measuring liquids containing bubbles or solids !

Besides its quick response time and easy flow measurements, it can be strapped on a pipe in a minute. It is ideal to measure any "difficult liquids" including wastewater, slurries, sludge, chemicals, viscous fluids, and abrasives. It can be used in AC as well as DC with batteries or charger built in. It can also be used as Standby Generator for diagnostic process with 4-20mA outputs. We can check flow or troubles in retrieving 50,000 point data in the built-in Data Logger.

OPERATING PRINCIPLE

It continuously injects high frequency sound through the pipe wall into the flowing liquid. Gas bubbles or solids suspended in the liquid reflect the ultrasonic signal back to the sensor. When the sound is reflected from moving bubbles or particles it is returned to the sensor at an altered frequency, which is called as the Doppler effect. In applying the Doppler effect, it measures the flow from the change from its transmitted frequency to the received frequency.



Dopplerflow PDFM-IV

STATIONARY MODEL AVAILABLE

STANDARD SPECIFICATION

Measuring object: 100 μ , over 750ppm(particles, gas)
Enclosure : Aluminum (No standard)
Dimensions : 254 x 165 x 300mm
Display : Numeric Values: large 4 digit LCD
16 digit LCD alphanumeric
Built-in key : 3
Temperature : Operating -23 - +60
Supply Voltage: Rechargeable built-in batteries
12VDC 16hr
100 - 160VAC, 200 - 260VAC,
12VDC
Display : Flow velocity m/sec. f/sec
Total flow 16 digits
Signal level
Damping : Adjusting with keypad
Output : 4-20mA 500
0 - 5V Max 1pulse per second
RS232C
Memory Capacity: 50,000 data points
Pipe bore : 12.5 - 4000mm
Flow rate range: 0.08 - 12.2m/sec
Temperature : -23 - +93
-40 - +150 (option)
Sensor withstand pressure: 10psi
Accuracy : 2% FS
Response Time: below 2 sec
Repeatability: \pm 0.1% with unchanged
transducer positions.

製造元

MICRONICS

■ 営業品目 HANDLING ITEMS

- | | |
|------------------|------------------|
| ① 回転式レベルスイッチ | ⑩ サウンディング式レベルメータ |
| ② 振動式レベルスイッチ | ⑪ フロースイッチ |
| ③ 音波式レベルスイッチ | ⑫ 電極式レベルスイッチ |
| ④ 静電容量式レベルスイッチ | ⑬ フロートスイッチ |
| ⑤ 静電容量式近接センサ | ⑭ フロート式レベルメータ |
| ⑥ 静電容量式レベルメータ | ⑮ 超音波式レベルメータ |
| ⑦ ダイヤフラム式レベルスイッチ | ⑯ コンペア周辺機器 |
| ⑧ チャルトスイッチ | ⑰ ダストモニタ |
| ⑨ リーク式レベルスイッチ | ⑱ レーザー式レベルメータ |
| ⑩ マイクロウェーブスイッチ | ⑳ 電波式レベルメータ |
| | ㉑ 液体分析オンラインセンサ |

ご使用に際しては取扱説明書を必ずお読み下さい。

※予告なく仕様変更することがありますので予めご了承下さい。

Nuclear Power Generation to Rice Milling.
All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

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