



THE SOLUTION  
FOR TUBE SYSTEMS  
IN THE HYDRAULICS SECTOR

transfluid<sup>®</sup>  
The solution for tubes. **t**

transfluid<sup>®</sup>

## PREMIER BENDING AND CONNECTION TECHNOLOGY FOR READY TO INSTALL HYDRAULIC LINES

The transfluid machinery program encompasses the comprehensive processing of hydraulic conduits. The transfluid portfolio comprises uncomplicated mounting machinery for encasement on the object, CNC-controlled machinery for pre-assembly within centralized tube production, as well as fully automated production lines. The transfluid portfolio offers optimal solutions for hydraulic tube production.



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transfluid®  
RELIABLE PRECISE FIT FOR  
SAFE HYDRAULIC SYSTEM

Hydraulic lines are integral to the efficient and safe operation of hydraulic systems. The connection technology used in these lines must demonstrate resilience and reliability to withstand high pressures and dynamic loads. With steadfast assurance, transfluid offers specialized machinery and techniques for a variety of threaded couplings, ensuring long-lasting and secure sealing. For over 35 years, the hydraulics industry has entrusted our solutions. Whether for mobile, manual production on-site, or flexible production systems,

transfluid provides dependable solutions that inspire unwavering confidence. We are dedicated to delivering trustworthy and efficient solutions for all your hydraulic system requirements.

**HYDRAULIC TUBES**  
transfluid tube bending machines are capable of effectively bending galvanized steel tubes and coated hydraulic tubes. The Zistaplex surface coating, for instance, provides exceptional processing characteristics for hydraulic pipes. The organic coating exhibits durability even under extreme bending geometries and ensures corrosion resistance post-bending.



<b>CUTTING-RING WITH SOFT SEAL</b>	<b>CUTTING-RING (PSR)</b>	<b>FLARE 10° (ZAKO)</b>	<b>FLARE 37° (SAE &amp; JIC)</b>	<b>FLARE 90° (ORFS) FORMED IN ONE PIECE</b>	<b>FLARE 90° (ORFS) WITH SUPPORTING RING</b>	<b>BSP &amp; BSPO CONNECTION</b>	<b>DKOL &amp; DKOS CONNECTION</b>	<b>SPECIAL FORMS CUSTOMIZED CONNECTIONS</b>	<b>PIPELINES</b>
HA 642 A with VVS 642 HA 642 with VVS 642	HA 642 A with VVS 642 HA 642 with VVS 642 HA 642-VO55	HA 642 A with VBG 642-HAV HA 642 with VBG 642-HAV	HA 642 A with VBG 642 HA 642 with VBG 642 UMR REB	REB	UMR	REB/SRM	REB/SRM	REB/SRM	MB DB K DB CNC-R/L DB CNC-VE Robotic bending machine



## Work - CUTTING-RING ASSEMBLY

Trust in transfluid cutting ring assemblies to effectively eliminate downtime, mitigate complaints, and minimize rework. With a 35-year track record in delivering cutting ring assemblies for hydraulic lines, we have effectively eradicated leakage from compression fittings. Our automated assembly process guarantees unwavering quality across both small-scale and large-scale production runs.



## Work - CUTTING-RING ASSEMBLY MACHINE FOR SERIAL PRODUCTION

To mitigate assembly errors, transfluid offers machines equipped with integrated process monitoring, enabling the real-time assessment of force and displacement during the assembly process. Additionally, the machine features RFID tool coding, ensuring seamless access to accurate assembly data. The patented release mechanism on the assembly head facilitates the assembly of retrograde and highly compact bent geometries.

### AVAILABLE MACHINE SIZES

Model	Tube- $\phi$
V5 642 HNC	6 - 42 mm



watch the movie

### EQUIPMENT:

- Tool coding using RFID chip
- Programmable unit counter
- Pre-assembly dependent on force/displacement
- Touch panel with intuitive menu navigation
- Calibration services
- Optional foot control available
- Automatic process monitoring



Work – ELECTRO-HYDRAULIC DRIVE UNIT

Our electro-hydraulically driven machines are engineered to perform classic cutting ring and 37° or 10° flaring, functioning either as a combined or standalone apparatus. These machines operate with exceptional precision and possess attributes of lightness, convenience, and robust power. Specifically designed for external assembly, the transfluid pre-assembly and flaring machines serve as an ideal foundational element for ensuring dependable assembly of superior quality.

- Mechanical clamping
- Suitable for tube sizes between 6 – 42 mm
- Interchangeable attachments

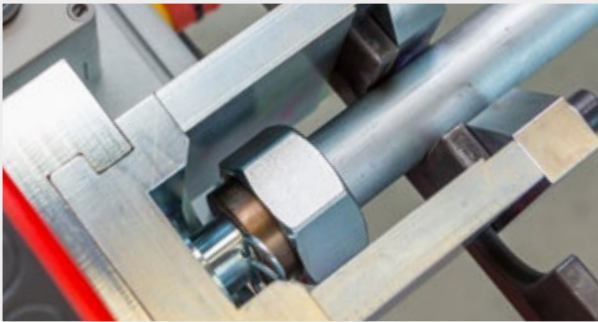
AVAILABLE MACHINE SIZES

Model	Tube-φ
HA 642	6 – 42 mm



EQUIPMENT OPTIONS:

- Flaring attachment 37° & 10° ZAKO
- Pre-assembly of cutting-rings attachment



Work – FLARING- & ORFS CONNECTIONS



Work – ROTARY END FORMING MACHINE

Our rotary forming machines enable the attainment of mirror-like surfaces. They are capable of forming pipe ends with specified angles from 37° to 90°, depending on the tool used. This method facilitates the creation of impeccable sealing surfaces and the achievement of short clamp lengths. These machines are well-suited for custom assemblies and construction projects.

- Manual clamping
- Manual advancement with hand pump
- Electric rotational tool carrier
- Working area: 6 – 42 mm

AVAILABLE MACHINE SIZES

Model	Pipe-φ	Cycle time
UMR 642-H	6 – 42 mm	20 – 25 Sec.





## t form – ROLL FORMING MACHINE

Experience the exceptional performance of UMR tube forming machines, renowned for their robustness and efficiency. These machines incorporate cutting-edge technology and offer an array of pre-defined settings for effortlessly achieving flawlessly smooth, mirror-like surfaces.

Their compact design allows for the installation of various end shapes on pre-bent tubes (U-bend), ensuring the creation of impeccable sealing surfaces and flares with angles ranging from 20° to 90°, with a clamping length of 1 x D.

What's more, these machines can produce flares of up to 90° in a single cycle and boast lightning-fast tool changes. With UMR tube forming machines, you can expect swift, precise, and top-quality results every time.

