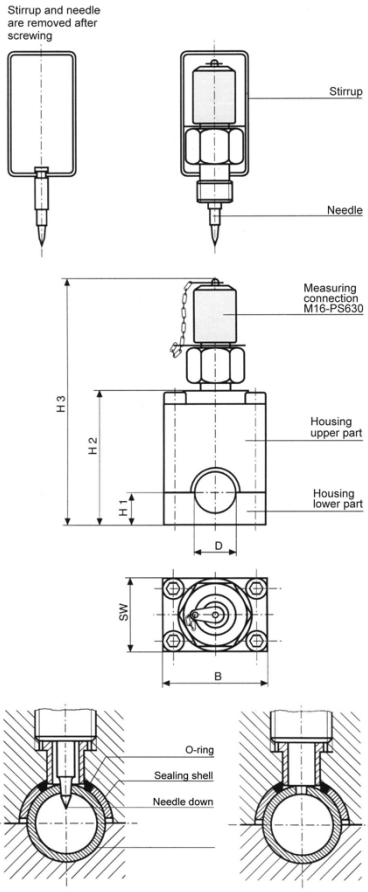
Serv-Clip® Type 2 for mounting on non-pressurized pipes



- **Quick, simple and cheap installation of a measuring connection in approx. 3 minutes**.
- **Installation on steel or stainless steel pipes – NO CUTTING PIPES**
- No contamination of hydraulic oil through metallic particles
- Installation of manometers, sensors and switches with ¾" screw possible. Inc. valve M16x2
- **You need a jaw and Allen wrench for the installation only.**
- Particle measurement according to ISO or NAS classes possible
- For use up to 630 bar (9100 psi) working pressure.
- ***Serv-Clip*** is registered trade mark of BOLENDER / Germany
- Alternative for installation on pressurized pipes with Serv-Clip **Type 1** (1/4" screw)
- **Test *fluid-Check* Sensors: leakage, flow rate, temperature, pressure**

Description

The patented measuring connector SC-2-A/T/P... has been developed for mounting **on non-pressurized hydraulic carbon steel or stainless steel pipes**. Following installation, the measuring connector is capable of permanent use for a working pressure of 630 bar (9100 psi). The measuring connector sc-2-A/T/P... is supplied in a pre-assembled state with measuring connector and needle. Screwing in the measuring connector presses a special-shaped needle through the wall of the tube. Afterwards the measuring connector is screwed out and the needle removed along with the stirrup and a pressure disk.

The measuring connector is now screwed back into the Serv-Clip. The measuring point is now sealed off and permanent pressure can be applied up to 630 bar (9100 psi). This connection is quick and simple to make and is also reliable. The whole process takes only a few minutes to complete. No special tools are required for mounting the Serv-Clip. The system is fully sealed off. Contamination of the hydraulic fluid is ruled out. The operating reliability of the system remains intact. The measuring point is now permanently available for measurements.

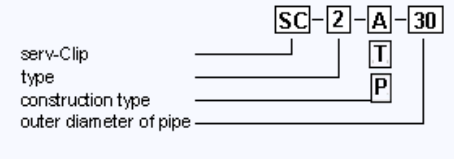
Housing: 9SMnPb28k | Sealing shell: St 37.4 | Measuring Needle: 58CrV4
O-ring: Viton | Screw head: 9SMnPb28k

Measurements: A=metric (10-42 mm) / T=**TUBE inch** (3/8"-2") / **P=PIPE inch** (¼"- 3") available

A=metric	
Outer-Ø	**Ordering code**
10 mm	SC-2-**A**-10
12 mm	SC-2-**A**-12
14 mm	SC-2-**A**-14
15 mm	SC-2-**A**-15
16 mm	SC-2-**A**-16
18 mm	SC-2-**A**-18
20 mm	SC-2-**A**-20
22 mm	SC-2-**A**-22
30 mm	SC-2-**A**-30
35 mm	SC-2-**A**-35
38 mm	SC-2-**A**-38
42 mm	SC-2-**A**-42

T=Tube	**inch**	
Outer-Ø	**Outer-Ø**	**Ordering code**
3/8"	9.52 mm	SC-2-**T**-3/8"
1/2"	12.7 mm	SC-2-**T**-1/2"
5/8"	15.90 mm	SC-2-**T**-5/8"
3/4"	19.05 mm	SC-2-**T**-3/4"
1"	25.40 mm	SC-2-**T**-1"
1 ¼"	31.75 mm	SC-2-**T**-1 ¼"
1 ½"	38.10 mm	SC-2-**T**-1 ½"
2"	50.80 mm	SC-2-**T**-2"

