

0-2 to 0-40 GPH
1.5-5 SCFM

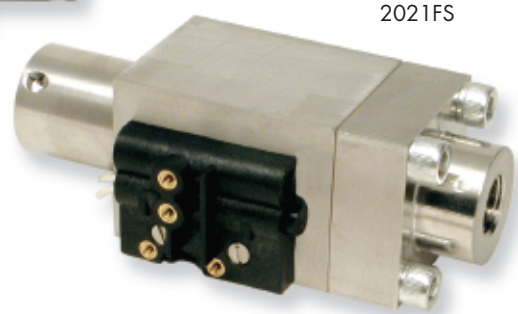
Fixed-Orifice Flow
for Low Flow Rates –
Liquids or Gases

Features

- Large, easy-to-read dial
- Rugged, high line pressure design
- Vertical or horizontal mounting



2021FG



2021FS

Our fixed-orifice flowmeters are designed for low flow applications, from 0-2 to 0-40 GPH. Like our variable-area flowmeters they are built from solids blocks of metal making them a favorite for high line pressure applications, to 3000 psi. You will find many in hydraulic and pneumatic systems.

Though rugged, they maintain the sensitivity required for low flow measurements. We use a fixed Delrin orifice centered on a spring-loaded Buna-N diaphragm-magnet sensor, which provides sensitive responses to changes in flow. This diaphragm sensor is magnetically coupled to a pointer, which relays the flow rate onto an easy-to-read square-root calibrated dial.

These in-line flowmeters often replace rotameters, which have small scales that can be difficult to read, especially

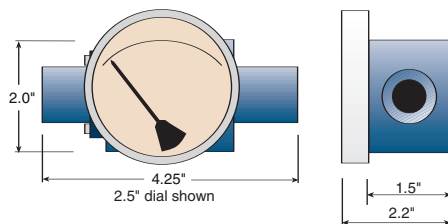
with dirty or opaque fluids. Our 2.5 to 4.5 inch dials with large, bold markings can be read from a distance. The spring-loaded sensor allows them to be oriented either horizontally or vertically. Many others must be mounted vertically only, limiting space and design flexibility.

We offer them with pressure bodies (and wetted parts) of aluminum or stainless steel. Choose from a wide selection of standard options such as liquid filled dials, reverse flow, red arc scales and many more. More details on these models can be found in our flow introduction pages 16-19.

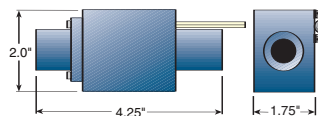
Reed switches and relays can accompany the meters or be supplied on their own, without a dial. Electrical details are on pages 26-27.

Dimensions

Detailed drawings on website.



2021FG



2021FS

Specifications (Detailed Specification Sheets on Website)

| Model | Flow range | Porting | Maximum line pressure/temperature | Accuracy (F.S.)/repeatability | Turndown* | Electrical Available* |
|---------------|--|----------|--|--|-----------|-----------------------|
| 2021FG/FGS/FS | Liquids 0-2 to 0-40 GPH (0-8 to 0-150 LPH) Air & Gas 1.5-5 SCFM (60-140 SLPM) | 1/4" NPT | 3000 psig (200 bar) 200°F (93°C) | Liquids 2%/1% Air & Gas 5%/1% | 3:1 | 2 switches |

F=Flow G=Gauge S=Switch

*Turndown results in 1st mark at approximately 30% of full scale

How to Order

Select from each of the applicable categories to construct a model number. Use the model number when ordering or obtaining additional information and pricing from Orange Research or your local distributor.

Reordering? You must supply the Part Number from your instrument label.

Sample Model Number
2021FGS - 1A - 2.5B - A 0-2 GPH-W, 5T

| 2021FGS | 1A | 2.5B | A | 0-2 GPH | W | 5T |
|---------|---------------|--|----------------|---------------------|---|--|
| Model | Flow Body | Dial Case | Electrical | Range | Calibration | Options (more on pg. 19) |
| 2021FG | 1A = aluminum | 2.5B = 2.5" basic | A = SPST, N.O. | Liquid | W = std. calibr. -water | 5 = plastic lens |
| 2021FGS | 1C = 316 SS | 3.5B = 3.5" basic | B = SPST, N.C. | 0-2, 0-4, 0-5, 0-8, | O = std. calibr. -oil | 6 = liquid fill (glycerine) |
| 2021FS | | 4.5B = 4.5" basic | C = SPDT | 0-10, 0-15, 0-20, | A = std. calibr. -air | 8 = reverse flow |
| | | <i>Change "B" to "F" above for flanged dial case</i> | A-A = 2 ea. -A | 0-25, 0-40 GPH | S = special calibr.* | 9 = vertical flow (specify direction - up or downward) |
| | | | B-B = 2 ea. -B | Air & Gas | *Liquids: must specify specific gravity and viscosity | Special Seals (Buna-N standard): |
| | | | C-C = 2 ea. -C | 1.5-5 SCFM | *Gas: must specify gas, pressure and temperature | T = Teflon |
| | | | R2 = relay | | See std. calibration conditions page 26 | V = Viton |

Flow Curves

