KELCO

P25 Series Corrosion Resistant Inline Flow Switches

Features

- Directly control pump motors
- Ideal for PLC and relay logic
- Manual override available (P25-S Model)
- Suites pipes 15mm to 25mm (1/2″ to 1″) diameter
- No metal parts in contact with liquids
- 100 litres per minute max flow rating
- Versatile all position mounting
- 18 Bar (260 Psi) pressure rating
- IP67 Weatherproof housing
- Detects very low flows

Applications

- Safety shower alarms
- Loss of prime protection for pumps
- Flow monitor for large dosing systems
- Constant pressure pump control
- Control of tank filling systems
- Low yield bore pump protection

Outline

The P25 inline flow switch is a rugged versatile all position mounting flow actuated switch that can detect the flow of liquids in 15mm (1/2″) to 25mm (1″) diameter pipes. The P25 Series can be used in larger pipe systems provided the maximum flow does not exceed 100 litres per minute. The switch can detect very low flows and yet has a low head loss high flow through rating. It can be used to detect continuous or pulsed flows.

There are no metal parts in contact with liquids within the switch, so it is ideal for use in aggressive liquids such as groundwater, seawater and in acidic and alkali solutions. The P25 flow switch is supplied complete with unions and standard PVC pipe sockets for direct solvent gluing into PVC pipework.

Ordering

P25 - B - 25

P25 SERIES

ELECTRICAL MODULE
B = S.P.S.T N/O REED SWITCH
C = S.P.D.T REED SWITCH
S = 500VAC 15A 2HP S.P.D.T MECHANICAL SWITCH

PROCESS CONNECTION PVC SOCKETS TO SUIT PRESSURE PIPE
15 = 15NB
20 = 20NB
25 = 25NB

The P25 flow switch is available in one of three electrical configurations to suit one of three different pipe sizes:

P25-S

The P25 can be supplied with a heavy-duty single pole double throw (S.P.D.T.) mechanical switch specifically designed for the direct control of pump motors up to 1.5kW 2HP. This model is also ideal for general control circuit applications up to 500VAC. The P25-S switches on at 9 litres per minute on a rising flow and switches off at 7 litres per minute on a decreasing flow.

P25-B

The P25-B model contains a dry contact normally open reed switch (S.P.S.T.NO) that closes on flow. This switch is ideal for PLC input, general relay logic and control circuit applications, and for telemetry control. The reed switch is rated to 240VAC 40 watts.

The P25-B switches on at 9 litres per minute and switches off at 7 litres per minute on a decreasing flow.

P25-C

The P25-C model is similar to the P25-B, except it uses a single pole double throw reed switch (S.P.D.T), as the primary switching element. This switch is suitable for use in low voltage light duty fail safe control circuits and for PLC input and telemetry circuits. The P25-C switches on at 3 litres per minute and switches off at 2.5 litres per minute on a reducing flow.

Switch Point Data

Flow Required to Operate the P25

Model Number	Switching Point on a Slowly Rising Flow in Litres per Minute	Switching Point on a Slowly Reducing Flow in Litres Per Minute	Electrical Response Time in Seconds
P25-B	9	7	0.1
P25-C	3	2.5	0.1
P25-S	9	7	0.1

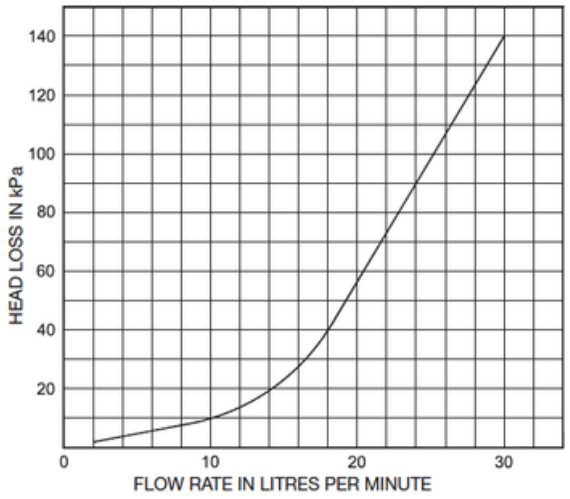
P25 SERIES DATA

Manual Override

The P25-S model is fitted with a manual override. The override is located under a locking cover on the side of the switch body. The override is normally left in the "Auto" position. It can be rotated to "ON" to override the flow switch, regardless of flow. The override can be set to "ON" to allow pumps to prime, in spite of an initial lack of flow. It can also be used to test control circuit wiring during commissioning of pump systems. The P25-B and P25-C models are not fitted with a manual override.

