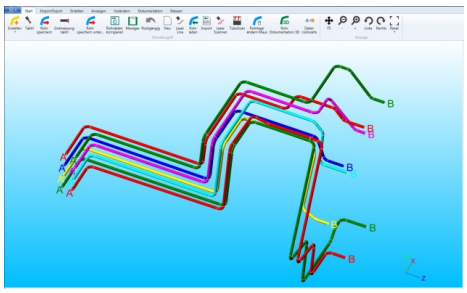
TeZetCAD

Tube Bending and Inspection Software

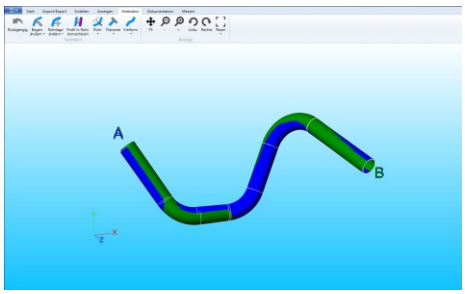
3D Measurement Solution for Tube Bending Applications

TeZetCAD software is an innovative tube measurement technology for creating tube bending design and generating bend correction data for quality control. Manufacturers depend on TeZetCAD to measure cylinder length, bending angle, and rotation to deliver quality tubes that are bent according to design specifications in the shortest amount of time. It is an invaluable tool for measuring even the most complex tube geometries–whether it's traditional tube bending or freeform bending.

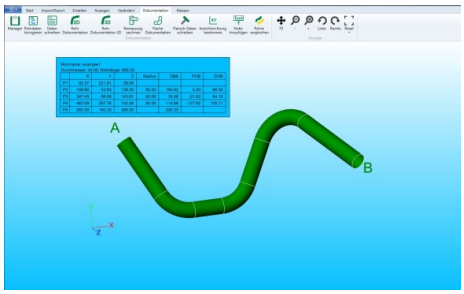
SOFTWARE EXAMPLES



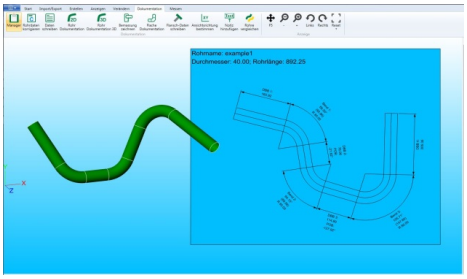
Measure, visualize, and document for tube manufacturing



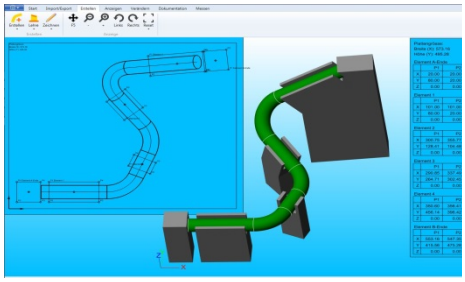
Compare measured tube with the master tube (best fit)



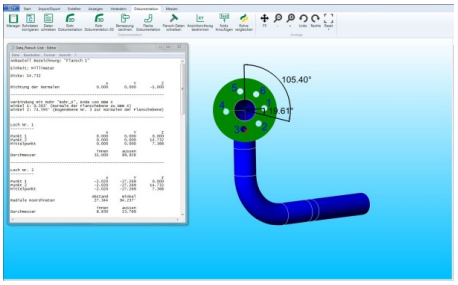
Calculate, display, and process xyz coordinates and bending data