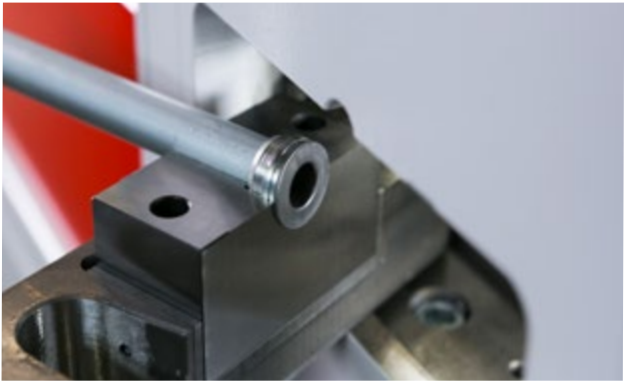
### AVAILABLE MACHINE SIZES

Model	Tube-φ	Wall thickness max.	Cycle time
UMR 628	6 – 28 mm	2,5 mm	4 – 10 Sec.
UMR 642	6 – 42 mm	4,0 mm	4 – 15 Sec.



### EQUIPMENT OPTIONS:

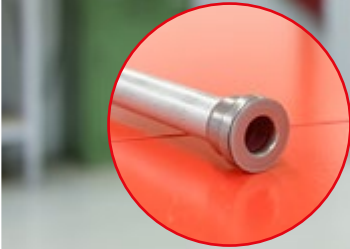
- Automatic release
- Foot-control
- Microlubrication system
- Processing of support rings



## INTRODUCING THE AMAZING ORFS SEMI-AUTOMATIC RING FEEDER FROM transfluid®!

This innovative solution offers a cost-effective and efficient way to produce small, medium, and large batch sizes. With its magazine featuring a poka-yoke system, it not only prevents assembly errors but also guarantees top-notch quality every time.

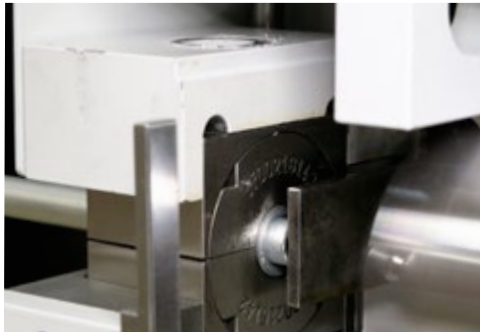
Plus, its short cycle times boost assembly economy, while the automated feature lightens the operator's workload. Experience minimal machine instruction and training with this game-changing solution. Get ready to streamline your production process!



**AUTOMATIC LOADING** – ORFS rings are consistently positioned with 100% accuracy.



**COMPACT DESIGN** – Straight or curved geometries with minimal points of collision.



**ELECTRICAL STOP** – Ensures that there is enough pipe length.



watch the  
movie



watch the  
movie



# t work – MOBILE BENDING MACHINE

**Transportable, versatile and proven.**  
Discover the amazing transfluid classic, offering a wide range of machine sizes from 6 mm to 115 mm. This portable and versatile solution is perfect for various locations and comes with a well-established reputation. With its numerous advantages, excellent price/performance ratio, and simple yet efficient technology, it's a top choice.

**Stable, Flexible and Economical:**  
The machine's stable, flexible, and cost-effective design allows for the economical production of hydraulic lines directly at the object or construction site. Additionally, it can be equipped with all the necessary accessories for producing ready-to-install hydraulic lines, including cutting to size and application of jointing systems. Embrace the convenience and efficiency of the transfluid classic for all your hydraulic line production needs

## AVAILABLE MACHINE SIZES

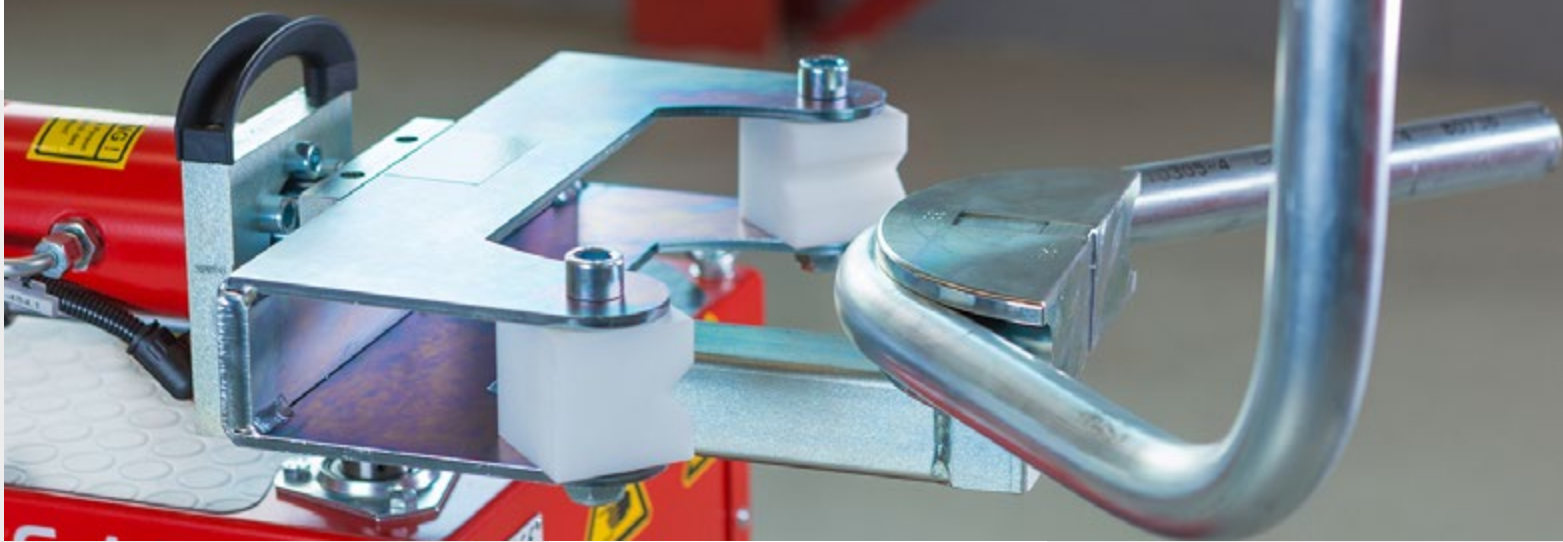
Model	Tube-ø	Max. Radius
MB 642	6 - 42 mm	104 mm
MB 2060	6 - 60 mm	178 mm
MB 3080	6 - 90 mm	240 mm
MB 30115	6 - 115 mm	360 mm



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## THE SPECIFICATIONS INCLUDE:

- Unrestricted bending to the right and left
- Inched tubes (IPS) with a 1" (33.7 mm) diameter can be bent using standard tools for 35 mm pipes
- Remote hand control with progressive operation
- Horizontal bending plane
- Accurate repeatability
- Bend angle pre-selection via limit switch and variable trip cam
- Swiveling and removable bending head
- Potential integration of additional functions like de-burring, pre-assembly, flaring, and saw capabilities