Head Loss Versus Flow Rate

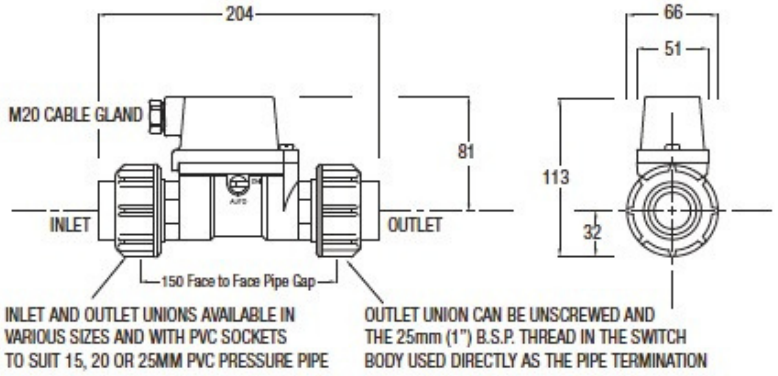
The graph below shows the head loss, or pressure drop, measured between the inlet and outlet of a P25 Series flow switch and expressed as a function of a continuous flow through the switch. The graph shown is for water at ambient temperature. As an example, from the graph, at 40L/min flow the pressure drop across the P25 will be 10kPa.



Operating Limitations

Maximum Recommended Continuous Flow Rate	100 Litres per Minute (Head loss across the switch <50kPa at 100L/min.)
Maximum Recommended Operating Pressure (Static or Dynamic) at Ambient Temperature	18 Bars (260 P.S.I.)
Minimum Burst Pressure at Ambient Temperature	60 Bars (865 P.S.I.)
Maximum Liquid Temperature	60°C
Minimum Liquid Temperature	-20°C
Liquid Ph Range	1 to 14
Ingress Protection Rating	IP67

Dimensions



Hazardous Applications

The P25 Series flow switches can be used in hazardous areas. The switches are classed as a simple device and does not contain components capable of storing or producing an electric charge. As a simple device the P25 flow sensor can be used in hazardous applications provided it is isolated by an intrinsically safe barrier, a zener barrier.

Electrical Data

Switch Model	Module Type	Contact Configuration	Switched Power Maximum	Switched Voltage Maximum	Switched Current Resistive AC (rms)	Inductive Loads	Typical Application
P25-B	Dry contact reed switch	S.P.S.T Normally Open	40Watts	240V AC 200V DC	1 Amp Maximum	Not Suitable	PLC Telemetry & Relay Logic Circuits
P25 - C	Dry contact reed switch	S.P.D.T	20 WATTS	140V AC 150V DC	1 Amp Maximum	Not Suitable	PLC Telemetry & Relay Logic Circuits
P25 - S	Heavy Duty Mechanical Switch	S.P.D.T	1.5kW	500V AC 250V DC	20 Amps @ 240V AC	Direct Control of Motors to 1.5 kW / 2HP	AC Control Circuits & AC Motor Control

Note: The P25-B and P25-C flow switch use a dry contact Reed Switch as the primary switching element. Reed switches are one of the most reliable mechanical devices ever devised. They offer an operating life in excess of 100 million cycles; however care needs to be taken to ensure they are not electrically overloaded. If applied in questionable applications suitable protection should be added to the control circuit. Details of reed switch protection circuits can be downloaded from https://www.kelco.com.au/reed-switch-information/

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