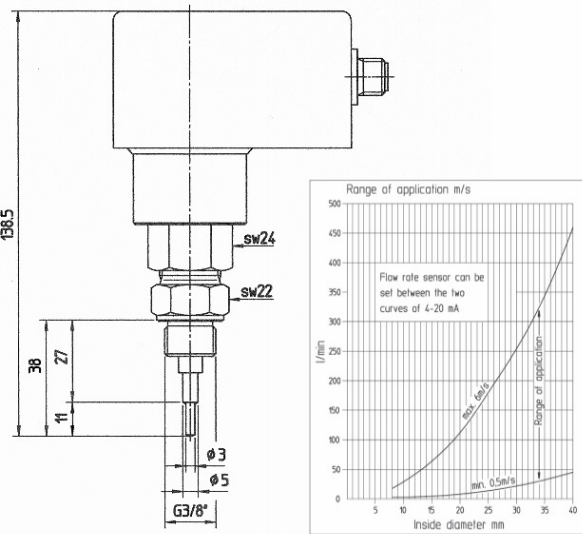
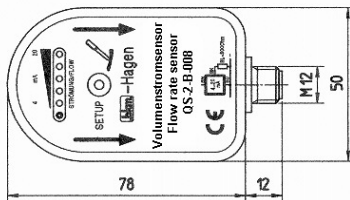


Flow rate sensor QS for serv-Clip® 2

- No need cutting pipelines -

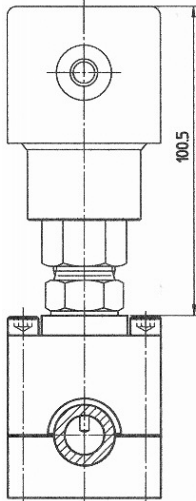


Display 6 Led
red = 04 mA
1. green > 04 mA
2. green > 08 mA
3. green > 12 mA
4. green > 16 mA
5. green > 20 mA

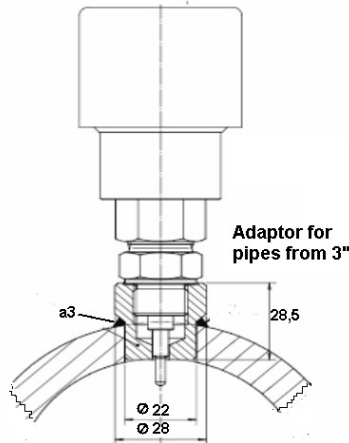


1: BN+24VDC
3: BU-
4: BK Analog 4-20mA

QS with serv-Clip



QS with SC-XE-607



RECOMMENDED MEASURING RANGES

Range	OD-Pipe in mm	Tube Inch (OD)	Pipe Inch (ID)	ID-Pipe in mm	Recommended Measuring range l/min
001	12	3/8	-	8 - 10	0,5 - 38
002	14 - 15	1/2	1/4	11 - 12	0,7 - 52
003	16 - 18	5/8	3/8	12 - 14	0,9 - 75
004	20 - 22	3/4	1/2	15 - 17	1,4 - 110
005	25 - 28	1	3/4	19 - 22	2,2 - 190
006	30 - 35	1 1/4	1	23 - 29	4,0 - 320
007	38 - 42	1 1/2	1 1/4	30 - 36	6,0 - 500
008	-	-	-	No calibrated	-

Calibration is adjusted only for a measuring range

What can I measure? Hydraulic and gear oil

With the QS flow rate sensor (up to 600 l/min):

- Monitoring flow rate and wear of pumps
- Operability of accumulators
- Filter transmittance
- Heat exchangers
- Nozzle flow rate
- Speed of hydraulic motors
- Lubrication lack of gears

Qualities: stainless steel housing (QS-1-B-008) and with PBT housing (QS-2-B-008)

Leakages detection? Our solution LS Sensor (Page 19)
Mobile Measurement kit FM-1-B for sensors (Page 22)

Description

The flow rate sensor QS **fluid-Check®** was developed for monitoring hydraulic systems. Needed time for measuring 9 seconds.

The flow rate sensor can be used with the pipe measuring point **serv-Clip®** for **steel pipelines** from 12 mm x 1,5 mm up to 5,5 mm wall thickness.

Exception: with 12x2 mm use no possible

For pipes from 3" (88,9 mm) and wall thickness from 6 mm can be used the welding adaptor SC-XE-607.

serv-Clip Type 2 special needles for stainless steel pipelines up to 5,5 mm wall thickness can be provided upon request.

The measurement system is based on the **calorimetric principle**, which provides a direct measurement of the flow velocity in l/min rather than measuring the volume flow. It means sensor head has an intern thermo element and a heating (calorimetric principal). The running oil temperature will be measured. The sensor head temperature raises at 2°C. The time for this will be measured and the flow rate will be calculated. The measuring cycle takes 5 seconds.

Calibration service (please see chart of the left side)

For the ID-pipe with the wished measuring range from/to in l/min.

With your instructions for calibration you get a data sheet with curves mA in l/min.

For a quotation please let us know :

- 1) (for SC) outer diameter and wall thickness of the pipeline in mm
- 2) (for calibration) wished quantity min/max in Liter/Minutes.

We have a test bench for calibrations up to 220 L/min only.

You can calibrate the product by yourself if you count on a test bench.

Installation with serv-Clip® 2

The patented measuring connector **sc-2-...** was developed for installation on pressureless hydraulic pipes.

After installation, the measuring connection can continuously be used, supporting operating pressures of up to 630 bar.

The measuring connection **sc-2-...** comes pre-mounted, including measurement coupling and needle, and is mounted as described in the corresponding installation instructions.

To install the flow rate sensor, the created 2 mm hole must be widened. In the first step, the short needle of the measurement coupling is screwed down completely - without applying much force - until the stop is reached. Then it is unscrewed again. In the second step, the long needle is screwed down completely and unscrewed again, too.

Now the flow rate sensor can be screwed into the **serv-Clip®**. The measuring connection is completely tight and is ready for continuous use.

Using the **serv-Clip® sc-2-...**, the flow rate sensor can be installed easily, quickly and safely even by non-technical staff. The whole process takes a few minutes only. No special tools are required for the installation of the **serv-Clip®** and the **flow rate sensor**.

The system is completely tight, preventing any contamination of the hydraulic oil and ensuring sustained operational safety. The measuring connections are continuously available for measurement applications.

Special instructions for stainless steel up to 4 mm wall thickness with SC-2 can be provided.

Specifications

Measuring range	0,05 ... 8 Meter/Second
Flow rate	up to 600 l/min, depending on ID
Pressure	630 bar (9100 psi)
Temperature	-20...80 °C
Threaded coupling	G 3/8"
Accuracy	+/- 2% at 65°C
Output signal	4...20 mA (analogue)
Power supply	24 V DC +/- 10%; 150mA
Connection	M12 Universalstecksystem
Setting	Per Micro button
Display	6 LED lights
Protection mode	IP 65
Sensor head	stainless steel 1.4571
Housing	Stainless steel or PBT