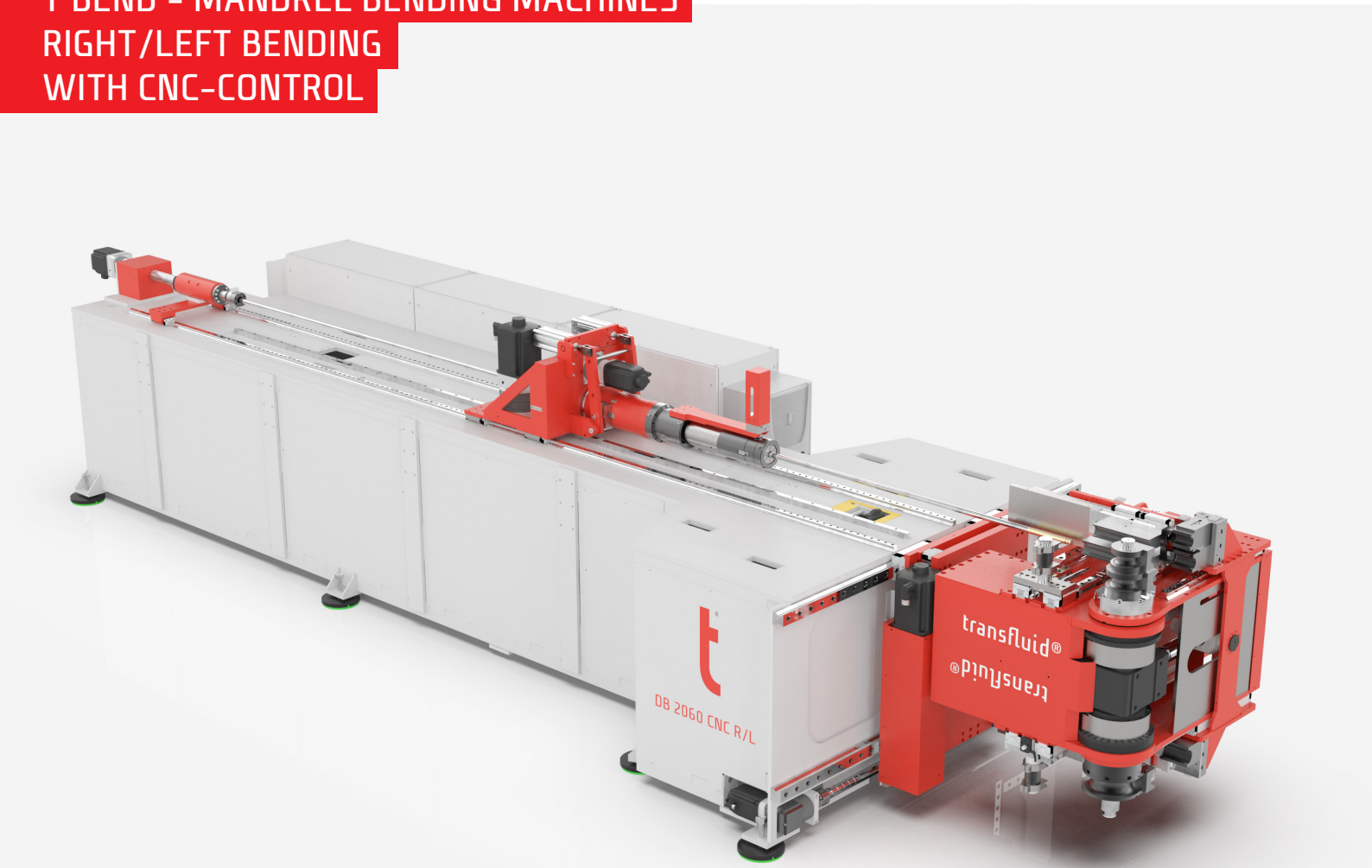
NEW DB 2060-CNC-R/L

transfluid
The solution for tubes.

