INSTALLATION & OPERATING INSTRUCTIONS

INSTALLING AND OPERATING THE KELCO P25 SERIES FLOW SWITCH

WARNING

Please read these installation and operating instructions fully and carefully before installing or servicing this flow switch. The P25 Series flow switch is a **mains voltage device**. Death or serious injury may result if this switch is not correctly installed and operated. All electrical work on this switch must be performed by a fully qualified and licensed electrician.

CHECK THE SWITCH MODEL NUMBER

The model number is on a label inside the switch lid – 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

SWITCHING POINT

The flow required to actuate the P25 is different for each model. The table below sets out the flow required to actuate and de-actuate each of the three models.

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

HEAD LOSS VERSUS FLOW RATE

The maximum recommended flow rate through the P25 flow switch is 100 litres per minute. The graph shows the head loss across the P25 at flows up to 100 litres per minute.

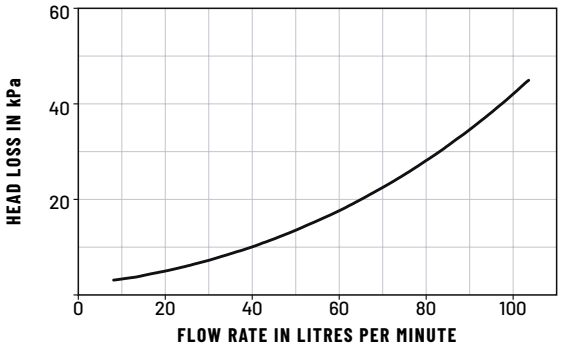


FIG. 1 Head loss versus flow rate

MECHANICAL INSTALLATION

The P25 flow switch is a 25 mm (1") magnetically operated inline flow sensor that will provide an electrical signal in response to liquid flow through the switch body. The switch is available with a choice of three electrical configurations and three different size pipe terminations. The model designation on page 1 describes the various options.

The P25 flow switches have no metal parts in contact with the process liquid. Inert thermoplastics are all that come in contact with liquid passing through the switch. This means the P25 can be used in aggressive chemical solutions, seawater and bore water and in many fluids that would attack metal parts, including most acids and alkalis. The P25 contains a close fitting piston and should only be used in applications where the process fluid is clean and free from entrained or suspended materials. *Solutions that contain large particulates, ferrous materials or fibrous matter should not be used in this switch.* If the degree of contamination of the process liquid can't be guaranteed, then a suitable line strainer should be installed prior to the flow switch.

The P25 flow switch is made from glass reinforced polypropylene with nitrile O-rings. The switch is weatherproof and it is suitable for all outdoor exposed applications. The switch should be protected from freezing and from exposure to hot liquids >60 °C. The P25 flow switch must not be used in applications where the static or dynamic pressure exceeds 18 bar. Care should be taken to ensure the switch is not exposed to water hammer. The table below sets out the environmental limitations of the P25 flow switch.

The P25 flow switch can be mounted in any orientation including upside down. There is a direction of flow arrow on the switch body. This directionality must be adhered to, as the switch will not operate against a reverse flow. Pipework can be used to support the switch, or the switch can be connected directly to valve manifolds or pump ports. Do not use this flow switch as a non-return valve.

ENVIRONMENTAL 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**

Chemical Compatibility Checker ›

WARNING

Please read these installation and operating instructions fully and carefully before installing or servicing this switch. All electrical work on this switch must be performed by a fully qualified and licensed electrician, conforming to AS/NZS (or equivalent) standards and wiring rules.

ELECTRICAL INSTALLATION

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

The P25 flow switch is available in three electrical configurations, outlined above. The standard version (P25-S) of the flow switch is supplied with an S.P.D.T. microswitch fitted. Two reed switch versions (S.P.D.T. break before make and S.P.S.T.) of the flow switch are available for low power applications. The model number of the switch is located on a label inside the switch lid. The standard flow switch houses a magnetically coupled high current, high voltage single pole double throw microswitch that is suitable for most general-purpose control circuit applications at any voltage up to 500 VAC. The reed switch versions of the P25 house a gas-filled reed switch that provides either an S.P.D.T. break before make or S.P.S.T. switching action. The cable gland on the P25 flow switch is threaded M20 and will accept standard M20 conduit bushes in addition to flexible cable. When wiring a P25 flow switch, ensure the lid and cable gland are securely tightened. In fully exposed locations, use secondary precautions such as cable drip loops to make sure no water can enter the switch housing.

