

PORTAFLOW 220/330 Portable Ultrasonic Flowmeter **+GF+**



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
- Demineralized Water
- Water/Glycol Solutions
- Chemicals
 - Leak Detection
 - Boiler Testing

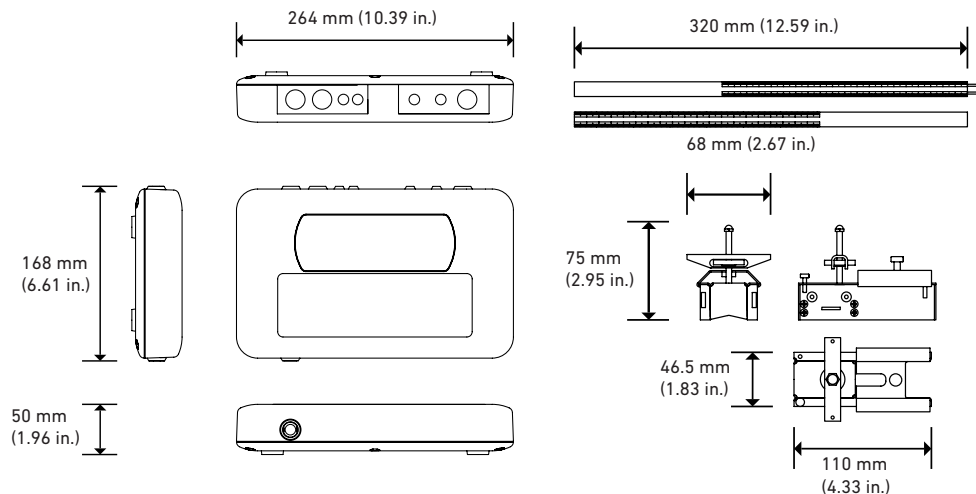
Specifications

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		liter, gallon, US gallons, 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 to 20 mA 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 Maximum		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	
USB Interface (PF330 only)	Isolation	1500 V opto isolated	
	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 (0.51 in - 4.49 in) pipe O.D. (2MHz)	
Type B		Type PF220	50 - 1000 mm (1.97 in - 39.37 in) pipe O.D. (1MHz)	
		Type PF330	115 - 2000 mm (1.97 in - 39.37 in) pipe O.D. (1MHz)	
Enclosure and Display				
Material		ABS		
Dimensions		264 x 168 x 50 mm	10.4 x 6.6 x 2.0 in.	
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 in.	
IP Rating		IP 54		
Shipping Weight				
		PF330		PF220
Box dimensions	420 x 390 x 220 mm	16.5 x 15.4 x 8.7 in.		510 x 140 x 440 mm 20 x 5.5 x 17.3 in.
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 meters 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

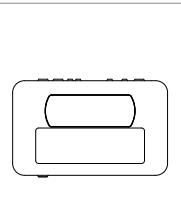
330 Portable Ultrasonic Flowmeter



- 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 meters 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 mm - 114 mm (0.51 in - 4.49 in)
PF 220 B	159 300 003	Portaflow PF220, type B transducers for pipe OD 50 mm - 1000 mm (1.97 in - 39.37 in)
PF 330 A+B	159 300 001	Portaflow PF330, type A and B transducers for pipe OD 13 mm - 2000 mm (1.97 in - 39.37 in), data logger