QIROX®

qirox®

QIROX®: The system for automated welding and cutting.

QIROX® is the new CLOOS product brand comprising all solutions for automated welding and cutting. Due to its modular design, the QIROX® system allows scalable solutions which can perfectly match your production requirements. The QIROX® system includes the robot technology, software, sensors, safety technology, positioners and the interface to the process technology. It is completed by an extensive range of options and complementary services. As a result of this comprehensive service from just one supplier, our customers can gain considerable economic and quality benefits.

- QIROX Robots
  More dynamic, quicker, more flexible – thanks to a new design and an additional 7th axis
- QIROX Positioners
  Solutions for every component
- QIROX Sensors
  Safe detection with each weld seam
- QIROX Software
  Management for professionals
- QIROX Compact systems
  Efficient units for welding and cutting
- QIROX Special solutions
  Customised systems for complex requirements

www.qirox.de


CLOOS

Welding robots in the international top class

As one of the leading specialists in the development and manufacture of high-value
welding robots for demanding industrial applications, CLOOS uses its decadesold know-how for continuous development. Thanks to the integration of innovative technologies, the new generation of QIROX® welding robots offers additional customer value and production advantages. Among the particular highlights are the complete reworking of the product design and the introduction of an optional seventh axis. Both innovations contribute to a considerable increase in the flexibility and dynamics of the QIROX® welding robots. As a result, the automated welding processes can be configured in a significantly more efficient manner.

Advantages for increased productivity

- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Optional seventh axis for increasing the working envelope and optimal positioning of the welding torches
- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Best processing quality due to a high repeatability
- High offset speeds reduce the cycle times
- The proven CLOOS quality ensures a particularly long service life and extended maintenance intervals
- Systems matched to production requirements, including suitable hardware and software

Perfectly matched

CLOOS can supply you with all you need for optimised welding processes in your production. All components have been proven a thousandfold in practice and are perfectly matched to each other. This improves reliability, increases process speed and minimises both the maintenance and the setup work. You will get just those components which correspond to your production process requirements.

- **QIROX® Welding robot Classic (QRC)**
  - Greatest flexibility due to an optional seventh axis
  - For floor or overhead mounting
- **Process technology**
  - QINEO® welding power sources of the newest generation
  - Interface for data exchange with the robot controller
  - Gas and water cooled welding equipment for long duty cycle
- **QIROX® Welding robot Hollow shaft(QRH)**
  - Cable assemblies integrated in 6th axis
  - Wire drive unit integrated in the robot arm
  - For floor or overhead mounting
- **Positioners**
  - The most comprehensive program worldwide for robots and workpieces
  - Dynamic positioner for fast offset movements
  - Synchronous movement of all axes
  - Copying of programs on manipulators with identical structure
- **QIROX® Controller**
  - Simple and fast touch-screen programming
  - All welding parameters can be programmed at the controller
  - All welding processes are integrated
- **Special solution**
  - Extra components for realisation of individual customer requests

Many variants from one construction kit

The most dynamic feature of the QIROX® Robot is the modular design of all the mechanics. All components of the welding robot – from the robot base to the axis tube – are perfectly matched to each other. By using different components, a customised welding robot can be generated for every production requirement.

3 capacity classes, 2 products lines, 2 installation options

QIROX® welding robots are available in three capacity classes: QIROX® 320, 350 and 410. Depending on your requirements, you can choose between either the classic line QIROX® Classic (QRC) or the hollow shaft (QRH) model. The two product lines are designed both for floor and for overhead mounting and can be combined with different CLOOS sensors or changing systems. Thus optimum solutions for the most diverse welding processes and production environments can be realised.

Arm tubes

QRC 320
QRC 350
QRC 410
QRH 360

Wrist

1. QRC 15
2. QRH 15

Shoulder joint

Swivel arm

Angle foot

7th axis

Robot base

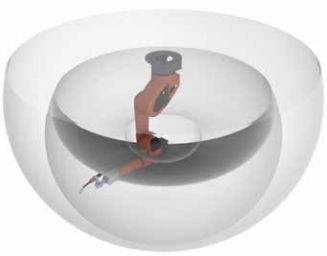
Robot mechanics

Welding robots in the international top class

As one of the leading specialists in the development and manufacture of high-value

welding robots for demanding industrial applications, CLOOS uses its decadesold

know-how for continuous development. Thanks to the integration of innovative technologies, the new generation of QIROX® welding robots offers additional customer value and production advantages. Among the particular highlights are the complete reworking of the product design and the introduction of an optional seventh axis. Both innovations contribute to a considerable increase in the flexibility and dynamics of the QIROX® welding robots. As a result, the automated welding processes can be configured in a significantly more efficient manner.



Robot mechanics Classic wrist

The robot mechanics QRH320/350/410 is a six-axis articulated arm robot. The robot is usually positioned upright or overhead. The QRC320/350/410 is mounted on a base or directly at a robot positioner. The QRC robot has a standard wrist where welding torches, flame cutters and other working tools with a weight of up to 15/10 kg can be mounted. The integration of a changing tool on the wrist allows to use more processes with a robot. Applications:

- MIG/MAG welding
- Plasma and oxygen cutting
- Plasma and plasma-powder welding
- Stud welding

Easy handling tasks

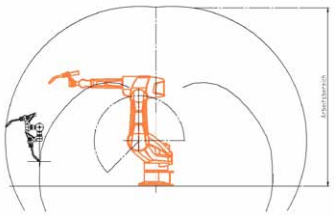
Technical features

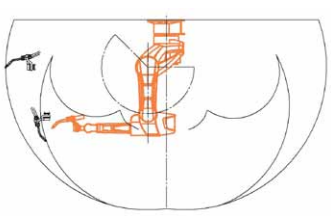
- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Best processing quality due to a high repeatability
- High offset speeds reduce the cycle times
- Digital AC drives
- Absolute path measuring system

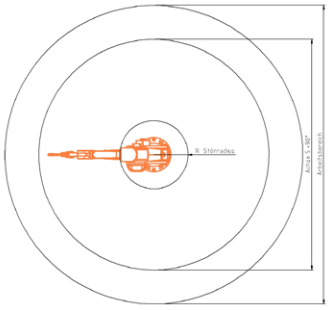
Options

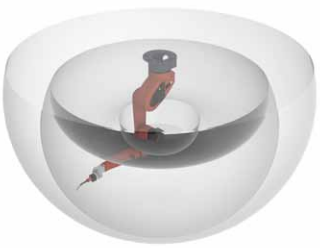
- Colour can be freely selected
- Accessories

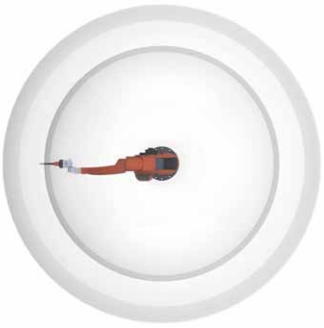
Technical data	Robot QRC-320	Robot QRC-350	Robot QRC-410
Swivelling range axis 1	+170 / -170°	+170 / -170°	+170 / -170°
Swivelling range axis 2	+125 / -90°	+125 / -90°	+125 / -90°
Swivelling range axis 3	+80 / -210°	+80 / -210°	+80 / -210°
Swivelling range axis 4	+179 / -179°	+179 / -179°	+179 / -179°
Swivelling range axis 5	+135 / -135°	+135 / -135°	+135 / -135°
Swivelling range axis 6	+300 / -300°	+300 / -300°	+300 / -300°
Swivelling speed axis 1	184 °/sec	184 °/sec	184 °/sec
Swivelling speed axis 2	184 °/sec	184 °/sec	184 °/sec
Swivelling speed axis 3	177 °/sec	177 °/sec	177 °/sec
Swivelling speed axis 4	497 °/sec	497 °/sec	497 °/sec
Swivelling speed axis 5	542 °/sec	542 °/sec	542 °/sec
Swivelling speed axis 6	528 °/sec	528 °/sec	528 °/sec
Operating range	Ø 4200 mm	Ø 4470 mm	Ø 500 mm
Operating range Axis 5 +90°	Ø 3200 mm	Ø 3440 mm	Ø 4620 mm
Operating range height	2470 mm	2580 mm	2880 mm
Pay load	15.00 kg	15.00 kg	10.00 kg
Repeatability	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm
Collision radius	500 mm	500 mm	500 mm
Floor space	Ø 500 mm	Ø 500 mm	Ø 500 mm
Weight	235 kg	235 kg	240 kg











Robot mechanics wrist with hollow shaft

The robot mechanics QRH360/390 is a six-axis articulated arm robot. The robot is usually positioned upright or overhead. The QRH360/390 is mounted on a base or directly at a robot positioner. The QRH robot has hollow-shaft wrist where the welding torch and the torch cable assembly are integrated in the centre point of axis 6. Applications:

- MIG/MAG welding

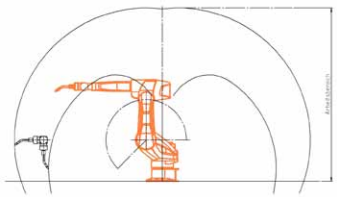
Technical features

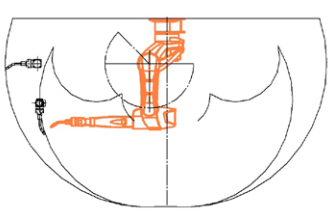
- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Best processing quality due to a high repeatability
- Digital AC drives
- Absolute path measuring system

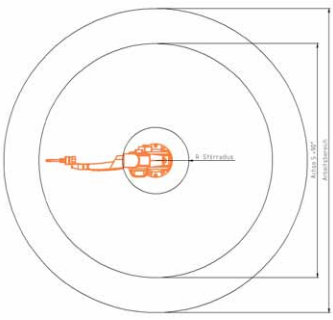
Options

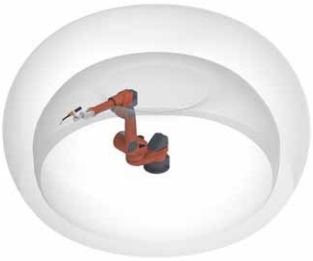
- Cable assemblies integrated in 6th axis
- Colour can be freely selected
- Wire drive unit integrated in the robot arm
- Accessories

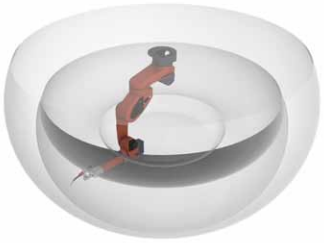
Technical data	Robot QRH-360	Robot QRH-390
Swivelling range axis 1	+170 / -170°	+170 / -170°
Swivelling range axis 2	+135 / -90°	+135 / -90°
Swivelling range axis 3	+80 / -210°	+80 / -210°
Swivelling range axis 4	+179 / -179°	+179 / -179°
Swivelling range axis 5	+125 / -125°	+125 / -125°
Swivelling range axis 6	+300 / -300°	+270 / -270°
Swivelling speed axis 1	184 °/sec	184 °/sec
Swivelling speed axis 2	184 °/sec	184 °/sec
Swivelling speed axis 3	177 °/sec	177 °/sec
Swivelling speed axis 4	497 °/sec	497 °/sec
Swivelling speed axis 5	542 °/sec	542 °/sec
Swivelling speed axis 6	528 °/sec	528 °/sec
Operating range	Ø 4570 mm	Ø 4900 mm
Operating range Axis 5 +90°	Ø 3570 mm	Ø 3900 mm
Operating range height	2680 mm	2860 mm
Pay load	15.00 kg	10.00 kg
Repeatability	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm
Collision radius	500 mm	500 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	235 kg	240 kg

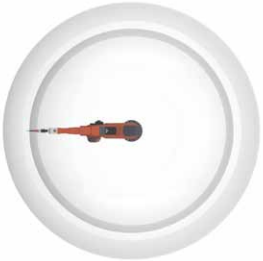












Robot mechanics Classic wrist with enlarged operating range by 7th axis

The robot mechanics QRC320/350/410-E is a six-axis articulated arm robot with an excenter axis 7 which is integrated between robot base and centre point axis 1. The movements of all seven robot axes are synchronised by 100 %. The robot is usually positioned upright or overhead. The QRC320/350/410-E is mounted on a base or directly at a robot positioner. The QRC robot has a standard wrist where welding torches, flame cutters and other working tools with a weight of up to 15/10 kg can be mounted. The integration of a changing tool on the wrist allows to use more processes with a robot. Applications:

- MIG/MAG welding
- Plasma and oxygen cutting
- Plasma and plasma-powder welding
- Easy handling tasks

