

Product Range

TOX®-Powerpackage



TOX®-PowerKurve



TOX®-ElectricDrive



TOX®-FinePress



TOX®-Presses



TOX®-Controls, TOX®-Monitoring



TOX®-Joining-Systems



TOX®-Tongs



TOX®-Punching, TOX®-Coining



TOX®-Press-Fitting



TOX®-Production Systems





Ideas – Impulse to Innovation

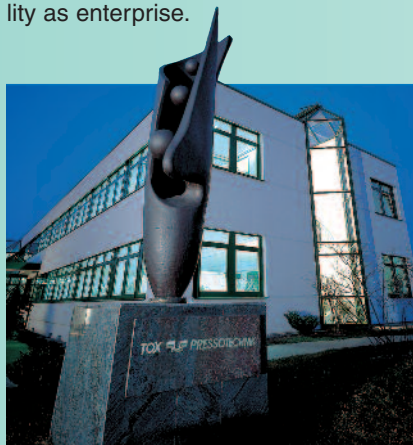
Interconnection of the markets is a central subject of our times. We have met the requirements associated with this subject by implementing our own manufacturing and sales locations in Europe, America and Asia. We have created a dynamic, future-oriented structure within TOX® PRESSOTECHNIK, where all requirements have been fulfilled in compliance with each country's Standards for Environmental, Working Safety and Working Conditions, and in strict conformance with the Worker Unions and our self responsibility as enterprise.

People – Basis for Visions

The basis for high performance have always been and remain the people, along with their capability and readiness to be visionary. The people at TOX® PRESSOTECHNIK have developed the company into a technology leader in its segment.

Competence – Cornerstone of Worldwide Presence

More than 850 qualified employees at 18 TOX® PRESSOTECHNIK locations and colleagues in approx. 20 representative companies offer customers worldwide a comprehensive engineering-know-how and service. Modern production and communication technologies increase our efficiency and pleasure in providing solutions to our customers.



Germany



USA



India



China



Japan



South-Korea

Visions

References – Symbol of Trust

As expected, the entire global manufacturing industry is our customer.

Some of our customers:

Entire automotive industry
Entire tier one suppliers
AEG Home Appliances, Germany
BLUM, Austria
BOSCH-SIEMENS, Germany
BRASTEMP, Brazil
CANON, Japan
CATNIC-GROUP, Great Britain
DELL, Malaysia
DYSON, Great Britain

EBM-PAPST, Germany
ELSTER, Germany
FRIGIDAIRE, USA
GDA Hotpoint, Great Britain
GENERAL ELECTRIC, USA
HELLA, Germany
HEWLETT-PACKARD, Singapore
ILLIG Maschinenbau, Germany
KONICA, Japan
KYOCERA, Japan
LG, Korea
LIEBHERR-Hausgeraete, Bulgaria
MATSUSHITA-PANASONIC, Japan
MAYTAG, USA
MINOLTA, Japan
MITSUBISHI, Japan
NIENSTEDT, Germany

POLAROID, Great Britain
RICOH, Japan
SAMSUNG, Korea
SANKO, Japan
SCHAEFER-WERKE, Germany
SCHULTHESS, Switzerland
SIEGENIA-AUBI, Germany
SIEMENS, Germany
TETRA PAK, Switzerland
THYSSEN KRUPP, Germany
TOSHIBA, Japan
USK Karl Utz Sondermaschinen, Germany
VAILLANT, Germany
VOITH TURBO, Germany
WHIRLPOOL Home Appliances
Worldwide

Argentina
Austria
Belgium
Brazil
Canada
China*
Colombia
Czechia
Finland
France
Germany*
Great Britain
Hongkong
Hungary
India*
Italy
Japan
Lithuania
Malaysia
Mexico
The Netherlands
Poland
Portugal
Romania
Russia
Slovenia
Slovakia
Sweden
Switzerland
South Africa
South Korea
Spain
Taiwan
Thailand
Turkey
USA*

worldwide presence



* Manufacturing locations

TOX®-Powerpackage

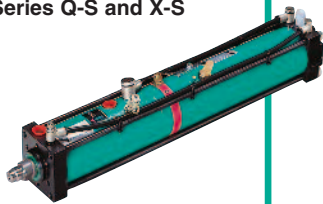
Optimal press force from 2 – 2000 kN

TOX®-PowerKurve

Power that follows the curve. From 0,5 – 90 kN

CAD data online:
www.tox-cad.com

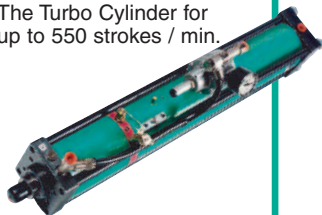
Series S
Standard
Series Q-S and X-S



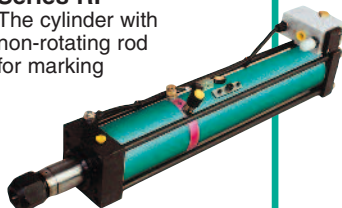
Series S .50
Power Stroke Limiter



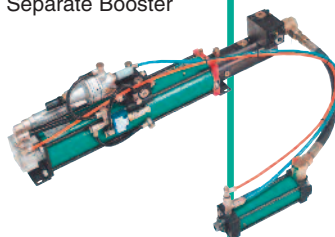
Series T
The Turbo Cylinder for
up to 550 strokes / min.



