

DIGITAL FLOW TRANSMITTERS

FP1521
Starts at
\$780



Standard Features

- ✓ Easy Commissioning Thanks to Multi-Language, Menu-Guided Operation
- ✓ Individual Adjustment of All Measuring Parameters
- ✓ Compact Design
- ✓ Large, 15 mm, Clear LCD
- ✓ Measurements from 0.3 to 30 fps
- ✓ Volumetric Flow Measurement with 2 Optional Totalizers
- ✓ Easy Processing by 4 to 20 mA Output Signal, Pulse Output, and Optional Alarm Relay
- ✓ Wetted Parts Made of PVDF/Ceramic with FPM/EPDM Gaskets

Applications

- ✓ Flow Measurement
- ✓ Industrial Wastewater Treatment
- ✓ Water Treatment and Process Technology
- ✓ Cooling Water Monitoring

Batch Control

- ✓ Chemical Dosing and Filling Systems



FP1521, \$780, shown larger than actual size, with FP1110-PO-A, \$190.

DESIGN

The compact FP1520 Series paddlewheel flow transmitter is designed for use in aggressive, solid-free liquids.

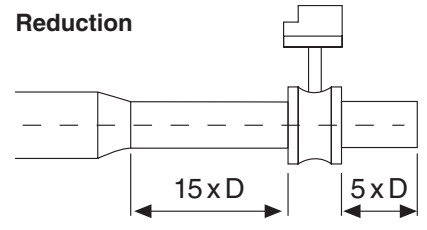
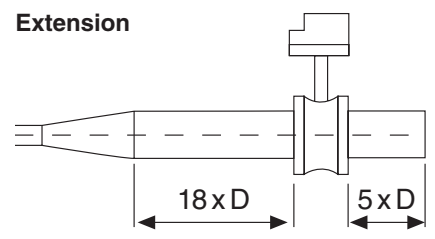
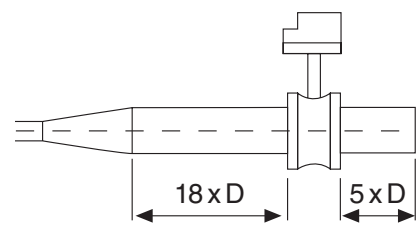
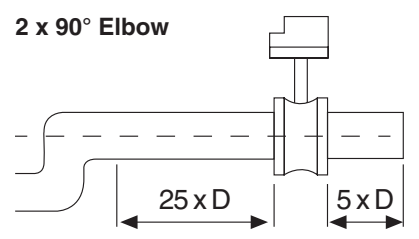
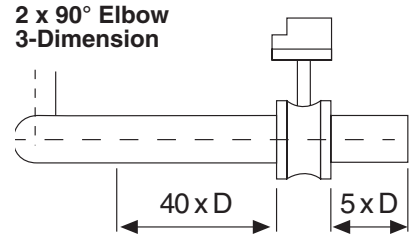
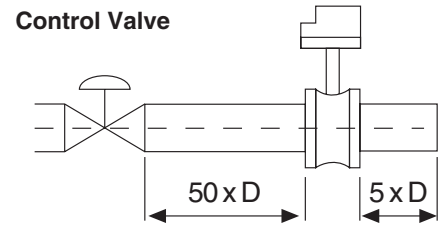
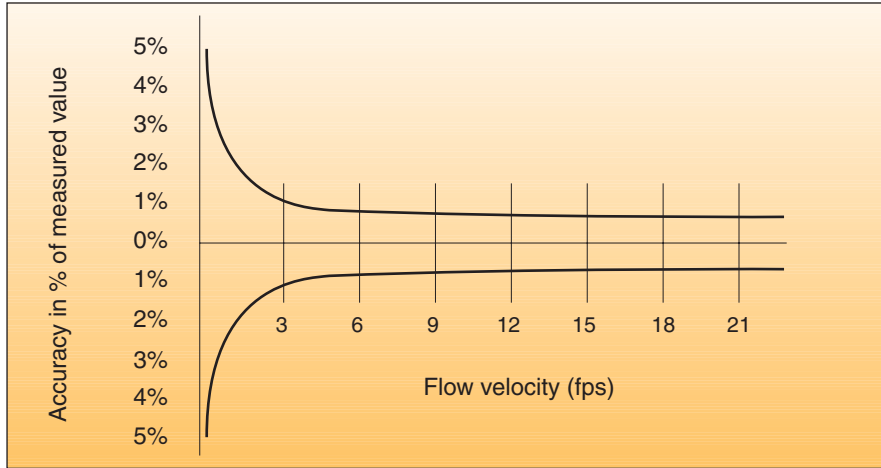
The measuring principle is based on local velocity measurement. The transmitter produces a 4 to 20 mA standard signal proportional to the flow and provides a freely adjustable pulse output. Both signals can easily be transmitted and processed. The display and operating elements allow customized adjustment of all measuring parameters.