T BEND – MANDREL BENDING MACHINES
RIGHT/LEFT BENDING
WITH CNC-CONTROL



T BEND – MANDREL BENDING MACHINE RIGHT/LEFT BENDING WITH CNC-CONTROL

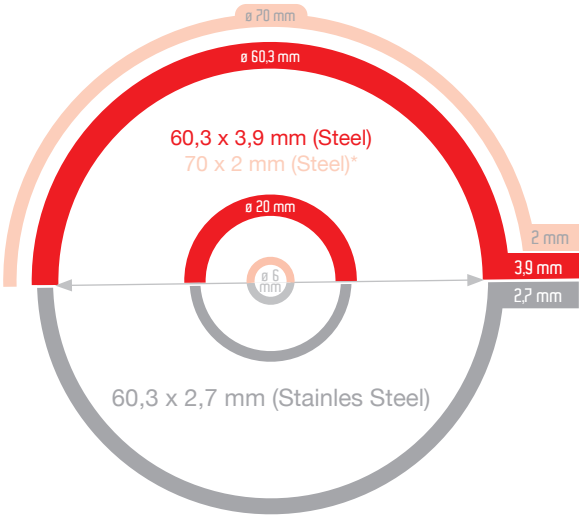
With the new T bend CNC mandrel bending machines of the type DB 2060-CNC-R/L, steel, stainless steel and non-ferrous metal tubes can be bent as round tubes or profiles from 6–70 mm.

These electrically driven bending machines are designed for the production of large quantities, with efficient energy consumption thanks to economical servo technology. Small and medium wall thicknesses can be processed with perfect bend quality at tight bending radii from 0.8xD.

Special tool change systems enable fast set-up times. Extensive accessory options such as segment collets for processing tubes with already formed tube ends, boosting for free-forming or integrated tube cutting functions enable uncompromising bending possibilities. The whole prepared for integration into production cells and „ready for Industry 4.0".

With our clockwise/counterclockwise bending machines – also available with push bending function – the most complex bends become reality with great accuracy.

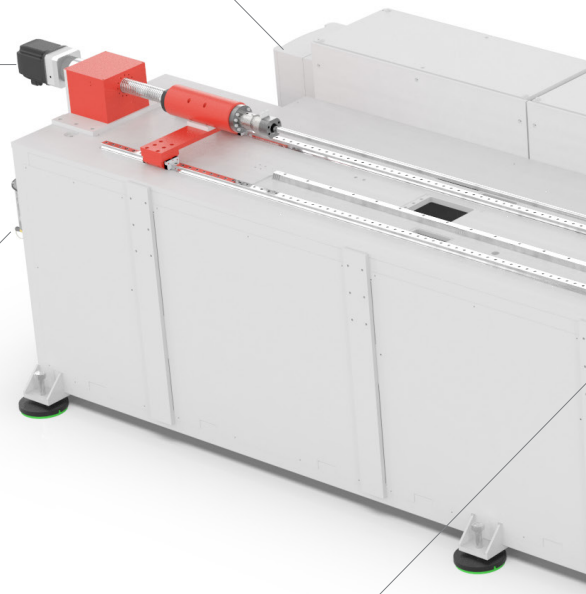
Tube diameters and wall thicknesses (original sizes)



CONTROL UNIT
The control unit is equipped with high-quality electronic components from leading suppliers.

AIR CONDITIONING
Protects the electrical carbinet.

MANDREL WITHDRAWAL
Automatic and programmable mandrel positioning.

