Our system competence for your success
TRACTO-TECHNIK Group of companies

With good ideas and practice-oriented solutions straight to the top

TRACTO-TECHNIK was founded in 1962 by the engineer Paul Schmidt. With its motto “Your first choice for perfect pipe installation”, TRACTO-TECHNIK combines high demands with the reality in the tube and pipe processing technique as well as in underground line installation. Today the company belongs to the worldwide leading manufacturers of special machines in both domains.

Innovative ideas and quality-awareness when developing new products and services as well as a distinctive customer and market orientation are the centre of all company efforts. Many awards and more than 330 patents give evidence of this claim, and TRACTO-TECHNIK is listed with the “Hidden Champions”, as Prof. Hermann Simon calls the company in his book with the same title. TT also repeatedly belongs to the circle of most innovative companies of the German middle-class, the “TOP 100 Germany.”

The highest aim of the TRACTO-TECHNIK GmbH has always been and will always be, to offer complete future- and practice-oriented system solutions of high applicability to the customers. Bearing this aim in mind, we have founded the TRACTO-TECHNIK SoftwareDevelopment (TT-SD). TT-SD develops system-overlapping software products for pipe production and also offers tailor-made IT services to their customers.

The constantly growing know-how of over 500 employees in 5 plants and numerous branches of the TRACTO-TECHNIK Corporate Group, together with the company-own developments of machine technique and software, make TRACTO-TECHNIK become one competent partner for all questions concerning tube/pipe production.
Quality is of highest priority at TRACTO-TECHNIK. For this reason TT’s development and production are consistently under one management. This concept allows short development periods and optimised production engineering, while maintaining highest quality standards.

All TRACTO-TECHNIK products are developed with professional know-how, high-performance methods and manufactured with the help of state-of-the-art technologies. The resulting precision equipment means absolute reliability of the TRACTO-TECHNIK bending and processing machines for tubular products. You can count on them!

It cannot be purely coincidental, when a customer is unwilling to part with his TUBOMAT pipe processing machine and makes arrangements for inspection, even after 25 years of continuous operation.

The specific requests and varying requirements of our customers are always the focal point of our considerations and decisions.

The main concern is directed towards the tubular product in its many types and shapes. Our goal is to process tubes and pipes with the highest standard possible. TRACTO-TECHNIK stands behind this goal with all its know-how and experience.

The in-house tool and die department is an absolute necessity. Highly qualified teams of motivated associates guarantee the utmost flexibility and delivery guarantee, which has become the trade mark of TRACTO-TECHNIK. A strict quality assurance management program guarantees a level of performance which is paramount, also in the international market place.
For example:
heating coil (8 mm in diameter) bent on a TUBOFORM.

The TT pipe bending technology serves practically all branches of industry, such as:
- refrigeration and HVAC industry
- job shops and metal fabrication
- lighting and furniture industry
- pipe fitting construction
- automotive industry and vehicle construction
- ship building and aero space industry
- machine tool industry
- process equipment industry

Apart from manufacturing tube/pipe bending and processing machines, TRACTO-TECHNIK is particular about the development of innovative system solutions with high benefit for their customers.

From the entire processing of hydraulic tubes to CNC controlled pipe bending centres with automatic feeding and unloading facility or an automated system solution for highly precise and profitable fitting pipe production TRACTO-TECHNIK offers suitable machines for almost any application field.

Using the innovative TRACTO-TECHNIK bending technology, all materials suitable for cold deformation (i.e. steel, stainless steel, brass, copper, aluminium, CuNiFe, ...), in a variety of shapes (round, square or oval pipes, flat and solid bar stock, wire, ...) can be worked efficiently and precisely.

TRACTO-TECHNIK also solves specific bending problems and addresses special customer requirements.

With the TT tube and pipe bending technology, you cannot take a wrong turn.
Fully automatic CNC controlled bending centres

TUBOTRON 20, 30, 50, 90

For maximum productivity and flexibility

Costs can be minimised considerably by investing in a CNC controlled bending machine for mass production or to be flexible with prototype or short run production.

