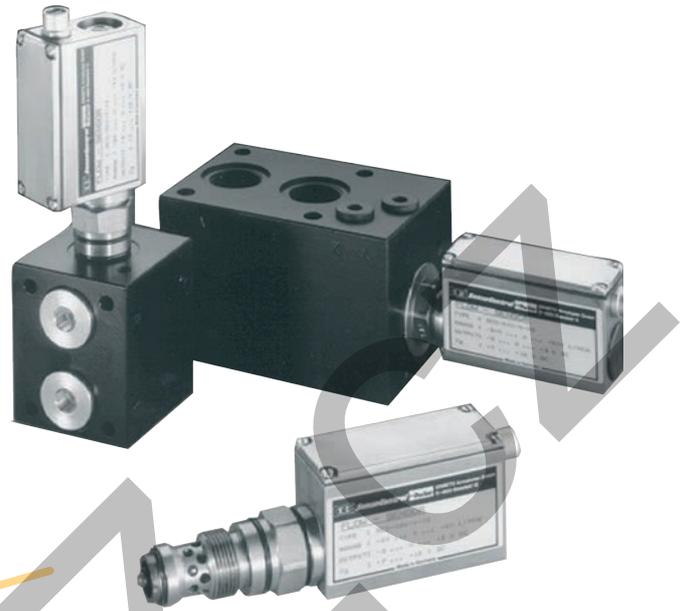


# SCQ flow meter

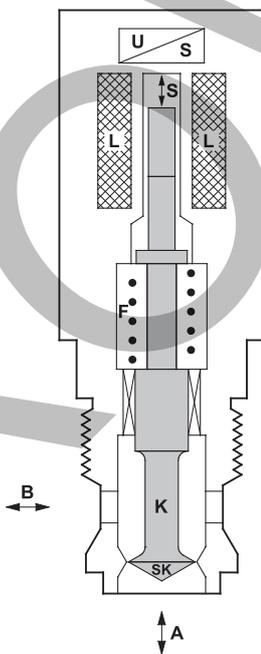
## Device features

- Measurement principle Spring/piston principle
- Response time  $\leq 2$  ms
- Measurement in both directions
- Wide viscosity range
- Compact design
- Withstands pressures up to 420 bar (6092 psi)



## Function

The piston (K) is moved due to a flow from A to B or from B to A. In the idle state, the spring (F) and the piston (K) are in equilibrium. The delta (S) is proportional to the flow and is converted to a value through the built-in electronics. Through the change in direction of the piston (B to A), the flow direction can be indicated. (e.g. -45.8 l/min) The reaction time of the piston movement is less than 2 ms.



SCQ measurement principle

## Application

When working with high-pressure hydraulics, it is very important to be able to quickly detect the flow rate.

Installation with a connection block permits the combined measurement of p, T and Q. Rapid assembly of the **SCQs** is achieved with an in-line adaptor for tube or hose installation. Use under extreme conditions (such as high load changes or rapid pressure increases) is possible because of the sturdy construction.

The **SCQ** is the perfect solution when recording highly dynamic volume flow changes. Rapid load changes, which can cause damage for example in valves and pumps, can be safely detected. Due to its unique measurement process, the **SCQ** can capture volume flow in both directions.

# SCQ flow meter

## Technical data

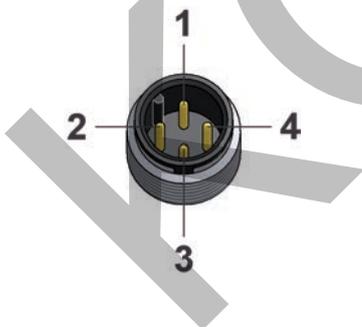
SCQ-	150
Measuring range QN	-150...+150 l/min
Qmax	-165...+165 l/min
Substance connection	M42 (NG16)
Weight (g)	1050

Accuracy	
Deviation from characteristic curve	±2 % FS @ 46cSt.
Response time	2 ms
Thermal drift	±0.05 % FS/°C
Repeat accuracy	± 0.5 % FS
Resistance to pressure	
Pressure range	3...420 bar
Operating pressure P <sub>n</sub>	315 bar / (4569 psi)
Overload pressure P <sub>max</sub>	420 bar / (6092 psi)
Pressure drop ΔP (bar) @ (FS)	Refer to diagram
Material	
Housing	Steel
Seal	NBR
Parts in contact with substances	Steel, NBR
Ambient conditions	
Operating temperature	+10...+60 °C / (50...140°F)
Storage temperature	-20...80 °C / (-4...176°F)
Tmax Fluid	+80 °C / (176°F)
Filtration	25 μm

Viscosity range	15...100 cSt.
Protection degree	IP67 DIN EN 60529
Electrical connection	
Plug	M12x1; 4-pole
Supply voltage	+18...+30 VDC
Current consumption	40 mA
Output	0...20 mA = -FS...+FS (10 mA = 0 l/min)
Load	≤ 150 Ω
Signal noise	< 5 mV
EM compatibility	
Disturbance emissions	EN 61000-6-3
Resistance to interference	EN 61000-6-2