Visualize master tube according to 1:1 flat tube documentation



Automatically create fixtures and document fixture elements



Measure, represent, document, and compare add-ons

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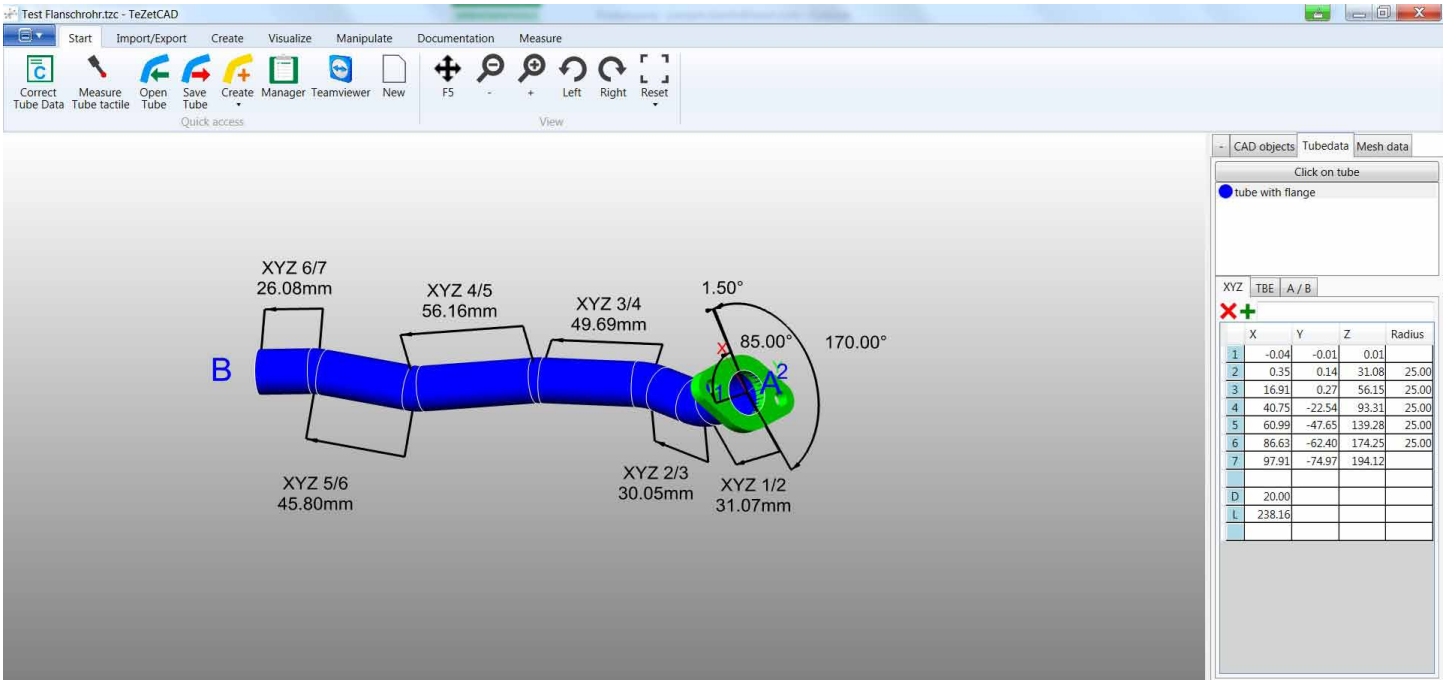
GOMEASURE3D

HOW IT WORKS



MEASURE

Measure the physical master tube with a touch probe (ie. MicroScribe and Kreon), laser fork probe, or line laser.

EDIT

Manipulate tube in TeZetCAD to optimize a bend, straight, diameter, or end position. After bending, verify tube geometries for quality control.

OUTPUT

Print tube data to manually enter into bending machine or optional modules are available to export data recognizable by many bending machines.

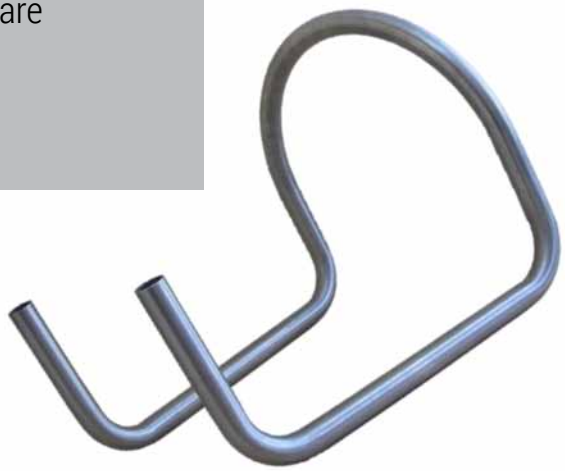
BENEFITS

- Tried-and-true software designed specifically to handle tubes
- More than 100 special tube functions for the measurement and calculation of tubes as well as for editing, importing, exporting, and documenting tube data
- Modular design allows individual functions or interfaces to be added to each software package upon request
- In addition to tube shapes with “standard-curves” (discrete bending radius), TeZetCAD works with freeform bent tubes
- Add-on pieces and construction elements can be precisely measured and documented
- Easy to use and user-friendly software with a menu driven interface. The software is available in 8 languages
- TeZetCAD does not require any administrator rights
- Compatible with all Windows operating systems and can be operated via Bluetooth on a touch-screen monitor

SOFTWARE PACKAGES

TeZetCAD Easy Tube
Entry-level tube software

TeZetCAD Absolute Tube
Full version tube software



TEZETCAD INTERFACES WITH THE FOLLOWING BENDING MACHINES:

