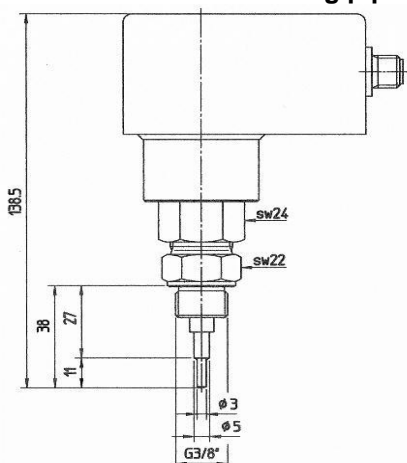
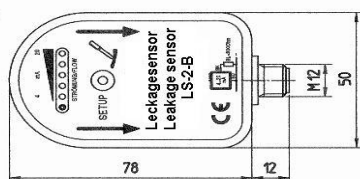


## Leakage sensor LS for serv-Clip® 2 - No need cutting pipelines

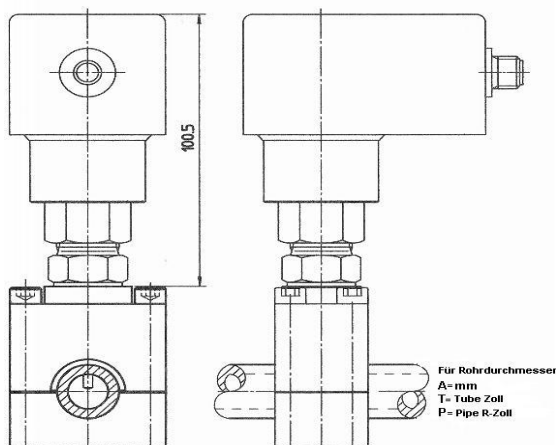


Anzeige 6 LED:

- rot = 0.4 mA
- 1. grün > 0.4 mA
- 2. grün > 0.8 mA
- 3. grün > 1.2 mA
- 4. grün > 1.6 mA
- 5. grün > 2.0 mA



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



### Leakage sensor types

Type Code	A mm	Tube Inch OD	Pipe Inch ID	Flow l/min
001	12	-	-	0,02-5
002	14-15	1/2	1/4	0,03-5
003	16-18	5/8	3/8	0,05-5
004	20-22	3/4	1/2	0,08-5
005	25-28	1	3/4	0,12-10
006	30-35	1 1/4	1	0,40-10
007	38-42	1 1/2	1 1/4	0,70-10

Calibration is adjusted only for a measuring range. Other measuring ranges are possible

### What can I measure? Hydraulic and gear oil

With the LS-2-B- leakage sensor (from 0,02 l/min):

- Leakage
- Sealing damages

Options: stainless steel housing (QS-1-B-...) or PBT housing (QS-2-B-...)

Flow rate detection? (catalogue page 18)

Mobile measuring suitcase FM-1-B for sensors (catalogue page 22)

### Description

The leakage sensor LS **fluid-Check®** was developed for monitoring hydraulic systems recognizing and reporting very small leakage and sealing damages (from 0,02 l/min). The installation takes few minutes with the help of the **pipe measuring point serv-Clip® Type 2- no cutting pipes**. A screw driver 6 mm and a jaw wrench sw 22 will be needed for the installation only.

The flow rate sensor will installed with the applicable pipe measuring point **serv-Clip® Type 2 for steel pipelines from 12 mm x 1,5 mm up to 5,5 mm wall thickness**. Exception: with 12x2 mm use no possible.

**serv-Clip Type 2 special models 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 needed time for measuring is 15 seconds. The measuring cycle takes 3 seconds.

### Calibration service (please see chart of the left side)

Confirm 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.

### How do I choose an LS?

For the ID-pipe with the wished measuring range from/to in l/min. Select the type of the LS - see chart above (eg Type 003). Determine switch-point 4-20 mA (eg 8.5 mA).

For the leakage sensor LS-1 or 2-B-003 you need a **serv-Clip® SC-2-A-16**.

### Installation with serv-Clip® 2- No cutting pipes- no oil contamination

The patented measuring connector **sc-2-...** was developed for installation on pressureless hydraulic pipes. Installation takes few minutes only.

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.

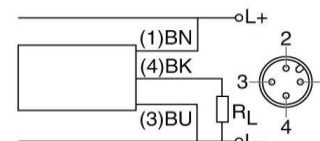
### Specifications

Measuring range	0,05 ... 8 Meter/Second
Leakage	from 0,02 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 Universal system
Setting	Per Micro button
Display	6 LED lights
Protection mode	IP 65
Sensor head	stainless steel 1.4571
Housing options	Stainless steel or PBT

### Example :

Choose the correct LS for 16 mm pipe-Ø  
Type LS-1 or 2-B-003

Flow rate > from 0,05 l/min by 4 mA  
to 5 l/min by 20mA measurable



For a quotation: Let us know (for the serv-Clip) outer diameter and wall thickness of the pipeline in mm and (for calibration) wished quantity min/max in Liter/Minutes