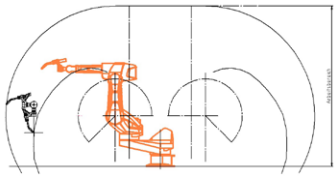
Technical features

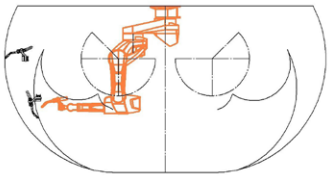
- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Best processing quality due to a high repeatability
- Digital AC drives
- Absolute path measuring system
- Working space extension by 7th axis

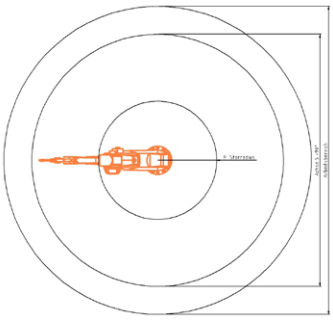
Options

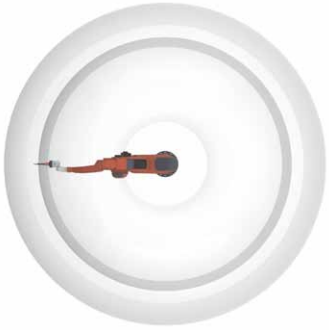
- Colour can be freely selected
- Accessories

Technical data	Robot 7th axis QRC-350	Robot 7th axis QRC-350
Swivelling range axis 1	+170 / -170°	+170 / -170°
Swivelling range axis 2	+125 / -90°	+125 / -90°
Swivelling range axis 3	+80 / -210°	+80 / -210°
Swivelling range axis 4	+179 / -179°	+179 / -179°
Swivelling range axis 5	+135 / -135°	+135 / -135°
Swivelling range axis 6	+300 / -300°	+300 / -300°
Swivelling range axis 7	+120 / -120°	+120 / -120°
Swivelling speed axis 1	184 °/sec	184 °/sec
Swivelling speed axis 2	184 °/sec	184 °/sec
Swivelling speed axis 3	177 °/sec	177 °/sec
Swivelling speed axis 4	497 °/sec	497 °/sec
Swivelling speed axis 5	542 °/sec	542 °/sec
Swivelling speed axis 6	528 °/sec	528 °/sec
Swivelling speed axis 7	90 °/sec	90 °/sec
Operating range	Ø 5470 mm	Ø 6100 mm
Operating range Axis 5 +90°	Ø4470 mm	Ø5050 mm
Operating range height	2830 mm	3120 mm
Pay load	15.00 kg	10.00 kg
Repeatability	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm
Collision radius	1050 mm	1050 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	345 kg	350 kg









Robot mechanics hollow shaft with enlarged operating range by 7th axis

The robot mechanics QRC360/390-E is a six-axis articulated arm robot with an excenter axis 7 which is integrated between robot base and centre point axis 1. The movements of all seven robot axes are synchronised by 100 %. The QRH robot has hollow-shaft wrist where the welding torch and the torch cable assembly are integrated in the centre point of axis 6. Applications:

- MIG/MAG welding

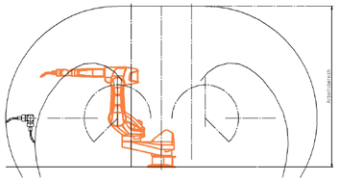
Technical features

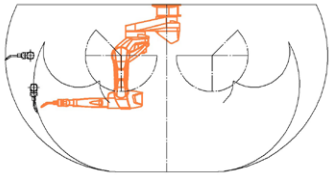
- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Best processing quality due to a high repeatability
- Digital AC drives
- Absolute path measuring system
- Working space extension by 7th axis

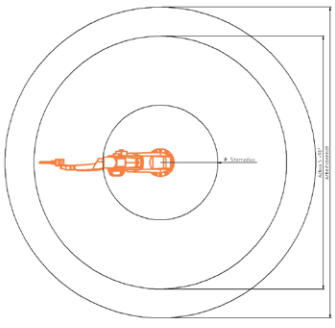
Options

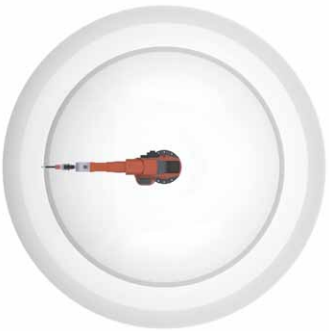
- Cable assemblies integrated in 6th axis
- Colour can be freely selected
- Wire drive unit integrated in the robot arm

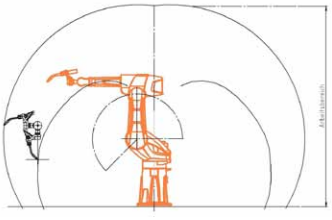
Technical data	Robot 7th axis QRC-360	Robot 7th axis QRC-390
Swivelling range axis 1	+170 / -170°	+170 / -170°
Swivelling range axis 2	+125 / -90°	+125 / -90°
Swivelling range axis 3	+80 / -210°	+80 / -210°
Swivelling range axis 4	+179 / -179°	+179 / -179°
Swivelling range axis 5	+125 / -125°	+125 / -125°
Swivelling range axis 6	+270 / -270°	+270 / -270°
Swivelling range axis 7	+120 / -120°	+120 / -120°
Swivelling speed axis 1	184 °/sec	184 °/sec
Swivelling speed axis 2	184 °/sec	184 °/sec
Swivelling speed axis 3	177 °/sec	177 °/sec
Swivelling speed axis 4	497 °/sec	497 °/sec
Swivelling speed axis 5	542 °/sec	542 °/sec
Swivelling speed axis 6	528 °/sec	528 °/sec
Swivelling speed axis 7	90 °/sec	90 °/sec
Operating range	Ø5680 mm	Ø6030 mm
Operating range Axis 5 +90°	Ø4620 mm	Ø4960 mm
Operating range height	2930 mm	3110 mm
Pay load	15.00 kg	10.00 kg
Repeatability	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm
Collision radius	1050 mm	1050 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	345 kg	350 kg











Robot mechanics Classic wrist, high robot base

The robot mechanics QRH320/350/410-H is a six-axis articulated arm robot. The robot has a high base which was particularly developed for floor mounting and is used in upright position. The QRC320/350/410-H is mounted on the shop floor or a base frame and in upright position at a robot positioner. The QRC robot has a standard wrist where welding torches, flame cutters and other working tools with a weight of up to 15/10 kg can be mounted. The integration of a changing tool on the wrist allows to use more processes with a robot. Applications:

- MIG/MAG welding
- Plasma and oxygen cutting
- Plasma and plasma-powder welding
  Easy handling tasks

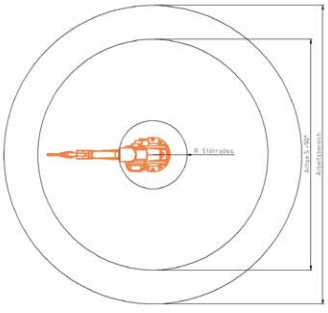
Technical features

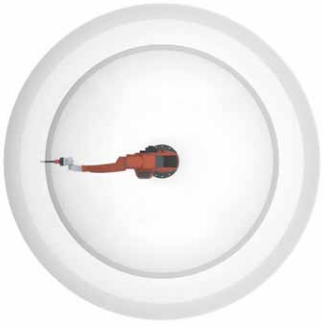
- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Best processing quality due to a high repeatability
- Digital AC drives
- Absolute path measuring system

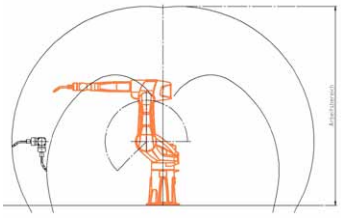
Options

- Colour can be freely selected
- Accessories

Technical data	Robot high base QRC-320	Robot high base QRC-350	Robot high base QRC-410
Swivelling range axis 1	+170 / -170°	+170 / -170°	+170 / -170°
Swivelling range axis 2	+125 / -90°	+125 / -90°	+125 / -90°
Swivelling range axis 3	+80 / -210°	+80 / -210°	+80 / -210°
Swivelling range axis 4	+179 / -179°	+179 / -179°	+179 / -179°
Swivelling range axis 5	+135 / -135°	+135 / -135°	+135 / -135°
Swivelling range axis 6	+300 / -300°	+300 / -300°	+300 / -300°
Swivelling speed axis 1	184 °/sec	184 °/sec	184 °/sec
Swivelling speed axis 2	184 °/sec	184 °/sec	184 °/sec
Swivelling speed axis 3	177 °/sec	177 °/sec	177 °/sec
Swivelling speed axis 4	497 °/sec	497 °/sec	497 °/sec
Swivelling speed axis 5	542 °/sec	542 °/sec	542 °/sec
Swivelling speed axis 6	528 °/sec	528 °/sec	528 °/sec
Operating range	Ø 4200 mm	Ø 4470 mm	Ø 500 mm
Operating range Axis 5 +90°	Ø 3200 mm	Ø 3440 mm	Ø 4620 mm
Operating range height	2790 mm	2900 mm	3200 mm
Pay load	15.00 kg	15.00 kg	10.00 kg
Repeatability	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm
Collision radius	500 mm	500 mm	500 mm
Floor space	Ø 500 mm	Ø 500 mm	Ø 500 mm
Weight	255 kg	255 kg	260 kg







Robot mechanics wrist with hollow shaft, high robot base

The robot mechanics QRH360/390-H is a six-axis articulated arm robot. The robot has a high base which was particularly developed for floor mounting and is used in upright position. The QRC360/390-H is mounted on the shop floor or a base frame and in upright position at a robot positioner. The QRH robot has hollow-shaft wrist where the welding torch and the torch cable assembly are integrated in the centre point of axis 6. Applications:

- MIG/MAG welding

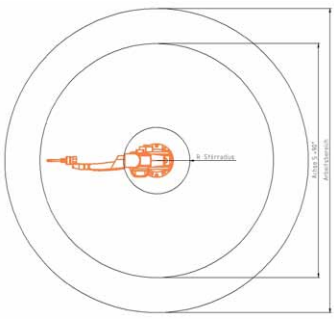
Technical features

- Less wear and improved, more user-friendly operation via optimised cables, plugs and motor protection
- Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Highest flexibility in the equipment by modular design of the robot mechanics
- Best processing quality due to a high repeatability
- Digital AC drives
- Absolute path measuring system

Options

- Cable assemblies integrated in 6th axis
- Colour can be freely selected
- Wire drive unit integrated in the robot arm
- Accessories

Technical data	Robot high base QRH-360	Robot high base QRH-390
Swivelling range axis 1	+170 / -170°	+170 / -170°
Swivelling range axis 2	+125 / -90°	+125 / -90°
Swivelling range axis 3	+80 / -210°	+80 / -210°
Swivelling range axis 4	+179 / -179°	+179 / -179°
Swivelling range axis 5	+125 / -125°	+125 / -125°
Swivelling range axis 6	+270 / -270°	+270 / -270°
Swivelling speed axis 1	184 °/sec	184 °/sec
Swivelling speed axis 2	184 °/sec	184 °/sec
Swivelling speed axis 3	177 °/sec	177 °/sec
Swivelling speed axis 4	497 °/sec	497 °/sec
Swivelling speed axis 5	542 °/sec	542 °/sec
Swivelling speed axis 6	528 °/sec	528 °/sec
Operating range	Ø 4570 mm	Ø 4900 mm
Operating range Axis 5 +90°	Ø 3570 mm	Ø 3900 mm
Operating range height	3000 mm	3180 mm
Pay load	15.00 kg	10.00 kg
Repeatability	Δ ≤ s +/- 0,1 mm	Δ ≤ s +/- 0,1 mm
Collision radius	500 mm	500 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	255 kg	260 kg



Robot Positioner

Advantages robot positioner:

More flexibility due to increase of the robot working envelope
- Welding of high-volume workpieces

Versatile utilisation ratio due to increase of the robot working envelope
- Welding of complex workpieces

Change between several working stations
- No down-times because of workpiece change
-

Base

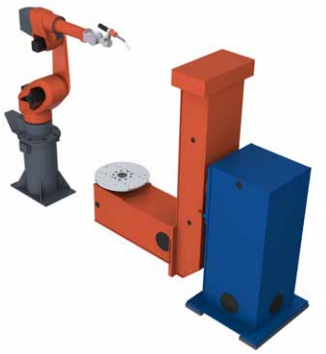
The base places the robot in upright position. This robot position enables a better accessibility to the workpiece and allows welding of bigger workpieces. The base is directly mounted on the floor or a floor-mounted linear track.

