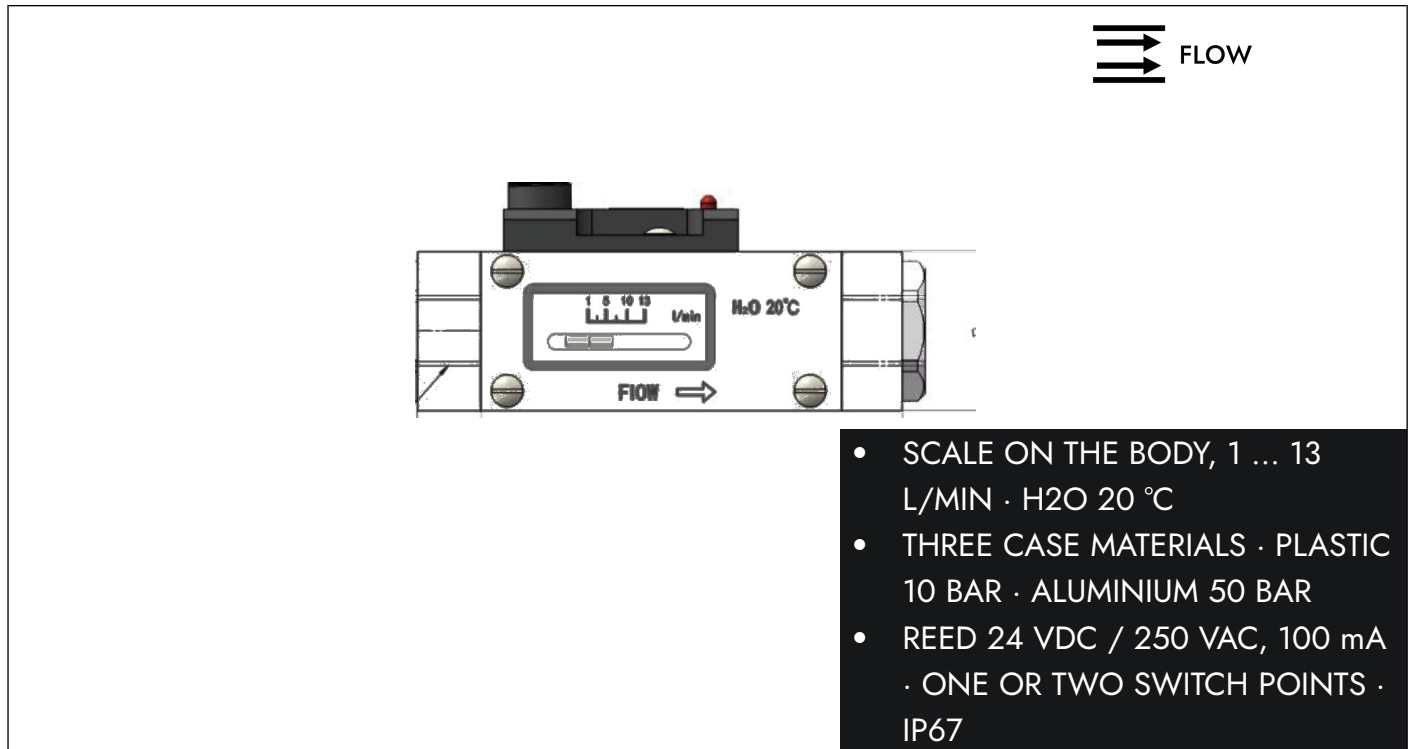


IN-LINE PISTON FLOW SWITCH WITH A SCALE



KEY DATA

Property	Value	Property	Value
Setting range	0.6 ... 8 up to 27 ... 70 L/min in four order fields	Accuracy	5 % of total range
Output	Dry reed contact · one or two switch points	Switching capacity	24 Vdc / 250 Vac, 100 mA
Pressure range	10 bar plastic · 50 bar aluminium	Pressure loss	0.3 bar at 25 L/min
Hysteresis	At least 0.6 L/min, by switching point	Medium temperature	≤ 90 °C
Protection grade	IP67	Media	Liquid or gaseous

A spring holds a magnetic piston back; the flow pushes it aside and the magnet closes a reed contact outside the pipe. The scale on the body shows the setting; it is calibrated in water at 20 °C. The case material decides the pressure rating.