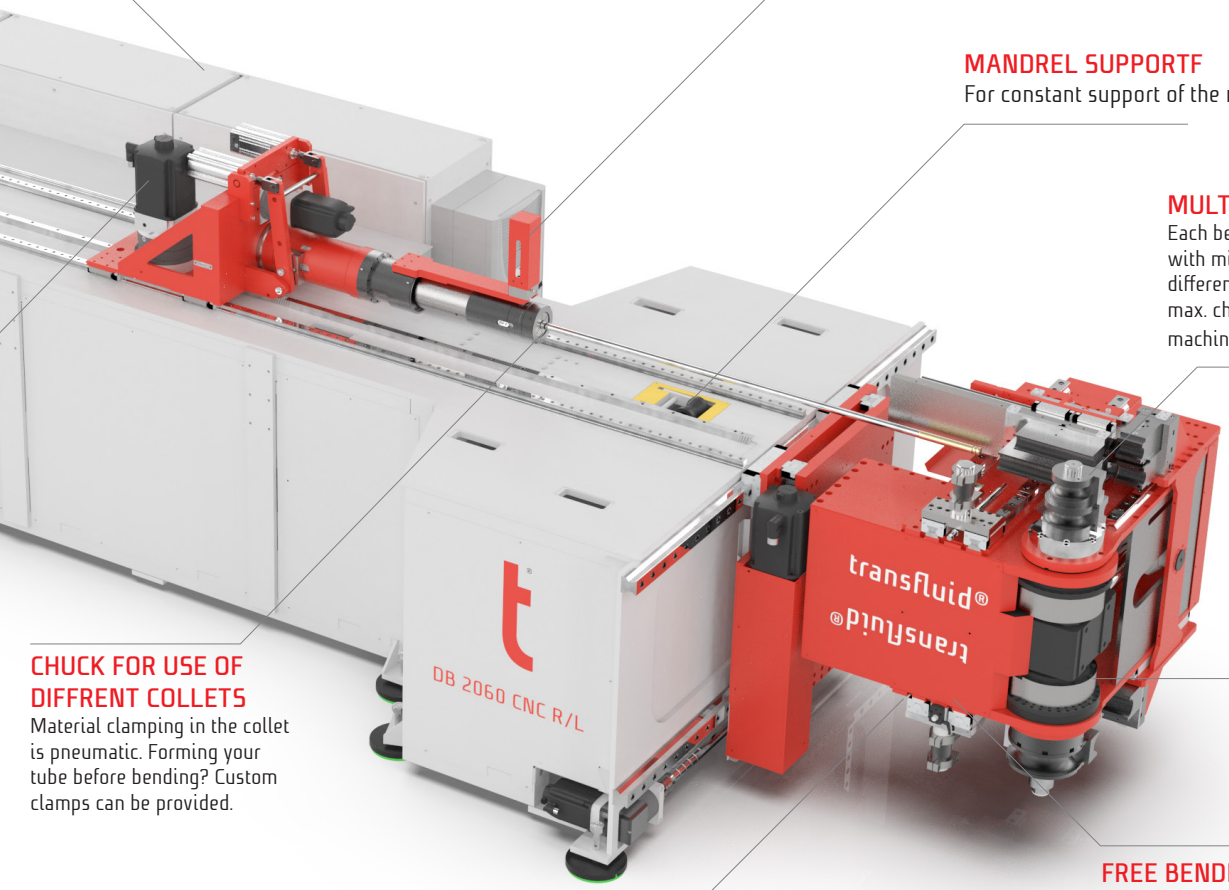


AUTOMATIC MANDREL LUBRICATION
Available for inside diameters as small as Ø 13.5 mm.

BOOSTING FUNCTION
The collet is equipped with a powerful motor for push bending. Especially when bending thin-walled materials and very small bend radii this feature can improve the bend quality and the wall thinning can be reduced.

For better efficiency. The electric axes can be programmed in synchronicity to give optimum cycle times.Tools for bending on multiple levels with automated tool change makes it possible to achieve various radii and the most complex geometries on tubes.

DB 2060-CNC-R/L



REPEATED GRIPPING
For bending tubes exceeding the max. usable length of the machine and bendable without mandrel.

MANDREL SUPPORTF
For constant support of the mandrel.

MULTILEVEL BENDING
Each bending head can be equipped with minimum two tool sets, e.g. with different bending radii or form-clamps, max. changing height for standard machine is 60 mm.

FULLY ELECTRIC
100% electric drive of all 11 axes. Compared to hydraulic machines, energy savings of up to 50% can be achieved.

CHUCK FOR USE OF DIFFRENT COLLETS
Material clamping in the collet is pneumatic. Forming your tube before bending? Custom clamps can be provided.

FREE BENDING DIRECTION
The bending direction is free programmable, switching from right hand to left hand and back, all on one tube.

ROTATING BENDING HEAD
Can be positioned horizontally and vertically including rotation axis for change of bending direction.