Technical features

- Adjusting screws for a precise alignment during mounting

Options

- Adaptation of the robot mounting height
- Consoles for drums and/or power sources, extraction



Technical data	RP-S-5
Load	5.0 kN
Robot height	0.4-1.8 m
Grid robot height	0.10 m

C-frame

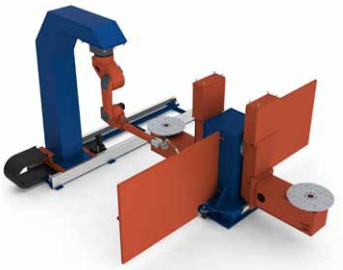
The C-shaped frame positions the robot overhead on a fixed extension arm. This robot position enables a better accessibility to the workpiece and allows welding of bigger workpieces. The C-frame is directly mounted on the floor or a floor-mounted linear track.

Technical features

- Adjusting screws for a precise alignment during mounting
- Opening in steel construction for a good accessibility during service works

Options

- Reach adaptation
- Adaptation of the robot mounting height
- Consoles for drums and/or power sources, extraction



Technical data	RP-C-4	RP-C-6
Load	4.0 kN	6.0 kN
Robot height	2.4-3.6 m	2.4-3.6 m
Reach	1.2-2.2 m	1.2-2.2 m
Grid robot height	0.20 m	0.20 m
Grid reach	0.10 m	0.10 m

Rotating C-frame

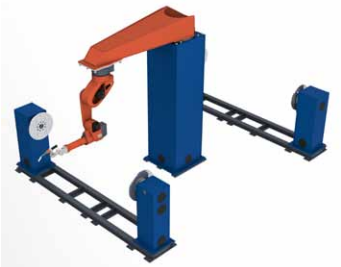
The C-shaped frame with rotating extension arm positions the robot overhead. The rotating extension arm increased the working range of the robot thus enabling to weld high-volume workpieces and/or serves for the change between two working stations. The rotating C-frame is directly mounted on the floor or a floor-mounted linear track.

Technical features

- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- A fully synchronised robot axis

Options

- Reach adaptation
- Adaptation of the robot mounting height
- Consoles for drums, power sources, extraction



Technical data	RP-CT-200	RP-CT-250
Load	5.0 kN	5.0 kN
Robot height	2.8-4.8 m	2.8-4.8 m
Grid robot height	0.20 m	0.20 m
Reach	1.2-2.0 m	2.0-3.0 m
Grid reach	0.40 m	0.25 m
Swivelling speed	70.0 °/sec	40.0 °/sec
Swivelling range	+/- 185°	+/- 185°

C-frame with vertical stroke

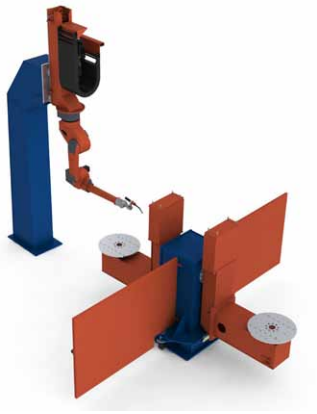
The C-shaped frame with mounted vertical stroke positions the robot overhead over the workpiece. The vertical stroke increases the robot working range in height thus allowing a deep entry into bigger workpieces. The C-frame with vertical stroke is directly mounted on the floor or a floor-mounted linear track.

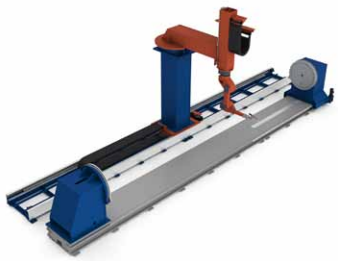
Technical features

- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- A fully synchronised robot axis

Options

- Adaptation of the robot mounting height
- Increase of travelling length due to extension of the linear track





Technical data	RP-CV-5
Load	5.0 kN
Robot height	2.8-4.8 m
Grid robot height	0.20 m
Reach	0.4-1.2 m
Grid reach	0.10 m
Vertical stroke	0.70 m / 1.00 m / 1.50 m
Stroke speed	20.0 m/min

Rotating C-frame with vertical stroke

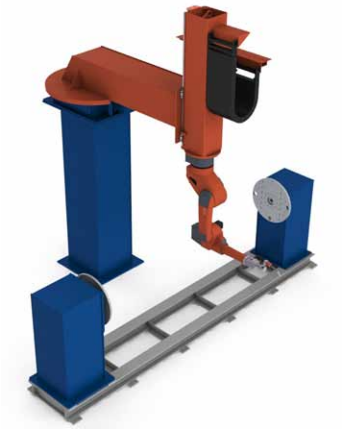
The C-shaped frame with rotating extension arm and mounted vertical stroke positions the robot overhead. The vertical stroke increases the robot working range in height thus allowing a deep entry into high-volume workpieces. The rotating extension arm additionally increases the working range and/or serves for the station change. The rotating C-frame with vertical stroke is directly mounted on the floor or a floor-mounted linear track.

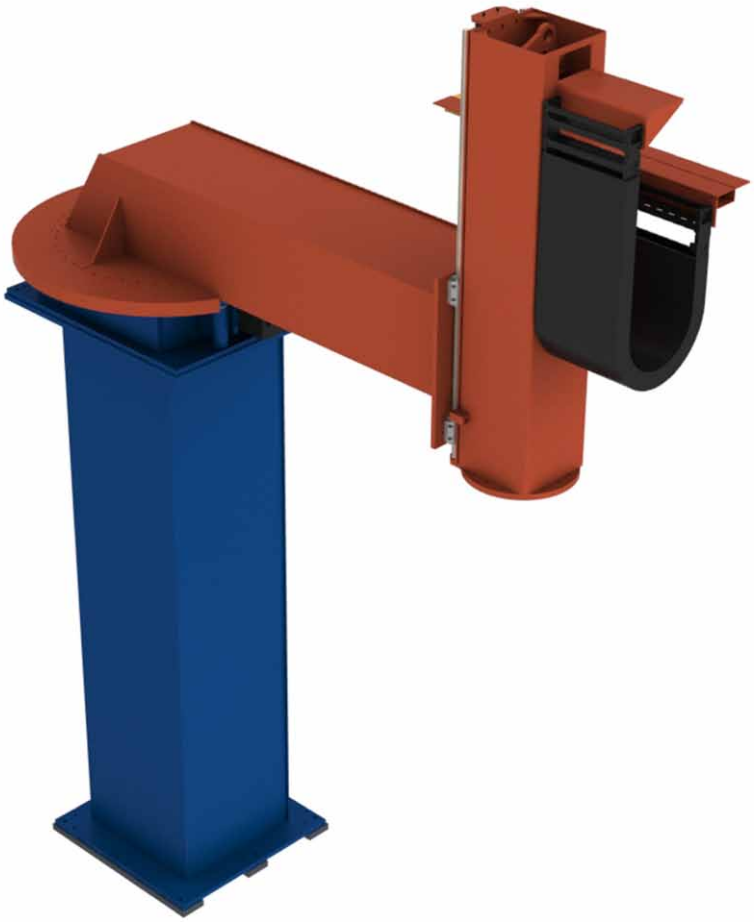
Technical features

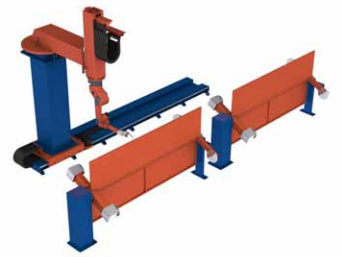
- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections
- Grease cartridge for guiding systems
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Two fully synchronised robot axes

Options

- Reach adaptation
- Adaptation of the robot mounting height







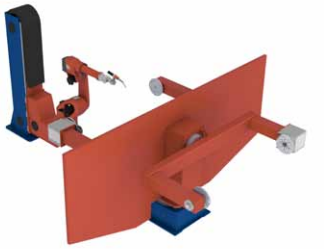
Technical data	RP-CTV-5
Load	5.0 kN
Robot height	2.8-3.0 m
Grid robot height	0.20 m
Reach	1.0-2.5 m
Grid reach	0.10 m
Vertical stroke	0.70 m / 1.00 m / 1.50 m
Swivelling speed	40.0 °/sec
Stroke speed	20.0 m/min
Swivelling range	+/- 185°

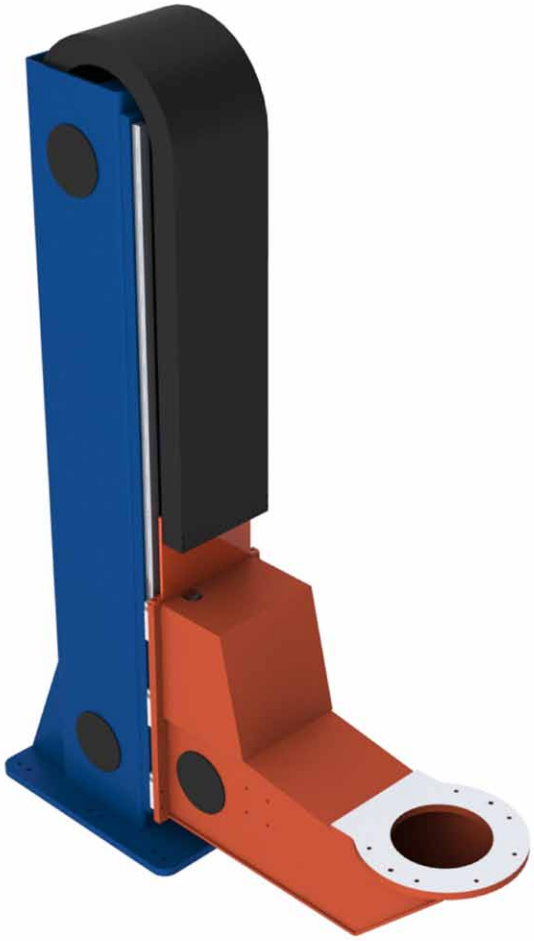
Vertical stroke for upright robot

The vertical stroke which is mounted on the floor or a floor-mounted linear track extends the working range of an upright mounted robot by one degree of freedom in order to weld big, complex workpieces.

Technical features

- A fully synchronised robot axis
- Indexing of the 0 position for motor change
- Adjusting screws for a precise alignment during mounting
- Opening in steel construction for a good accessibility during service works
- Grease cartridge for guiding systems
- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections





Technical data	RP-VS-5
Load	5.0 kN
Robot height	0.5-2.0 m
Vertical stroke	1.50 m
Stroke speed	20.0 m/min

Rotating vertical stroke for upright robot

The vertical stroke which is mounted on the floor or a floor-mounted linear track extends the working range of an upright mounted robot by two degrees of freedom in order to weld big, complex workpieces.

Technical features

- Two fully synchronised robot axes
- Indexing of the 0 position for motor change
- Adjusting screws for a precise alignment during mounting
- Opening in steel construction for a good accessibility during service works
- Grease cartridge for guiding systems
- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections

Technical data	RP-TVS-5
Load	5.0 kN
Robot height	1.0-2.5 m
Vertical stroke	1.50 m
Stroke speed	12.0 m/min
Swivelling speed	50.0 °/sec
Swivelling range	+/- 185°

Vertical stroke for overhead robot mounting

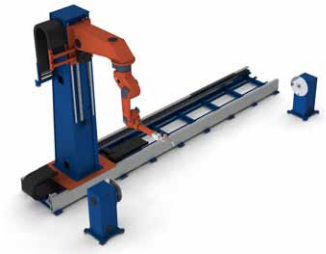
At the vertical stroke a robot is mounted in overhead position on an extension arm. Due to the vertical stroke the robot gets an additional degree of freedom for welding big workpieces. The vertical stroke is directly mounted on the floor or a floor-mounted linear track.

Technical features

- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Mounting components freely selectable and adaptable/to be integrated
- A fully synchronised robot axis

Options

- Increase of travelling length due to extension of the linear track



Technical data	RP-VO-10	RP-VO-20
Load	10.0 kN	20.0 kN
Robot height	3.25-4.5 m	3.0-6.5 m
Grid robot height	0.25 m	0.50 m
Vertical stroke	1.50 m / 2.00 m	1.50-5.00 m
Grid vertical stroke	0.00 m	0.50 m
Stroke speed	20.0 m/min	15.0 m/min

Rotating vertical stroke for overhead robot mounting

At the rotating vertical stroke a robot is mounted in overhead position on an extension arm. Due to the rotating vertical stroke the robot gets two additional degrees of freedom for welding big workpieces. The rotating vertical stroke is directly mounted on the floor or a floor-mounted linear track.

