

# ASSEMBLY INSTRUCTION

## Compression Fittings



MA-SR-1  
17.9.2021

Focus in details®

**schwer**  
fittings



## Safety instructions

### ■ General safety regulations

Please pay attention to **general safety regulations** when working with tools and machines. Wear protective clothing!

### ■ Pipeline and medium

Before assembly or disassembly make sure, the tube or pipeline **is not under pressure**. Take care **not to apply any additional tension or stress** to the coupling, when setting up the pipeline.

Do not exceed any **temperature or pressure limits**. Pay attention when using dangerous or harmful mediums. Respect the **temperature at the pipeline**.

### ■ Workplace

**Keep your workplace clean**. Make sure you have the all necessary material available before starting the assembly.

### ■ Wear Safety glasses

Some workers just remove chips from the tubes by using pressurized air. Dust and chips can harm your eyes, therefore **wear safety glasses**.

### ■ Foreign particles

Take care that the coupling is **free of dirt and foreign particles** before assembly. Contaminated parts may cause leakages.



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## Assembly according to DVGW

Mounting Instruction of removable tube couplings for metal gas pipes

1. Solderless tube fittings with outside thread Form A, E and F may not be used in installations according to DVGW - TRGI and TRF.
2. DVGW-Mark of conformity: DG4502BM0334
3. Suitable for gases according to DVGW worksheet G 260
4. Nominal pressure:
 

Series	Outer diameter of tube Ø	Nominal pressure PN bar
L	06, 08, 08, 10, 12, 15, 18	250
	22, 35, 42	100
S	06, 08, 10, 12, 14, 16, 20, 25, 30, 38	250
5. Permissible service temperature: minus 20° C up to plus 70° C
6. Tubes to be according to EN ISO 1127 or DIN 2462
7. Axial force: tensile and push strength
8. Repeated usability: 10 times



## Assembly Instruction



For standard fittings and assemblies of stainless and acid proof steel pipes use hardened pre installation studs.

Check the accuracy of the cones regularly using a cone gauge. Worn studs should be replaced.



We only recommend the use of seamless stainless steel pipe in AISI 316Ti.

**N.B.:** Do not use welded pipe!

Cut the pipe square using a saw.

**On no account should pipecutters be used.**



De burr the pipe internally and externally, but do not chamfer the edges.

When using thin-walled pipe, we recommend the use of reinforcing rings, sf 595.



## Assembly Instruction

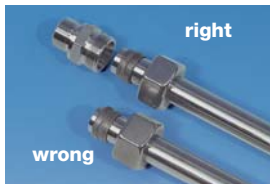


Fix the pre installation stud relative to the pipe size into a vice.



Lubricate the pre installation stud, nut and ring with sf-Lubricant (silicon free)

Tube 100 g:	sf 5GP	100
Can 250 g:	sf 5GP	250
Can 500 g:	sf 5GP	500
Can 1000 g:	sf 5GP	1000



Slip the nut and ring over the tube end, narrow collar towards cut.



## Assembly Instruction



Turn union nut manually into the pre installation stud.

Press tube against stop on inside of cone.



Using the sf trademark on the nut, mark the pipe.



Turn nut with a spanner approx. one full turn, ensuring that the pipe remains stationary. The ring will cut into the pipe.

**N.B.:** On the assembly of sf-brillant Twin Cut rings it is possible to increase to between 1 1/4 – 1 1/2 turns.



## Check



Loosen nut and check ring.  
The ring should be sitting parallel with the tube on the whole circumference.

The distance from the ring to the end of the pipe should be constant.

The ring should be able to turn but should not be able to move backwards or forwards.

**N.B.:** sf-brillant Twin Cut rings fit quite loosely on the pipe, despite the additional 1/2 turn during assembly.



## Final assembly onto the body



Put pre installed tube into fitting body.  
Tighten the nut approx. 1/4 to 1/2 turn beyond the point of clearly perceptible resistance.

Use a second spanner to stop fitting body from moving.

On larger sizes, a spanner with sufficient lever length should be used.



## Reinforcing Rings SR-595



Due to cost implications, thin walled pipe is regularly used.

This pipe is not able to withstand the pressure of the cutting ring during assembly and to resolve this problem, we recommend the use of our reinforcing sleeves.



### ■ Assembly:

The reinforcing rings can be easily inserted into the tube.



The knurled part can be driven into the tube using a soft hammer.

A press fit results, without causing widening of the tube.



The reinforcing ring sits firm and supports the tube during assembly.





# Certificate



Certificate No:  
TAP0002EA

## TYPE APPROVAL CERTIFICATE

This is to certify:

**That the Pipe Couplings, Bite and Compression Type**

with type designation(s)  
**SR-500Z**

Issued to

**Schwer Fittings GmbH**  
Denkingen, Baden-Württemberg, Germany

is found to comply with

**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNV GL class programme DNVGL-CP-0185 – Type approval – Mechanical joints**

Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

**Temperature range:** Refer to certificate  
**Max. working press.:** 630 bar  
**Sizes:** 6mm up to 42mm

Issued at **Hamburg** on **2021-09-02**

This Certificate is valid until **2026-09-01**.

DNV local station: **Augsburg**

Approval Engineer: **Hagen Markus**



for DNV

Digitally Signed By: Drews, Olaf  
Location: DNV GL SE Hamburg, Germany  
Signing Date: 2021-09-02

**Olaf Drews**  
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

**LEGAL DISCLAIMER:** Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300.000 USD.



Firm code: TA.251

Revision: 2021-03

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## Hand-Pre-Assembly Machine Pace1Press

Compared to all other machines available on the market – the new patented electrohydraulic pre-assembly tool, Pace1Press, from Schwer Fittings, is a technological revolution. Providing a flexible and portable solution, compared to a bench machine.

### Technical specifications:

Battery: 18 V  
Weight: 7 kg  
Pipe diameter: min. 6 mm, max. 42 mm

Designed for Compression Fittings to EN ISO 8434-1 (DIN 2353).  
Precision casting nose part.

The machine can be used for 6 - 42L (L-series) as well as 6 - 38S (S-series) steel and stainless steel.

- For consistent pre assembly quality
- Independent of any external power source
- Also for use in limited space
- Reduced assembly time saves money
- For steel and stainless steel
  
- Light but extremely strong
- Easy to handle
- Handy and easy to carry
- Revolutionary and patented engineering

**LIGHT  
COMPACT  
POWERFUL**

**pace1**  
PRESS

for steel and  
stainless steel



## Electro-hydraulic Pre-assembly Machine

**VARO**

**All-purpose:**

**for 24° bite-ring couplings according EN ISO 8434-1**

**for 37° Flare fittings**



MO-VARO-M202

- **Compact and robust machine**
- **Manual adjusting of working pressure with digital display**
- **Short set-up and assembly time**
- **Clear tables for set-up**

Dimensions / weight: 535x285x500 mm / 65 kg



**Gliss  
Lubricant**

Tube 100 g: SR-5GP100  
Can 250 g: SR-5GP250  
Can 1000 g: SR-5GP1000

**Pipe  
Deburrer**

RE 10-56

**Pre-Assem-  
bly Stud**

SR-592 ...

**Pipe Cutting  
Tool**

AV 6-42

A photograph of several stainless steel fittings, including a hex nut and a ring, splashing in clear water against a vibrant green background. The scene is dynamic, with water droplets and splashes around the metal parts.

Focus in details<sup>®</sup>



You can find all our assembly instructions  
also on our website:

[www.schwer.com](http://www.schwer.com)

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