### ROTATABLE BENDING UNIT

- Economic operation
- Offers extensive bending flexibility



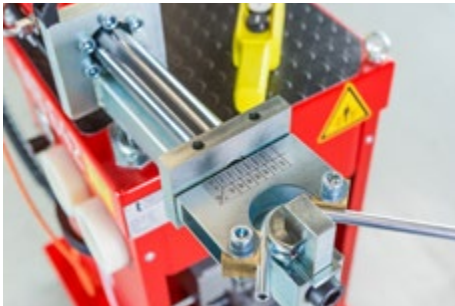
### FLARING FUNCTION 10° & 37°

Uses standard tools available on the market



### DE-BURRING MACHINE

- Easy sharpening and adjustment of de-burring heads
- Internal de-burring tool with 3 H55 edges
- External de-burring tool with 1 H55 edge



### OPTIMIZED BEND QUALITY

- Special tools for hydraulic tubing
- Quick tool change via plug-in system

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### PRE-ASSEMBLING AND FLARING UNIT

- Cutting-ring pre-assembly for common types
- Minimal setup effort due to combination tool
- For pre-assembling single and multi-bite ring DIN 2353



### CHOP SAW

- Provides precise right-angled and miter cuts



watch the  
movie



t bend - COMPACT  
MANDREL BENDING MACHINES

Discover our remarkable fully hydraulic mandrel bending machines, designed to effortlessly deliver top-notch bend quality. With SPS control for easy preselection and storage of bending angles via a touch panel, these machines offer exceptional performance and user-friendly operation. Their robust build ensures reliable handling while accommodating tubes of various lengths, with an operational length of up to 6m.

What's more, our machines are complemented by an impressive range of accessories, making them an all-in-one platform for pipe production. From an integrated saw for precise pipe cutting to a pipe deburring unit and attachments for cutting ring pre-assembly or flanging, these machines have everything you need. Plus, they are fully equipped to handle all necessary functions for tubing up to 42 mm, providing you with a comprehensive solution for your bending needs.

AVAILABLE MACHINE SIZES

Model	Tube- $\phi$	Max. Radius
DB 642 K	6 - 42 mm	105 mm
DB 2076 K	6 - 76,1 mm	150 mm
DB 20101 K	6 - 101,6 mm	250 mm



EQUIPMENT OPTIONS:

- Usable length extension
- Length stop device
- Off-set bending device
- Digital display of the length and rotation, with tolerance range, if required
- Controlled mandrel withdrawal
- Mandrel lubrication
- Following pressure die
- Additional functions can be added (pre-assembly, flaring, de-burring, cutting)



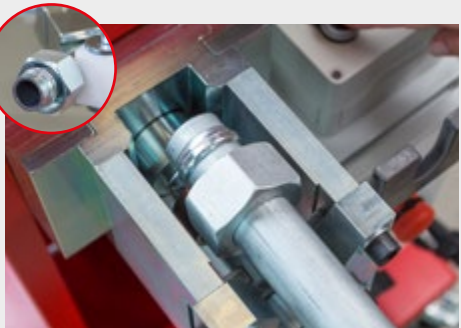
COLLECT CHUCK

- Enjoy effortless 360° rotation and scaling
- Benefit from 4 adjustable stobs
- Chuck clamp fits all sizes perfectly



DE-BURRING MACHINE

- Easily sharpen and adjust de-burring heads
- Internal de-burring tool with 3 HSS edges
- External de-burring tool with 1 HSS edge



PRE-ASSEMBLING AND FLARING UNIT

- Swift cutting-ring pre-assembly for all standard sizes
- Minimal setup required with the combination tool
- Perfect for pre-assembling single and multi-bite rings DIN 2353



FLARING FUNCTION 10° & 37°

Uses standard tools available on the market.



PROGRAMMABLE CONTROLLER

Store up to 500 different tube geometries, each with 20 different bending positions.



CHOP SAW

Precision-designed for accurate right-angled cuts.





# t bend - SERVO-HYDRAULIC TUBE BENDING MACHINES

**Stable, flexible and economical.** This series stands out for its remarkable stability, flexibility, and cost-effectiveness. It excels in delivering both stability and performance, enabling the cost-effective production of individual pieces and small series.

The innovative machine concept ensures highly efficient production, utilizing top-quality components to guarantee the machine's longevity.

### AVAILABLE MACHINE SIZES

Model	Tube-φ	Max. Radius
DB 642-3A-CNC	6 - 42 mm	126 mm
DB 2060-3A-CNC	6 - 60 mm	180 mm
DB 2090-3A-CNC	6 - 88,9 mm	270 mm
DB 40120-3A-CNC	20 - 120 mm	360 mm
DB 40139-3A-CNC	40 - 140 mm	420 mm
DB 40168-3A-CNC	40 - 170 mm	510 mm
DB 40220-3A-CNC	40 - 220 mm	700 mm
DB 60273-3A-CNC	60 - 273 mm	820 mm
DB 80330-3A-CNC	80 - 325 mm	975 mm