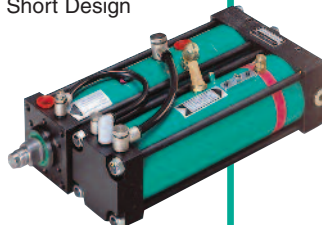
Series RP
The cylinder with
non-rotating rod
for marking



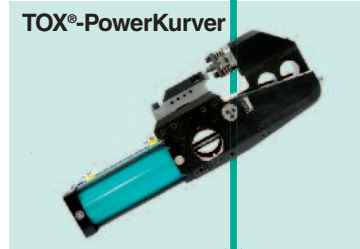
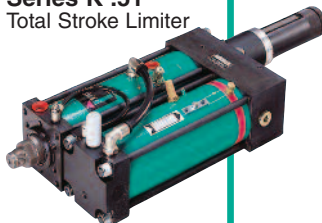
Series KT
Separate Booster



Series K
Compact Q-K and X-K
Short Design



Series K .51
Total Stroke Limiter

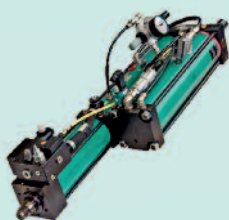


TOX®-Powerpackage - the energy saving pneumatic intensifier with integrated oil system and automatic activated power stroke. Our technology combines pneumatics and hydraulics, providing you with the following advantages:

- Total stroke up to 400 mm, Power stroke up to 200 mm
- Innovative design with patented technology
 - Bypass system
 - Hydraulic end position damping
 - Absolute air/oil separation
- Few moving parts
- Overfill protection
- Low energy consumption
- High wear resistance
- High stroke frequency
- Easy on tooling
- Comprehensive range of accessories
- Also available with air spring

Options / Accessories

Damping ZED
Ideal for pressing and punching procedures



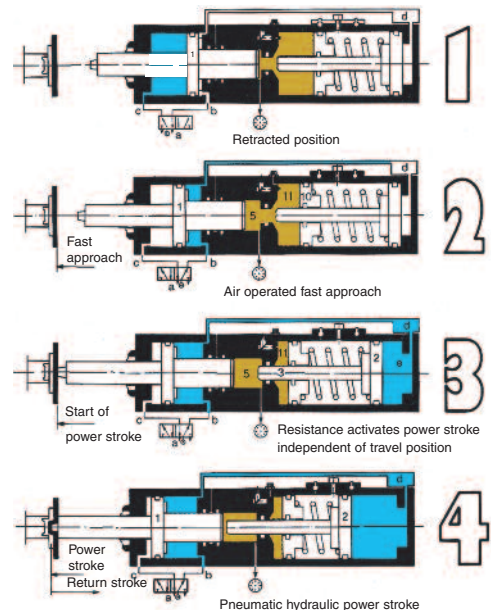
Holding brake ZSL



Tool holding fixture ZWK



Functioning of the TOX®-Powerpackage





TOX®-ElectricDrive

Modular Servo-Systems up to 700 kN,
from Standalone to volume production assembly lines to complex
Speciality machinery: The solution for all applications....

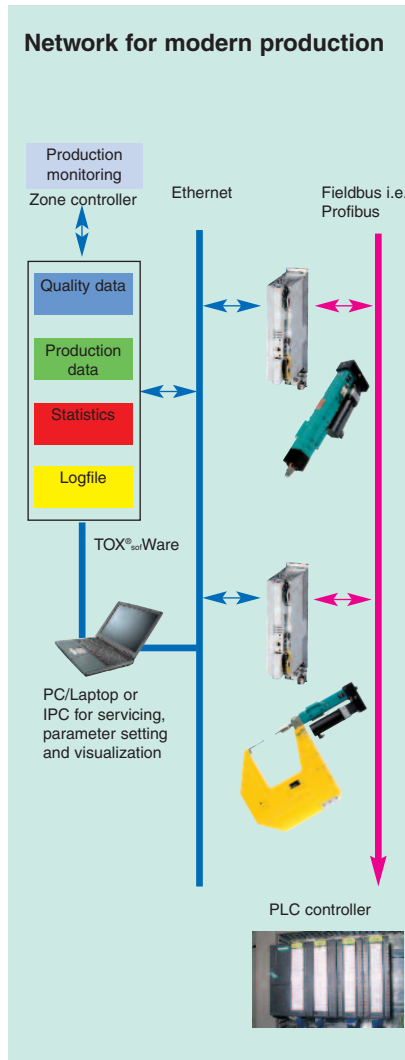
High flexibility and modularity of mechanics, electrics and software for all TOX® ElectricDrive Systems

When work processes require high flexibility and precision, then conventional drives are often no longer sufficient. This calls for the use of electro-mechanical servo drives.

