



**Operating and maintenance instructions**

Stainless steel bite-type tube fittings

Please read these instructions carefully for your own safety, before proceeding to the installation, use or maintenance of the stainless steel bite-type tube fittings. This instructions must be conserved for future consultation.

**E****General information**

These operating instructions are an integral part of the stainless steel bite-type tube fittings. Please read the instructions for use, safety regulations and instructions contained in these operating instructions carefully before installation, commissioning, adjustment or maintenance, as they provide important information regarding safe use and maintenance. To ensure safe use and correct maintenance, the stainless steel bite-type tube fittings may only be used by an operator who is familiar with the contents of the operating instructions. The information contained in these operating instructions is necessary for the correct use of the stainless steel bite-type tube fittings and completes the information that is part of the normal technical knowledge of the persons entrusted with its operation. For further information or specific solutions to problems, please contact our sales engineering.

Therefore, always keep the corresponding operating instructions with your product.

Stainless steel bite-type tube fittings have been developed for specific applications. RIEGLER expressly points out that these must not be changed and/or used in a way that does not correspond to the intended use.

RIEGLER accepts no liability or warranty for injuries and damage resulting from improper use, use for other than the intended purpose or non-compliance with the safety regulations.

In addition, the accident prevention regulations and general safety regulations applicable to the area of use of the stainless steel bite-type tube fittings must be observed.

**Technical Data**

Material: Stainless steel 1.4571

Sealing: NBR / FKM

**Intended Use**

Used to join lines together. Suitable for non-toxic, gaseous and liquid media.

**Useful Contacts and Addresses**

If you need any clarification or in case of doubts about this operating instruction, please contact RIEGLER & Co. KG to the following addresses:

RIEGLER & Co. KG, Sales Engineering

Schützenstraße 27

72574 Bad Urach

Tel. +49 7125 9497-642

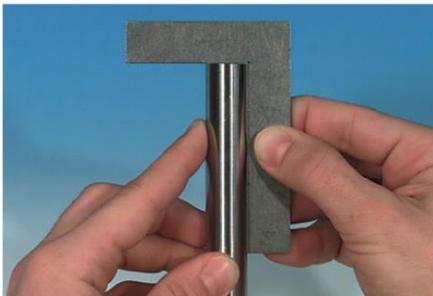
technik@riegler.de

**Installation**

When mounting stainless steel pipes the pre-assembly is to be carried out exclusively in the hardened VOMO.

A direct assembly in the stainless steel must be avoided! The cones of the VOMOS are subject wear and must therefore be checked at regular intervals with a cone gauge.

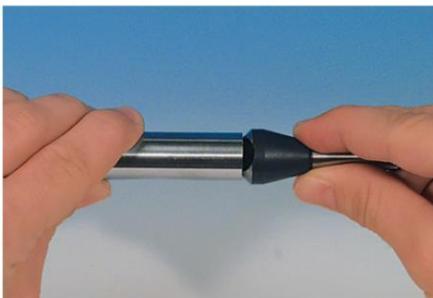
In order to prevent incorrect assembly from the outset, worn VOMOS should be replaced with new ones.



We recommend only seamless soft annealed stainless steel tubes made of material 1.4571 according to EN ISO 10216-5 or DIN EN ISO 1127 tolerance class D4/T3.

**Note:** no welded tubes!

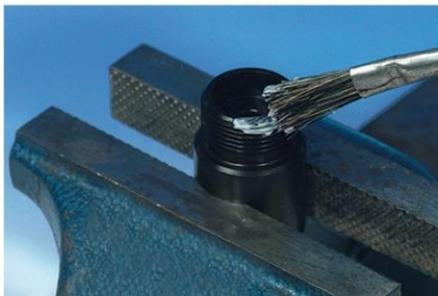
Saw off the tubes at right angles in a jig, permissible angular deviation from the tube axis max 0.5°.



**Do not use a pipe cutter!**

Slightly deburr tubes inside and outside. Chamfer max. 0.2 x 45° permissible.

For thin-walled tubes we recommend to use reinforcing sleeves!

**Installation**

For the corresponding pipe, use the corresponding pre-assembly connecting piece in the vice.

**Note:** For dimensions over 16 mm, we recommend pre-assembly with an electro-hydraulic pre-assembly device.

The pre-assembly connecting pieces (VOMO) must be regularly (after 60 pre-assemblies) with a be checked with a cone gauge.