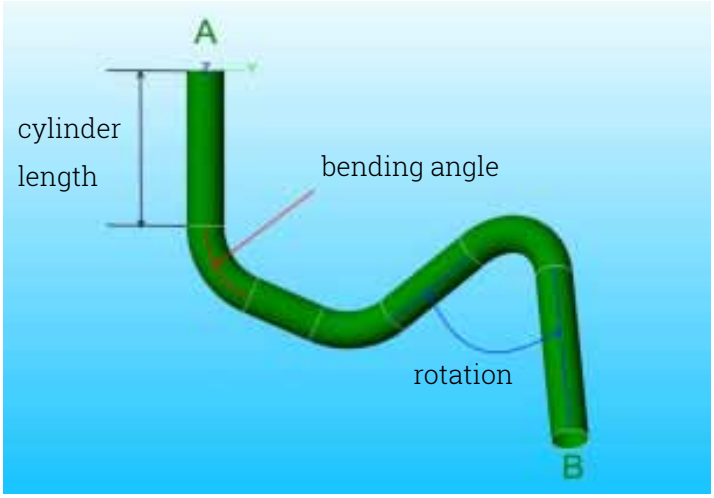
- BLM
- RASI
- Transfluid
- Tracto-Technik
- Schwarze Robitec
- Wafios
- Crippa
- Rosenberger
- Herber
- Manual Bender
- Nissin
- Mewag
- Silfax
- Schwarz Wirtz
- Supra Vision
- Addison
- Dynobend
- RoniKolli
- Lang
- FiF

SOFTWARE PACKAGE	Easy Tube	Absolute Tube
Module Basic Package	✓	✓
Please see next page for more details		
Module Infrared	✓	✓
Measure tube infrared: tube process, radius, offset for tube ends		
Module Laser-Line	✓	✓
Measure tube laser-line: tube process, radius, offset for tube ends		
Module Export	—	✓
.IGES special converter: export .STL data format: export		
Module Flanges	—	✓
Measure flanges and mounting parts / add-on pieces Tube documentation 3D Documentation of flange data: hole position in xyz and flange position-positioning, alignment, modifying of the flange		
Module Design	—	✓
Design tool, definition of tube coordinates in space, adaptation of the pipeline Data table: changes only in bending coordinates without A/B end displacement		
Module Geometry Functions	—	✓
Geometry functions related to tube geometries Check perforated tubes against master IGES (design)		
Module Freeform	—	✓
Tube laser scanning (including laser-line) Reduce and adapt freeform data: bendable Freeform module with all calculation operations for the correction		
Module Ovality	—	✓
Measure ovality in the bend		
Module Fixture	—	✓
Fixture-window: generate parameters for fixture elements and documentation Prototype-fixture: generate parameters for fixture elements and documentation		
Module User Administration	—	—
User adminstration: assign different user rights (V8.1)		

BASIC PACKAGE

Includes the following features:

- Master input of xyz and bending data
- Tube administration: load and save master (master tube) and measured tube (present tube)
- Excel import/export: bending and intersection points in Excel format
- IGES special converter: import
- STEP special converter: import
- STL data format: import
- Measure tube tactile: tube shape, bending radius, offset for tube ends
- Manager tool: automation (creating a flowchart, from measurement up to documentation)
- Measure U-bend, including various processing options
- Measurement plan: for small bending angles, small intermediate lengths, bending radius
- Data table: changes in xyz coordinates of the intersection points or bending data
- Measure points on object: check against master IGES, deviations in xyz
- Bestfit: measured tube to master (master tube)
- Bestfit extended: measured tube to a coordinate point
- Align the tube within the coordinate system to 0
- Set priorities for correction calculation
- Calculate correction data for bending machine



Once the bent tube has been measured, TeZetCAD automatically calculates bend correction data for tube benders to see if there are variances. You can quickly resolve differences to significantly improve quality control.

- Correction values of the bending coordinates for bending machine operator
- Documentation of the correction data and deviations
- Documentation of the tube intersection coordinates in different orientations
- User defined dimensioning, e.g. angles
- Tube documentation - 1:1 flat tube
- Excel / PDF report
- Change tube position on the screen without changing the coordinate system
- Change tube - reduce, divide, connect, insert, etc.
- RPS alignment (reference point system)
- Check collision of tubes / delete collision lines

APPLICATIONS

Automotive: Brake lines, Fuel lines, Hoses, Air conditioning, Oil lines, Stabilizers, Seats, Exhaust

Aerospace: Engines advance, Oil lines, Fuel lines

Furniture: Chairs, Shelves

Mechanical Engineering: Hydraulic lines, Penstock, Water pipes, Cool lines, Pneumatics

Refrigerator, Deep freezer, Washing machines, Dryer: Cool lines, water pipes

Pipe bender and Bending Services