A specially designed fitting system ensures simple installation of the devices into all pipes.

- 4 to 20 mA, 2-wire
- Paddlewheel hall sensor, 1:100 measurement dynamic (max 30 fps)
- Menu-guided operation:
 - Multi-language
 - Choice of engineering units
 - Customized measuring ranges
- Volumetric flow measurement with 2 optional totalizers:
 - Display, memory, and individual reset functions
- On-site alarm function:
 - Freely programmable limit values with engineering units, owing to two optional relays

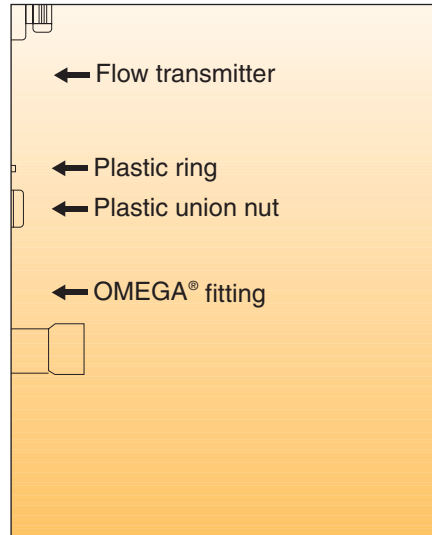


ACCURACY The accuracy of every FP150 is tested and calibrated on a flow test bench over its entire measuring range.



INSTALLATION

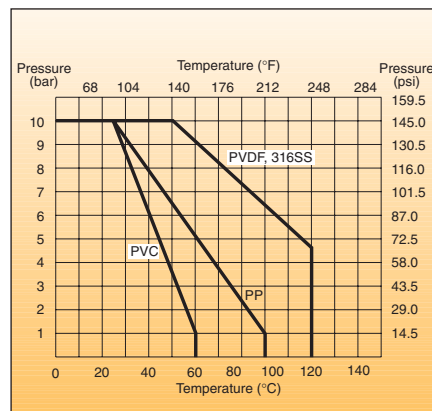
OMEGA's specially designed fitting system allows for easy installation of flow transmitters into pipes (see instructions in the diagram at right). This will ensure accurate measurement. Pressure and temperature tolerances must also be observed, depending on the selected fitting material. (Please refer to the operator's manual for flow transmitter FP1520.)



OPERATION/ COMMISSIONING

The device can be calibrated using the K-factor or via the Teach-In function. Customized adjustments of the measuring range, engineering units, resolution of pulse output and totalizers can be carried out on site with the menu-supported multi-lingual display.

Pressure-Temperature Diagram



SELECTION EXAMPLE

Select the appropriate pipe size using the diagram below.

