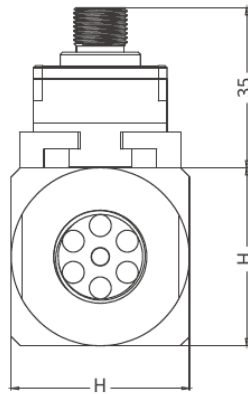


IN-LINE PISTON FLOW SWITCH, BRASS



- MECHANICAL · MAGNETIC PISTON · REED CONTACT OUTSIDE THE PIPE
- SEVEN SIZES FROM 2 ... 9 TO 50 ... 200 L/MIN · 100 BAR
- 24 VDC / 1 A · IP67 WITH M12, IP65 WITH HIRSCHMANN

KEY DATA

Property	Value	Property	Value
Setting range	2 ... 9 up to 50 ... 200 L/min in seven sizes	Pressure loss	≤ 0.5 bar at 25 L/min
Output	Reed contact	Switching capacity	24 Vdc / 1 A
Pressure range	100 bar	Medium temperature	≤ 90 °C
Hysteresis	Depends on the switching point, at least 0.6 L/min	Materials	Body and piston nickel-plated brass
Protection grade	IP67 with M12 · IP65 with Hirschmann	Media	Liquid

A spring holds a magnetic piston back; the flow pushes it aside and the magnet closes a reed contact outside the pipe. The switch point is set on a scale, calibrated in water at 20 °C with the switch mounted horizontally.



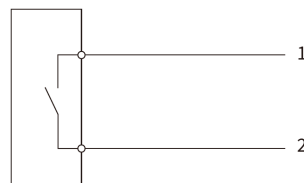
MEASUREMENT

Measuring principle	Mechanical — a magnetic piston on a spring; the flow displaces it and the magnet closes a reed contact outside the wetted part
Setting range	Seven sizes from 2 ... 9 to 50 ... 200 L/min. Thread and length of each size are in the parameter table
Hysteresis	Depends on the switching point, with a minimum of 0.6 L/min
Setting scale	Calibrated in water at 20 °C with the switch mounted horizontally. Mounting position, medium and temperature have a slight effect on the switching value
Media	Liquid. Industrial equipment, cooling and lubrication

MATERIALS AND PROCESS

Materials	Body and piston nickel-plated brass · spring stainless steel · seal NBR
Process connection	Female thread G or R, by size — see the parameter table
Pressure range	100 bar
Pressure loss	≤ 0.5 bar at 25 L/min
Medium temperature	≤ 90 °C
Protection grade	IP67 with the M12 plug · IP65 with the Hirschmann plug

WIRING



The reed contact with its two terminals, 1 and 2.

ELECTRICAL PROPERTIES

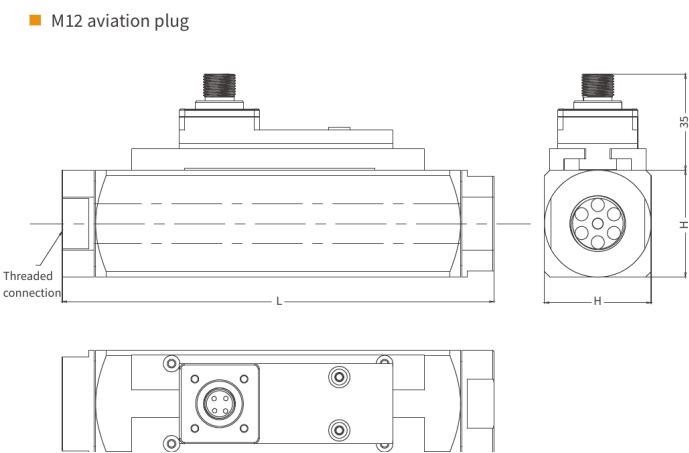
Output	Reed contact with two terminals, 1 and 2
Switching capacity	24 Vdc / 1 A
Connection	M12 connector or Hirschmann plug, chosen in the order code
Isolation	The mechanical and the electrical part are completely separated — the contact never touches the medium

