

TWISTER² - Tube Bending System for the Production of Two- and Three-Dimensional Parts made of Tube and Solid Material



TWISTER²
12 RL
18 RL
20 R

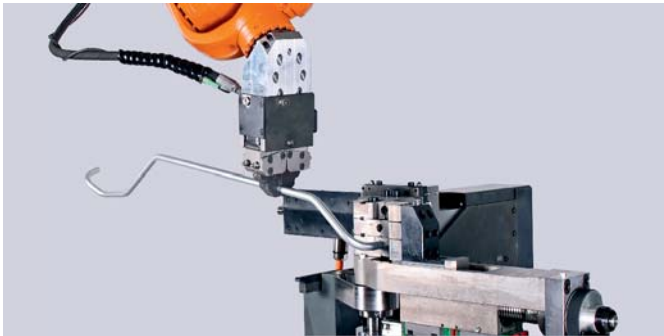
TWISTER²

12 RL

18 RL

20 R

▼ TWISTER² 20 R



▼ Bending tool TWISTER² 18 RL



Our Accomplishments for Your Benefit

- Twister² speaks EasyWay - the control platform for robot and machine
- Unique, fully integrated system
- Process reliability and productivity leap for a flexible production of three-dimensional geometries
- Intelligent combination of handling and bending tasks thanks to collaboration between robot and bending unit
- Modular design enables incorporation of external systems and subsequent processes
- Freely selectable bending sequence of geometry elements

Control System

- Reliable WPS 3.2 EasyWay control concept
- Interactive graphical 3D programming of tubes, transfer of drawing dimensions
- Fully integrated robot concept with cross-system programming that requires no robot knowledge
- *iQtube* for graphically simulating the bending sequence, with integrated collision monitoring and theoretical output calculation
- Joint transformation of all machine and robot axes

Design Features

- Newly developed rotary gripper for complete rotation of the workpiece in one clamping and freely programmable regrabbing function for every gripper position
- The optional Power Gripper enables shortest clamping lengths with highest gripping force
- Different bending heads for rotary-draw bending and a modular system enable customized machine configurations
- Short set-up times due to sophisticated tool solutions

▼ Bending head TWISTER² 12 RL



Precise, Reliable, Versatile and Profitable - WAFIOS TWISTER²

Perfect Union of Design and Functionality

A modular concept combines robot and bending technology at the highest level. The fully integrated robot control guarantees a simple programming process while maximum flexibility and integrated automation is ensured.

The newly developed bending system meets highest demands with respect to:

- Output and bending quality
- Greater range of parts thanks to extremely high degrees of freedom.
- Automation and linking of applications / process steps
- Maintenance, service and user friendliness

The unique modular system meets demands flexibly and ideally and enables an integration of different tasks in one fully automatic machinery system. The integration of customer-side processes or the combination of multiple Twister² machines is possible. (Example: Twister² TWINS)

Quality

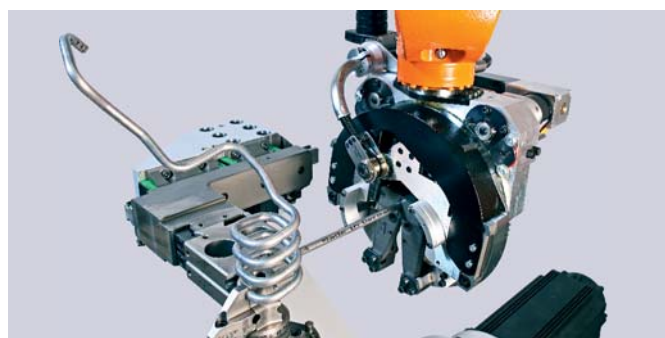
For more than 125 years, the name of WAFIOS has been synonymous with highest quality, safety standards, and technical innovations in the German machine manufacturing industry.

Reliability

Strict quality controls, state-of-the-art production systems, and many years of experience guarantee that your investment is safe in our hands. Our global service network ensures high availability of WAFIOS machinery.

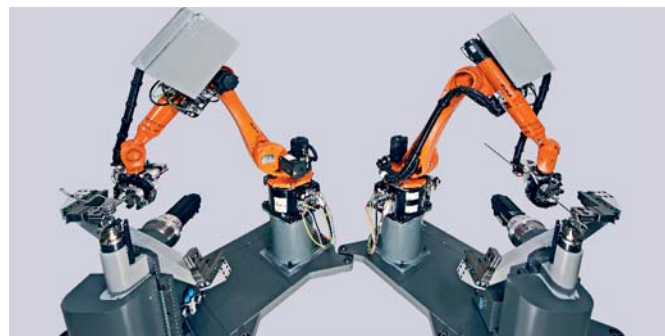
Cost efficiency

High production output and a long service life will save money and shorten the amortization time of your investment.



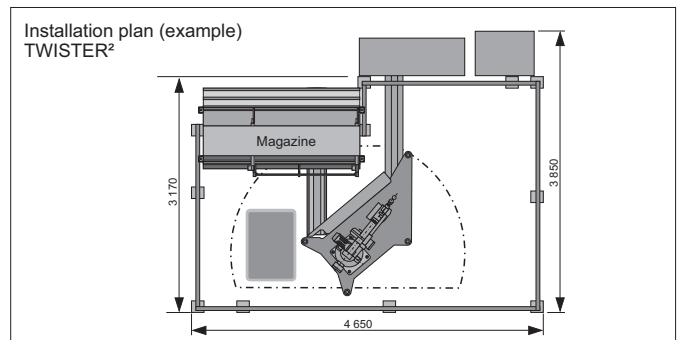
▲ Rotary gripper with bending head

▼ Twister² TWINS



▲ Power Gripper

Technical Data	TWISTER ² 12 RL	TWISTER ² 18 RL	TWISTER ² 20 R
Work area			
Max. tube diameter	12.7 mm x 1 mm For tubes with good bending characteristics (R _m =370 N/mm ²) and bending radii larger than 1.5 x tube diameter	18.0 mm x 1.5 mm For tubes with good bending characteristics (R _m =370 N/mm ²) and bending radii larger than 2 x tube diameter	20.0 mm x 2.0 mm For tubes with good bending characteristics (R _m =370 N/mm ²) and bending radii larger than 2 x tube diameter
Max. tube diameter	2,000 mm (3,000 mm Option)	2,000 mm (3,000 mm Option)	2,000 mm (3,000 mm Option)
CNC axes			
Machine axes completely integrated into robot axes	3	3	3
Bending head	3	+ 1 servomotor-driven vertical clamping function (opt.) 3 + 1 servomotor-driven pressure die + 1 servomotor-driven tube support (option)	3 + 1 servomotor-driven tube support + 1 servomotor-driven pressure die
Tube grippers			
Rotary gripper	Yes	Yes	No
Power Gripper	Yes	Yes	Yes
Operating principle	Pneumatic	Pneumatic	Pneumatic
Programming			
Control of robot by			
Machine axes	Yes	Yes	Yes
Length/angle	Yes	Yes	Yes
Coordinates	Yes	Yes	Yes
Job order lists	Option	Option	Option
Simulation	Option	Option	Option
Machine control	WPS 3.2 EasyWay	WPS 3.2 EasyWay	WPS 3.2 EasyWay
Automation			
Loading from a magazine	Option	Option	Option
Position-oriented discharge	Yes	Yes	Yes
Linking of other processes	Yes	Yes	Yes



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Precision Machinery for Wire and Tube