

Safe up to 400 bar: New stainless steel tube unions

The Swiss firm SERTO Ltd has launched a new stainless steel tube union on the market. The union, which is mountable radially, withstands a working pressure of up to 400 bar. This doubles safety in high pressure areas and where such media as natural gas or hydrogen are used. The unions must pass strenuous vibration tests, thus warranting a longer service life for the complete pipe system.

The new tube union from SERTO Ltd in Switzerland is made of stainless steel 1.4571 to accommodate the most demanding specifications. An innovative press ring, a re-engineered compression ferrule and a cold-extruded union nut provide for, assures the manufacturer, absolute reliability up to a working pressure of 400 bar. The stainless steel line of products ranges from 6 to 18 mm pipe diameter.

Compression instead of cutting: 2-ferrule mechanism

"The system with a two-ferrule mechanism has been designed for the harshest operating conditions, for example like the ones found on oil drilling platforms", reports René Glaus. The Product and Marketing Manager is also familiar with applications in the automotive industry, where due to space and weight considerations they have been anxiously awaiting this new Swiss product. Like all tube unions manufactured by SERTO the body of the new stainless steel union is one wrench size smaller than that of the competition.

No more incorrect mounting or overtightening

Mounting and dismounting, in addition to re-mounting, can be done – according to the patented SERTO system - radially. The two-ferrule mechanism functions with a compression ring instead of a cutting ring, so the base material of the tubes is only deformed and not damaged. The union is also protected against incorrect mounting and overtightening by a defined stop.

The union nut is cold-extruded, has a metric fine thread and a reinforced collar. This allows a greater transmission ratio of the tightening torque into axial and radial force, as well as producing a more direct load transmission on the press ring and better tube guidance. Rounded edges offer protection against vibration.

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Put to the test with twelve million vibrations

"Every single aspect in the material, design and manufacture of this product was carried out with increased safety in mind", says Glaus as he explains the stringent test programme. Twelve million load-cycle changes with 75 Hz and 1.8 mm amplitude at 400 bar working pressure had no detrimental effect on the flexural fatigue strength. In this respect, SERTO exceeds the specified values; DIN 3859-3 only prescribes an amplitude of 1.2 and a frequency of 50 Hz. Damage to pipe systems with strong vibrations can therefore be effectively excluded and the system benefits from a longer service life. A vacuum seal up to 10-7 mbar was also tested as was the bursting pressure up to 2,000 bar.

Now also available cleaned for high purity media

When SERTO first brought the tube union on the market in 1952, people were sceptical of the radial mounting via compression ring and a union joined flush with the pipe. Today the SERTO Group with approx. 150 employees world-wide and sales in the order of 45 million Swiss francs (ca. 32 mill euros) serves leading firms in the chemical and pharmaceutical industries, as well as manufacturers of ozone generators, medical equipment, automobiles and wafer steppers. The new stainless steel union SOL is now available throughout Europe. Specially cleaned versions for use with high purity media are, according to the manufacturer, also available.

76 Zeilen, 578 Wörter, 3571 Zeichen
Bei Abdruck bitte 2 Exemplare an SERTO AG

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