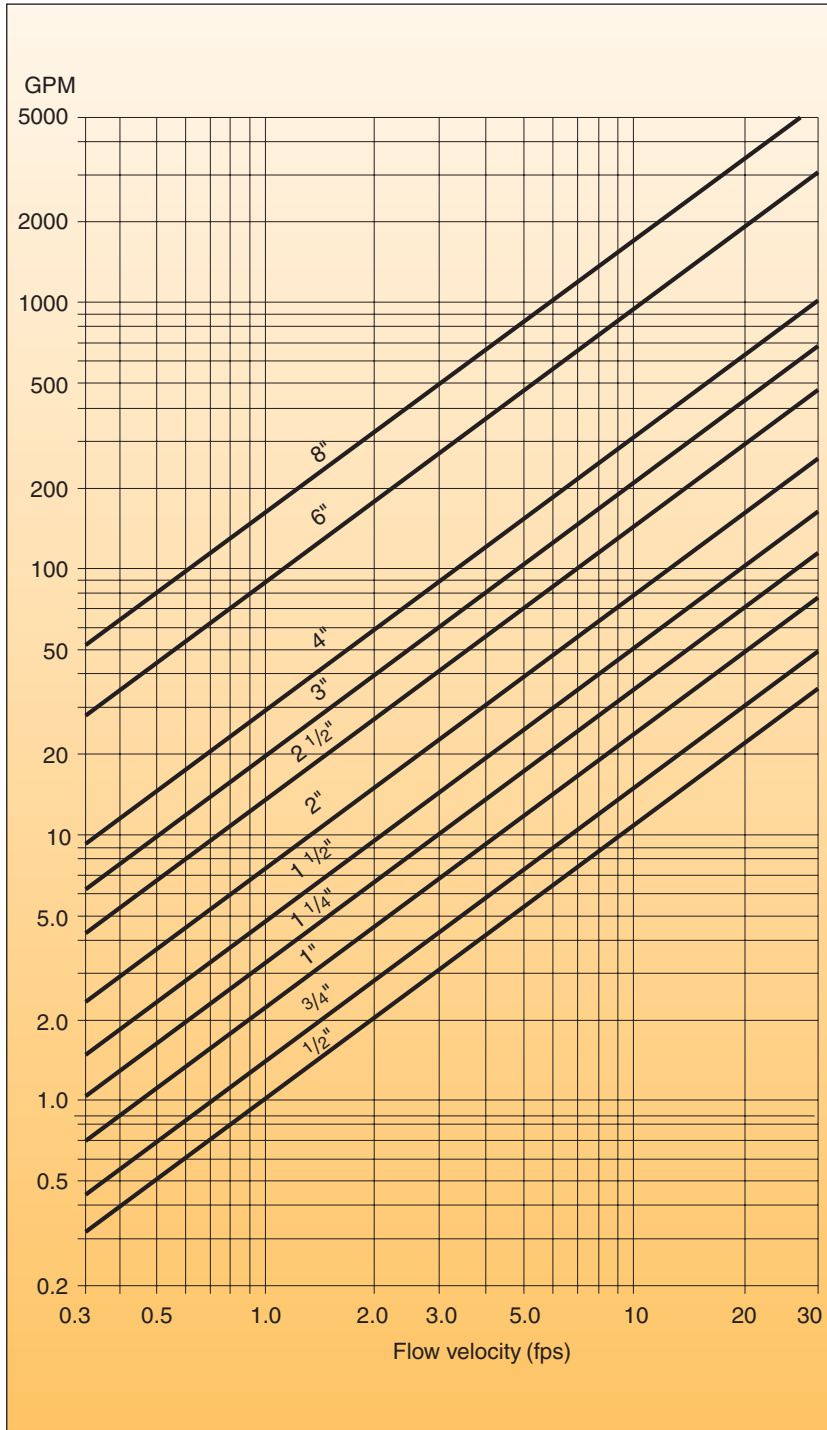
Example:

