

## Flow Switches

- ▶ Piston
- ▶ Shuttle
- ▶ Paddle

### Unique Designs . . . For use in Liquids or Gases

GEMS' line of flow switches features a broad range of configurations for use in liquids or gases. At preset rates, ranging from 50 cc/min. to 100 GPM, GEMS switches will initiate alarm actuation or automatic shut-down of a system.

These switches feature high quality, corrosion-resistant materials for use in the toughest environments. Material choices, ranging from stainless steel to Ryton®, offer vast chemical compatibility. Versions include switches with fixed or adjustable actuation settings, models for viscosity compensation or high pressures, in-line models and designs to satisfy any mounting or space requirement.

### Variety of Operating Principles

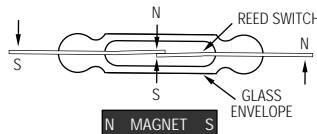
The versatile GEMS Flow Switch line utilizes four basic operating principles. This catalog is organized into four operational types: Piston, Shuttle, Paddle and Electronic. The Shuttle models are for use with high flow rates; the Piston types are designed for low flow rates; the Paddle for large line sizes and the Electronic switches encompass state-of-the-art electronics and positive visual indication.

### Selector Guide

You can quickly pinpoint the GEMS Flow Switch that best meets your requirements using the Selector Guide, opposite. It directs you from the most general criteria of your application. . . through key design choices. . . to the specific switch series suitable for use. The Selector Guide also provides an excellent overall view of the full scope of the GEMS Flow Switch line and options detailed in this catalog.

### Reed Switch Reliability

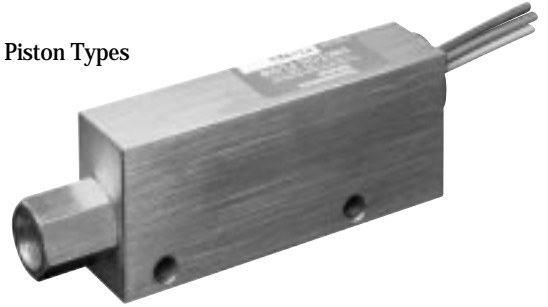
The durable construction of these reed switch designs ensures long, trouble-free service. Because the effects of shock, wear and vibration are minimized, these hermetically-sealed switches provide precise repeatability with no more than 1% deviation. The switch actuation points remain constant over the life of the unit.



### Operating Principle

The Piston, Shuttle and Paddle types utilize reed switch technology and are responsive to flow, not pressure. They are equipped with a magnet which is displaced by liquid flow to magnetically actuate a hermetically-sealed reed switch isolated within the unit body. A positive spring-return deactuates the switch when flow decreases. Pressure drop is low since the flow sensing element moves out of the flow path after switch actuation. With only one moving part—the Shuttle, Paddle or Piston—GEMS flow switches are inherently reliable. There are no bellows, diaphragms or mechanical linkages to wear or to get out of adjustment.

Piston Types



Shuttle Types



Paddle Types



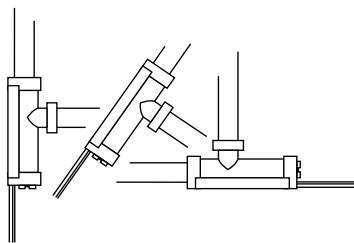
## Flow Rate Selector Guide

Set Point		Switch Series	Body Materials	Page Number
Water	Air			
0.05 to 1.0 GPM	25 CFH to 12 CFM	FS-3	Engineered Plastics	K-15
50 cc to 300 cc/min.	2 SCFH to 50 SCFH	FS-926 Series	Alloys	K-19 & 20
0.1 to 1.0 GPM(Oil)	—	FS-930 Series		K-22
0.1 to 1.5 GPM	—	FS-4 Series	Engineered Plastics	K-16
0.1 to 1.5 GPM	0.5 SCFM to 25.0 SCFM	FS-925 Series	Alloys	K-19 & 20
0.1 to 1.5 GPM	—	FS-927 Series		K-21
0.25 to 1.5 GPM	—	FS-380 Series	Alloys	K-18
0.1 to 30 GPM	—	RFS-2500 Series RotorFlow	Engineered Plastics and Alloys	K-1, K-3 & K-4
0.5 to 5.0 GPM	—	FS-150 Series	Engineered Plastics	K-17
0.5 or 2 GPM	—	FS-400P Series		K-30
0.25 to 5.0 GPM	—	FS-500 Series		K-31
0.5 to 20.0 GPM	1.0 SCFM to 160.0 SCFM	FS-10798 Series	Alloys	K-23 & 24
0.5 to 100 GPM	—	FS-200 Series		K-27 & 28
0.75 to 10.0 GPM	—	FS-400 Series		K-29
0.75 to 14.0 GPM	—	FS-400 Adjustable Series		K-29
1.0 to 15.0 GPM	—	FS-200 Adjustable Series		K-27 & 28
Dependent on Pipe Size and Paddle Length	—	FS-550 Series		K-33 & K-34

## Easy Installation and Maintenance

GEMS Flow Switch designs make installation quick and easy with ordinary tools. Positioned in the flow line, they are dependable in any mounted attitude for which they are calibrated. As is typical for most flow systems, proper filtration and sealing procedures should be used.

Efficient operating principles assure minimal maintenance. Most units disassemble for occasional wipe-down cleaning without removing them from the fluid line. The use of a suitable connector or adaptor, fitted to a sealed, electrical conduit is recommended. This will protect GEMS Flow Switches from moisture penetration at the lead wires.



Please refer to the GEMS Instruction Bulletins supplied with products for detailed installation and maintenance procedures.

**Don't hesitate to call a GEMS representative with questions, or for any clarification.**

**1-800-321-6070**

(Outside of Continental U.S., 860-747-3000)

### For Remote Alarms – See Page K-10

- Adjustable Volume
- Indoor Outdoor
- Solid-State