Connections to existing controls or data networks are imperative for this task. To quickly install and run these systems, the usage and visualisation programs have to be purposely designed for these requirements. With our powerful software package TOX^{soft}Ware, the system will be easily set up and integrated into your application without any special software or programming knowledge.

TOX®-Axis-Controller: the central intelligence

The freely programmable axis controller is a single axis controller with integrated logic and servo amplifier. They control and monitor all functions of the TOX®-ElectricDrive system. Advantages include the highly dynamic processing of pressing programs and fast reaction to variations in the process. During and after production, the process data can be taken from the controller for further processing or documentation.



Servo Drive Units:

The slim standard drive
TOX®-Electric Power Module EPMS, EPQS
5 – 200 kN

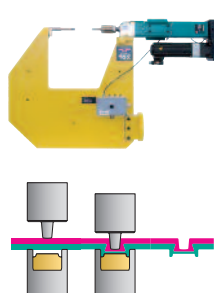
The compact drive
TOX®-Electric Power Module EPMK
5 – 700 kN

The tongs drive
TOX®-Electric Power Module EPMR
55, 100 kN



Systems solutions

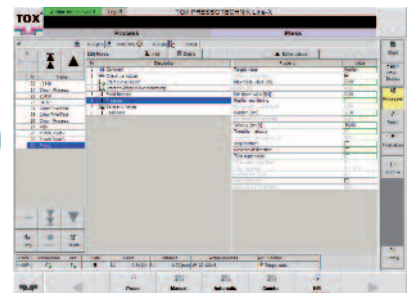
Robot guided clinching tongs



Application: Metal joining with TOX®-Round Joint



Complete press with safety control according safety level 4



TOX®-FinePress

Small press program from 2 – 57 kN

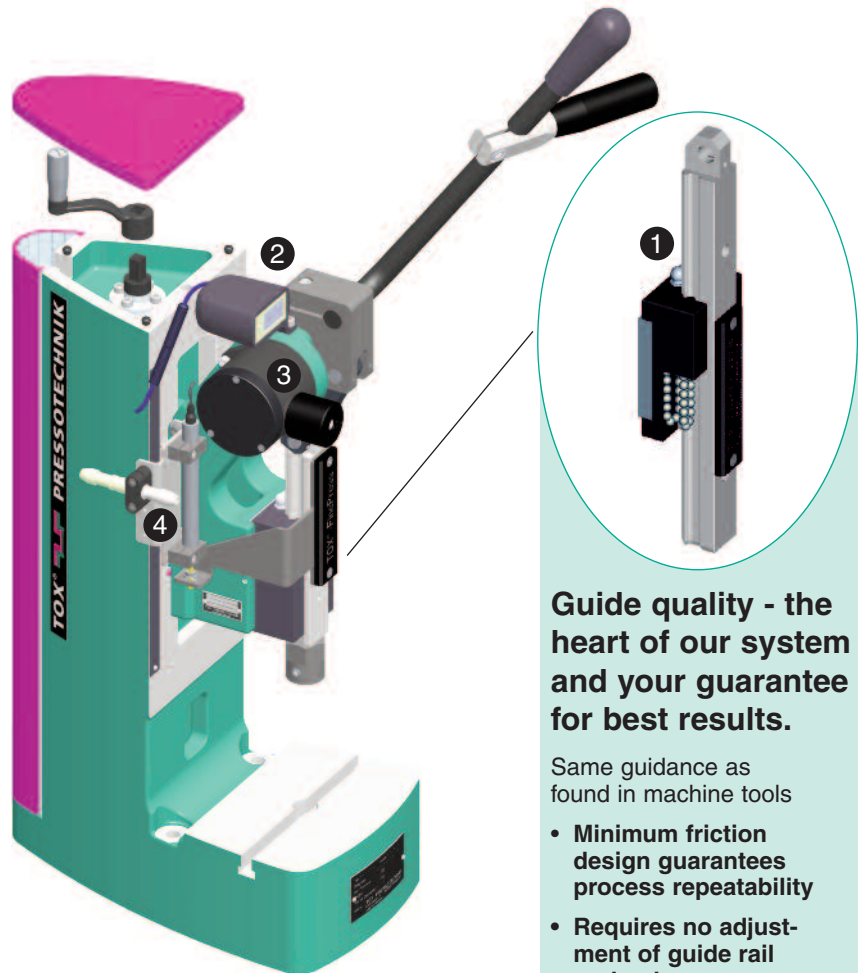
Available in three frame sizes for each force range.

The Assignment:

- increase productivity
- assure quality
- save on investment

The Solution: TOX®-FinePress

- **Flexibility**
 - extensive program
 - ample accessories
 - quick tool change
 - 360° adjustable pull handle
- **Quality**
 - precise linear ram guide
 - smooth operation
 - robust design
 - rigid cast steel frames
 - pressing monitoring available
- **Value**
 - best price/performance ratio
 - all accessories retrofittable
 - worldwide TOX®-Service
 - 12 months warranty
 - TOX®-Presses are safe:
They meet all European standards and guidelines. Turnkey machines are CE conforming.



Guide quality - the heart of our system and your guarantee for best results.