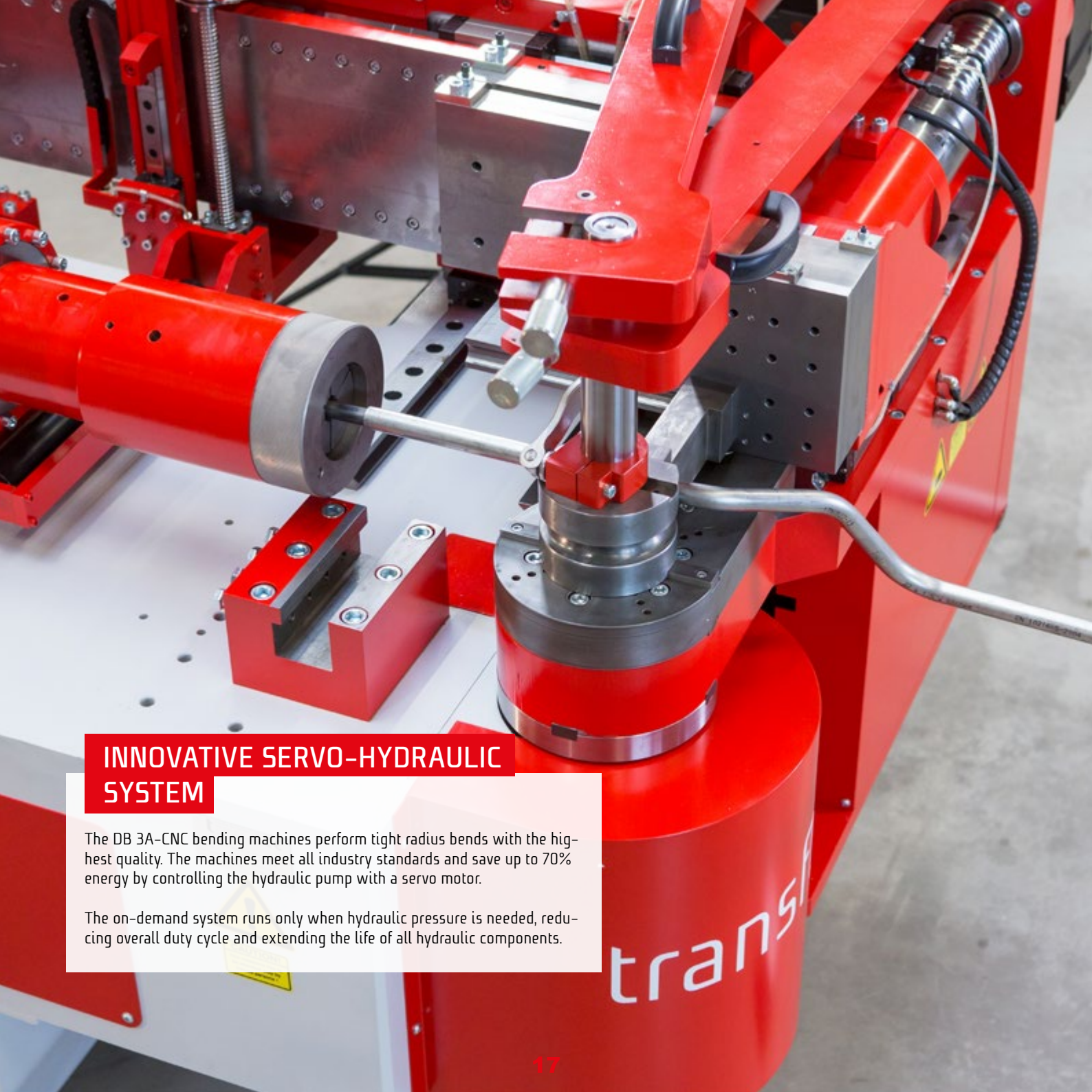


### ESSENTIAL EQUIPMENT:

- Bending direction: Clockwise
- Hollow shaft for small radii tooling
- Minimum clamping length at tube end
- Chuck with bayonet lock for quick tool change
- Subsequent pressure die for bends up to 180°
- Software t project

### OPTIONAL EQUIPMENT:

- Available lengths: 3.048 mm, 4.572 mm & 6.096 mm
- Multilevel bending capability
- Repeated gripping
- Centralized lubrication system
- Simultaneous cutting during bending
- Boosting function (Centerline Booster)
- Automated loading feature
- Precise positioning of welding seam
- Remote diagnostics functionality
- Carriage for wiper die
- Controlled mandrel withdrawal mechanism
- Mandrel lubrication system
- Safety cover & scanner



## INNOVATIVE SERVO-HYDRAULIC SYSTEM

The DB 3A-CNC bending machines perform tight radius bends with the highest quality. The machines meet all industry standards and save up to 70% energy by controlling the hydraulic pump with a servo motor.

The on-demand system runs only when hydraulic pressure is needed, reducing overall duty cycle and extending the life of all hydraulic components.



watch the  
movie



t bend - SERVO-ELECTRIC  
MANDREL BENDING MACHINE

The solution for the future. Highly dynamic and flexible, thanks to the 100 % servo-electric technology. The equipment of our mandrel bending machines with fully automated controls can be customized and individually selected and adapted.

AVAILABLE MACHINE SIZES

Model	Tube-φ	Max. Radius
DB 622-CNC-VE	6 - 22 mm	66 mm
DB 630-CNC-VE	6 - 30 mm	90 mm
DB 642-CNC-VE	6 - 42 mm	168 mm
DB 650-CNC-VE	6 - 50,8 mm	150 mm
DB 2060-CNC-VE	6 - 60 mm	150 mm

BASIC EQUIPMENT:

- Bending direction clockwise
- Bending head can be positioned horizontal and vertical
- Bending head can be equipped with minimum three tool sets
- Hollow shaft for using 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
- Software t project

OPTIONAL EQUIPMENT:

- Usable length 2.000 mm, 3.048 mm, 4.572 mm & 6.096 mm
- Repeated gripping
- Push bending of large bending radii
- Cutting during bending process
- Boosting function (Centerline Booster)
- Automated loading
- Positioning of welding seam
- Remote diagnostics
- Carriage for wiper die
- Safety cover & scanner



BENDING PROCESSES WITH HIGHEST PRECISION  
AND MAXIMUM FLEXIBILITY

The DB CNC-VE Series machines are real powerhouses. They are known for their exceptional stability and performance, unique in the market for this size of machine. The robust machine design guarantees our customers decades of use. All fully electric bending machines offer the option of processing pre-assembled tubes – with ring and nut.





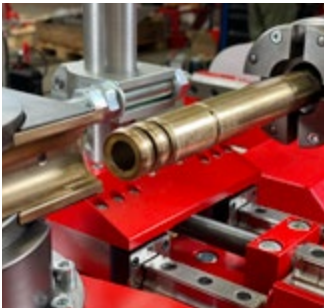
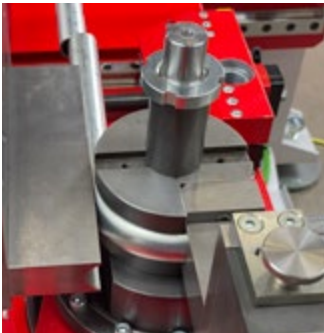
# t bend – SERVO ELECTRIC CNC MANDREL BENDING MACHINE 360° BENDING HEAD RIGHT/LEFT

For more 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.

Right-/Left Bending machines – also with freeform function – realize the most complex bends with great accuracy.

## AVAILABLE MACHINE SIZES

Model	Tube-ø	Max. Radius
DB 622-CNC-R/L	6 – 22 mm	66 mm
DB 630-CNC-R/L	6 – 30 mm	90 mm
DB 642-CNC-R/L	6 – 42 mm	168 mm
DB 2060-CNC-R/L	6 – 70 mm	180 mm



## BASIC EQUIPMENT:

- Bending head to right/ left bending in one clamping
- Bending head can be positioned horizontally and vertically
- Radii change to change the processing level for at least 2 tool sets
- Hollow shaft for using 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 withdrawel
- Mandrel lubrication
- Software t project
- Control cabinet air conditioning