## Pin assignment

M12x1; 4-pole

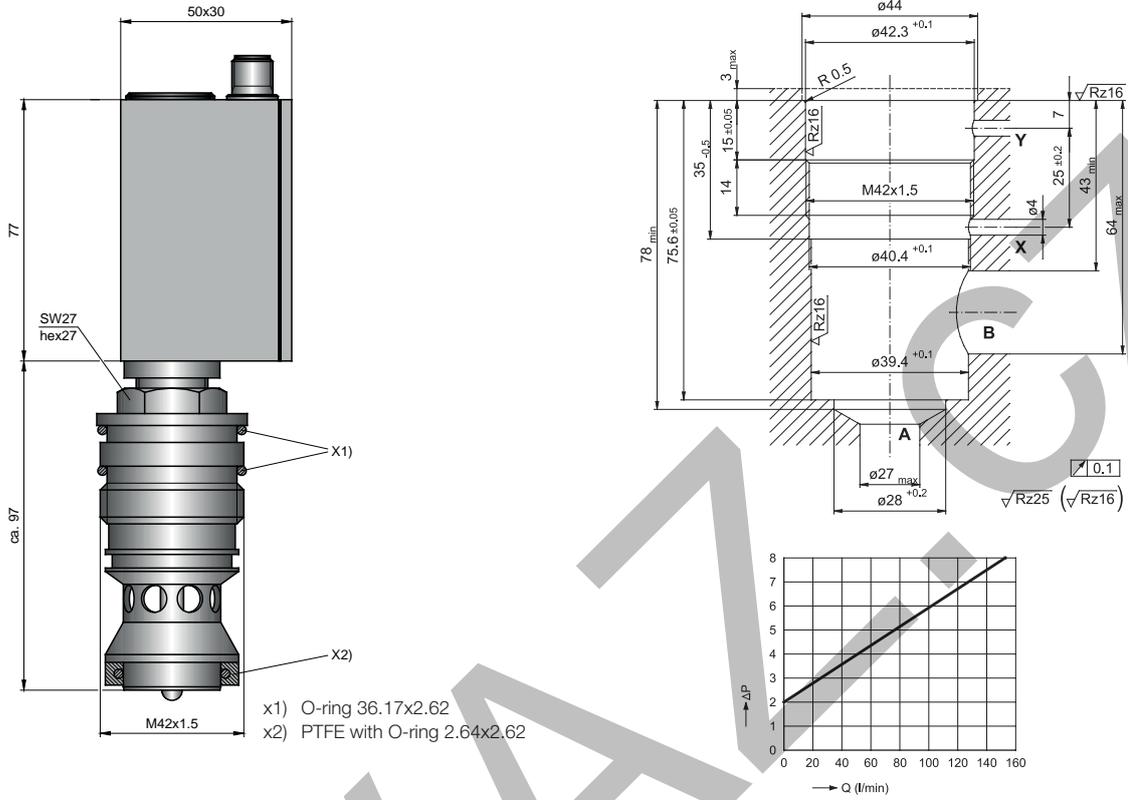


PIN	Assignment
1	V <sub>+</sub>
2	Q signal
3	0 V / GND
4	-

# SCQ flow meter

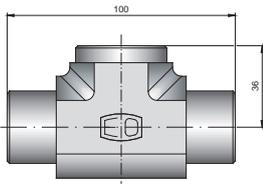
Screw plug hole and pressure-drop curve **SCQ-150**

30 Nm torque

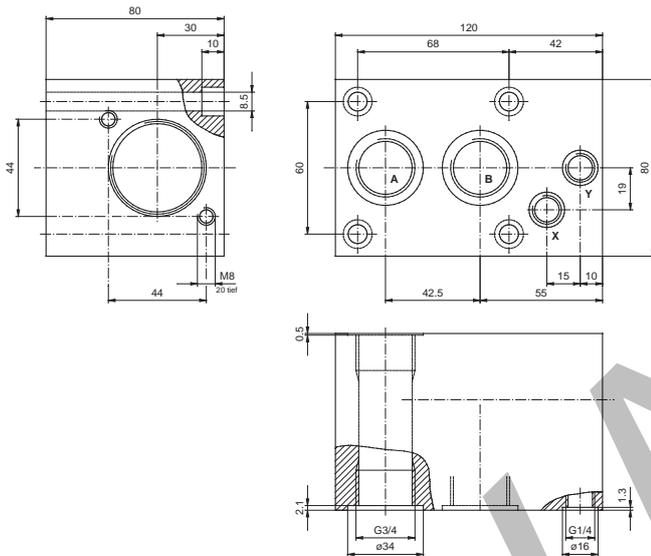


# SCQ flow meter

## SCAQ-GI-R1/2



## SCAQ-150



## Order code

### SCQ-150 (-150 to +150 l/min)

M12x1, 4-pole; connecting plug; IP67  
0 to 20 mA; -150...+150 l/min

**SCQ-150-10-07**

### Accessories SCQ-150

Connector block  
G3/4 BSPP inner (A-B) and M42 inner  
With screw plug:  
M42 outer and  
G3/4 BSPP outer (A-B)

### Spare parts

Spacer ring for SCQ-060  
Seal kit for SCQ-060  
Seal kit for SCQ-150

**SCAQ-150**

**SC-910**

**SC-911**

**SC-912**

## Connection cable and single plug

### Connection cable, assembled

(open cable end)

**SCK-400-xx-xx**

#### Cable length (m)

2 m

5 m

10 m

**02**

**05**

**10**

#### Connecting plug

M12 cable jack; straight

M12 cable jack; 90° angled

**45**

**55**

### Single connector

M12 cable jack; straight

M12 cable jack; 90° angled

**SCK-145**

**SCK-155**