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	Four order fields: 0.6 ... 8, 1 ... 15, 2 ... 25 and 27 ... 70 L/min
Accuracy	5 % of the total range
Hysteresis	At least 0.6 L/min, depending on the switching point
Setting scale	On the body, 1 to 13 L/min, marked H2O 20 °C. Calibrated in water at 20 °C, mounted horizontally. Mounting position, medium and temperature have a slight effect on the switching value
Switch points	One or two, chosen in the order code
Media	Liquid or gaseous. Industrial automation, machinery, air compression, refrigeration and air conditioning

MATERIALS AND PROCESS

Plastic version	POM housing, POM piston, stainless spring, NBR seal · 10 bar
Aluminium version	Anodised aluminium housing, POM piston, stainless spring, NBR seal · 50 bar
Stainless version	Stainless housing, POM piston, stainless spring, NBR seal
Process connection	G1/4 to G1 female thread; the threads of each range are in the parameter table
Medium temperature	≤ 90 °C
Protection grade	IP67

ELECTRICAL PROPERTIES

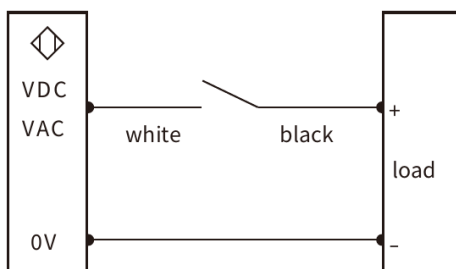
Output	Dry reed contact, two-wire, normally open
Switch points	One or two, chosen in the order code
Switching capacity	24 Vdc / 250 Vac, 100 mA
Supply	24 Vdc ± 20 % or 230 Vac ± 15 %, chosen in the order code
Connection	M12 connector, four pins

SCALE AND INDICATION

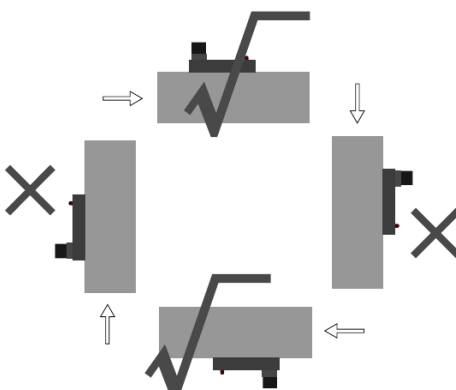
Scale	On the body, 1 to 13 L/min, with the marks 1, 5, 10 and 13
Reference	H2O 20 °C, printed on the device · horizontal mounting
LED	Shows the switch status on the dc version; the ac version has no LED



WIRING AND MOUNTING



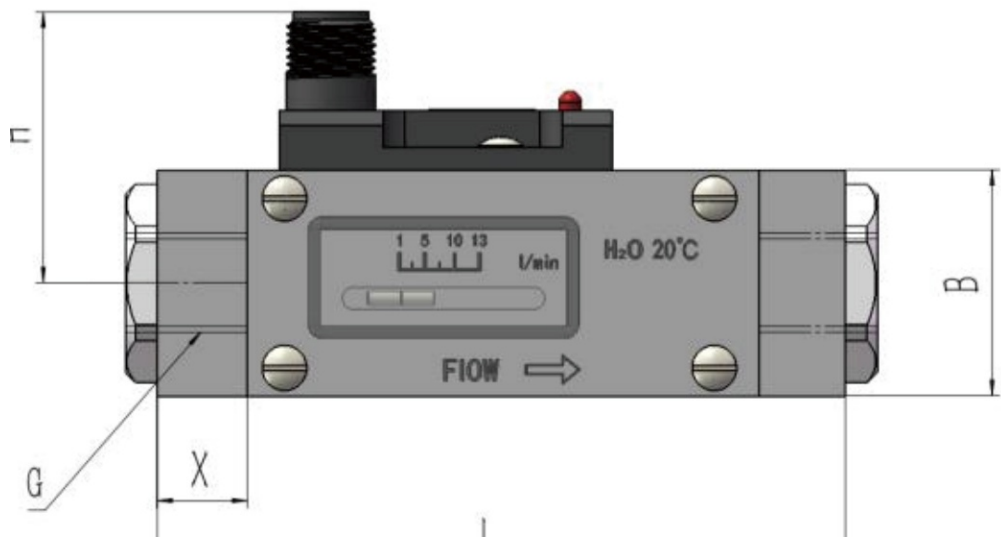
The reed contact in the supply line, white and black, with the load behind it.