Technical features

- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Mounting components freely selectable and adaptable/to be integrated
- Two fully synchronised robot axes

Options

- Increase of travelling length due to extension of the linear track

Technical data	RP-TVO-20
Load	20.0 kN
Robot height	3.0-6.0 m
Grid robot height	0.50 m
Vertical stroke	1.50-5.00 m
Grid vertical stroke	0.50 m
Stroke speed	10.0 m/min
Swivelling speed	40.0 °/sec
Swivelling range	+/- 185°

Floor-mounted linear track

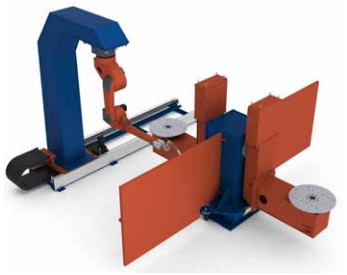
The floor-mounted linear track allows to mount the robot in upright position on a base or in overhead position on a frame. A carriage moves the robot in horizontal direction. The floor-mounted linear track allows to weld long workpieces, can be used for systems with several stations and can be equipped with a second carriage with robot. This makes it possible to weld pairwise on one workpiece.

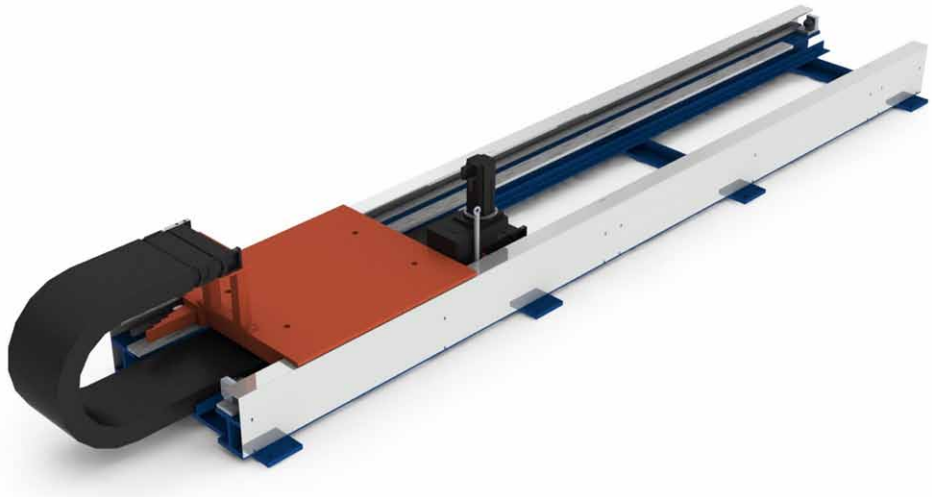
Technical features

- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections
- Unlimited travelling lengths
- Adjusting screws for a precise alignment during mounting
- Mounting components freely selectable and adaptable/to be integrated
- Indexing of the 0 position for motor change
- A fully synchronised robot axis

Options

- Increase of travelling length due to extension of the linear track
- Consoles for drums and/or power sources, extraction
- Additional carriage for second robot





Technical data	RP-FL-10	RP-FL-20	RP-FL-35	RP-FL-50	RP-FL-120
Load	10.0 kN	20.0 kN	35.0 kN	50.0 kN	120.0 kN
Travelling length	2-25 m	2-25 m	3-25 m	3-30 m	3-30 m
Grid travelling length	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m
Travelling speed	1.20 m/s	0.65 m/s	0.65 m/s	0.65 m/s	0.65 m/s

Overhead-mounted linear track

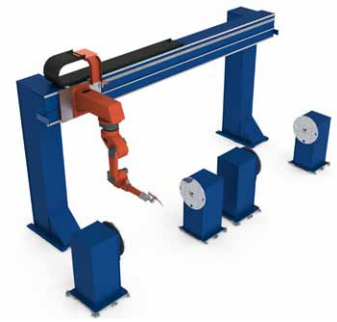
The top mounted track system, mounted on posts, allows overhead mounting of robots. A carriage with servo motor moves the robot in horizontal direction. The overhead-mounted linear track allows to weld long workpieces, can be used for systems with several stations and can be equipped with a second carriage with robot. This makes it possible to weld pairwise on one workpiece.

Technical features

- A fully synchronised robot axis
- Indexing of the 0 position for motor change
- Mounting components freely selectable and adaptable/to be integrated
- Opening in steel construction for a good accessibility during service works
- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections

Options

- Increase of travelling length due to extension of the linear track
- Additional carriage for second robot



Technical data	RP-GL-10	RP-GL-20	RP-GL-35	RP-GL-50
Load	10.0 kN	20.0 kN	35.0 kN	50.0 kN
Travelling length	5-20 m	5-20 m	5-25 m	5-25 m
Grid travelling length	1.00 m	1.00 m	1.00 m	1.00 m
Travelling speed	1.80 m/s	1.80 m/s	0.65 m/s	0.65 m/s

Horizontal stroke for mounting on C-frame/overhead-mounted linear track

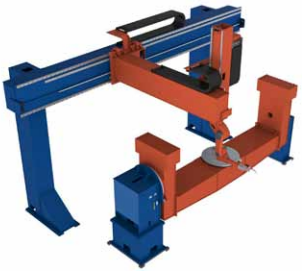
The horizontal stroke is used on a top mounted track or mounted on a vertical stroke and increases the horizontal working range of the overhead mounted robot.

Technical features

- A fully synchronised robot axis
- Indexing of the 0 position for motor change
- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections

Options

- Increase of travelling length due to extension of the linear track



Technical data	RP-HL-5 (GL-20)	RP-HL-10 (GL-35)	RP-HL-10 (GL-50)
Load	5.0 kN	10.0 kN	10.0 kN
Travelling length	1.00 m / 1.50 m / 2.00 m	0.70 m / 1.00 m / 1.50 m / 2.00 m	2.00 m / 2.50 m / 3.00 m
Travelling speed	1.70 m/s	1.70 m/s	1.70 m/s

Vertical stroke for mounting on an overhead-mounted linear track

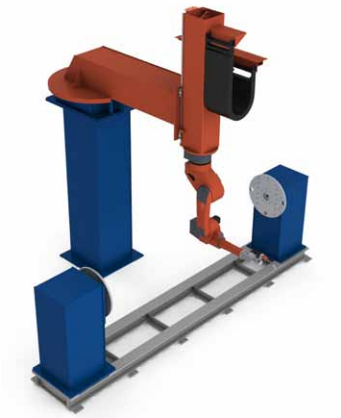
The vertical stroke is used on a top mounted track, a turnable C-frame or mounted on a horizontal stroke. It increases the vertical working range of the overhead mounted robot and allows welding of high-volume workpieces.

Technical features

- A fully synchronised robot axis
- Indexing of the 0 position for motor change
- Opening in steel construction for a good accessibility during service works

Options

- Increase of travelling length due to extension of the linear track



Technical data	RP-VL-5	RP-VL-5-C
Load	5.0 kN	5.0 kN
Vertical stroke	1.00 m / 1.50 m / 2.00 m	0.70 m / 1.00 m / 1.50 m
Stroke speed	20.0 m/min	20.0 m/min

Transverse slide for overhead robot mounting

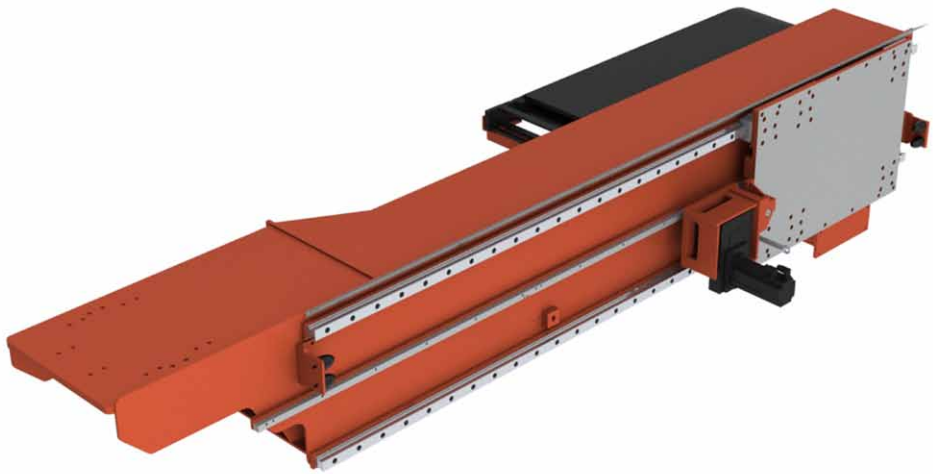
The transverse slide extends the working range of the upright mounted robot by one degree of freedom in order to weld complex, high-volume workpieces. The lateral mounting of the transversal stroke enables a deep entry of the robot into the workpiece. The transverse slide is mounted to a vertical stroke.

Technical features

- A fully synchronised robot axis
- Indexing of the 0 position for motor change
- High repeatability (± 0.1 mm) because of spring-pretensioned toothed wheel connections

Options

- Increase of travelling length due to extension of the linear track



Technical data	RP-CL-5
Load	5.0 kN
Travelling length	1.50 m / 2.00 m / 2.50 m
Travelling speed	1.70 m/s

Workpiece Positioner

Advantages robot positioner:

Turning, swivelling and tilting: always the optimum workpiece position
- Optimum weld seam quality

Positioners for loads between 2.5kN and 300kN
- Solution for each workpiece size

Mature combination of different movement devices
- Welding of complex contours without interruption
- Improved accessibility of nearly all weld seams on the workpiece
-

Workpiece Positioner with vertical rotation

The workpiece positioner has a vertically arranged faceplate. The workpiece which is fixed on this face plate can be turned into the optimum processing position by a horizontal turning axis.

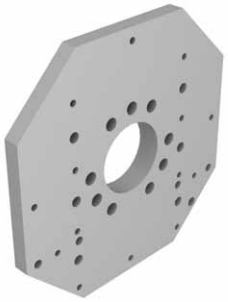
Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Digital drive system
- Indexing of the 0 position for motor change

Options

- Holding angle for mounting the workpiece fixtures
- Rotary distributor for media supply
- Non-stop rotation of the faceplate

Technical data	WP-TV-2,5	WP-TV-5	WP-TV-10	WP-TV-20	WP-TV-30	WP-TV-50	WP-TV-100	WP-TV-150
Load	2.5 kN	5.0 kN	10.0 kN	20.0 kN	30.0 kN	50.0 kN	100.0 kN	150.0 kN
Free-turning radius	700-1300 mm	700-1300 mm	700-1000 mm / 1000-1500 mm	700-1000 mm / 1000-1500 mm	600-2000 mm	700-1700 mm	800-2200 mm	900-2100 mm
Grid free-turning radius	100 mm	100 mm	100 mm / 250 mm	100 mm / 250 mm	200 mm	200 mm	200 mm	200 mm
Rotating speed	120.0 °/sec	120.0 °/sec	90.0 °/sec	60.0 °/sec	20.0 °/sec	8.0 °/sec	8.5 °/sec	6.5 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°



Workpiece Positioner with vertical rotation and vertical stroke

The workpiece positioner has a vertically arranged faceplate. The workpiece which is fixed on this face plate can be turned into the optimum processing position by a horizontal turning axis. The integrated vertical stroke facilitates loading and unloading of the workpieces near to the floor and increases the free-turning radius of the workpiece positioner thus allowing to weld bigger workpieces.