## OPTIONAL EQUIPMENT:

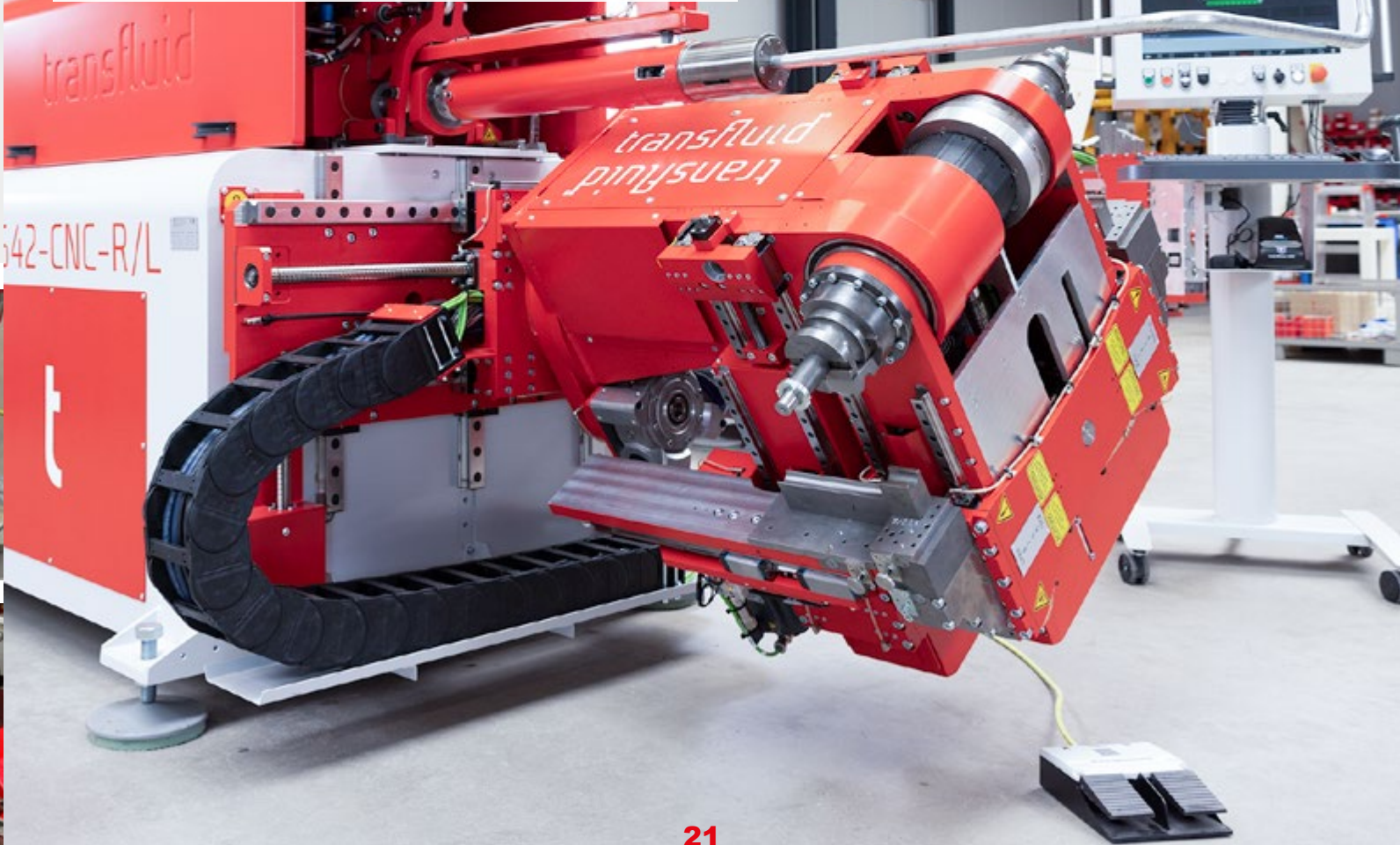
- Usable length 2.000 mm, 3.048 mm, 4.572 mm & 6.096 mm
- Repeated gripping
- Push bending of large bending radii
- Boosting function (Centerline Booster)
- Automated loading
- Positioning of welding seam
- Remote diagnostics
- Carriage for wiper die
- Safety cover & scanner

# HIGHTECH-BENDING FREEDOM WITHOUT ANY LIMITATION

With our clockwise/counterclockwise bending machines the most complex bends become reality with great accuracy.

The Bending head of our fully electric CNC R/L series can be positioned horizontally and vertically, including 360° rotation axis for a change of bending direction (right- or left-hand).

All fully electric bending machines offer the option of processing pre-assembled tubes – with ring and nut.





# t form – ROBOTIC BENDING TECHNOLOGY MAXIMUM BENDING FREEDOM

The robotic bending technology combines the greatest versatility in manufacturing steps and simple handling. The robotic head is equipped with a clockwise and counterclockwise bending head, so that bending can happen in both direction once clamped.

The eight synchronized and fully electric axes give maximum versatility when processing tubes. The bending process on tubes, including the processing at the ends and add-on component can be done without any problems. The add-on components can be positioned automatically, if needed. A radii/plane changer with up to 6 tools per bending system is integrated to give maximum flexibility.

Model	Tube-ø	Bending angle
DB 622-ROBO-R/L	6 – 22 mm	up to 180° + 10° overbending



watch the  
movie

## MACHINE SIZES/ TUBE SIZES

DB 622-ROBO-R/L  
Pipe-ø: 6 – 22 mm

## EQUIPMENT OPTIONS:

- Right-/Left- tube bending system
- Multilevel bending
- Freeforming of large bending radii
- Automated loading
- Positioning of welding seam
- Software t project



## PRECISION FOR LONG TUBE SYSTEMS

This system is predestined to produce long and pre-assembled tubes with low vibration and repeat accuracy.

Precisely fitting production from the very first tube with integrated process monitoring for leakage-free products.

Tube-hose combinations can also be manufactured.