The permitted and the forbidden mounting positions.



DIMENSIONS (mm)



From the side. The scale reads 1 to 13 L/min and carries its own condition, H2O 20 °C; the arrow marks the flow direction.

L, H, B and X depend on the size; their values are in the parameter table. The scale with its marks 1, 5, 10 and 13 L/min sits in the middle of the body, with H2O 20 °C beside it and the flow arrow below.

OVERALL DIMENSIONS (mm)

Feature	mm	Note
Overall length L	93 · 105 · 106	By size — see the parameter table
Height H	36 · 38.5 · 41	By size
Width B	30 · 35 · 40	By size
Offset X	12 · 15	By size
Plug	M12 × 1, 4-pin	On top of the switch head

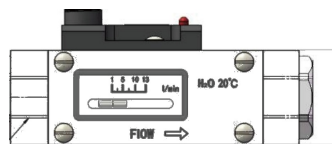
COMPLIANCE AND CERTIFICATION

Measuring principle	Mechanical, magnetic piston on a spring
Accuracy	5 % of the total range
Hysteresis	At least 0.6 L/min, depending on the switching point
Pressure rating	10 bar plastic case · 50 bar aluminium case
Medium temperature	≤ 90 °C
Protection grade	IP67
Wetted materials	POM piston, stainless spring, NBR seal, and a housing of POM, anodised aluminium or stainless steel
Contact rating	24 Vdc / 250 Vac, 100 mA
Scale	Calibrated in water at 20 °C, mounted horizontally

SIZES, ACCESSORIES AND ORDER CODE

Accessories

- Electrical accessories: M12 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
Plastic 10 bar ·
aluminium 50 bar

Protection
IP67



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



Fifteen models; L, H, B and X in mm.

SIZES, RANGES AND THREADS

Thread	Field	Adjustable range L/min	Max flow L/min	L	H	B	X
G1/4	008	0.6 (0.1) ... 8 (7)	40	93	36	30	12
G3/8	008	0.6 (0.1) ... 8 (7)	40	93	36	30	15
G1/2	008	0.6 (0.1) ... 8 (7)	40	93	36	30	15
G3/4	008	0.6 (0.1) ... 8 (7)	40	105	38.5	35	15
G1	008	0.6 (0.1) ... 8 (7)	40	105	41	40	15
G1/4	015	1 (0.5) ... 15 (13)	40	93	36	30	12
G3/8	015	1 (0.5) ... 15 (13)	40	93	36	30	15
G1/2	015	1 (0.5) ... 15 (13)	40	93	36	30	15
G3/4	015	1 (0.5) ... 15 (13)	40	105	38.5	35	15
G1	015	1 (0.5) ... 15 (13)	40	105	41	40	15
G1/2	025	2 (0.8) ... 25 (25)	40	93	36	30	15
G3/4	025	2 (0.8) ... 25 (25)	40	105	36	35	15
G1	025	2 (0.8) ... 25 (25)	40	105	36	40	15
G3/4	070	27 (21) ... 70 (66)		105	38.5	35	15
G1	070	27 (21) ... 70 (66)		106	41	40	15

Example: QSKJ-G14K-DC-L-015-M-1. With the order, state the flow direction, the medium, the pipe bore and the wanted setting; the switch can be set before delivery.

ORDER CODE

Field	Code	Meaning
1 Series	QSKJ	QSKJ in-line piston flow switch with a scale
2 Connection	G14K · G38K · G12K	G1/4 · G3/8 · G1/2 female thread
	G34K · G1K	G3/4 · G1 female thread
3 Supply	DC · AC	24 Vdc ± 20 % · 230 Vac ± 15 %, two-wire, normally open
4 Case	P · L · S	POM plastic · anodised aluminium · stainless steel
5 Setting range	008 · 015	0.6 ... 8 L/min · 1 ... 15 L/min
	025 · 070	2 ... 25 L/min · 27 ... 70 L/min
6 Connection	M	M12 connector
7 Switch points	1 · 2	One switch point · two switch points