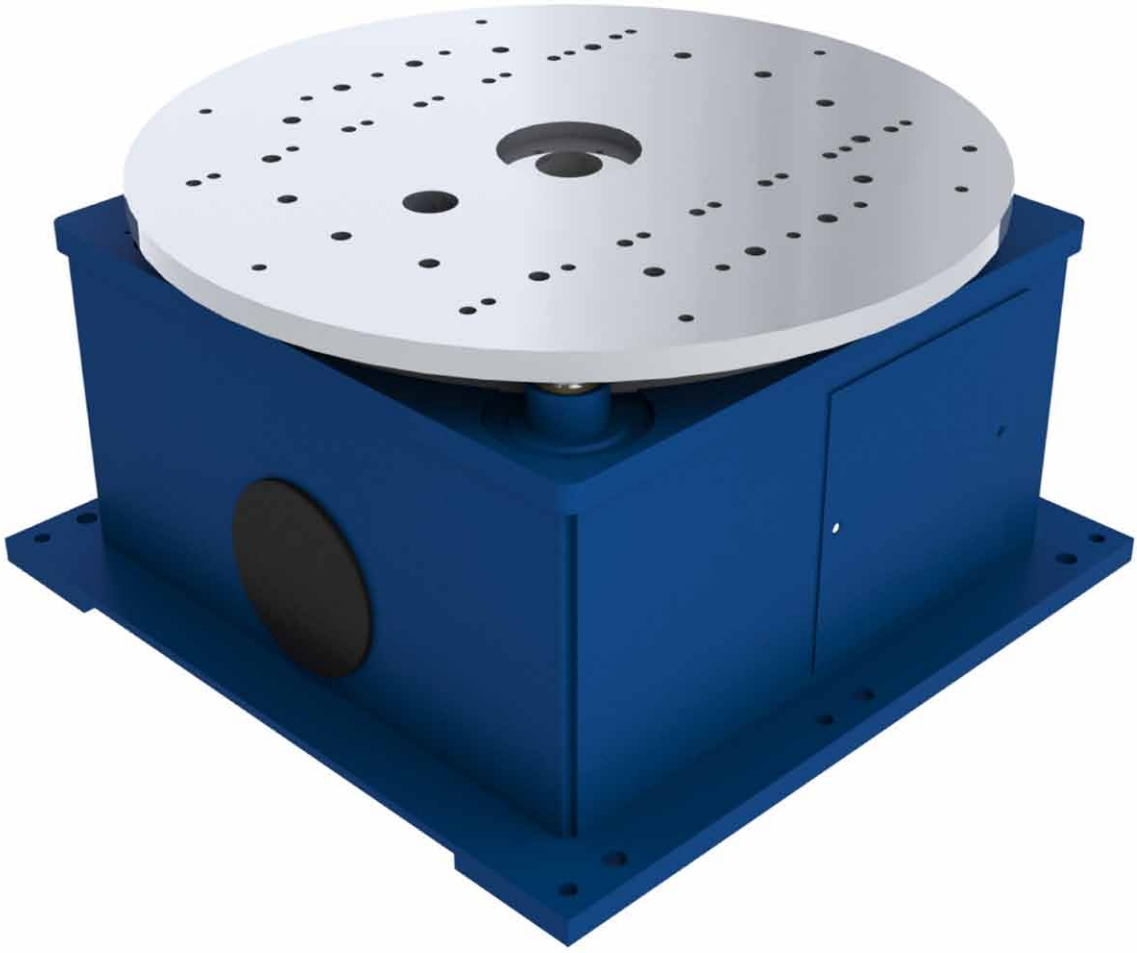
Technical features

- Very high travelling speed
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Indexing of the 0 position for motor change
- 2 digital drive systems

Options

- Holding angle for mounting the workpiece fixtures
- Non-stop rotation of the faceplate

Technical data	WP-TVV-5	WP-TVV-10	WP-TVV-20	WP-TVV-50	WP-TVV-75	WP-TVV-100	WP-TVV-150
Load	5.0 kN	10.0 kN	20.0 kN	50.0 kN	75.0 kN	100.0 kN	150.0 kN
Free-turning radius	600-1000 mm	600-1600 mm	900-2150 mm	1000-2500 mm	1000-2500 mm	1000-2500 mm	1250-2750 mm
Centre height	600-1000 mm	600-1600 mm	900-2150 mm	1000-2500 mm	1000-2500 mm	1000-2500 mm	1250-2750 mm
Vertical stroke	0.40 m	1.00 m	1.25 m	1.50 m	1.50 m	1.50 m	1.50 m
Rotating speed	120.0 °/sec	90.0 °/sec	60.0 °/sec	8.0 °/sec	8.0 °/sec	8.5 °/sec	6.5 °/sec
Stroke speed	2.0 m/min	2.0 m/min	2.0 m/min	2.0 m/min	2.0 m/min	2.0 m/min	2.0 m/min
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°



Workpiece Positioner with horizontal rotation

The workpiece positioner has a horizontally arranged faceplate. Workpiece which is fixed on this face plate can be turned into the optimum processing position by a vertical turning axis. This workpiece positioner is also used to build up a simple double-station robot system. The positioner changes the station by a 180° rotation.

Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Digital drive system
- Indexing of the 0 position for motor change

Options

- Non-stop rotation of the faceplate
- Pneumatic indexing of the 0 position at the counter bearing

Technical data	WP-TH-5	WP-TH-10	WP-TH-20	WP-TH-30	WP-TH-60	WP-TH-100	WP-TH-200
Load	5.0 kN	10.0 kN	20.0 kN	30.0 kN	60.0 kN	100.0 kN	200.0 kN
Centre height	400-600 mm	500-1000 mm	400-700 mm	400-600 mm	400-700 mm	400-700 mm	400-700 mm
Grid centre height	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Rotating speed	120.0 °/sec	120.0 °/sec	90.0 °/sec	50.0 °/sec	40.0 °/sec	30.0 °/sec	20.0 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°

Workpiece Positioner with vertical rotation with counter bearing

The workpiece positioner with counter bearing has two vertically arranged faceplates. The workpiece fixture is mounted between the two faceplates. Thus, heavy or long workpieces can be perfectly positioned and welded. The two components of the workpiece positioner are mounted on the shop floor. As an option, the workpiece positioner can be mounted on a common base frame (WP-TC-F). The counter bearing can be moved on the base frame manually (WP-TC-M) or by a motor (WP-TC-E). Thus, the distance between the two faceplates can be adjusted according the different workpiece sizes.

Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Parallel working of the system operator and the robot.
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Clamping length and free-turning radius can be adapted to the component size and the space on site.

Options

- Clamping stroke mounted on counter bearing (S)
- Pneumatic indexing of the 0 position at the counter bearing
- Counter bearing to be moved manually (M)
- Counter bearing to be moved by motor (E)
- Counter bearing mounted on base frame (F)
- Non-stop rotation of the faceplate
- Rotary distributor for media supply
- Holding angle for mounting the workpiece fixtures

Technical data	WP-TC-5	WP-TC-10	WP-TC-20	WP-TC-40	WP-TC-60	WP-TC-100	WP-TC-200
Load	5.0 kN	10.0 kN	20.0 kN	40.0 kN	60.0 kN	100.0 kN	200.0 kN
Free-turning radius	700-1300 mm	700-1300 mm	700-1000 mm / 1000-1500 mm	1000-1500 mm / 700-1000 mm	600-2000 mm	700-1700 mm	800-2200 mm
Grid free-turning radius	100 mm	100 mm	100 mm / 250 mm	100 mm / 250 mm	200 mm	200 mm	200 mm
Travelling length	1.00 - 3.00 m	1-5 m	1-5 m	1-10 m	1-10 m	1-12 m	1-15 m
Grid travelling length	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m
Clamping length	1.00-3.00 m	1-5 m	1-5 m	1-10 m	1-10 m	1-12 m	1-15 m
Grid clamping length	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m	1.00 m
Rotating speed	120.0 °/sec	120.0 °/sec	90.0 °/sec	60.0 °/sec	20.0 °/sec	8.0 °/sec	8.5 °/sec
Variants	F / M / S	F / M / S	E / F / M / S	E / F / M	E / F / M	E / M	E
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°

Counter bearing

The movable counter bearing has a vertically arranged faceplate. The counter bearing is used with another workpiece positioner. The workpiece fixture is mounted between the two faceplates of the counter bearing and the selected workpiece positioner.. The counter bearing can be moved on the base frame manually (WP-C-M) or by a motor (WP-C-E). Thus, the distance between the two faceplates can be adjusted according the different workpiece sizes.

Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- The free-turning radius can be adapted to the component size and the space on site.

Options

- Pneumatic quick clamping system to change the machine
- Pneumatic indexing of the 0 position at the counter bearing
- Counter bearing to be moved manually (M)
- Counter bearing to be moved by motor (E)
- Non-stop rotation of the faceplate
- Rotary distributor for media supply
- Holding angle for mounting the workpiece fixtures

Technical data	WP-C-2,5	WP-C-5	WP-C-10	WP-C-20	WP-C-30	WP-C-50	WP-C-100
Load	2.5 kN	5.0 kN	10.0 kN	20.0 kN	30.0 kN	50.0 kN	100.0 kN
Free-turning radius	700-1300 mm	700-1300 mm	700-1000 mm / 1000-1500 mm	700-1000 mm / 1000-1500 mm	600-2000 mm	700-1700 mm	800-2200 mm
Grid free-turning radius	100 mm	100 mm	100 mm / 250 mm	100 mm / 250 mm	200 mm	200 mm	200 mm
Travelling length	0-5 m	0-5 m	0-6 m	0-6 m	0-8 m	0-8 m	0-10 m
Variants	M	M	E / M	E / M	E / M	E	E

Workpiece Positioner with vertical rotation with roller support

The workpiece positioner has a vertically arranged faceplate and a counter bearing with supporting rolls. The workpiece fixture is mounted on the faceplate and supported at the counter bearing by means of the supporting rolls. The two components are screwed on the floor or, as an option, can be mounted on a base frame (QR-WP-TR-F), moved manually (QR-WP-TR-M) or electrically (QR-WP-TR-E).

Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Parallel working of the system operator and the robot.
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Clamping length and free-turning radius can be adapted to the component size and the space on site.
- Digital drive system

Options

- Pneumatic indexing of the 0 position at the counter bearing
- Counter bearing to be moved manually (M)
- Counter bearing to be moved by motor (E)
- Counter bearing mounted on base frame (F)
- Counter bearing for processing long, rotation-symmetric components
- Non-stop rotation of the faceplate
- Holding angle for mounting the workpiece fixtures

Technical data	WP-TR-10	WP-TR-20	WP-TR-40	WP-TR-100	WP-TR-300
Load	10.0 kN	20.0 kN	40.0 kN	100.0 kN	300.0 kN
Free-turning radius	700-1300 mm	700-1000 mm / 1000-1500 mm	1000-1500 mm / 700-1000 mm	700-1700 mm	900-2100 mm
Grid free-turning radius	100 mm	100 mm / 250 mm	100 mm / 250 mm	200 mm	200 mm
Travelling length		1-5 m			
Grid travelling length		1.00 m			
Clamping length	1-5 m	1-5 m	1-10 m	1-12 m	
Grid clamping length	1.00 m	1.00 m	1.00 m	1.00 m	0.00 m
Rotating speed	120.0 °/sec	90.0 °/sec	60.0 °/sec	8.0 °/sec	6.5 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°
Variants	F	F / M	F		

Counter bearing with roller support

The movable counter bearing with supporting rolls has no vertical faceplate but only serves as supporting bearing. The counter bearing with supporting rolls is used with another workpiece positioner. The workpiece is clamped between the faceplates of the workpiece positioner and the counter bearing with supporting rolls. The counter bearing can be moved on the base frame manually (WP-R-M) or by a motor (WP-C-E). Thus, the distance can be adjusted according the different workpiece sizes.

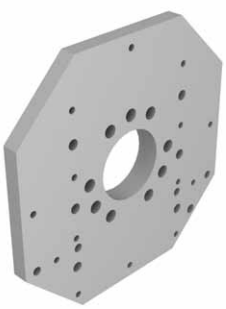
Technical features

- The free-turning radius can be adapted to the component size and the space on site.
- Adjusting screws for a precise alignment during mounting
- Earthing transmission for non-stop rotation

Options

- Counter bearing in roller bracket design
- Counter bearing to be moved by motor (E)
- Counter bearing to be moved manually (M)

Technical data	WP-R-5	WP-R-10	WP-R-20	WP-R-50	WP-R-150
Load	5.0 kN	10.0 kN	20.0 kN	50.0 kN	150.0 kN
Free-turning radius	700-1300 mm	700-1000 mm / 1000-1500 mm	1000-1500 mm / 700-1000 mm	700-1700 mm	900-2100 mm
Grid free-turning radius	100 mm	100 mm / 250 mm	100 mm / 250 mm	200 mm	200 mm
Travelling length		0-6 m			
Variants		M			



Workpiece Positioner with swivelling and horizontal rotation

The workpiece positioner has a turning axis with horizontally arranged faceplate and another swivelling axis which swivels the faceplate in both directions by 90°. The faceplate is moved from a horizontal to a vertical position. The workpiece positioner is designed to position light to medium-weight, large-surface workpieces perfectly for welding.