# LOADING, UNLOADING & HANDLING SYSTEMS DESIGNED & MANUFACTURED BY transfluid®

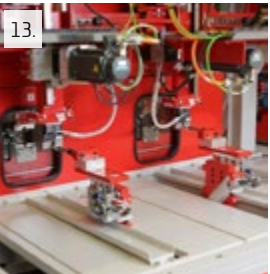
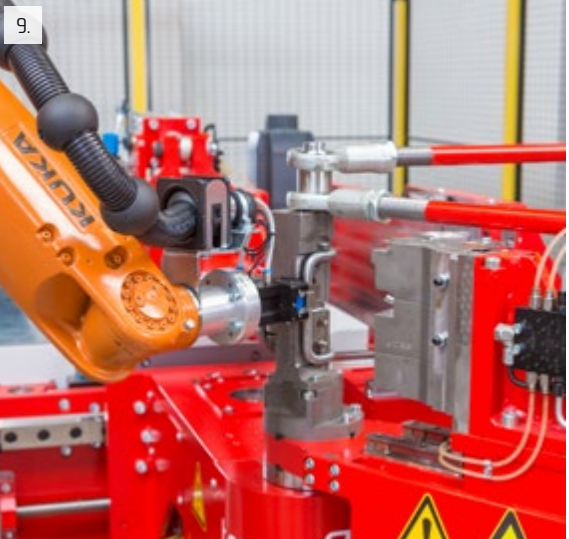
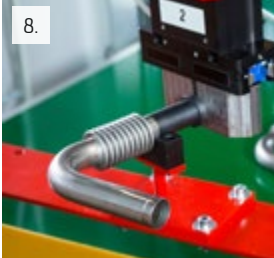
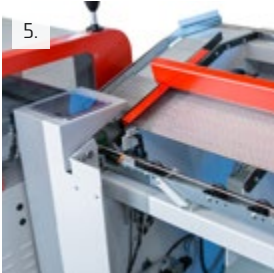
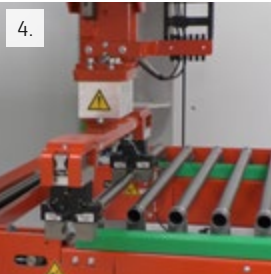
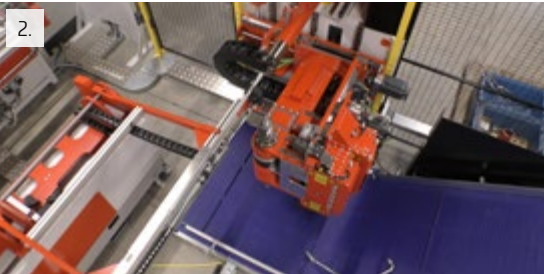
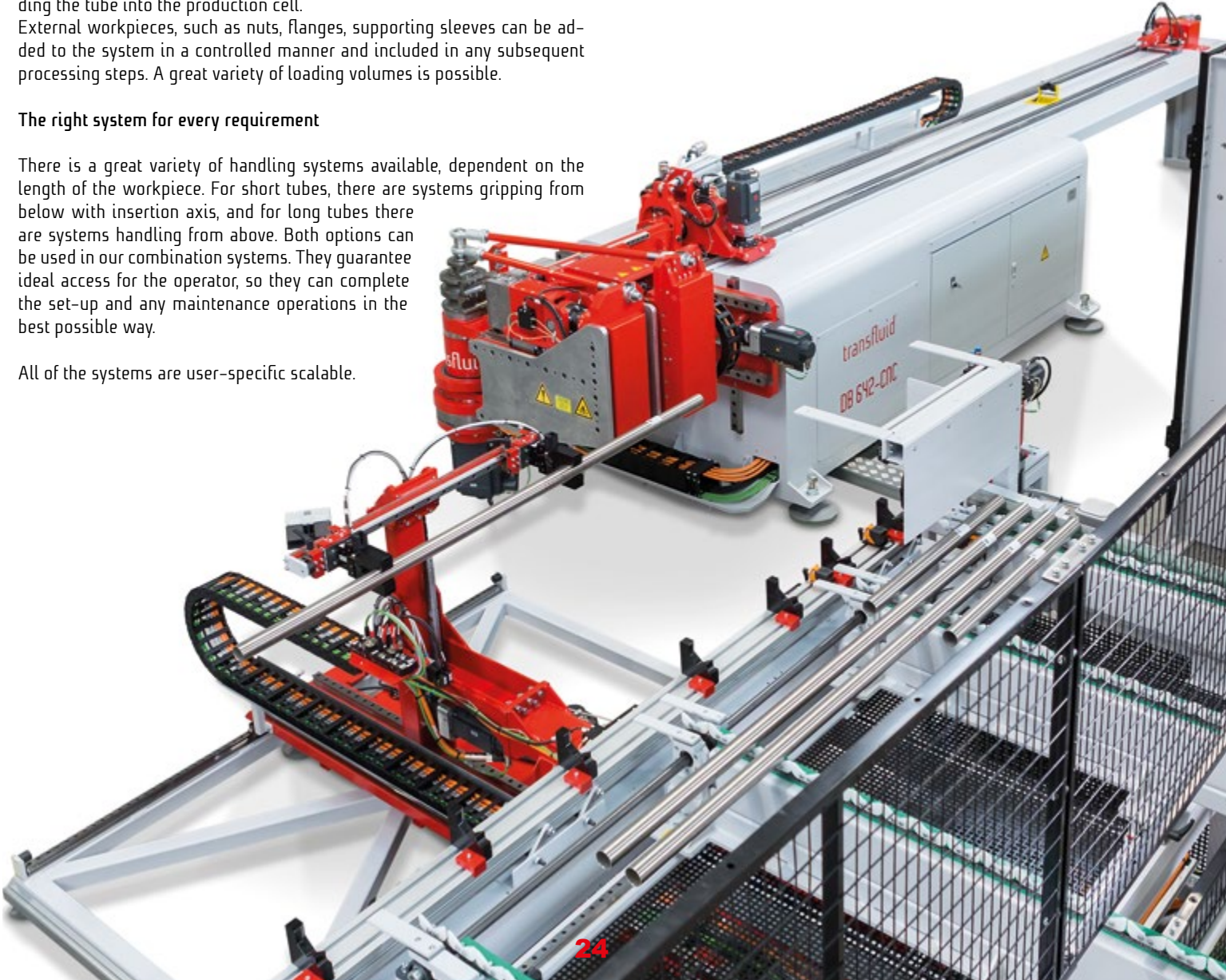
We offer a wide variety of loading systems for all the machines, depending on the material, tube diameter and tube length. Tubes that have already been formed and with added components can also be loaded without any issues. The appropriate orientation is therefore very important, when loading the tube into the production cell.

External workpieces, such as nuts, flanges, supporting sleeves can be added to the system in a controlled manner and included in any subsequent processing steps. A great variety of loading volumes is possible.

## The right system for every requirement

There is a great variety of handling systems available, dependent on the length of the workpiece. For short tubes, there are systems gripping from below with insertion axis, and for long tubes there are systems handling from above. Both options can be used in our combination systems. They guarantee ideal access for the operator, so they can complete the set-up and any maintenance operations in the best possible way.

All of the systems are user-specific scalable.



## LOADING SYSTEMS:

- 1. Alignment station
- 2. Swivel arm feeder
- 3. Conveyor feeder
- 4. Chain feeder
- 5. Loading table
- 6. Bowl feeder
- 7. Step feeder

## HANDLING SYSTEMS:

- 8. Outer gripper
- 9. Handling robots
- 10. Rotating module
- 11. Overfloor handling
- 12. Overfloor handling
- 13. Underfloor handling
- 14. Inner and outer gripper





## t project 5 SOFTWARE: DIGITAL POWER MAXIMUM PERFORMANCE

**Fewer steps to the finished part:** With t project 5, you have full control of all variables in the bending process even before production begins. Complex bending geometries can be planned and executed with material-specific parameters and collision-free operation.