Same guidance as found in machine tools

- **Minimum friction design guarantees process repeatability**
- **Requires no adjustment of guide rail preload**

Picture shows optional accessories.

- ① Ball rail guide for ram
- ② Electric counter
- ③ Return stroke lock
- ④ Travel sensor

Additional Accessories:

- + Tool fixture
- + Fine stroke adjustment
- + Side grip
- + Machine bases
- + Slide tables
- + Electric/pneumatic controls
- + Pressing monitoring with sensors



Toggle Presses



Rack and Pinion Presses



Pneumatic Presses



Pneumatic Presses with manual approach

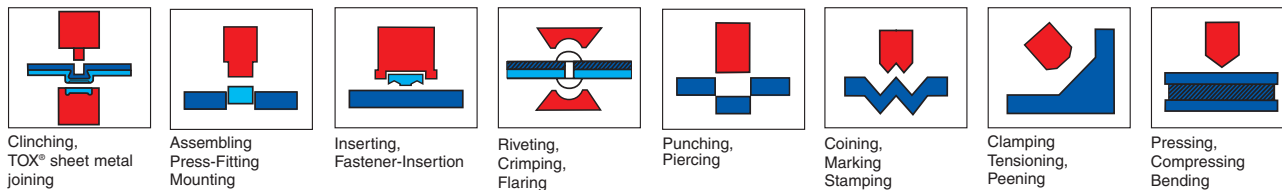
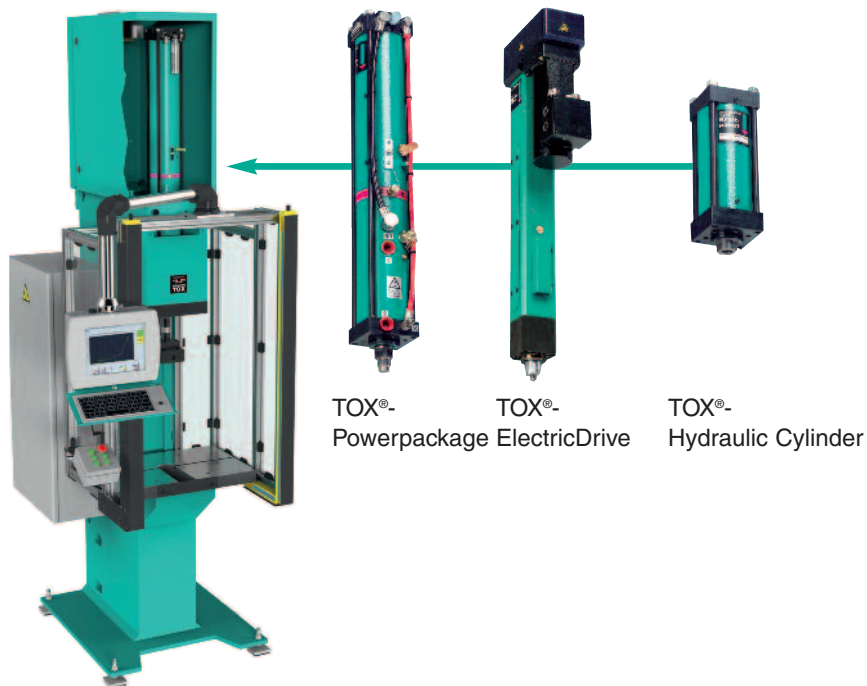
TOX®-FinePress:
The expandable,
economical program



TOX®-Presses

Power progression from 2 – 2000 kN

- With TOX®-Powerpackage pneumohydraulic drive: Ideal press drive with linear force output throughout the stroke. On request, also available with electromechanical drive TOX®-ElectricDrive or with hydraulic cylinder HZ
- High efficiency for multiple operations
- TOX®-Controls and TOX®-Monitoring



**C-frame press
PC**



**C-frame bed press
MCC**



**C-frame bed press
MC**



**C-frame bed press
CEB, CMB**



**2-column press
MB/MBG**



**4-column press
MA/MAG**



**C-frame press
CEU**



**C-frame press
CEC**



**C-frame press
CEJ**

TOX®-Controls – a modular system



Pneumatic 2-hand controls console



Safety valve pneumatic or electric



2-hand safety controls console



A pneumatic air servicing unit is included with each TOX®-Control System.

Only a machine or press well matched to the job can provide you with the required efficiency and desired cost effectiveness.

This is accomplished by:
- a well thought-out controls concept
- a modular system

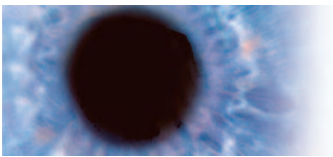
TOX®-Controls are:
- simple and operator friendly
- safe to the maximal level

TOX®-Controls offer:
- maximum of functions
- optimal price-performance ratio

From simple, pneumatic basic controls, or electro-pneumatic controls, all the way to complex, custom programmable controls with nearly unlimited possibilities, all control needs can be fulfilled.

All TOX®-Controls meet the latest technical safety norms and guidelines from the German Occupational Safety and Health Administration as well as European Directive DIN EN 13736 for pneumatic presses. With TOX®-Controls, you are always "on the safe side", as only high-quality, tried and tested safety components and valves are mounted.





