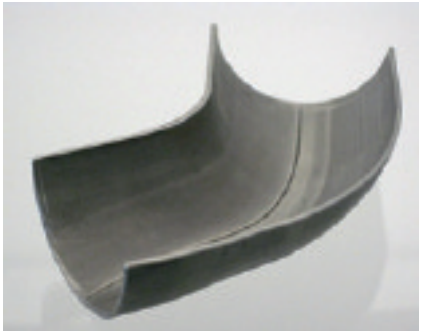
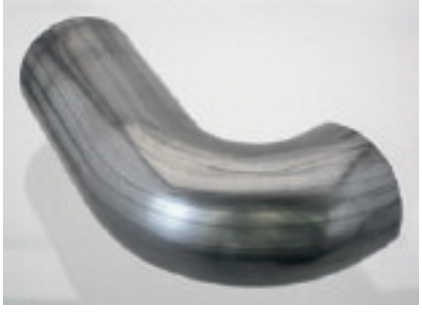


Press bending with special transfluid technology

For strong compounds, a newly developed transfluid bending process avoids reduction of wall thickness



Bent with the transfluid solution, a tube with diameter of 50 x 2mm and a bend angle of over 90°

Efficient process for smallest bending radii

BENDING radii can rarely be assembled smaller than 1 x D with higher tube diameters. transfluid has designed an efficient process with a sophisticated bending radius of 0.8 x D for high-grade steel tubes.

Efficiency and high-quality results are factors in the tube processing sector that are crucial for success. Regarding this matter, the bending standard is far from it: for tube clamping in conventional single bend bending processes clamping lengths are required that have to be cut after bending. A transfluid customer was looking for a solution without cutting after bending, to avoid this unnecessary loss of material. The challenge was the development of a tube bending machine for single high-grade steel bends with 70 x 2mm. Furthermore, a centre bending radius of 0.8 x D, the avoidance of a bend exit ovalisation and a reduction of the wall thickness of less than 3% were desired.

"With conventional processes such requirements cannot be realised, especially with those high-grade steel tubes," commented transfluid CEO Gerd Nöker. "Our solution is a procedure that does not point the bends after the rotary draw bending process but presses them."

With its bending machine the German specialist guarantees a reduction of the wall thickness of 0%. This at the same time offers the advantage of additional material saving. An ovalisation of the bend exit can also be avoided with the transfluid bending process. "A cutting of overlength of the components can be completely avoided. They can be locked in further processes immediately after production. If required, the next steps for further tube processing can be assembled in the same machine," emphasised Mr Nöker.

Tool-related bending angles between 10° and 180° are possible. If appropriate cutting lengths are locked in the process, a cycle time of 3.5 seconds is possible, even with tube sizes as in the example mentioned above.

"What we can do best is realising an idea beyond standards. That is why we have made possible not only a solution with an impressive bending radius but also designed an extraordinarily efficient complete process. Considering the mere machine investment it is clearly below the investment for a CNC tube bending machine with multiple tooling that is usually deployed for such sophisticated tube processing," Mr Nöker concluded.

transfluid Maschinenbau GmbH –
Germany
Email: info@transfluid.de
Website: www.transfluid.de