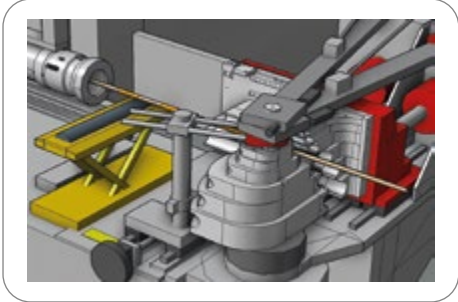
**Now even more powerful:** The latest version not only delivers proven functions in improved quality, but also impresses with innovative features that make your processes even more efficient and user-friendly.

t project 5 includes integrated product databases for managing complete tube assemblies, including visualization of drill holes, tube forming operations, and nuts.



transfluid bending machines can be simulated in detail within the production environment.

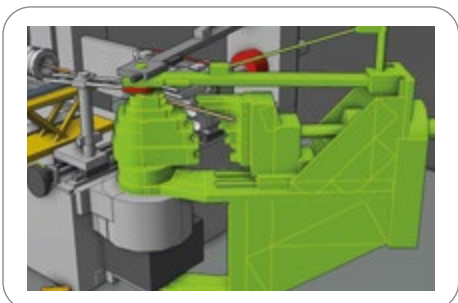
The **tool check function** verifies all safety-critical tool settings to prevent potential machine collisions and optimizes them through a graphical solution finder.



The **digital twin** represents the component and machine as an exact virtual copy, enabling complete offline programming of all machine functions – including special equipment – as well as optimization and simulation of all processes.

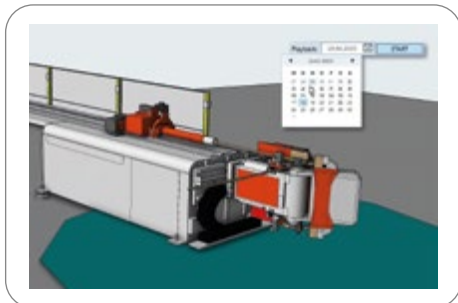


**Predictive maintenance** enables precise monitoring of the condition and wear of individual machine groups.

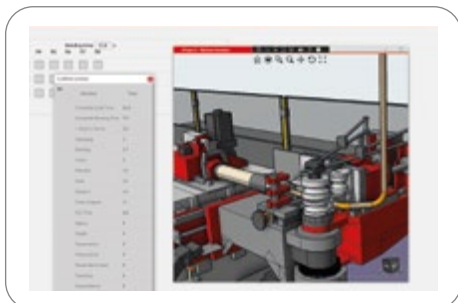


In **training mode**, the machine can be fully operated on a PC under real shopfloor conditions – including live machine simulation and remote control via mouse movement.

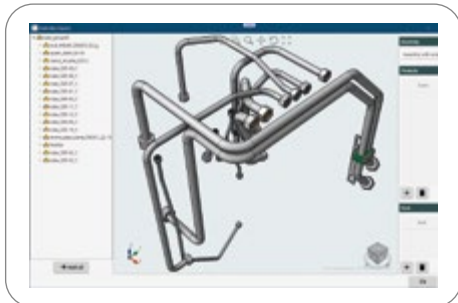
The **playback function** allows the machine's operation and status to be tracked 1:1 – either live or with a time delay. Key operating data, such as axis forces, motor temperatures, and downtime, can be analyzed.



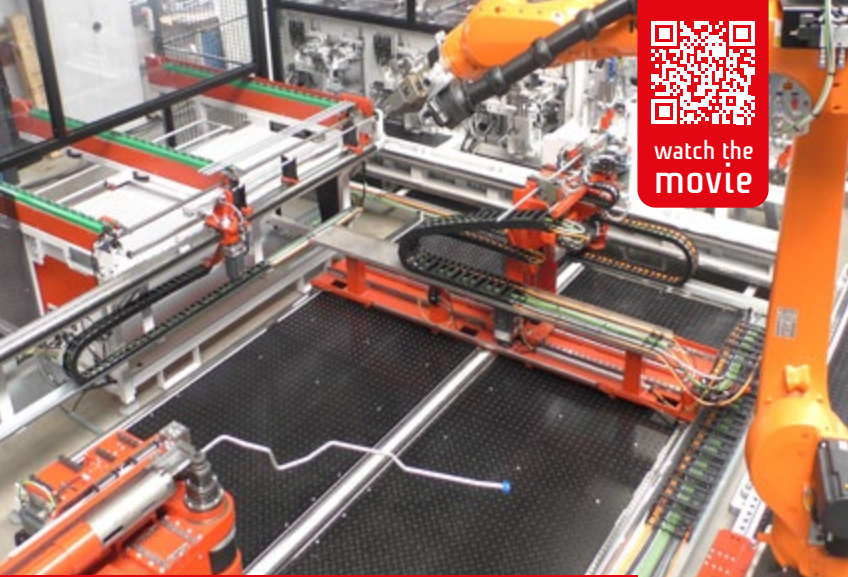
The **cycle time calculation** provides the exact duration based on the actual machine operation and shows in detail which axes and functions contribute the most – providing a basis for targeted process optimization and enhanced efficiency.



Large assemblies or subassemblies can be simulated in **automatic batch processing mode**.



t project 5 now also includes – in addition to many other functions – the import and subsequent export of corrected CAD files for cutting on a tube laser.



## t motion – AUTOMATION FOR AN IDEAL PRODUCTION FLOW

With t motion, we plan and realize manufacturing 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 include 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 production, without any time delay.

**Customizable** – Further process steps, like loading and unloading systems or additional tube processing tasks, can be easily integrated.

**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 for efficient manufacturing.



## t motion – FULLY AUTOMATIC PRODUCTION CELLS FOR HYDRAULIC LINES WITH CUTTING-RINGS ASSEMBLY

We provide flexible production concepts that accommodate both individual items and series production. Our comprehensive tube processing chain (t motion) is designed as a fully automated and repeatable system, sourced from a single supplier. The production cells are customizable to align with your specific requirements and production spectrum, delivering end-to-end solutions that range from cutting to size to the provision of ready-to-install tubes. Centralized system monitoring offers a comprehensive overview of ongoing production and facilitates the rapid assimilation of new geometries, as well as seamless data exchange with both higher-level and subordinate systems.

Our specialists are prepared to offer expert guidance regarding the equipment and configuration of your customized solution. The system depicted here serves as an illustration of a fully automated hydraulic pipe production line, capable of processing up to three distinct pipe diameters without requiring reconfiguration. This system is equipped with an automatic loading unit designed to handle tube lengths ranging from 100 mm to 3,000 mm, facilitating seamless production. Furthermore, it incorporates three cutting-ring assembly units, complete with integrated process monitoring, to ensure precise assembly of both ends of the tube.

The CNC-controlled Right/Left Mandrel Bending Machine operates with the capability to utilize up to six distinct tool levels. This feature facilitates a broad production spectrum without necessitating conversion efforts. An integrated ground handling system enhances versatility during the bending process and alleviates the operational burden on the handling robot. This arrangement allows for the assembly of cutting rings while components remain in a straight position, with screw couplings provided with closing caps. The handling robot, which is equipped with an extensive range of functionalities and an additional linear axis, assumes responsibility for unloading the bent components. Furthermore, it can assemble the second tube end with cutting rings, nuts, and end covers, even in configurations with compact geometries.

