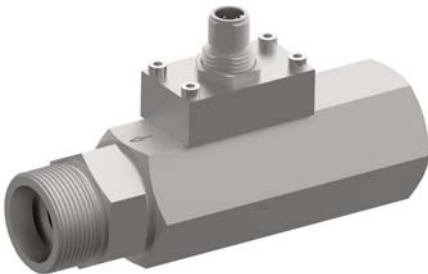


Flow Detector Size 12

$Q_{\max} = 160 \text{ l/min}$, $p_{\max} = 420 \text{ bar}$
 Body design, Line-mounting
 Series FD...



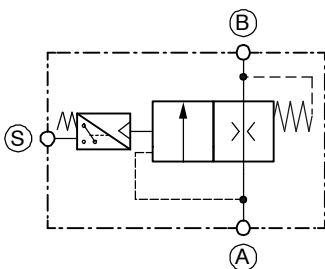
- Complies with safety requirements of EN ISO 13849
- High pressure rating, with safety factor of 3
- Low headloss
- Wide viscosity range
- Plug connection M12, A coding, for protection class IP 67/69K
- Non-contact switching
- Integrated PTC thermistor module (short-circuit protected)
- Stainless steel body, other exposed parts with zinc-nickel coating
- For line-mounting installations

1 Description

The series FD flow detector, size 12, detects a preset flow rate and can be used for various monitoring functions. Meeting the safety requirements of EN ISO 13849 often requires fitting an upstream valve as a second shut-off route. Its diagnostic information is provided by a downstream pressure transducer. In this way, a safe shut-off is always possible. The one remaining loophole is where a directional valve jams in the operated position, a situation that cannot be detected until another, parallel-connected actuator is operated. This loophole can be closed with the flow detector,

which is fitted downstream of the On/Off valve. When the On/Off valve is initially opened, there must be no significant flow. Next the respective directional valve should be operated. Typically, the flow detector is used for mobile applications in which auxiliary actuators are supplied in parallel from one pressure source. This is required, for example, as a monitoring function for steering pumps in mobile machines. The body is stainless steel, all other exposed parts are zinc-nickel plated, and the flow detector is thus suitable for use in the harshest operating environments.

2 Symbol

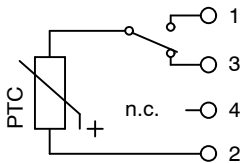


3 Technical data

General characteristics	Description, value, unit
Designation	flow detector
Design	body, hexagonal
Size	G 1/2" - nominal size 12
Mounting method	line-mounting
Port	see section 5 → Dimensions & sectional view
Weight	0.85 kg
Mounting attitude	unrestricted

General characteristics	Description, value, unit
Ambient temperature range	-40°C ...+80°C
Surface protection	Stainless steel body All other exposed parts with zinc-nickel coating

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	420 bar
Maximum flow rate	160 l/min
Nominal flow / switching range	0.4...1.5 l/min, for others, please contact BUCHER
Flow direction	A → B monitoring function, see symbol
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please consult BUCHER
Hydraulic fluid temperature range	-25°C ...+80°C
Viscosity range	3 ... 1500 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

Electrical characteristics	Description, value, unit
Supply voltage	24 V DC (... 36 V DC)
Supply voltage tolerance	± 10 %
Short-circuit resistance	36 V DC
Control current	1 ... 40 mA
Protection class to EN 60 529	IP 67/69K with corresponding mating plug as well as proper assembly and sealing
Electrical connection	plug base M12, 4-pin (male), A-coding
Pin assignments	



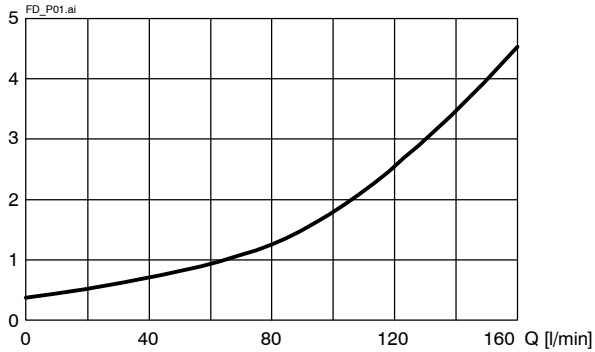
Attention:
High-current cables (> 250 A) and strong permanent magnets should be kept a minimum of 25 mm away from the flow detector.