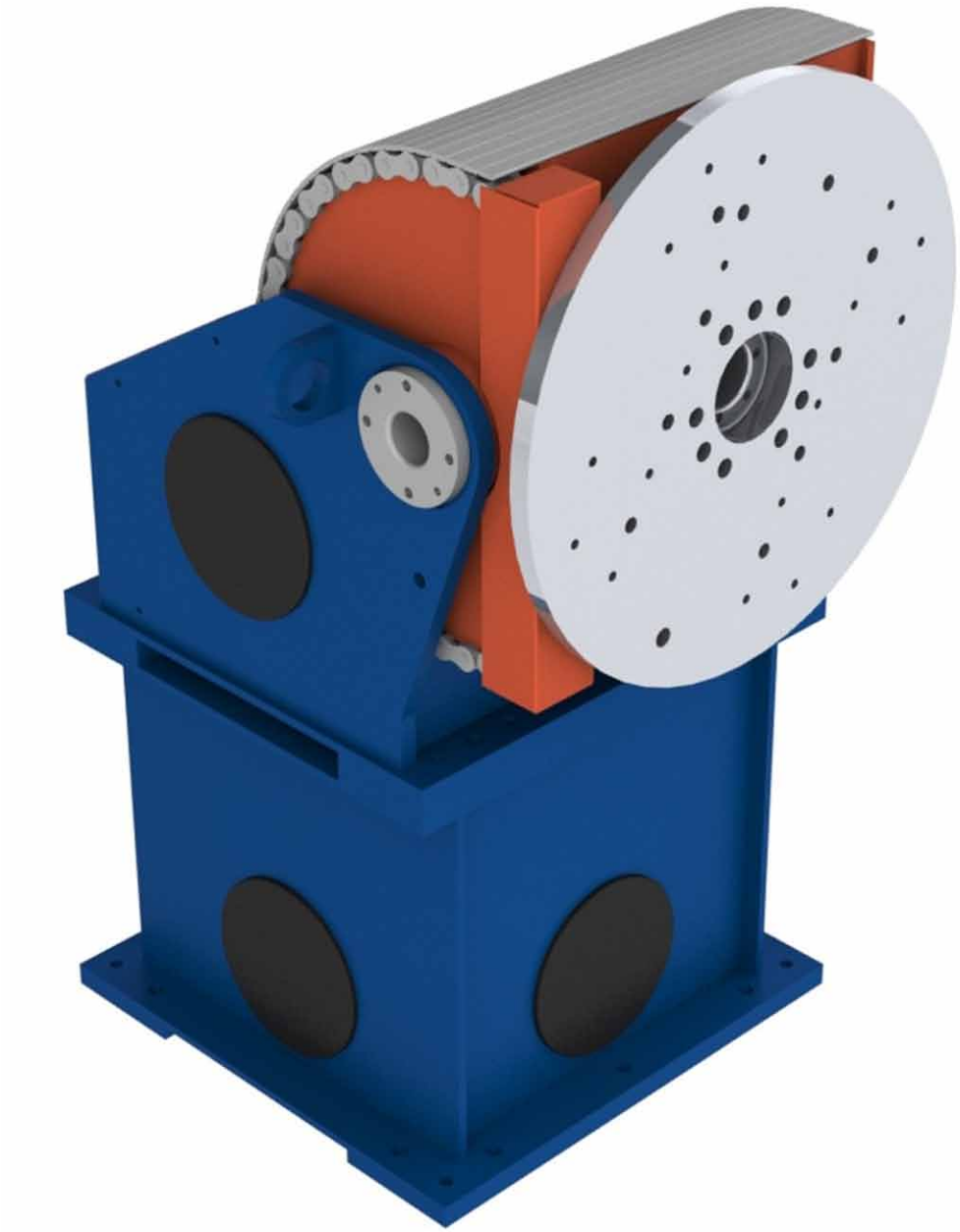
Technical data

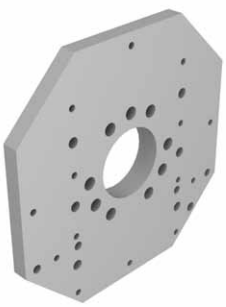
- Faceplate with universal hole pattern for mounting the workpiece fixture
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- The free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 2 digital drive systems

Options

- Rotary distributor for media supply
- Non-stop rotation of the faceplate
- Pneumatic indexing of the 0 position at the counter bearing

Technical data	WP-TSH-1	WP-TSH-2,5	WP-TSH-5
Load	1.0 kN	2.5 kN	5.0 kN
Free-turning radius	750 mm	750 mm	750 mm
Centre height			1000-1500 mm / 700-1000 mm
Grid centre height	100 mm	100 mm	100 mm / 250 mm
Rotating speed	120.0 °/sec	120.0 °/sec	120.0 °/sec
Faceplate height	1.0 m	1.0 m	1.0 m
Tilting speed	120.0 °/sec	120.0 °/sec	90.0 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°
Tilting range	+/- 180°	+/- 180°	+/- 180°





Workpiece Positioner with turning and tilting movement

The workpiece positioner has a turning axis with vertically arranged faceplate which is mounted near to a tilting axis shifted by 90°. The tilting axis moves the turnable faceplate from a vertical to a horizontal position. Thus the positioner is designed for medium-weight compact workpieces. Flat and large-surface workpieces can be loaded easily.

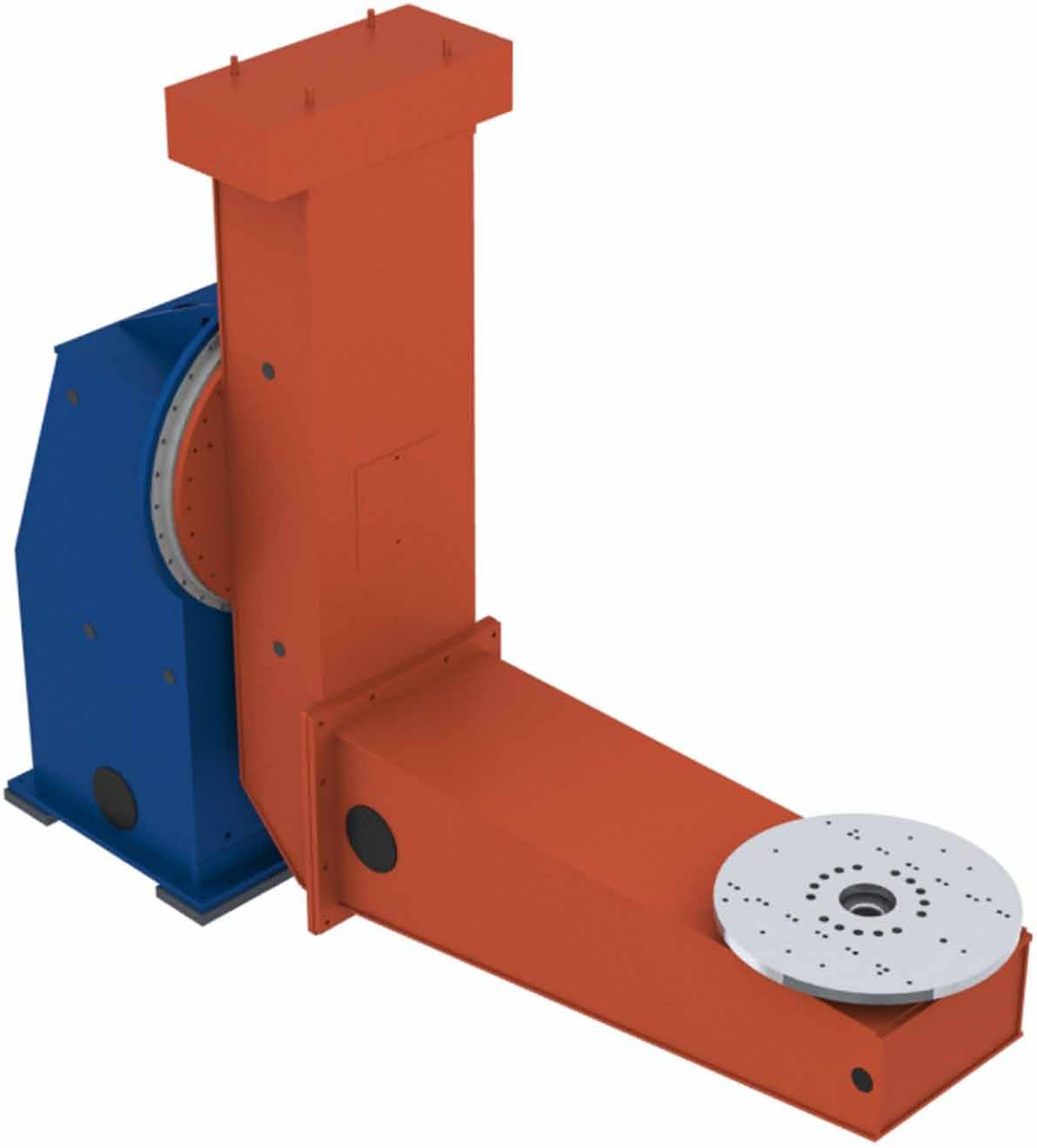
Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- The free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 2 digital drive systems

Options

- Holding angle for mounting the workpiece fixtures
- Non-stop rotation of the faceplate
- Counter bearing for processing long, rotation-symmetric components

Technical data	WP-TT-5	WP-TT-10	WP-TT-20
Load	5.0 kN	10.0 kN	20.0 kN
Free-turning radius	900 mm	900 mm	900 mm
Centre height	900 mm	900 mm	900 mm
Faceplate height	1.0 m	1.0 m	1.0 m
Rotating speed	120.0 °/sec	20.0 °/sec	20.0 °/sec
Tilting speed	120.0 °/sec	15.0 °/sec	8.5 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°
Tilting range	135 °	135 °	135 °



Workpiece Positioner with turning and swivelling movement

The workpiece positioner has a horizontal swivelling axis with an L-shaped extension arm. The extension arm contains a vertical turning axis with horizontal faceplate which serves for holding the workpiece. The workpiece positioner is designed to position medium-weight to heavy complex workpieces perfectly for welding.

Technical features

- Very high travelling speed
- Parallel working of the system operator and the robot.
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Indexing of the 0 position for motor change
- 2 digital drive systems

Options

- 90° indexing of the tilting axis when using counter bearing
- Non-stop rotation of the faceplate
- Pneumatic quick clamping system to change the machine

Technical data	WP-TS-2,5	WP-TS-5	WP-TS-10	WP-TS-15	WP-TS-30	WP-TS-50	WP-TS-100
Load	2.5 kN	5.0 kN	10.0 kN	15.0 kN	30.0 kN	50.0 kN	150.0 kN
Free-turning radius	500 mm	700-1000 mm	1000 mm	1000-1750 mm	1250-2000 mm	2000-3000 mm / 1750-2000 mm	2000-3000 mm
Grid free-turning radius		100 mm		250 mm	250 mm	250 mm / 500 mm	500 mm
Faceplate height	0.85 m	0.8 m	0.75 m	0.9 m	1.2 m	1.25 m	1.4 m
Option hollow-drilled shaft				Ø630 mm	Ø800 mm	Ø880 mm	
Rotating speed	120.0 °/sec	120.0 °/sec	90.0 °/sec	60.0 °/sec	20.0 °/sec	8.0 °/sec	8.5 °/sec
Swivelling speed	120.0 °/sec	90.0 °/sec	60.0 °/sec	20.0 °/sec	8.0 °/sec	8.5 °/sec	6.5 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°
Swivelling radius	450 mm	750 mm	1200 mm	1250 mm	1500 mm	1750 mm	1750 mm

Workpiece Positioner with turning and swivelling movement and vertical stroke

The workpiece positioner has a horizontal swivelling axis with an L-shaped extension arm. The extension arm contains a vertical turning axis with horizontal faceplate. The integrated vertical stroke facilitates loading and unloading of the workpieces near to the floor and increases the free-turning radius of the swivelling movement. Due to the workpiece light to medium-weight, long and complex workpieces can be welded.