The CNC controlled tube/pipe bending machines of the TUBOTRON line range in design, construction and workmanship highest on the scale of quality equipment. The complete bending process is fully automatic. The result is a simple or complex tubular shape according to the requirements.

Accurate repeatability for high production runs is guaranteed.

In combination with our TRACTOFAB tube/pipe bending software, the TUBOTRON is unsurpassed in economical tube/pipe production. From design over simulation to the final precision manufacture of the work piece – everything comes from a single source.

The operation concept is based on a touch-screen and a panel-PC, connected with a multiple point interface to the programmable logic control as well as with the company network, i.e. production planning and work order management. Sufficient memory for additional software such as CAD systems or the TRACTOFAB bending software is provided.
Automatic Bending Centers

PC and machine control can be serviced remotely by a TRACTO-TECHNIK specialist by utilizing the teleservice interface. This feature guarantees that the machine is always updated according to the latest state. Any problems can be solved on short notice and the know-how and experience of the TRACTO-TECHNIK technicians is at the customer's disposal worldwide.

Depending on the machine type, pipes of up to 90 mm in outside diameter and with a maximum bending radius of 250 mm can be processed. All functions (bending, length feed, rotation for plane of bend) are carried out automatically. If desired, the TUBOTRON 20 and 30 are available with multi-radius capability, right-left bending unit and automatic feeding and unloading facility. Thus a maximum of flexibility and productivity as well as highest quality can be achieved.

Automatic feeding and unloading

**Taking shortcuts and optimizing productivity**

For pipe bending applications in mass production TRACTO-TECHNIK has developed various automatic feeding and unloading systems, which can be flexibly adapted to the respective requirements of our customers.

The separation picks the single pipes automatically from a hopper and positions them in the feeding system. Apart from the precise length adjustment and as option, when bending lengthwise welded pipes, a weld seam detection system with rotational alignment of the pipe can be included.

The pipe is fed into the bending machine either from the front (for bending with mandrel) or sideways (for bending without mandrel). However it's important that the bending space of the machine is not restricted by the pick and place system. The bent pipe is deposited automatically at its designated location, while the next pipe is already available to be fed into the bending machine.
**Single-axis Controlled Machines**

**TUBOBEND 20, 30, 48, 50, 80**  
For a perfect start into tube/pipe bending

At the single-axis controlled bending machines the bending function is automated while length feed and rotation have to be carried out manually. All machine types of this product line are mobile, i.e. for the flexible use at jobsites.

The TUBOBEND 20 is the smallest type of this series and can be used both as tube bender (with mandrel) for up to 20 mm OD and for rods (without mandrel). Due to its tiltable bending head the TUBOBEND 20 has spacious bending area for producing tight bends and close bending sequences.

The TUBOBEND 30 is the ideal machine for tubes/pipes of up to 30 mm in outside diameter and a centreline radius of up to 90 mm. The TUBOBEND 50 bends tubes/pipes of up to 50 mm in outside diameter, the TUBOBEND 80 even up to 80 mm. Both machine types are preferred by the ship building industry, process equipment manufacturers and in the automotive industry.

A particularity among the single-axis controlled machines is the TUBOBEND 48 for tubes/pipes up to 50 mm OD. Its usefulness due to modular design can be increased by adding a deburring device, an unit for cutting ring assembly and/or flaring and a chamfering device.

All mandrel bending machines can be equipped with a manual or automatic mandrel lubrication system and to all, but the TUBOBEND 20, an early mandrel retraction can be added. Plane-of-bend angles for off-set bends are read from a protractor and set manually by rotating the tubepipe. A digital display for the length and angle positions of the work piece is optionally available.
Press bending machines

For simple bending applications and thick-walled pipes

Press bending is suitable only for simple bending applications and thick-walled pipes, because the pipe cannot be supported from within by a mandrel. Therefore TRACTO-TECHNIK has conceived the mobile and flexible press bending machines PB 42 and PB 42 plus with a maximum pipe range of 42 mm outside diameter.