Order references



P=Pipe inch				
Internal-Ø	**Outer-Ø**	**Schedules**		**Ordering code**
		60	**180**	
1/4"	13.5 mm	3.0	-	SC-2-**P**-1/4"
3/8"	17.2 mm	3.2	-	SC-2-**P**-3/8"
1/2"	21.4 mm	3.7	4.7	SC-2-**P**-1/2"
3/4"	26.9 mm	3.9	5.6	SC-2-**P**-3/4"
1"	33.7 mm	4.5	6.4	SC-2-**P**-1"
1 1/4"	42.4 mm	4.8	6.4	SC-2-**P**-1 ¼"
1 1/2"	48.3 mm	5.0	7.1	SC-2-**P**-1 ½"
2"	60.3 mm	5.5	X	SC-2-**P**-2"
2 1/2"	76.1 mm	7.0	X	SC-2-**P**-21/2 "
3"	88.9 mm	7.6	X	SC-2-**P**-3"

Serv-Clip® Type 2 for mounting on non-pressurized pipes

Safety instructions

To ensure a correct and safe installation of the Serv-Clip please read installations and safety instructions referring to pressure measuring clips. SC-2-A-(mm) / T (tube OD) / P (pipe ID).

The indicated measuring clips *Serv-Clip* are exclusively for use in fluid-technical plants. The field of application is Tubes with technical oils, like hydraulic systems and lubrication oil supply or cooling plants.

Use in water, air, and gas tubes is forbidden.
We reserve ourselves the right to modifications which are useful for any further technical development.

Installation of the Serv-Clip

Prior to installing, a check needs to be carried out to see whether the line is in the pressureless state. Afterwards check to see whether the proposed tubeline matches the outside diameter of the Serv-Clip that has been selected. Tubelines that are heavily corroded or appear unsound must not be used for installing a tube measuring connector.

Furthermore, it is a precondition that the tube system should be laid and fixed in such a way that the Serv-Clip is not affected by any additional burdens, stress and tensions. Tubes are to be laid so as to be adequately stable in relation to the operational conditions and they are to be equipped with fixed points.

Then the part of the tube where the installation is to take place has to be cleaned and all paint and paint remains are to be removed. The tube should be smooth, clean and dry at this point.
Installation will take approx. 3 minutes only, no cutting pipelines.
Then the housing, consisting of two parts (*), is positioned on the tube with the help of an Allen wrench 6 mm. The four housing screws are now fastened firmly.
During the last operating, the screw-in head joint is turned in the clockwise direction as far as it will go using an open-jawed wrench (without extension SW22). Afterwards the measuring connector is screwed out and the spring plug, needle and pressure disk removed. The measuring connector is then screwed back in and the measuring point is available for permanent use.
(*) for Serv-Clip - model Pipes from 1-1/2” (48,3mm) to 3” (88.9mm) consist only of a piece of housing with clamp, please follow special additional mounting instructions, that you will find with the product.

Tolerances of the outer diameter of the tube according to DIN 2391

Tube - ∅	Permitted Deviation
10 mm; 3/8”	± 0.10 mm
12 –30 mm; 1/2”; 5/8”; 3/4”; 1”	± 0.08 mm
35 – 38 mm; 1 1/4"; 1 1/2"	± 0.15 mm
42 mm	± 0.20 mm

Pressure capacity

P_B 630 (9,100 psi) the indications with regard to pressure and safety are based on the installation according to this data leaflet.

Working temperature

Steel: -40 to +120°C
O-ring in Viton: -25 to +200°C

The indicated temperature limits for sealing materials are guidelines as these temperature limits may be influenced considerably by the medium.

Clip Material	Temperature Range	Pressure Reduction
Steel	-40 to +120°C	---

Pressure reduction

Required pressure reduction due to the material in comparison to catalogue details in the case of increased or reduced temperatures.
If there are divergent definitions for permissible pressures, safety margins, temperatures and, if necessary, applicable pressure reductions due to standards, regulations or approvals for specific applications, the information provided by them is obligatory.
Nominal pressures (P_N) and working pressures (P_E) detained in the catalogue are max. permissible working pressures including pressures peaks, whereby the temperature limits and pressure reductions detailed in the table above must be taken into consideration.
Functional safety under stationary load
Types with P_N indications: 4 times
Types with P_B indications: 2.5 times

Test our ***Serv-Clip Type 1*** (for mounting on pressurized pipes) and ***sensors*** (flow rate, leakage, temperature, pressure) in combination with ***Serv-Clip Type 2*** (for mounting on non-pressurized pipes).

