P25 SERIES

CORROSION RESISTANT INLINE FLOW SWITCHES

For pipes 15 mm to 25 mm (½" to 1") diameter



FEATURES

- Directly control pump motors
- Ideal for PLC and relay logic
- Manual override available (P25-S model)
- Suits pipes 15 mm to 25 mm (½" to 1") diameter
- No metal parts in contact with liquids
- 100 litres per minute maximum flow rating
- Versatile all position mounting
- 18 bar (260 psi) pressure rating
- IP67 weatherproof housing
- Detects very low flows

100 L/min
Maximum recommended continuous flow rate

18 bar
260 psi maximum operating pressure

2 HP
UL motor rating at 250 VAC (P25-S)

IP67
Weatherproof housing

OUTLINE

The P25 inline flow switch is a rugged, versatile, all position mounting flow actuated switch that can detect the flow of liquids in 15 mm (½") to 25 mm (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.

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

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.

ELECTRICAL CONFIGURATIONS

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: motor load 8.3 A at 250 VAC (UL rating 2 HP). This model is also ideal for general control circuit applications up to 500 VAC. 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. N.O.) 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 250 VAC / 200 VDC, 50 W, 1.5 A. 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. break before make) 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 (LITRES PER MINUTE)	SWITCHING POINT ON A SLOWLY REDUCING FLOW (LITRES PER MINUTE)	ELECTRICAL RESPONSE TIME (SECONDS)
P25-B	9	7	0.1
P25-C	3	2.5	0.1
P25-S	9	7	0.1

ORDERING

Build your part number from the codes below – for example **P25-B-25**.

P25 – **B** – **25**

SERIES

P25 Series inline flow switch

ELECTRICAL MODULE

- **B** S.P.S.T. N.O. reed switch
- **C** S.P.D.T. break before make reed switch
- **S** 500 VAC 20 A 2 HP S.P.D.T. mechanical switch

PROCESS CONNECTION

PVC sockets to suit pressure pipe

- **15** 15NB
- **20** 20NB
- **25** 25NB

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	50 W	250 VAC 200 VDC	1.5 A maximum	Not suitable	PLC, telemetry and relay logic circuits
P25-C	Dry contact reed switch	S.P.D.T. break before make	20 W	140 VAC 150 VDC	1 A maximum	Not suitable	PLC, telemetry and relay logic circuits
P25-S	Heavy duty mechanical switch	S.P.D.T.	2 HP (UL)	500 VAC 250 VDC	20 A at 250 VAC	Motor load 8.3 A at 250 VAC	AC control circuits and AC motor control

NOTE The P25-B and P25-C flow switches 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 are available on our Reed Switch Information page (button below).

Reed Switch Information ›

OPERATING LIMITATIONS

PARAMETER	P25 SERIES
Maximum recommended continuous flow rate	**100** litres per minute (head loss across the switch <50 kPa at 100 L/min)
Maximum recommended operating pressure (static or dynamic) at ambient temperature	**18 bar** 260 psi
Minimum burst pressure at ambient temperature	**60 bar** 865 psi
Maximum liquid temperature	**60 °C**
Minimum liquid temperature	**–20 °C**
Liquid pH range	**1 to 14**
Ingress protection rating	**IP67**

HAZARDOUS AREAS

The P25-B and P25-C are simple apparatus under AS/NZS 60079.11 and may be used in a hazardous area only as part of an intrinsically safe circuit, connected through suitably certified associated apparatus. They are not Ex certified in their own right. The full conditions of use are given in the installation sheet.

The P25-S is not certified for use in hazardous areas and must not be installed in any area classified as hazardous under AS/NZS 60079.10 (Zone 0, 1, 2, 20, 21 or 22).

HEAD LOSS VERSUS FLOW RATE

The graph 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 40 L/min flow the pressure drop across the P25 will be 10 kPa.

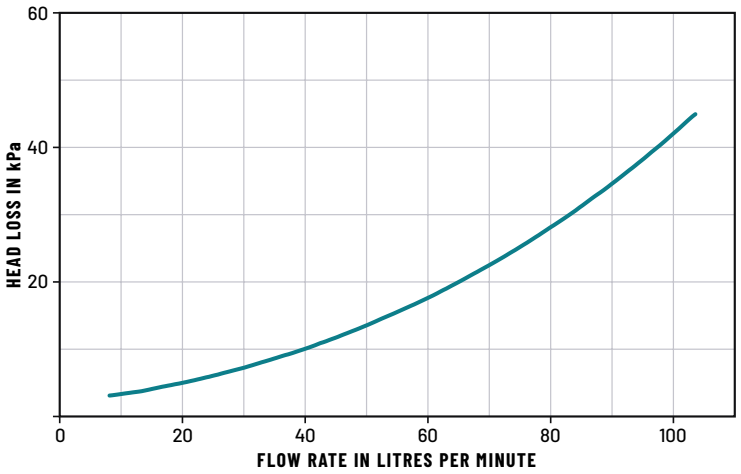
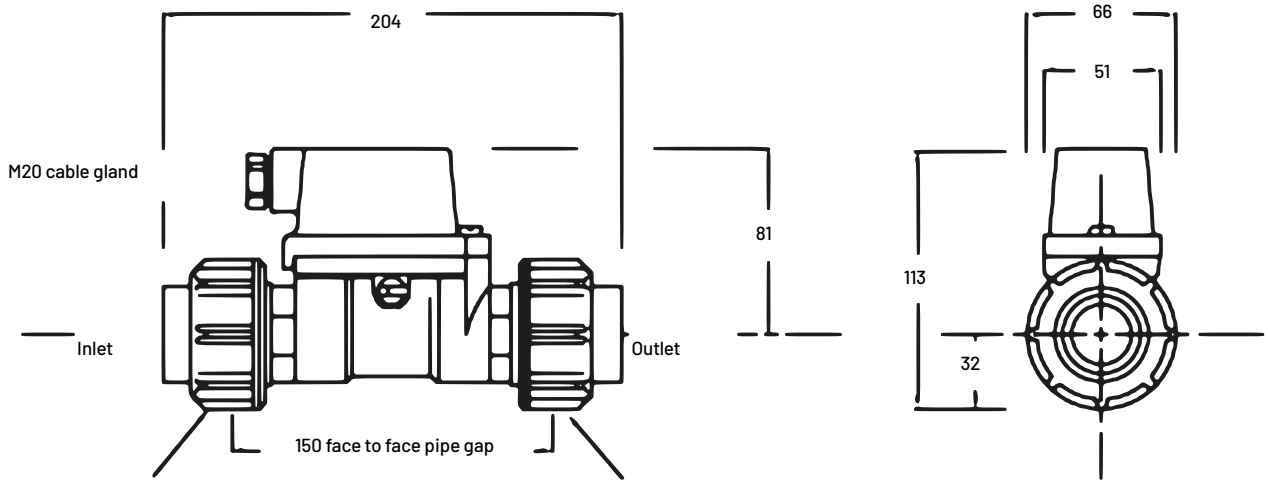


FIG. 1 Head loss versus flow rate

DIMENSIONS



Inlet and outlet unions available in various sizes and with PVC sockets to suit 15, 20 or 25 mm PVC pressure pipe

Outlet union can be unscrewed and the 25 mm (1") B.S.P. thread in the switch body used directly as the pipe termination

FIG. 2 Overall dimensions in millimetres

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