Lubricate the 24° female cone and the male thread of the VOMO, as well as the entire.

Lubricate the entire inside of the coupling nut with SR-5GP lubricant.

If possible, screw the coupling nut the VOMO once loosely, so that the grease can be better can distribute.



Slide the union nut and cutting ring over the tube end.

**Attention:** Cutting edge always in direction of the connection cone.

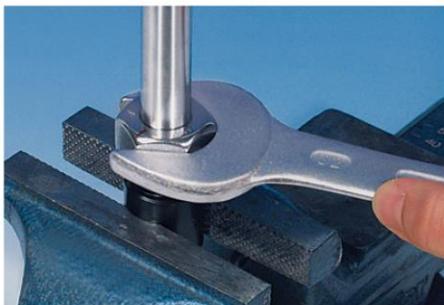
**Installation**

Push the unit tube, cutting ring and union nut into the VOMO. Tighten the union nut onto the VOMO by hand.

Press the tube against the stop in the base of the VOMOS.



A marking sign on the nut facilitates the observation of the required turns.



Tighten 1 – 1 1/4 turns with a wrench. Here the tube can be turned radially up to approx. 1/2 turn radially, after that it should not rotate.

**Check**

Loosen the union nut.

Check the cut of the cutting edge. The throw-up covers part from the cutting ring face evenly around the entire circumference.

The cutting ring may be rotated radially but it must not be possible to move it forwards. Due to the tough material 1.4571, the cutting edge does not throw up in the same way as with steel tubes.

**Final assembly onto the body**

After a positive result, insert the pre-assembled tube into the screwed connection piece. Tighten the union nut approx. 1/4 – 1/2 turn above the noticeable increase in force.

The connecting piece must be with a wrench.

For the larger dimensions extensions for the open-end wrenches are necessary.

**Reinforcing Rings**

For cost reasons, thin-walled tubes are often used, which cannot withstand the pressure of the cutting ring during assembly.

In order to guarantee the function of the fitting, we recommend the use of our sf reinforcement sleeves.

**■ Assembly:**

The reinforcement sleeves can be easily inserted into the tube up to the knurl into the tube.



The knurled part is driven into the tube with a soft hammer.

An interference fit is created, whereby the tube is not expanded.



The reinforcing sleeve fits tightly and supports the tube against constriction during assembly.

Applies to the following articles:

**Straight stainless steel fittings**

Article No.	Type No.
112281 to 112301	ES 21-ZW to ES 44-ZW
112371 to 112391	ES 21 to ES 44
112392 to 112401	ES 50 to ES 60
112443 to 112449	ES 170 to ES 176
148682 to 148701	ES 25-ZW-2 to ES 24-ZW-2

**Angled stainless steel fittings**

Article No.	Type No.
112402 to 112410	ES 70 to ES 79
112411 to 112428	ES 85 to ES 104
112450 to 112456	ES 180 to ES 186

**Adjustable stainless steel fittings**

Article No.	Type No.
112311 to 112317	ES 501 to ES 507
112318 to 112324	ES 511 to ES 517
112325 to 112331	ES 521 to ES 527
112332 to 112338	ES 531 to ES 537
112339 to 112345	ES 541 to ES 547

**Stainless steel reducing fittings with sealing cone**

Article No.	Type No.
112346 to 112366	ES 551 to ES 571
148660 to 148680	ES 551-2 to ES 571-2

**Stainless steel T-fittings**

Article No.	Type No.
112429 to 112434	ES 110 to ES 118
112435 to 112442	ES 132 to ES 140

**Stainless steel pressure gauge connection fittings**

Article No.	Type No.
112367 to 112370	ES 581 to ES 584
112457 to 112464	ES 200 to ES 208

**Stainless steel cutting rings**

Article No.	Type No.
112465 to 112474	ES 350 to ES 366

**Stainless steel reductions**

Article No.	Type No.
112475 to 112489	ES 210 to ES 224

**Long & short stainless steel reducers**

Article No.	Type No.
112302 to 112310	ES 300-ZW to ES 314-ZW
112490 to 112501	ES 300 to ES 317
148702 to 148710	ES 300-ZW-2 to ES 314-ZW-2

**Stainless steel coupling nuts**

Article No.	Type No.
112502 to 112511	ES 400 to ES 411