Specification of nominal flow: 50 GPM

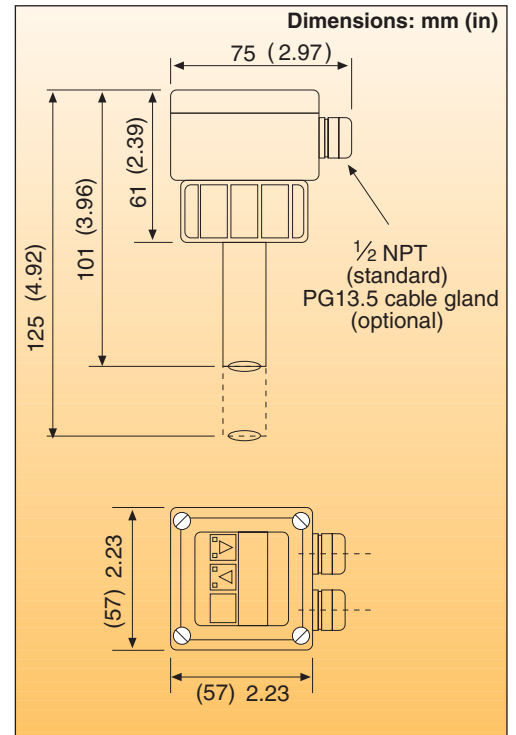
Ideal flow velocity: 5 to 10 fps

For these specifications, the diagram indicates a pipe size of 2".

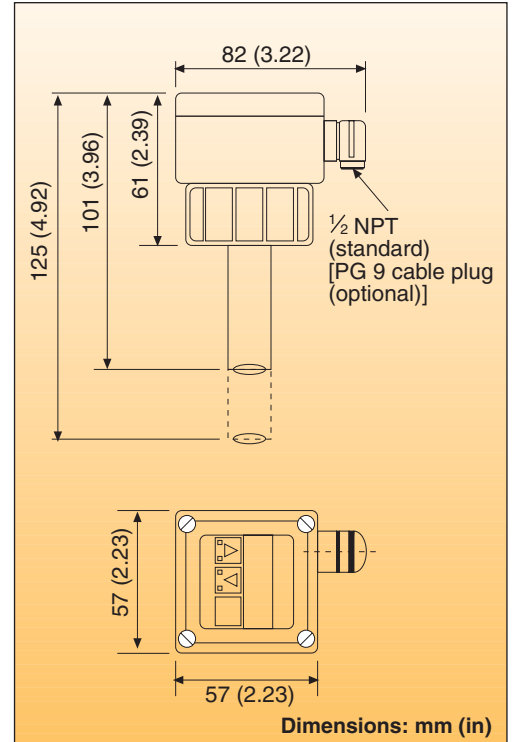
Selection of Nominal Size



Cable Gland (Units with Relays)



Cable Plug Version (Units Without Relays)



F

SPECIFICATIONS

Pipe Diameter: ½ to 8"

Ambient Temperature: 0 to 60°C
(32 to 140°F)

Fluid Temperature: 0 to 80°C
(32 to 176°F), version with Hall sensor;
0 to 120°C (32 to 248°F), optional
version with coil

Storage Temperature:
-10 to 80°C (14 to 176°F)

Fluid Pressure: Max 10 bar (145 psi),
depending on fluid temperature and
installation fitting

Enclosure: NEMA 12 (IP65)

Measuring Range:

**Freely Programmable (with Units)
with Hall Sensor:**

0.1 to 10 m/s (0.3 to 30 fps)

With Coil: 0.3 to 10 m/s (1.0 to 30 fps)

Accuracy: <1% within 1.6 to 30 fps;
<5% within 0.3 to 1.5 fps

Repeatability: 0.4% of measured value

Voltage Supply: 12 to 30 Vdc

Output Signal : 4 to 20 mA

Load: Max 900 Ω at 30 V

Pulse Output: Freely programmable;
open-collector NPN and PNP; 0 to 30 V,
100 mA; protected

Display: 15 x 60 mm (0.6 x 2.4"),
8-digit, alphanumeric LCD;
15 segments, 9 mm H (0.35")

Relay Output:

Freely programmable, 3 A, 230 V

Sensor Fitting: PVDF

Paddlewheel: PVDF

Axis and Bearing: Ceramic

O-Rings:

Standard: FPM

Optional: EPDM

Housing: Polycarbonate

Front Plate Foil: Polyester



FP1521, \$780,
shown with
FP1110-PO-A,
\$190, smaller than
actual size.