DIMENSIONS

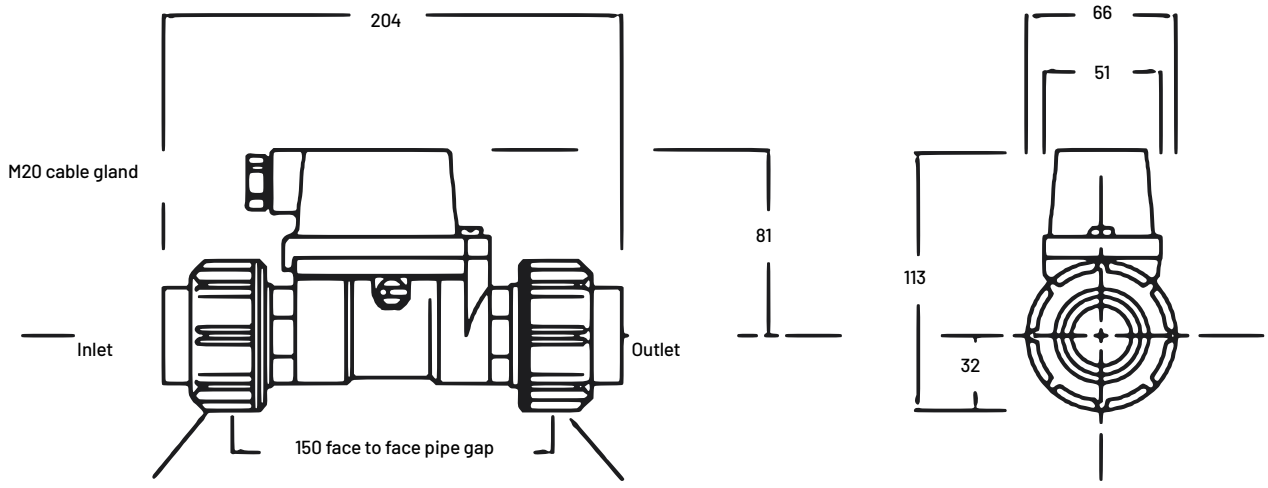


FIG. 2 Overall dimensions in millimetres

MANUAL OVERRIDE (P25-S ONLY)

The P25-S flow switch is fitted with a manual override. This allows the switch to be actuated even if there is no flow. The override is located on the side of the switch body, under a locking cap. The locking cap can be removed by placing a small screwdriver in the notch provided on the underside of the cap. The cap simply pops off when lifted gently. The override dial turns through 90 degrees between AUTO and ON. In the ON position the state of flow is ignored and the flow switch will be on. The override can be used to override the off state of the flow switch and allow pumps to be started. It can also be used when installing or commissioning systems to simulate switch operation.

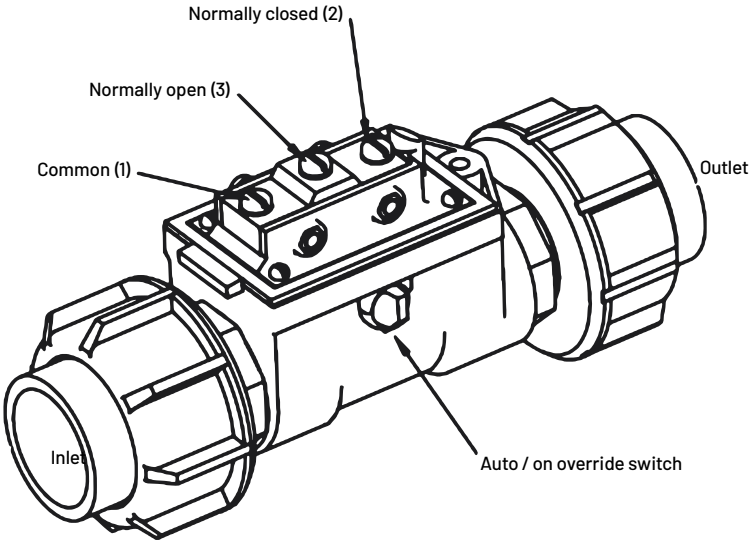


FIG. 3 Details of the P25-S

HAZARDOUS AREAS

The P25-B and P25-C are passive reed switches that meet the definition of simple apparatus under AS/NZS 60079.11. They are not Ex certified in their own right. They may be used in a hazardous area only as part of an intrinsically safe circuit, connected through suitably certified associated apparatus such as a Zener barrier or galvanic isolator. The design of the intrinsically safe system and its installation are the responsibility of the system designer and installer, in accordance with AS/NZS 60079.14 and AS/NZS 60079.25. Reed switch ratings: P25-B 50 W/VA, 250 VAC / 200 VDC, 1.5 A maximum; P25-C 20 W/VA, 140 VAC / 150 VDC, 1 A maximum, resistive loads only. The associated apparatus must not exceed these limits. Where the associated apparatus monitors for line faults, end-of-line resistors must be fitted as specified by its manufacturer. The P25 is of non-metallic construction; the installer must assess electrostatic charging risk under AS/NZS 60079.0 for the zone and gas group. The P25-B and P25-C are not suitable for use in a hazardous area outside an intrinsically safe circuit.

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). It contains a heavy-duty silver-contact microswitch rated for mains voltage and direct motor control, has no recognised Ex protection concept, and is not suitable as simple apparatus in an intrinsically safe circuit because its contacts are not rated for the low currents of intrinsically safe circuits.

Kelco Engineering Pty Ltd

ABN 20 002 834 844

HEAD OFFICE & FACTORY
9/9 Powells Road
Brookvale NSW 2100, Australia

POSTAL ADDRESS
PO Box 7485, Warringah Mall
Brookvale NSW 2100, Australia

SALES ENQUIRIES
sales@kelco.com.au
www.kelco.com.au

Please note: Kelco Engineering Pty Ltd reserves the right to change the specification of this product without notice. Information in this document is believed to be accurate at the date of publication. Always check www.kelco.com.au for the current version before specifying or installing. Users will use their own judgment to determine the appropriateness of using Kelco Products in an application, any safety measures required and that the product is properly installed for that application. To the extent permitted by law Kelco Engineering Pty Ltd disclaims and excludes all and any liability for the use of this product in any particular application or for defective installation. Kelco switches are warranted against malfunction by a 12 month return to base manufacturer's warranty. Full details of our warranty and limitation of liability can be downloaded from www.kelco.com.au/en/information/warranty.

All rights reserved. Copyright © 2026 Kelco Engineering Pty Ltd