TOX®-Monitoring

The process at a glance

Control units for monitoring of clinching and pressing processes

The evaluation device can be selected according to each requirement. From 1- to 12-channel clinch monitoring all the way to continuous measuring in force-travel-pressing monitoring.

Various evaluation methods allow for different analysis of your processes. Diverse communication-interfaces allow for simple and quick data transfer to the data storage.

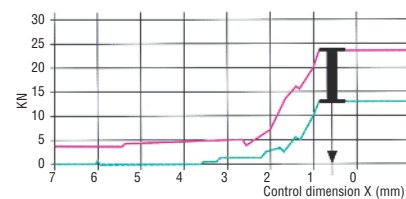
We provide:

- customer optimized total solutions
- single components
- high quality sensors
- shielded cables
- user defined evaluation software
- everything from one source, one system

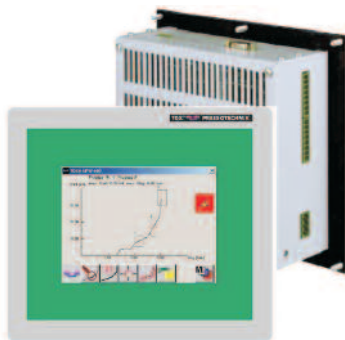
TOX®-Clinching Monitor CEP 400/400T



- Force monitoring of clinching processes
- Trend monitoring
- Process sequencing
- Network capability over Ethernet TCP/IP
- Expandable up to user defined processes
- With and without display



TOX®-Pressing Monitor EPW 400



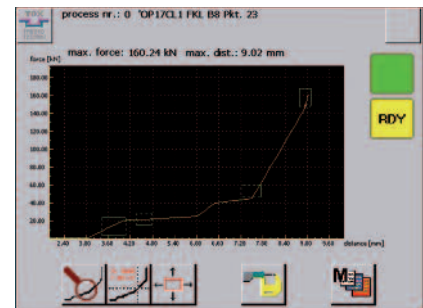
The TOX®-Pressing Monitor EPW checks continuously the pressing operation providing quality control during production:

- monitors pressing- and forming processes, as force-travel function
- controls windows: threading, progression, block measure/ block force
- 64 different component part types in 64 measuring programs
- provides most important data about process status

Interfaces: - CAN-Interface

- Integrated Ethernet-Interface
- RS 485
- USB

Optional: - Profibus
- Analog output 0 – 10 V



TOX®softWare

This specially developed software from TOX® PRESSOTECHNIK integrates all appropriately equipped TOX®-Products. Programming, visualization, networking and archiving, all this can be done using a common platform.