TECHNICAL DATA

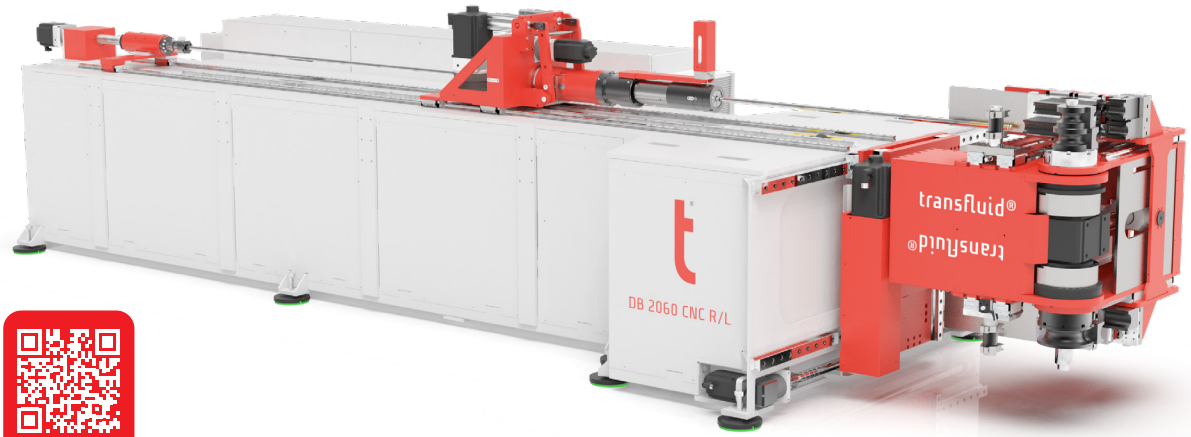
Type	DB 2060-CNC-R/L
Range	6-70 mm
Max. capacity	60,3 x 3,9 mm (mild steel) 70 x 2 mm (mild steel)* 60,3 x 2,7 mm (stainless steel)
Max. Radii	180 mm
Usable length	3048 mm (standard) 4572 mm* 6096 mm*
Speed of bending axis	100 °/sec.
Number of CNC axes	11
Power bending axis	servo-electric
Operating voltage	400 Volt - 60 Hz - 3 Ph. - 55 KW
Voltage of the control	24 Volt DC
Length	6500 mm (standard)
Width	2300 mm
Height	1800 mm
Weight approx.	8500 kg (standard)

BASIC EQUIPMENT:

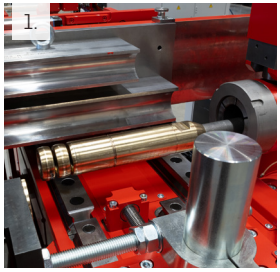
- Bending head for bending right-hand and left-hand with one collet
- Bending head can be positioned horizontally and vertically
- Multilevel bending – Bending head can be equipped with multiple tool sets
- Hollow shaft for tooling for small radii
- Minimum clamping length on the tube end
- Chuck for use of segment collets
- Following pressure die for bends up to 180°
- Central lubrication
- Controlled mandrel withdrawal
- Mandrel lubrication
- t control operating software
- Air conditioning for the electrical carbinet
- Usable length 3048 mm

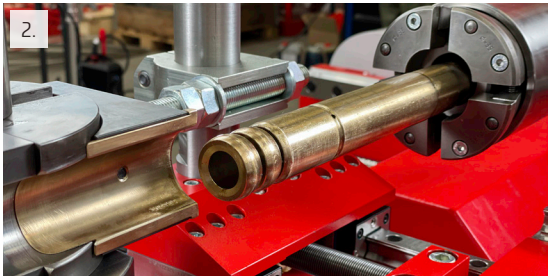
OPTIONAL EQUIPMENT*:

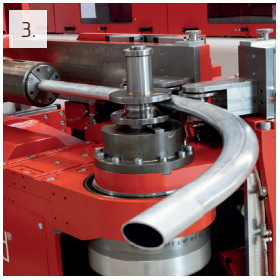
- Usable length 4572 mm & 6096 mm
- Repeated gripping
- Push bending of large bending radii
- Boosting function (Centerline booster)
- Automatic loading
- Positioning of weld seam
- Remote diagnostics
- Carriage for wiper die
- Safety Cover & Scanner
- Software t project Basic, t project Professional etc.