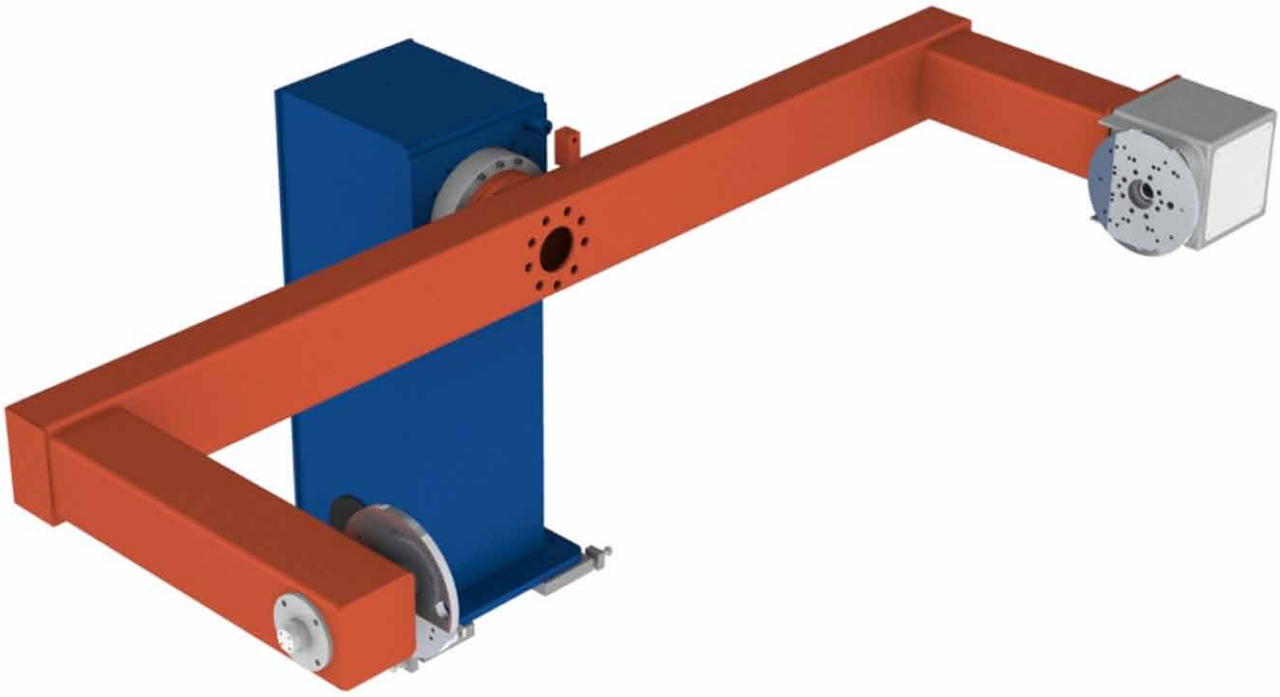
Technical data

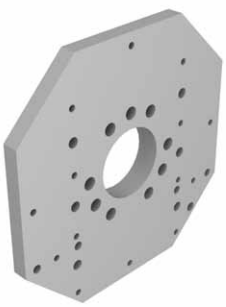
- Very high travelling speed
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- The free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 3 digital drive systems

Options

- 90° indexing of the tilting axis when using counter bearing
- Rotary distributor for media supply
- Non-stop rotation of the faceplate

Technical data	WP-TSV-5	WP-TSV-10	WP-TSV-50
Load	5.0 kN	10.0 kN	50.0 kN
Free-turning radius	700-1000 mm	1000 mm	2000-3000 mm / 1750-2000 mm
Grid free-turning radius	100 mm		250 mm / 500 mm
Faceplate height	0.6-1.6 m	0.75-2.0 m	1.0-2.5 m
Vertical stroke	1.00 m	1.25 m	1.50 m
Rotating speed	120.0 °/sec	90.0 °/sec	8.0 °/sec
Swivelling speed	90.0 °/sec	60.0 °/sec	8.5 °/sec
Stroke speed	2.0 m/min	2.0 m/min	2.0 m/min
Turning range	+/- 360°	+/- 360°	+/- 360°
Swivelling radius	750 mm	1200 mm	1750 mm
Swivelling range	+/- 185°	+/- 185°	+/- 185°





Workpiece Positioner with turning and swivelling movement and counter bearing

The workpiece positioner has a horizontally arranged swivelling axis. An extension arm with integrated turning axis with counter bearing is mounted on this axis. The workpiece can be turned and swivelled. Due to the workpiece light to medium-weight, long and complex workpieces can be welded.

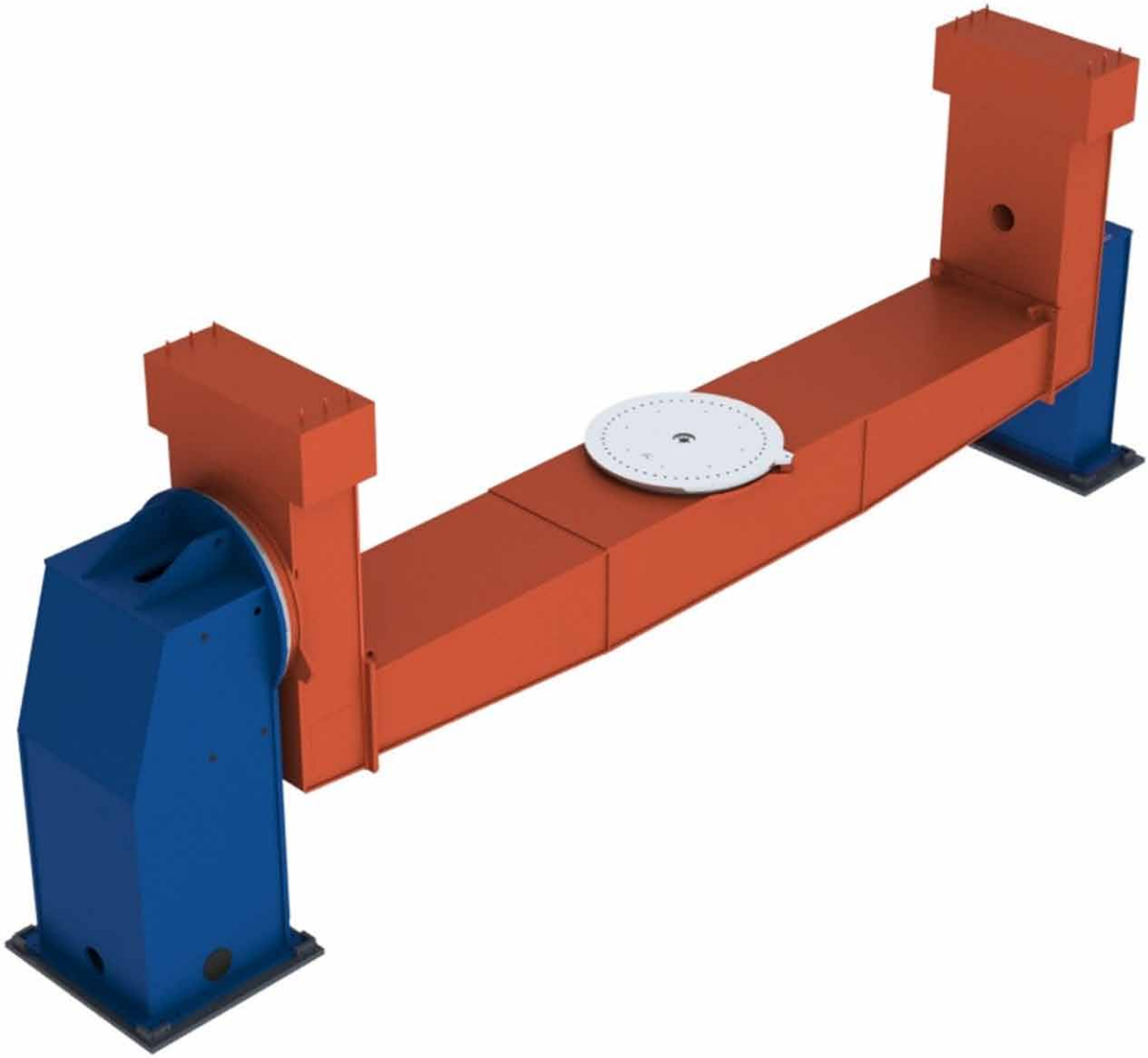
Technical features

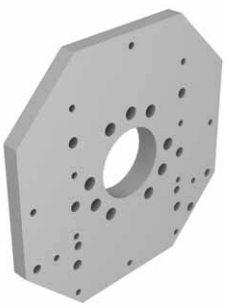
- Faceplate with universal hole pattern for mounting the workpiece fixture
- Very high travelling speed
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Clamping length and free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 2 digital drive systems

Options

- Holding angle for mounting the workpiece fixtures
- Non-stop rotation of the faceplate
- Counter bearing to be moved by motor (E)
- Counter bearing to be moved manually (M)
- Pneumatic indexing of the 0 position at the counter bearing
- Clamping stroke mounted on counter bearing (S)

Technical data	WP-TSC-5	WP-TSC-40	WP-TSC-60
Load	5.0 kN	40.0 kN	60.0 kN
Free-turning radius	700-800 mm	1000-1250 mm / 700-1000 mm	600-1400 mm
Grid free-turning radius	100 mm	100 mm / 250 mm	200 mm
Centre height	1250 mm	1100 mm	1250 mm
Clamping length	1.00-3.00 m	4.00 m	2-6.5 m
Rotating speed	120.0 °/sec	60.0 °/sec	8.0 °/sec
Swivelling speed	90.0 °/sec	8.5 °/sec	6.5 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°
Swivelling radius	1200 mm	3000 mm	4750 mm
Swivelling range	+/- 185°	+/- 185°	+/- 185°





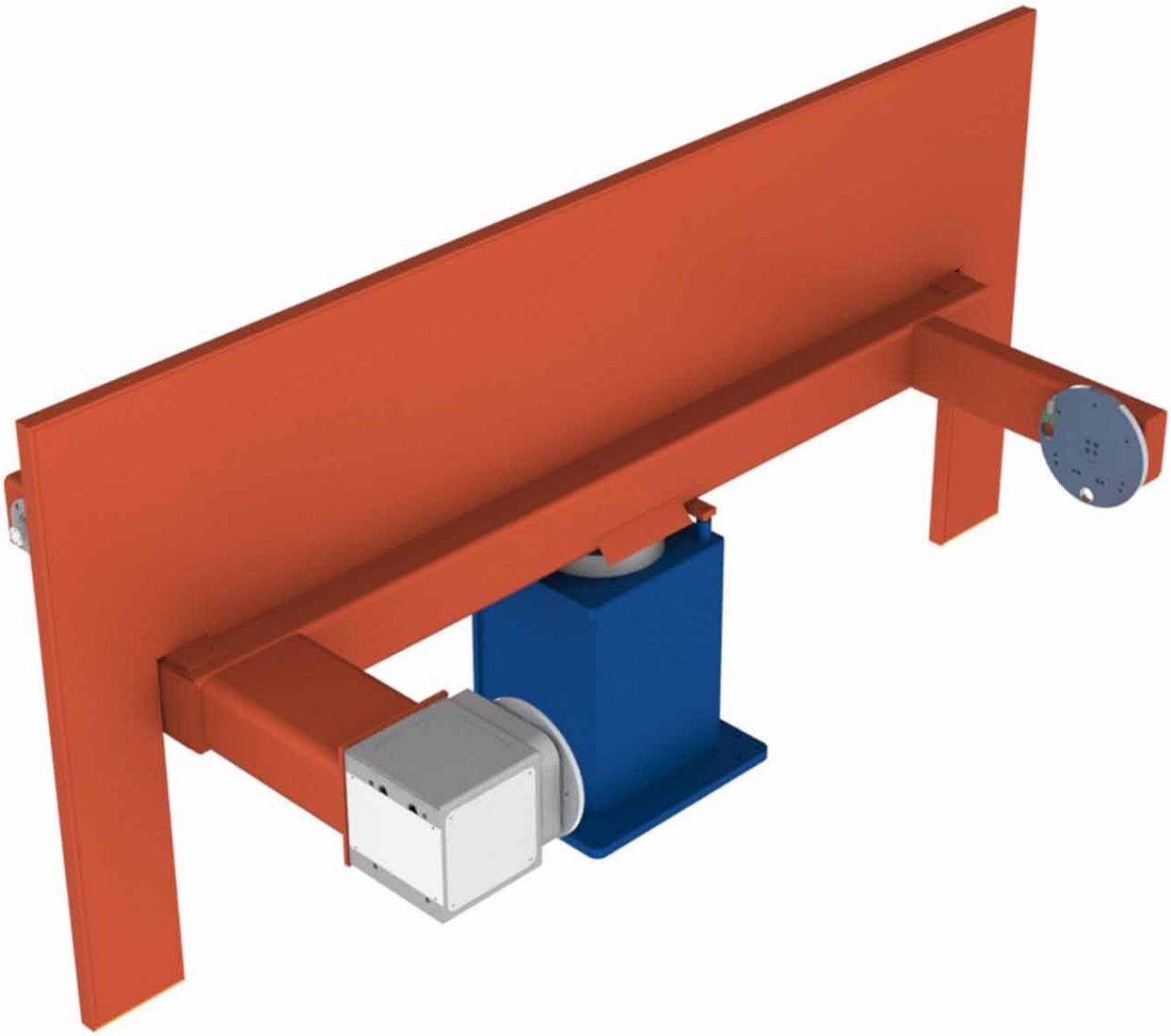
Workpiece Positioner with turning/swivelling movement and fixed counter bearing

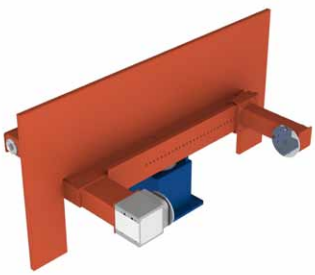
The workpiece positioner has a horizontal swivelling axis with an U-shaped extension arm which is supported by a counter bearing. In the middle of the U-shaped extension arm there is a horizontal faceplate which is moved by means of a vertical turning axis. This positioner takes up large-volume, complex workpieces and positions them perfectly for welding.