SETTING

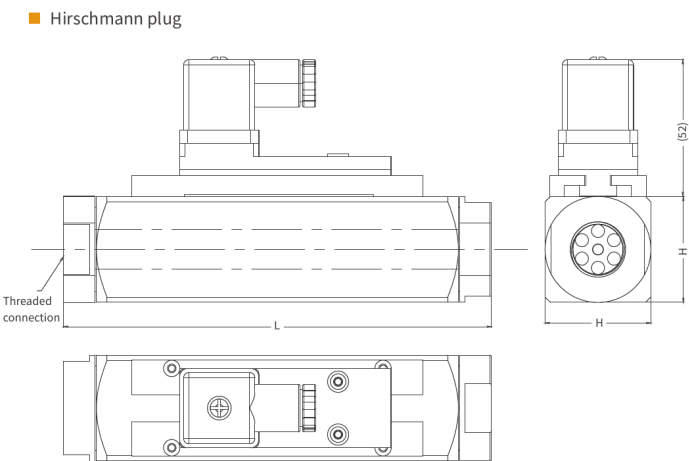
Setting scale	Engraved on the body; the user sets the switching point without a flow rig
Reference	Water, 20 °C, horizontal mounting
Influence	Mounting position, medium and temperature have a slight effect on the switching value



DIMENSIONS (mm)



The version with the M12 connector, in three views. The round face at the end is the piston seen through the bore.



The version with the Hirschmann plug. The protection grade depends on the plug: IP67 with the M12 connector, IP65 with the Hirschmann plug.

L and H depend on the size; their values are in the parameter table.

OVERALL DIMENSIONS (mm)

Feature	mm	Note
Height over the M12 plug	35	From the top of the body to the plug tip
Height over the Hirschmann plug	(52)	From the top of the body
Overall length L	see table	160 to 210 mm, by size
Body height H	see table	45 to 60 mm, by size



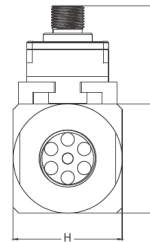
COMPLIANCE AND CERTIFICATION

Measuring principle	Mechanical, magnetic piston on a spring
Hysteresis	At least 0.6 L/min, depending on the switching point
Medium temperature	$\leq 90\text{ }^{\circ}\text{C}$
Protection grade	IP67 or IP65, depending on the plug
Pressure rating	100 bar
Wetted materials	Nickel-plated brass body and piston, stainless spring, NBR seal
Contact rating	24 Vdc / 1 A

SIZES, ACCESSORIES AND ORDER CODE

Accessories

- Electrical accessories for the M12 version: cables in PUR and PVC, straight and angled, in two, five and ten metres, and a self-wiring socket. The factory standard is ZL02-PC02G.



Pressure
100 bar

Protection
IP67 or IP65



ZL02-PC02G, two metres of PVC, is the factory standard. The straight sockets are 50 mm long, the angled ones 36 mm.

ELECTRICAL ACCESSORIES

Electrical accessory	Material	Straight (G)	Angled (W)
M12 × 1, 4-pin, 2 m	PUR	ZL02-PU02G	ZL02-PU02W
M12 × 1, 4-pin, 5 m	PUR	ZL02-PU05G	ZL02-PU05W
M12 × 1, 4-pin, 10 m	PUR	ZL02-PU010G	ZL02-PU010W
M12 × 1, 4-pin, 2 m	PVC	ZL02-PC02G	ZL02-PC02W
M12 × 1, 4-pin, 5 m	PVC	ZL02-PC05G	ZL02-PC05W
M12 × 1, 4-pin, 10 m	PVC	ZL02-PC010G	ZL02-PC010W
Self-wiring socket, 4-pin	Pg7 / Pg9 gland	GL04	WL04

Seven sizes: range, overall length L, body height H and thread change together. The thread form, G or R, is chosen in the order code with GK or RK.

SIZES, RANGES AND THREADS

Range L/min	L mm	H mm	Thread G or R (inch)	Order field
2 ... 9	160	45	1/2	009
7 ... 20	160	45	1/2	020
10 ... 50	160	45	3/4	050
15 ... 80	180	50	1	080
20 ... 100	180	50	1	100
30 ... 120	200	55	1-1/4	120
50 ... 200	210	60	—	200

Example: QSKH-009-GK-B. The choice in field 4 also decides the protection grade.

ORDER CODE

Field	Code	Meaning
1 Series	QSKH	QSKH in-line piston flow switch
2 Setting range	009 · 020 · 050	2 ... 9 · 7 ... 20 · 10 ... 50 L/min
	080 · 100	15 ... 80 · 20 ... 100 L/min
	120 · 200	30 ... 120 · 50 ... 200 L/min
3 Thread	GK · RK	G female thread · R female thread
4 Connection	B	Hirschmann plug, with a two-metre cable as standard
	M	M12 connector