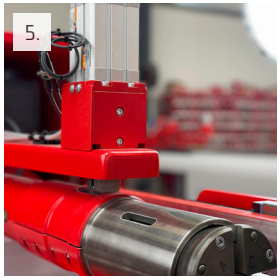


watch the movie



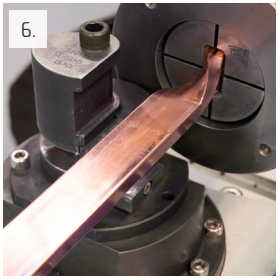


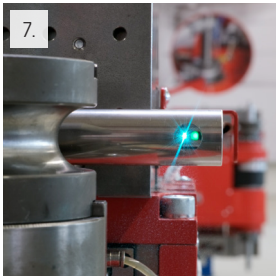


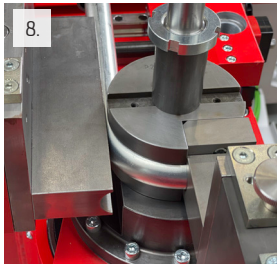


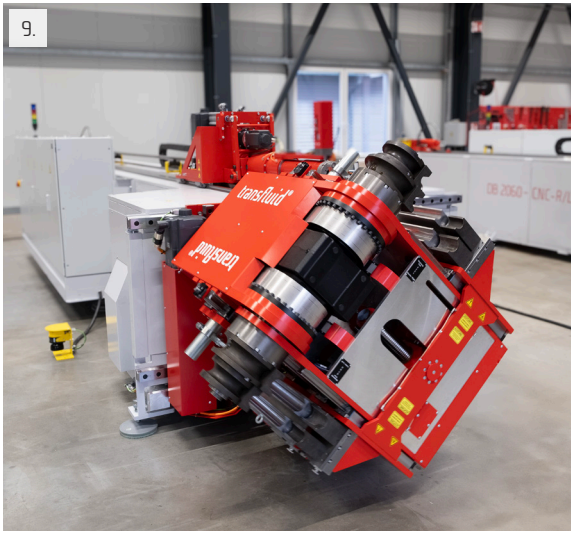
BASIC & OPTIONAL EQUIPMENT:

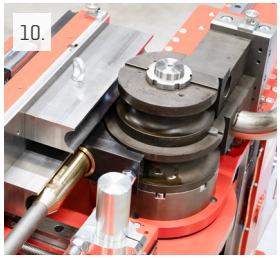
1. Bending mandrels in different contours or materials
2. Wiper die, bending mandrel and chuck with segment collets
3. Push bending function
4. Powerful servo motors
5. Repeated gripping
6. Specific contoured tools for bending of wire or square material
7. Alignment of the tubes based on lasered features (e.g. hole detection).
8. Following pressure die
9. Rotating bending head right/left
10. Minimum clamping length on the tube end
11. Multilevel bending – Bending head can be equipped with multiple tool sets
12. Central lubrication
13. Powerful control unit
14. Hand scanner for loading bending programs

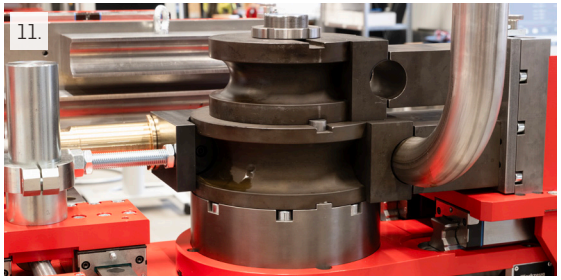












T MOTION – AUTOMATION FOR AN IDEAL PRODUCTION FLOW

With t motion we plan and realise manufacturing islands or cells for your tube processing with optimized material flow. We design a layout to match your requirements and integrate all the required processing and handling options. With more than 25 years of experience in automation we can offer you the solution for tubes at the highest level.

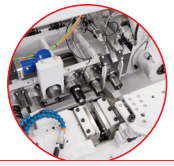
On request, we can combine this with product marking, as well as optical, contactless camera control systems for comprehensive control of geometries or surfaces. The option to punch holes can also be integrated, as well as transfer lines to achieve the shortest possible cycle times or systems for loading and controlled unloading, for you very own, customised automation solution.

Plug in and Produce – With t motion you are production-ready from the start and flexible also in batch productions. Without any time delays.

