

PORTAFLOW 220/330 Portable Ultrasonic Flowmeter



The Portaflow range brings simplicity to the non-invasive measurement of liquid flow. Portaflow offers the user quick and accurate flow measurement with its easy to follow menu and simple set up. Results can be achieved within minutes of opening the case. Compact, rugged and reliable, the Portaflow range has been designed to provide sustained performance in industrial environments.

Features

- Large, easy to read graphic display with backlighting
- Easy to install thanks to flexible guide rails
- Rechargeable battery for up to 20 hours mobile operation
- Simple to follow dual function keypad
- Simple 'Quick Start' set up procedure
- Data logger for 198k data points (Type PF330)
- Analog and pulse outputs



Applications

- Potable Water
- River Water
- Cooling Water
- Demineralised Water
- Water/Glycol Solutions
- Chemicals
 - Leak Detection
 - Boiler Testing

Specifications

General			
DSP Measurement Technique		Transit time	
Flow Velocity Range		0.1 m/s - 20 m/s	
Accuracy		Pipe ID >75 mm	±0.5% to ±2% of flow reading for flow rate >0.2 m/s
		Pipe ID 13 mm - 75 mm	±3% of flow reading for flow rate >0.2 m/s
		All pipe ID's	±6% of flow reading for flow rate <0.2 m/s
Repeatability		±0.5% of measured value or ±0.02 m/s whichever is the greater	
Response Time		< 500 ms depending on pipe diameter	
Selectable Flow Units		Velocity	m/sec, ft/sec.
		Volume	"l/s, l/min, l/h, gal/min, gal/h, USgals/min, USgals/h, Barrel/h, Barrel/day, m³/s, m³/min, m³/h"
Selectable Total Volume Units		l, gal, USgals, Barrel, m³	
Total Volume		12 digits	
Menu Languages		EN, DE, FR, RU, SWE, IT, SP, P, NO, DEN	
Environmental			
Operating Temperature		-20 °C to 50 °C	-4 °F to 122 °F
Storage Temperature		-25 °C to 65 °C	-13 °F to 149 °F
Pipe Wall Temperature		-20 °C to 135 °C	-4 °F to 275 °F
Operating Humidity		Max. 90% relative humidity @ 50°C (122 °F)	
Applicable Pipe Types			
Pipe Materials		PVDF-SYGEF, PP-PROGEF, PE-ELGEF, PB-INSTAFLEX, ABS, PVC-U/PVC-C, Mild Steel, Ductile Iron, Stainless Steel 316, Copper	
Pipe Dimension (OD)		Type PF220	13 mm to 1000 mm 0.5 in. to 39 in.
		Type PF330	13 mm to 2000 mm 0.5 in. to 78 in.
Pipe Wall Thickness		1 mm to 75 mm	0.04 in. to 3 in.
Pipe Lining		Applicable pipe linings include Rubber, Glass, Concrete, Epoxy, Steel	
Pipe Lining Thickness		0 mm to 10 mm	0 in. to 0.4 in.
Electrical			
Supply Voltage		9 to 24 V DC	
Power Consumption		Max. 10.5 W	
Battery			
		Technology	5-cell NiMH
		Capacity	3.8 Ah
		Operating Time (typical)	Typically 20 hours continuous with backlight and 4-20mA output OFF
		Recharge Time	6.5 h
		Service Life	>500 charge/discharge cycles
Power supply			
Input Voltage		90 to 264 V AC (47 to 63 Hz)	
Output Voltage		12 V DC	
Output Current Max.		1.5 A	
Approvals		UL, CUL, TUV, CB, CE	
Outputs			
Analog Output		Range	4 to 20 mA, 0 to 20 mA, 0 to 16 mA
		Resolution	0.1% of full scale
		Load Max.	620 Ω
		Isolation	1500 V Opto-isolated
		Alarm Current	Adjustable between 0 to 26mA
Pulse Output		Type	Digital MOSFET relay
		Pulse Repetition	Max. 500 pps, user programmable
		Pulse Width	5 - 500 ms, user programmable
		Voltage Max.	48 V
		Current Max.	500 mA
		Isolation	1500 V opto isolated
USB Interface (PF330 only)		Protocol	Supports full speed (12Mbps/sec) data connection
		Software	USB driver software is provided with the package
		Connector	Proprietary industrial connector
RS-232 Interface (PF330 only)		Protocol	Serial RS-232 communication including handshaking
		Connector	Proprietary industrial connector (GND, RxD, TxD, DTR, DSR)

Specifications (continued)

Data Logger (PF330 only)	
Data Logged	Log application details, flow rate, total flow, unit, time stamp
Number of Data Points	198 k
Number of Data Sites	20
Number of Data Points per Site	No limit (max. 198k)
Programmable Logging Interval	5 s - 1 h
Start / Stop	Manually or timer controlled
Data Download	Via RS-232 / USB interface