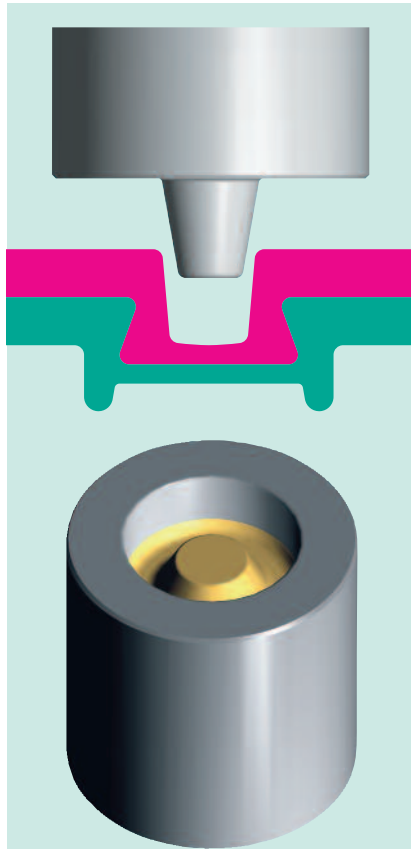


TOX®-Force Sensor

Measuring range from 0...1 kN to 0...1000 kN

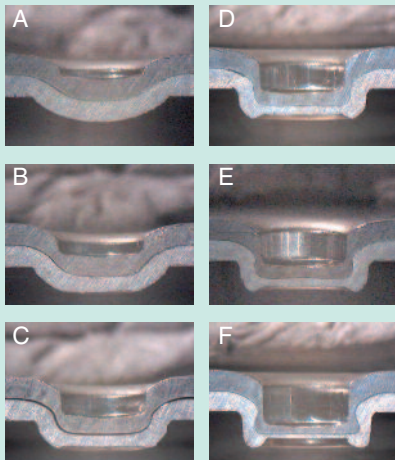
TOX®-Round Joint

Simplicity is our strength



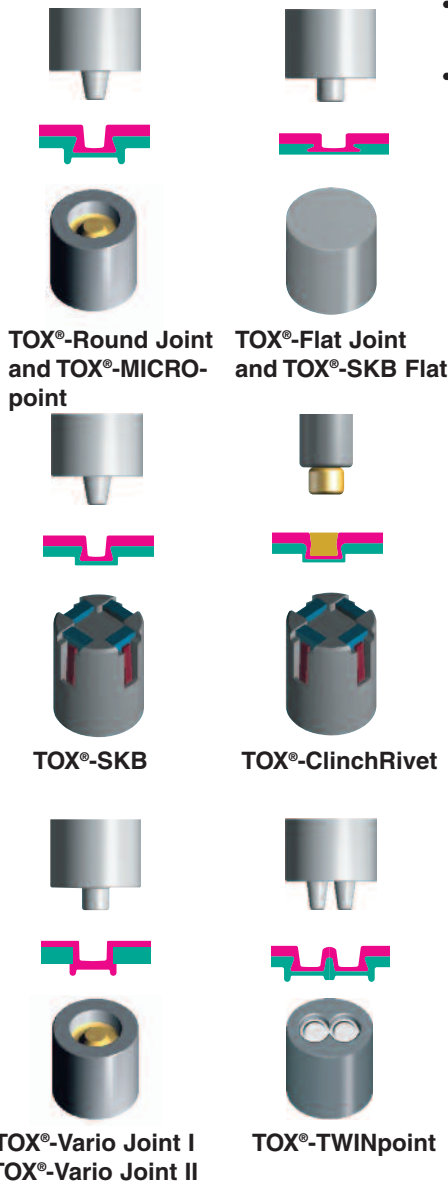
Forming the TOX®-Round Joint

- A Penetration
- B Upsetting
- C Emergence of upper contour
- D Filling of ring groove
- E Lateral spreading of punch side material
- F Finished TOX®-Round Joint



The TOX®-Round Joint for a good connection:

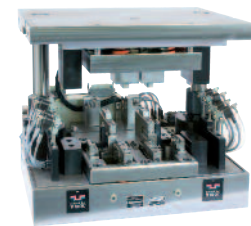
The patented TOX®-Round Joint is the core of our sheet metal joining technology. A simple round punch presses the materials to be joined into the die cavity. As the force continues to increase, the punch side material is forced to spread outwards within the die side material. The result: An aesthetically pleasing round button, which joins clearly without any burrs or sharp edges on which corrosion could set in.



- TOX®-Round Joint: 30 to 60 % cost savings as compared to spot welding.
- The TOX®-Joint achieves up to 70 %, and as a TOX®-TWINpoint practically 100 %, of the static strength of a spot weld.
- The dynamic strength of TOX®-Joint is higher than in spot welding.
- The materials are sealed at the joint and therefore stronger. There are no mechanical notch effects.
- Excellent corrosion resistance.
- Outstanding conductivity for electric components.
- The process can automatically be monitored and documented by using TOX®-Process Monitoring Systems CEP/EPW.



Parts joined with the TOX®-Joint



TOX®-Multipoint-Tool

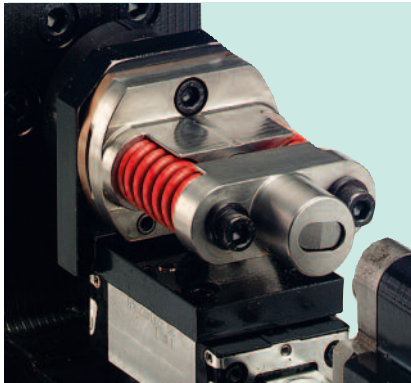


TOX®-Tools



TOX®-Systems and Applications

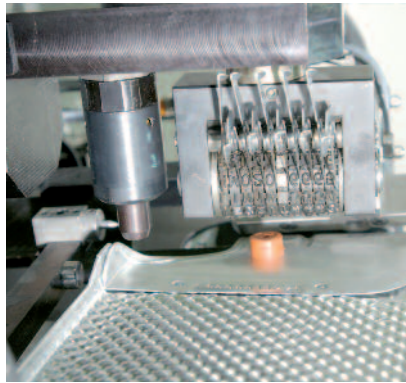
Spectrum for application specific solutions



TOX®-Punching Systems

TOX®-Punching Tongs, TOX®-Punching Bow, TOX®-Punching Presses, TOX®-Fixtures

- Turnkey solutions for your punching applications
- Selection of the punching system according to your requirements
- “Breakaway” damping integrated in the drive



TOX®-Coining Systems

TOX®-Coining Tongs, TOX®-Coining Presses, TOX®-Coining PowerKurver

- Coining of symbols, numbers or letters, etc. on sheet metal parts
- Handheld stamp holder, manual or automatic marking heads with custom symbols
- Flexible modular system



TOX®-Assembly Systems

Assembling, Press-fitting, Mounting

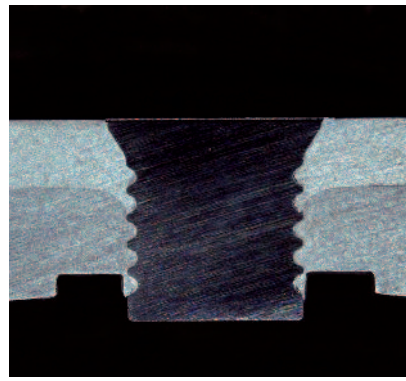
- Press-fitting with force and travel monitoring
- Best repeatability
- Own software module for the drives
- Matched process monitoring



TOX®-Fastener-Insertion

for function elements like nuts, studs, rivets, screws

- Handling technology
- Feeding technology
- Piercing technology
- Planning
- Development
- Design in 3D



TOX®-Solid Punch Riveting

Insertion systems for solid punch rivets

- Tooling
- Placement heads
- Rivet feeding systems
- Flexible robot station thanks to the proven docking system
- Process monitoring

Our spectrum for application specific solutions

- Modular system, matched individually
- Conception, planning, development together with our customers

Everything from one source

Suitable press frames, standard controls and special drives.