If only the bending function is required, the PB 42 will be the right choice. Apart from this the PB 42 plus is additionally equipped with a deburring unit and can be extended with a cutting ring assembly device and a flaring device.

The pro for hydraulic pipe laying

TUBOMAT 642, 648
Up to 6 processing functions in one machine

The classic among the TRACTO-TECHNIK tubepipe bending and processing machines is the TUBOMAT, which has already been developed in 1967 and has been optimised over the years. The TUBOMAT integrates up to 6 pipe processing functions in only one machine and is renowned as the ideal pro for hydraulic pipe laying due to its precision and safety in all working stages.

An exact square cut, clean inside and outside deburring and perfect pipe bends without any collapse or changes in cross-section are just as indispensable for a reliable hydraulic installation as the proof connection of the components. Whether by the cutting ring assembly unit, the flaring unit or by means of the chamfering device - the TUBOMAT always provides for leakage-free hydraulic connections.

The TUBOMAT 648 - processes pipes up to 48.3 mm OD.
The Software

TRACTOFAB – The results are precisely pre-calculated

The digital processing of tubes/pipes is efficiently performed with TRACTOFAB. Input of the isometry either as drawing with length and/or angle dimensions, via XYZ-coordinates entry or as a vector entry. An interface to our 3D measuring system TUBOSCAN is available.

With the bending parameters, TRACTOFAB calculates the bending data for the pipe bending machine. In order to avoid any collision of the pipe with the machine or the surroundings during the bending process, a bending simulation tool can be executed, before the bending task is performed by means of the calculated bending data. As an option a transfer module is available to interface the TRACTOFAB software with our CNC controlled bending machines. In this case the data can be transferred online to the bending machine.

PIPEFAB – Integrated software solution for the piping industry

The production management software PipeFab contains all the tools necessary for pipe line planning, production, accounting and maintenance. The software integrates the isometry construction and data takeover from CAD-systems, work preparation and production control for pipe (pre-)production, organises material and time management and supplies all required engineering data for the pipe workshop.

In combination with ERP-/MRP-systems, PDM-systems and especially standard accountancy systems, all data and isometries necessary for carrying out the project and its control are generated, working packs are created, production times and costs are determined, additional material is calculated and work schedules are set up. All results for project and data management, quality control and NC machine triggering are available as machine-readable files.
Measuring and Control systems

**TUBOCONTROL, TUBOSCAN**

Measuring and documenting tubular constructions

For the 2-dimensional measuring of tubular designs TRACTO-TECHNIK has developed the portable measuring table TUBOCONTROL. Depending on the outer pipe diameter and the bending radius angles between 0° and 190° and lengths of straight or bent pipes up to approx. 480 mm can be measured.

For instance the spring-back of a bent tube/pipe can exactly be determined by comparing the actual bending angle measured with TUBOCONTROL with the angle-value that was pre-selected at the bending machine.

The TUBOSCAN is a portable 6 axes swivel joint measuring device for the 3D acquisition of geometric data of sample tubes/pipes. It can be equipped either with a tube-sensing-fork for touchless measuring or with tactile Renishaw inserts. The ascertained data is then stored in a file within seconds.

Via interface the pipe geometry can be transferred to our TRACTOFAB pipe bending software, where it is directly converted into bending data. If a fully automatic CNC controlled pipe bending machine is connected, the entire process from the sample pipe up to the series production will be extremely simple.
In the ROBOFIX the flanges are welded to the pipe in perfect fit.

Quickly and precisely

**SCOPELINK, ROBOFIX - Fitting pipe production automated to the point**

With SCOPELINK and ROBOFIX Type III, TRACTO-TECHNIK offers an economic and highly precise automated system solution for the fitting pipe production, that is singular in the world. Both systems have especially been developed for optimising work flows when producing fitting pipes and for reducing the production costs consequently.