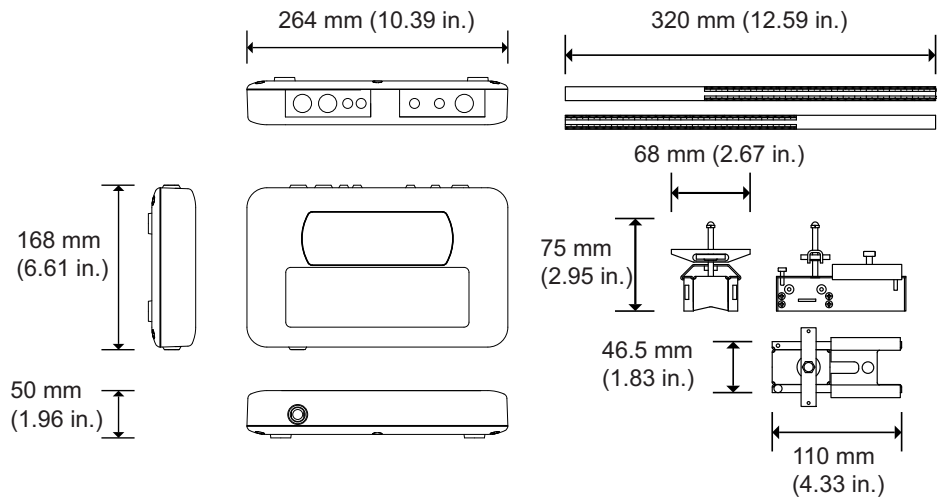
Transducer Sets		
Type A	Type PF220 & PF330	13 - 114 mm pipe O.D. (2MHz)
Type B	Type PF220	115 - 1000 mm pipe O.D. (1MHz)
	Type PF330	115 - 2000 mm pipe O.D. (1MHz)

Enclosure and Display		
Material	ABS	
Dimensions	264 x 168 x 50 mm	10.4 x 6.6 x 2.0 inch
Weight	1.1 kg (incl. battery)	2.45 lb
Keypad	16 key tactile feedback membrane keypad	
Display	Type	240 x 64 pixel graphic display, high contrast black-on-white, with backlight
	Viewing angle	Min. 30°, typically 40°
	Active area	127 x 34 mm 5 x 1.3 inch
IP Rating	IP 54	

Shipping Weight				
	PF330		PF220	
Box dimensions	420 x 390 x 220 mm	16.5 x 15.4 x 8.7 inch	510 x 140 x 440 mm	20 x 5.5 x 17.3 inch
Weight	7.5 kg	16.5 lb	6 kg	13.2 lb
Volumetric Weight	5.7 kg	12.5 lb	5.2 kg	11.5 lb

Standards and Approvals		
CE, RoHS compliant		
Safety	BS EN 61010	
EMC	BS EN 61326 - 1:2006	BS EN 61326-2-3:2006
Power Supply	EN61204 - 3	UL, CUL, TUV, CB, CE

Dimensions



System Overview

220 Portable Ultrasonic Flowmeter



- 1 - Portaflow 220 instrument
- 2 - Ruled separation bar
- 3 - Transducers 'A-ST' x2 for use with pipes ranging 13mm – 114mm, or 'B-ST' x2
- 4 - Guide rail
- 5 - Chains x2 - 0.5 m long (1.65 ft) for A-ST, or 3.3 m long (10.8 ft) for B-ST type transducers
- 6 - Transducer cables (x2) 2 metres long
- 7 - Test block
- 8 - Acoustic couplant
- 9 - Output cable
- 10 - Power supply
- 11 - Manual (not shown)

The Portaflow 220 equipment is supplied in a Polypropylene carrying case fitted with a foam insert to give added protection for transportation.

System Overview

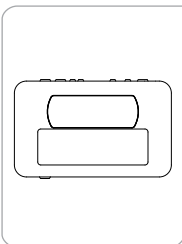
330 Portable Ultrasonic Flowmeter



- (1) Portaflow 330 instrument with backlit graphic display
- (2) Ruled separation bar
- (3) Transducers 'A-ST' x2 for use with pipes ranging 13mm – 114mm
- (4) Transducers 'B-ST' x2 for use with pipes ranging 115mm – 2000mm
- (5) Guide Rail
- (6) Chains x2 3.3 m long (10.8 ft)
- (7) Transducer cables (x2) 2 metres long
- (8) Test block
- (9) Acoustic couplant
- (10) Output cable
- (11) RS-232 cable
- (12) USB cable
- (13) Power supply
- (14) Manual (not shown)

The Portaflow 330 equipment is supplied in a rugged IP67 carrying case fitted with a foam insert to give added protection for transportation.

Ordering Information



Mfr. Part No.	Code	Description
Standard		
PF 220 A	159 300 002	Portaflow PF220, for pipe OD 13 - 114 mm
PF 220 B	159 300 003	Portaflow PF220, type A transducers for pipe OD 115 - 1000 mm
PF 330 A+B	159 300 001	Portaflow PF330, type A and B transducers for pipe OD 13 - 2000 mm, data logger