4 Performance graphs

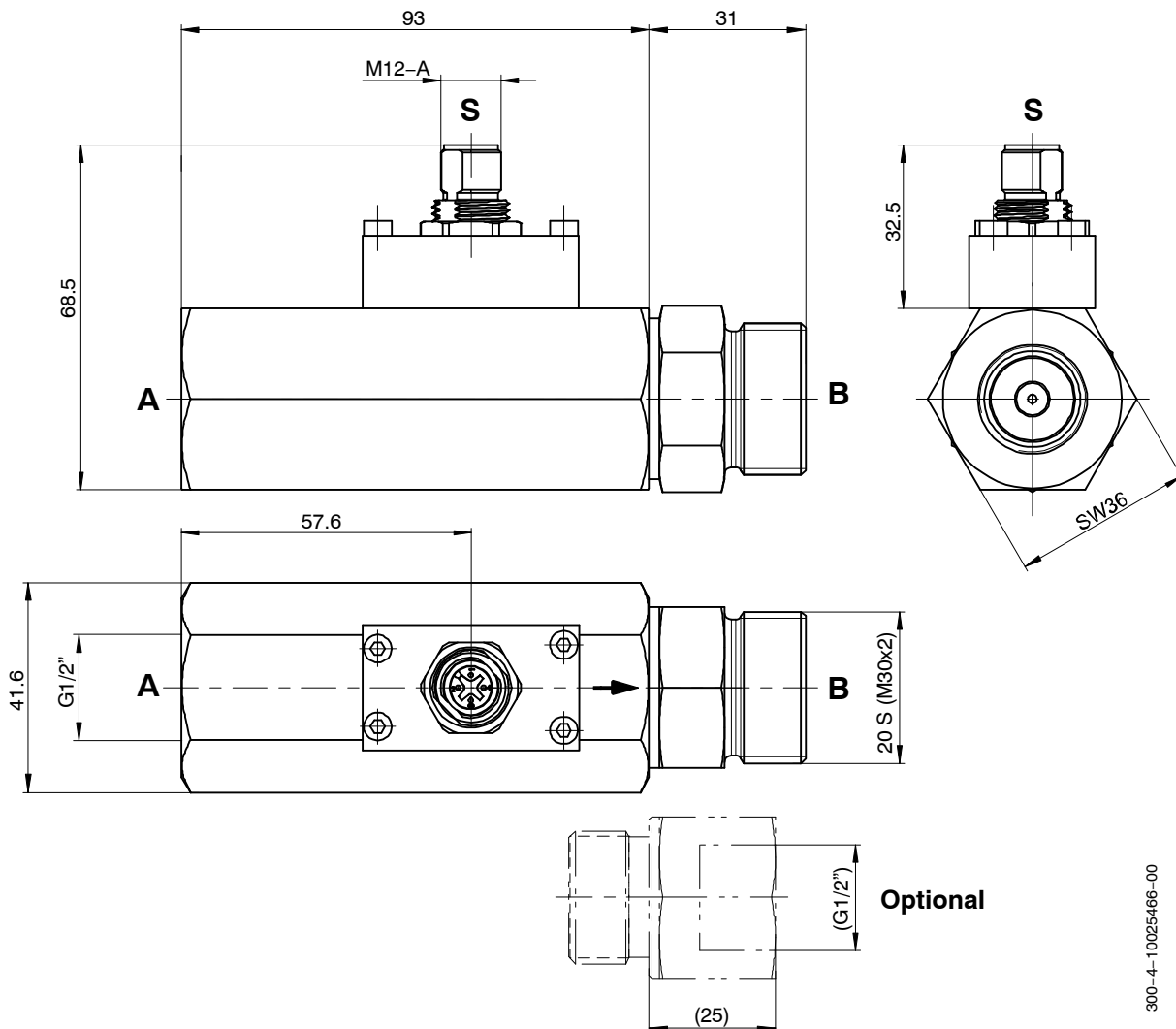
Measured with oil viscosity 46 mm²/s (cSt), with high-pressure fittings, inside-Ø 12 mm

$\Delta p = f(Q)$ Pressure drop - Flow rate characteristic [A → B]

Δp [bar]



5 Dimensions & sectional view



6 Application examples

Using the flow detector, a monitoring function for the steering pump in mobile machines can be implemented. The flow (inlet) to the steering pump is detected, and from the driving cabin it can be seen on a display that the steering pump is working. This gives the driver the OK to proceed.

7 Installation information



ATTENTION!

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

8 Ordering code