Our own know-how for tooling or in collaboration with your partners.



TOX®-Mini Tongs TOX®-Handheld Tongs



TOX®-Mini-Handheld Tongs
TOX®-Machine Tongs
Type CMH 03.45

Hydraulic powered C-frame tongs. Standard versions include TOX®-Handheld, TOX®-Robotic, and TOX®-Machine Mount tongs. Available in various throat depths.



TOX®-Handheld Tongs
Type CHH 03.45
Type CHH 03.75

These tongs are ideal for piece parts with intricate shapes due to the versatile C-frame design. The hydraulic lines have been integrated into the various hanging and rotary fixtures.



TOX®-Mini-Handheld Tongs
Type CMH 04.45

This X-version tongs allows for easy access into hard to reach places. Operator safety is provided by a tool opening of 6 mm.



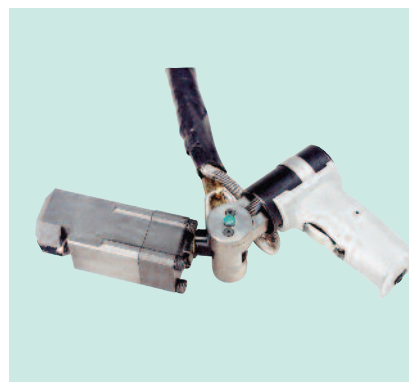
TOX®-Handheld Tongs
Type CHH 04.45

X-version tongs with the joining axis perpendicular to the drive axis. Tool opening is 6 mm for 1-hand controls, and tool opening of 30 mm is available for 2-hand controls.



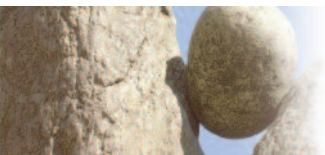
TOX®-Handheld Tongs
Type CMH 01.45

These versatile tongs with a retractable lower jaw were originally designed for joining of ventilation sheet metal ductwork. They feature robust and flexible handling with the integrated energy lines and a body which can rotate 360°. In addition, they provide high repeatability of the defined, adjustable stroke (adjustment of control dimension X) and long tool life.

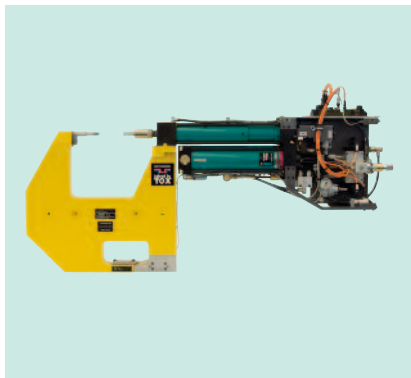


TOX®-Flange Tongs
Type CMH 02.30

Narrow flanges can be joined using these super compact tongs with a solid punch and die. Extremely long tool life. Integrated energy lines provide a clean design with many degrees of motion.



TOX®-Robot Tongs TOX®-Machine Tongs



TOX®-Robot- and TOX®-Machine Mount Tongs type TZ

The **modular kit system** shown below provides the freedom to select the right tongs for your application. The tongs are delivered complete and ready to plug in and start working.



TOX®-Robot-Machine Mount Tongs with compensating slides

Applicable to tongs with the die on the drive side. It prevents any undesirable loads on the workpiece.



Modular kit system

The **modular kit system** allows to adapt these TOX®-Tongs to any component and handling equipment.

Special models are possible. In this way, all applications and quality assurance tasks will be fulfilled with a clear interface.

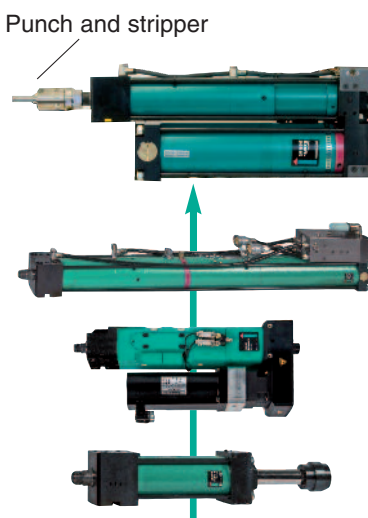
Frame and tools



The tongs are mounted on the tongs frame with a console to the robot arm (robotic tongs) or mounted stationary in the line (machine mount tongs). The tools and frame shape are designed according to the type of application and to the shape of the workpiece. For clinching applications, the TOX®-Punch Stripper is always included with the unit.

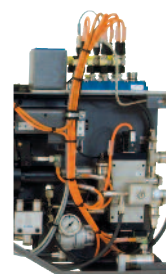
Punch and die can be switched in special models (see above for tongs with compensating slide).