Installation Instructions

Good maintenance practices for the Condition Monitoring
INSTALLATION IN 3 MINUTES

serv-Clip 1 (1/4" screw)
for mounting on pressurized pipes

serv-Clip 2 (3/8" screw)
for mounting on non-pressurized pipes

Required tools: Allen wrench 6mm and jaw wrench sw22

Installation location

screw down
clamp bolts

Installation location

screw the valve
to the right until it stops
then screw it to the left

remove paint

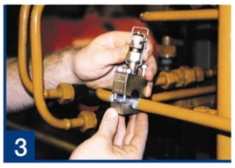
screw the valve
to the right until it stops
then screw it to the left

remove paint and
clean pipe

remove stirrup
and needle

clean pipe

ready to measure



clamp SC onto pipe

screw valve

clamp SC onto pipe

screw down
clamp bolts

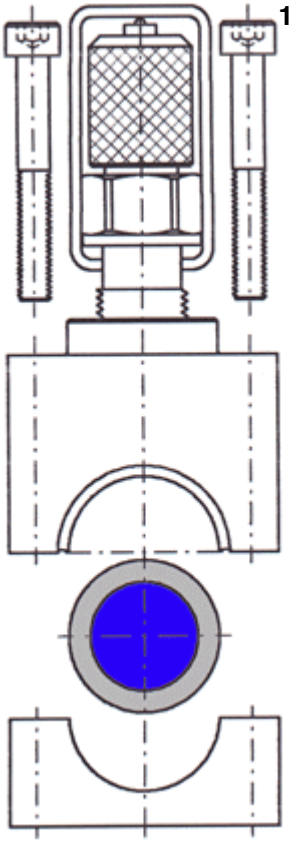
ready to measure

-No contamination
-No leakages
-Vibration certificate

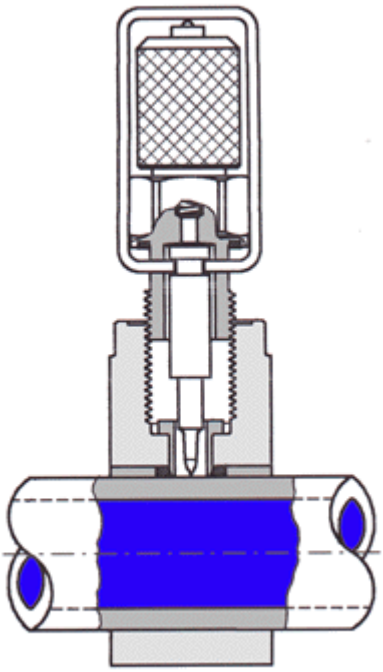
Serv-Clip® Type 2- installation on non-pressurized pipes

Installation

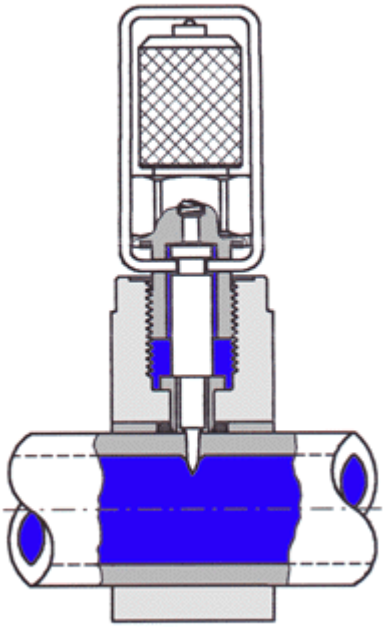
1. Place in position

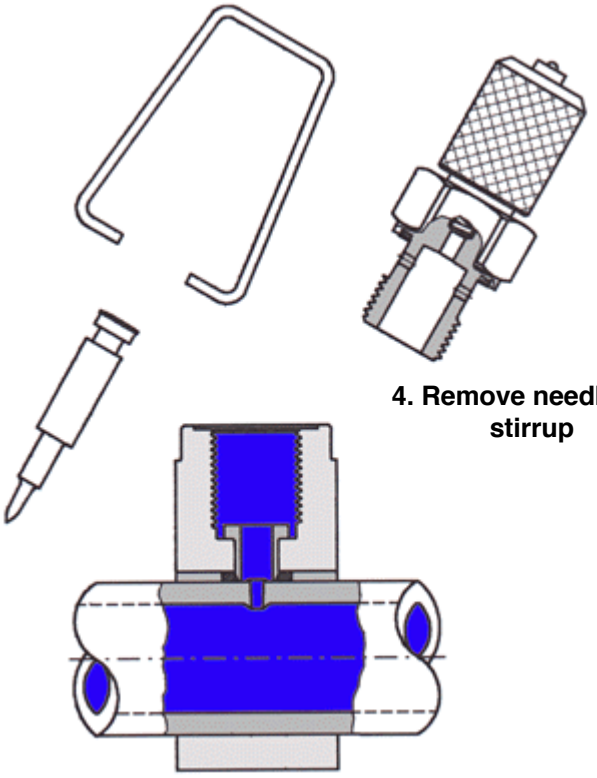


2. Screw down



3. Insert





4. Remove needle and stirrup

5. Measure