FP1521, \$780,
sensor photo

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

| Model No. | Price | Description |
|-----------|-------|--|
| FP1521 | \$780 | Paddlewheel sensor, hall type, FPM O-rings, ½ to 4" pipes, no totalizer, no relays |
| FP1522 | 780 | Paddlewheel sensor, coil type, FPM O-rings, ½ to 4" pipes, no totalizer, no relays |
| FP1523 | 780 | Paddlewheel sensor, hall type, FPM O-rings, 5 to 8" pipes, no totalizer, no relays |

Comes with complete operator's manual

To add 2 relays (3 amp up to 220 Vac), add suffix "-R" to the model number and add \$115 to the price. To add 2 independently resettable totalizers, add suffix "-T" to the model number and add \$140 to the price. To order EPDM O-rings in place of the standard FPM O-rings, add suffix "-EPDM" to the model number, no additional charge.

Ordering Examples: FP1521-R, paddlewheel sensor with 2 relays, \$780 + 115 = \$895. FP1522, transmitter, FP1005-A, PVC fitting, \$780 + 94 = \$874.

Accessories

| Model No. | Price | Description |
|-----------|-------|--|
| PSU-93 | \$40 | Wall socket plug-in transformer, 115 Vac in, 24 Vdc out on screw terminals |
| CM-0902 | 495 | Reference Book: Corrosion Resistance Tables |



Required Transmitter Fittings

| Pipe Size | PVC Schedule 80 | | PVDF | | Polypropylene | | Stainless Steel | |
|-----------|-----------------|-------|-----------|-------|---------------|-------|-----------------|-------|
| | Model No. | Price | Model No. | Price | Model No. | Price | Model No. | Price |
| ½" | FP1005-A | \$96 | FP1105-A | \$279 | FP1105-PO-A | \$167 | N/A | — |
| ¾" | FP1007-A | 105 | FP1107-A | 318 | FP1107-PO-A | 176 | FP1007-SS-A | \$295 |
| 1" | FP1010-A | 106 | FP1110-A | 379 | FP1110-PO-A | 202 | FP1010-SS-A | 295 |
| 1¼" | FP1012-A | 138 | N/A | — | FP1112-PO-A | 227 | FP1012-SS-A | 312 |
| 1½" | FP1015-A | 151 | N/A | — | FP1115-PO-A | 268 | FP1015-SS | 312 |
| 2" | FP1020-A | 174 | FP1120-A | 797 | FP1120-PO-A | 343 | FP1020-SS | 312 |
| 2½" | FP1025 | 171 | N/A | — | N/A | — | FP1025-SS | 395 |
| 3" | FP1030 | 190 | N/A | — | N/A | — | FP1030-SS | 395 |
| 4" | FP1040 | 195 | N/A | — | N/A | — | FP1040-SS | 395 |
| 6" | FP1060 | 223 | N/A | — | N/A | — | FP1060-SS | 395 |
| 8" | FP1080 | 376 | N/A | — | N/A | — | FP1080-SS | 395 |

Note: PVC, PVDF and polypropylene fittings up to and including 2" line size are tees with union nuts and socket-weld connections; PVC fittings from 2½" through 8" are saddle fittings. SS fittings up to and including 1¼" line size are FNPT threaded; SS fittings from 1½" through 8" line size are weld-on fittings.



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