Drive and tools



Whether equipped with a pneumohydraulic, electric or hydraulic cylinder, all the tongs drives feature high quality guidance and positive mounting flange.

Measure and control



Bus module
Sensors
+
Power feeds

The tongs installation plate ZIP contains the necessary valves, sensors and electrical and pneumatic interfaces.



TOX®-Production Systems

Special machines for your production lines

Modular design

Even in the selection of a standard press, you have numerous possibilities to individualize your press. The modular design principle provides an uncomplicated realization.

Your individual specifications will be provided. Due to our extraordinary high inhouse production and the use of up to 90 % standard parts, we are independent, quick and low-priced.

This is the only way to always guarantee our known TOX®-Quality, and to incorporate each improvement immediately into production and offer optimal flexibility in delivery.

Standards and guidelines

TOX®-Presses are safe: They meet all European standards and guidelines. Complete machines are CE conforming.

Press frames

- C-frames
- 2-column
- 4-column
- Welded frames

Safety guard enclosures

- Steel or aluminum framing
- Perforated sheet
- Polycarbonate panels

Additional components

- Oiling systems
- Greasing systems and more

Base frames

- Welded construction
- Sheet metal construction
- Aluminum framing
- Any size
- With optional damping elements
- Height adjustment
- Standing or seating workplace
- Foot rests and much more

Tooling

- Bending
- Marking
- Piercing
- Joining
- Fastener Insertion
- Mounting
- Clinching
- ...

Options

We design according to your specifications: e.g. outlets for scrap, good and bad pieceparts, e.g. mounting tools and much more.

Part loading

- By hand
- Slide table
- Index table
- Shuttle

Drive modules

- Pneumohydraulic cylinder TOX®-Powerpackage S/K/KT
- Electromechanical drives TOX®-ElectricDrive EPMS/ EPMK
- TOX®-Hydraulic Cylinder

Safety equipment

- 2-hand consoles
- Light curtains
- Sliding doors
- Safety modules CLX
- Enclosures
- Restraint device

TOX®-Monitoring

- Force-Travel-Monitoring EPW
- Force-Monitoring CEP

TOX®-Controls

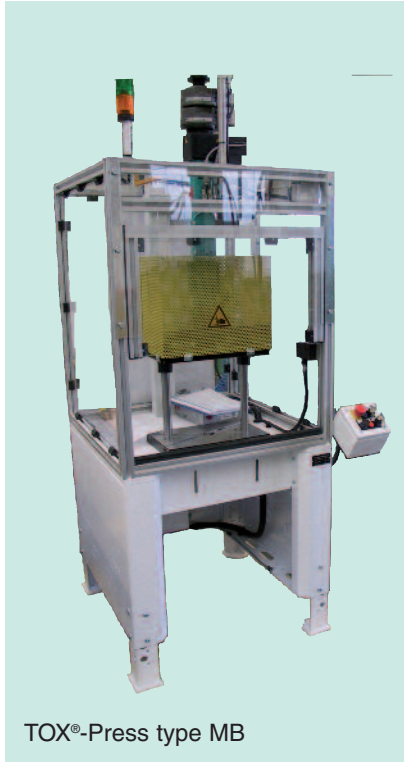
From simple safety controls to complex S7 or Allen Bradley controls with many options. Integration into subordinate control systems and quality management concepts is possible.





TOX®-Production Systems

Applications all over the world



TOX®-Press type MB

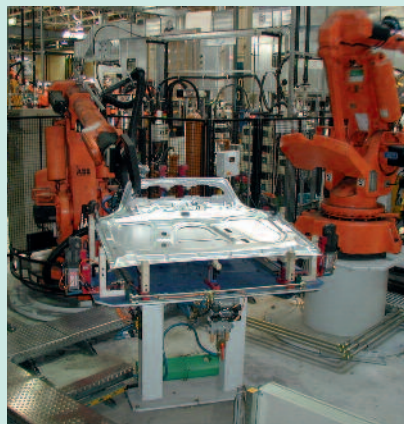


TOX®-Press type CEJ



TOX®-Press type CMM

TOX®-Production Systems in Action

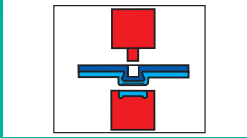




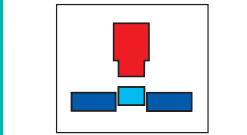
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Applications

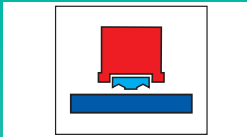
Clinching



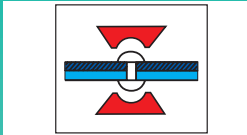
Assembling



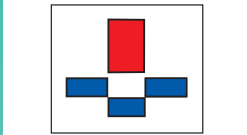
Self-Piercing



Riveting



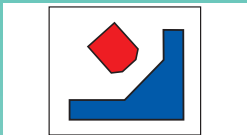
Punching



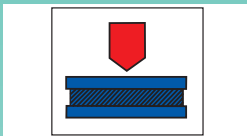
Coining



Clamping



Pressing



Bending