Customizable – Further process steps, like loading and unloading systems or additional tube processing tasks can be integrated without any problems.

Industry 4.0 – Interfaces with data caption systems for consumption and operation enable the digitalization and evaluation of the data.

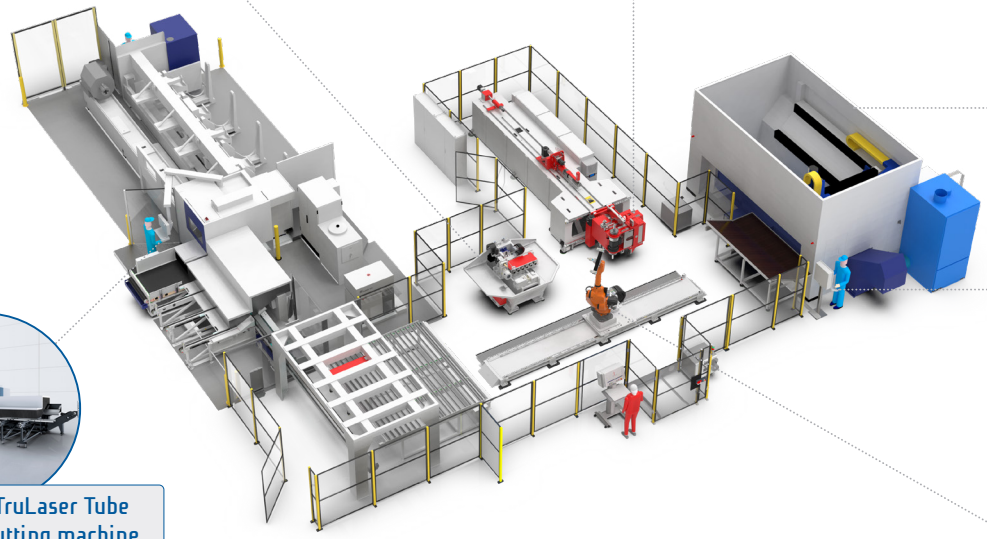
Fast and accurate – The high degree of automation means fast cycle times and therefore efficient manufacturing.



transfluid – t form
Combination machine
REB/SRM

transfluid – t bend
Mandrel Bending Machine
CNC Right/Left

TRUMPF – TruLaser Cell
3D-Laser tube cutting
machine



transfluid – t project
Software

TRUMPF – TruLaser Tube
Laser tube cutting machine

transfluid – t motion
Handling robot

T PROJECT – SOFTWARE: VIRTUAL SUPPORT FOR HIGHER EFFICIENCY

Fewer steps to the finished workpiece: With t project you can see all the variables of the bending process before starting the production. Even complex bending geometries can be planned and executed in a material-adapted and collision-free manner. The virtual bending simulation determines exact bending times and cutting lengths and checks tube geometries for feasibility in advance.

Tube data and bending results are documented with accuracy and they can then be replicated 100% . The common interfaces are available for the import and export of data and connection to PDA or ERP over the network.

Our solution for your individual requirements

We have developed four versions of our t project software, which can be used as single or as networked versions. t project can be integrated centrally in the company's internal security system for optimum data security. Customer-specific modifications, expansions or interfaces are readily possible.

t project Basic

Input and calculation of tube processes

- Direct conversion of isometrics into bending data
- Automatically calculates correction values and over-bending parameters
- The dimension of the spatial diagonal from the beginning of the pipe A to the end of the pipe B enables the operator to easily check the bent part manually
- The software can interface with measuring devices and CAD and Office programs. Supported file formats include IGES, STEP, IT and PCF

t project Professional

Input and calculation of tube processes, including collision testing

- Same basic features as t project Basic
- Any necessary extensions are calculated automatically
- Additional production safety: the collision test will determine the feasibility of the tube geometry before the actual bending process, which prevents collisions with the machine itself or its surroundings
- The software will suggest alternative options in case of predicted collisions
- The software will take all the measurements for the collision test from the CAD model of the bending machine
- Surrounding features in the room can also be included in the collision test (pillars, shelves, floor etc.)
- It is also possible to run simulations with tubes that already have flanges or other forming features.

transfluid
The solution for tubes.

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