**Your advantage:** Minimal setup effort; bent, assembled, and clean sealed tubes are ready for installation.

**And the best:** The system's flexibility allows for the alternating production of assemblies with various tube lengths and diameters, significantly reducing storage and picking area requirements.

### t motion CONTROL

The Ttransfluid central control system oversees the entire production process, effectively managing all associated machines, components, and handling units. It allows for the flexible integration or design of interfaces with both superior and subordinate systems, as well as measurement systems, based on specific requirements.

### CHAIN FEEDER & TRANSFER HANDLING

The loading system is designed to accommodate tubes measuring up to 3,000 mm in length. Each loading and unloading system is meticulously engineered and manufactured by transfluid to ensure seamless integration with the bending machines. This design approach guarantees optimal functionality and performance.

### BOWL FEEDER

External components, including nuts and cutting rings, may be stored for various pipe radii and introduced into the system in a controlled manner as required for subsequent processing.

### END CAPS

The caps are supplied in rolls and are transported to the assembly units via specialized conveyor systems. Various dimensions can be accommodated without the necessity for conversion.

### BENDING MACHINE DB 630 CNC R/L

The CNC-R/L series bending head is designed for versatility, allowing for both horizontal and vertical positioning. It includes a 360° rotation axis, enabling the adjustment of bending direction to either the right or the left.

### ROBOTIC HANDLING

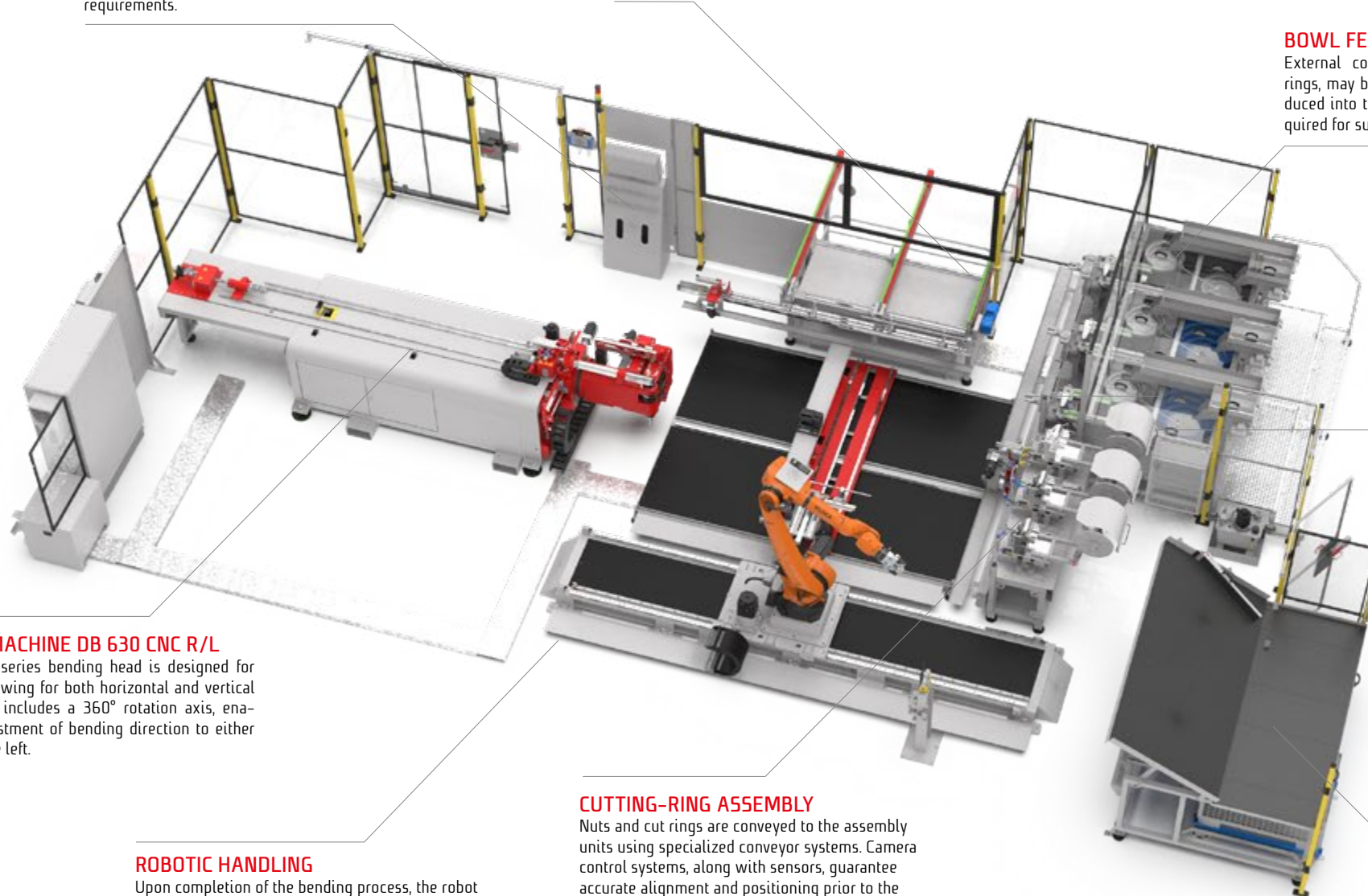
Upon completion of the bending process, the robot assumes responsibility for further handling. It meticulously guides the tube to the stations for the cutting ring and safety cover assembly, ultimately directing it to the discharge area.

### CUTTING-RING ASSEMBLY

Nuts and cut rings are conveyed to the assembly units using specialized conveyor systems. Camera control systems, along with sensors, guarantee accurate alignment and positioning prior to the pressing of the cutting rings onto the tube.

### UNLOADING TABLE/CONVOYE BELT

The finalized tubes are placed in an orderly fashion by the robotic system and subsequently transferred to either the assembly or logistics.



watch the movie

Our portfolio of machines

t bend – Robotic bending machines



t bend – Mandrel bending machines with servohydraulic motors



t form – UMR Rollforming machines



t form – AM Collaring machine



t cut – RTO Chipless orbital cutting machines



t bend – Fully electric mandrel bending machines



t bend – Fully electric mandrel bending machines – 360° rotating bending head right/left



t form – REB Axial forming machines



t form – SRM Rollforming machines



t form – REB/SRM Combination machines



t bend – Fitting bender



t work – Compact mandrel bending machines



t work – Mobile bending machine



t work – Tube chamfering machines – Pre-assembly machines – Flaring machines – Tube deburring machines – Electro-hydraulic drive unit







transfluid<sup>®</sup>  
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