SCOPELINK is an electromechanical 3D isometry device, which is assembled directly between two existing connection points (i.e. flanges or sleeves) as required by the planned pipe course. This model is then evaluated on site by means of a portable computer. The software, that goes with SCOPELINK, calculates the isometry of the simulated pipe course as well as the exact positions of the connection points, also including a suitability test for construction on the basis of the bending machines installed in the pipe shop. All data can be transferred online to the pipeshop.

The most complicated precision-fit pipe constructions between two flanges can be produced quickly and easily with the computer-supported ROBOFIX. This system is used for precise positioning of the connection flanges by means of the data obtained through SCOPELINK at the jobsite. After the pipe has been bent it is correctly aligned between the flanges of the ROBOFIX and tacked to them.

Quality assurance is provided throughout the entire manufacturing process, because the position of the connecting flanges and the targeted pipe course are constantly checked.

Using SCOPELINK and ROBOFIX all fitting pipes are measured and documented on site, but pre-fabricated most extensive in the workshop. They only have to be transported to the jobsite and can be inserted at perfect fit. The entire fitting pipe production process is simplified and extremely rationalized in this way, because any construction of wire models or patterns is avoided.
Clean internal and external deburring and correct assembly of the cutting ring are essential to leak-free tube assembly.

**Pipe End Processing**

**Sawing - Deburring - Cutting Ring**

**Assembly - Flaring**

**TUBOSAW**
The mobile precision pipe saw from TRACTO-TECHNIK always provides for clean and rectangular cuts of pipes up to 42 mm outside diameter. Since the TUBOSAW isn’t equipped with an own drive, it can be connected either to a TT bending machine or to any other applicable hydraulic pump.

**TUBOGRAT**
Deburring the tubes/pipes used for conveying fluids (i.e. in hydraulic systems) is an important work step after cutting them on the right length. The undesirable inside and outside burr is cleanly removed in seconds by briefly pressing the tube/pipe end onto special milling cutters. The deburring unit is available in three versions:

- TUBOGRAT 48 for tubes/pipes from 6 to 48 mm OD
- TUBOGRAT 60 for tubes/pipes from 20 to 60 mm OD
- TUBOGRAT K (tools with adjustable depth stop, working range depends on tooling)

**TRACTOPRESS**
The optimal secure connection of compression fitting for hydraulic tubing requires the correct specific contact pressure when attaching the cutting ring. The cutting ring assembly device TRACTOPRESS is equipped with an automatic pressure adjustment, so that any mistakes could be eliminated from the beginning. The working range is 6 to 42 mm OD.

**UNIPRESS**
The UNIPRESS is the ideal device for assembling compression fittings with cutting rings or flares of 37° for tubes/pipes from 6 to 42 mm OD. Pressure adjustment is done manual. With the exchangeable tools precise processing is practically pre-programmed.

All table-top units can easily be carried, allowing flexible application at any place.
The "Pipe Bending Technology Forum" is a great success every year. A large number of participants from different branches of industry are informed in detail about the current developments in tube and pipe bending technology. These events aim to provide know-how and offer the user optimal technical solutions. An extensive and interesting program is offered in theory and practice.

The lectures are supplemented by contributions of competent guest speakers. Please ask for information on our next seminar now.

Our worldwide sales network provides the fastest possible local service. Please contact us - we most certainly have the right solution for your pipe processing needs.

TRACTO-TECHNIK GmbH
Spezialmaschinen - D-57368 Lennestadt-Oedingen - Hunold-Rump-Str. 76-80 - Tel.: +49 (0) 27 25 / 95 40-0 - Fax: +49 (0) 27 25 / 95 40-33
http://www.tracto-technik.de E-Mail: tubomat@tracto-technik.de

Your TUBOMAT partner