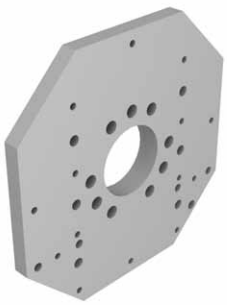
Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Adjusting screws for a precise alignment during mounting
- The free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 2 digital drive systems

Technical data	WP-TSF-2,5	WP-TSF-50
Load	2.5 kN	50.0 kN
Free-turning radius	500-1500 mm	1200-3000 mm
Grid free-turning radius	100 mm	100 mm
Centre height	1200 mm	2100 mm
Faceplate height	1.2 m	1.6 m
Rotating speed	120.0 °/sec	8.0 °/sec
Swivelling speed	120.0 °/sec	8.5 °/sec
Turning range	+/- 360°	+/- 360°
Swivelling range	+/- 185°	+/- 185°







Horizontal rotary positioner with vertical rotation and counter bearing

The two-station positioner changes the station by a horizontal rotation. Each station is equipped with a horizontal turning axis and counter bearing. The two-station positioner is designed to take up light to medium-weight, long workpieces.

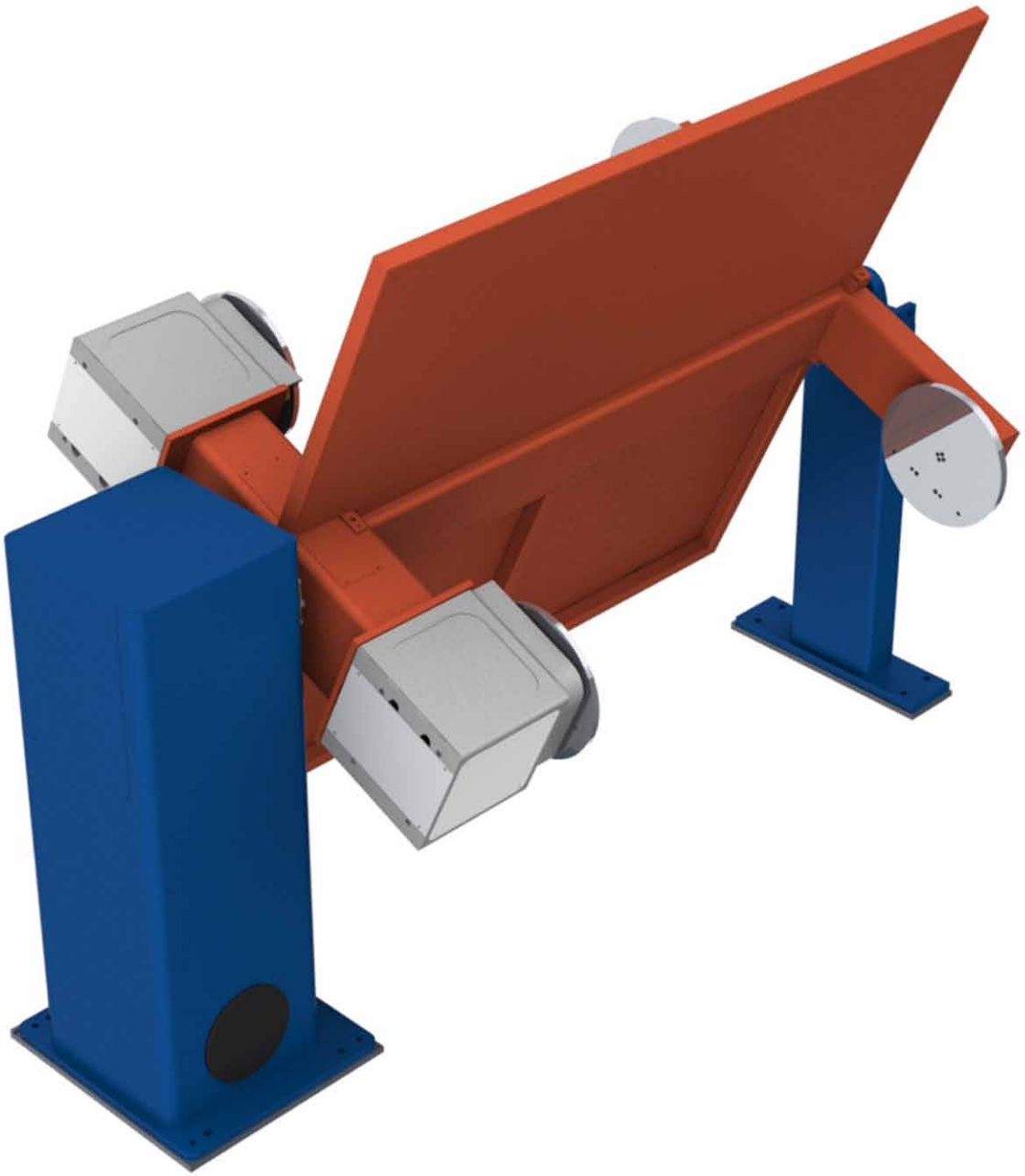
Technical features

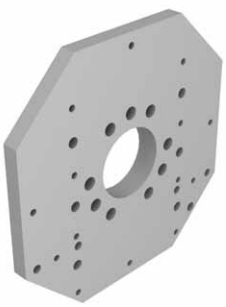
- Faceplate with universal hole pattern for mounting the workpiece fixture
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Clamping length and free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 3 digital drive systems

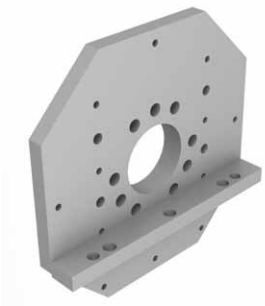
Options

- Pneumatic indexing of the 0 position at the counter bearing
- Counter bearing to be moved manually (M)
- Counter bearing to be moved by motor (E)
- Non-stop rotation of the faceplate
- Rotary distributor for media supply
- Holding angle for mounting the workpiece fixtures

Technical data	WP-DH-TC-2,5	WP-DH-TC-5	WP-DH-TC-7,5	WP-DH-TC-10	WP-DH-TC-20
Load	2.5 kN	5.0 kN	7.5 kN	10.0 kN	20.0 kN
Free-turning radius	500-700 mm	500-800 mm	500-800 mm	1200-2000 mm	600-1000 mm
Grid free-turning radius	100 mm	100 mm	100 mm	100 mm	100 mm
Clamping length	1.00-2.00 m	1.50-3.00 m	1.50-2.50 m	2.5-3.5 m	2.5-3.5 m
Grid clamping length	0.25 m	0.25 m	0.25 m	0.25 m	0.25 m
Faceplate height	0.85 m	1.0 m	0.9 m	1.0 m	1.0 m
Rotating speed	120.0 °/sec	120.0 °/sec	120.0 °/sec	120.0 °/sec	120.0 °/sec
Turning speed	90.0 °/sec	50.0 °/sec	50.0 °/sec	40.0 °/sec	40.0 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°	+/- 360°
Turning range	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°
Turning radius	2000 mm	4250 mm	2250 mm	3250 mm	3250 mm
Variants	M				







Vertical rotary positioner with vertical rotation and counter bearing

The two-station positioner changes the station by a vertical rotation. Each station is equipped with a horizontal turning axis and counter bearing. The two-station positioner requires little space and is designed to take up light to medium-weight, long workpieces. The vertical turning movement for station change has a small collision radius. Systems with this double-station positioner require only little floor space.

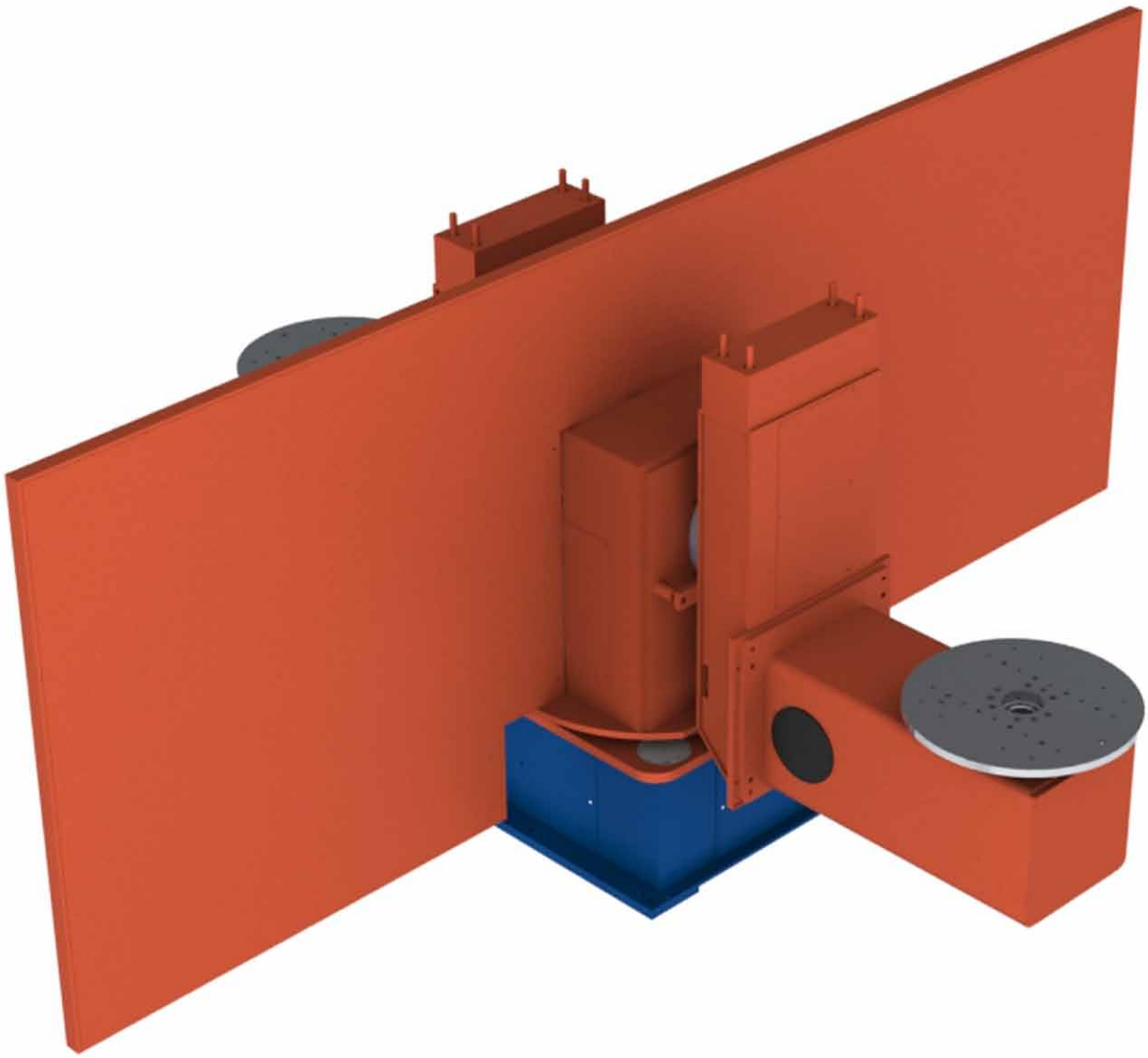
Technical features

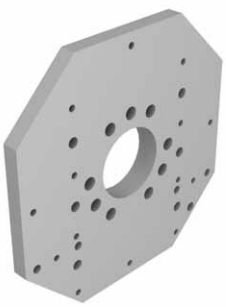
- Faceplate with universal hole pattern for mounting the workpiece fixture
- Very high travelling speed
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Clamping length and free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 3 digital drive systems

Options

- Holding angle for mounting the workpiece fixtures
- Non-stop rotation of the faceplate
- Counter bearing to be moved by motor (E)
- Counter bearing to be moved manually (M)
- Pneumatic indexing of the 0 position at the counter bearing
- Clamping stroke mounted on counter bearing (S)

Technical data	WP-DV-TC-2,5	WP-DV-TC-5	WP-DV-TC-10	WP-DV-TC-20
Load	2.5 kN	5.0 kN	10.0 kN	20.0 kN
Free-turning radius	400 mm	500 mm	750 mm	750 mm
Clamping length	1.00-2.00 m	1.25-3.00 m	2-6 m	2-5 m
Grid clamping length	0.25 m	0.25 m	0.25 m	0.25 m
Faceplate height	1.0 m	1.1 m	1.2 m	1.3 m
Rotating speed	120.0 °/sec	120.0 °/sec	120.0 °/sec	90.0 °/sec
Swivelling speed	120.0 °/sec	90.0 °/sec	20.0 °/sec	8.0 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°
Swivelling range	+/- 180°	+/- 180°	+/- 180°	+/- 180°
Variants		M	E / M	





Horizontal rotary positioner with turning/swivelling movement

The two-station positioner changes the station by a horizontal rotation. Each station is equipped with a horizontal swivelling axis. An L-shaped extension arm is mounted on this axis. The extension arm contains a turning axis with horizontal faceplate. The positioner can take up light to medium-weight complex workpieces and positions them perfectly for welding.

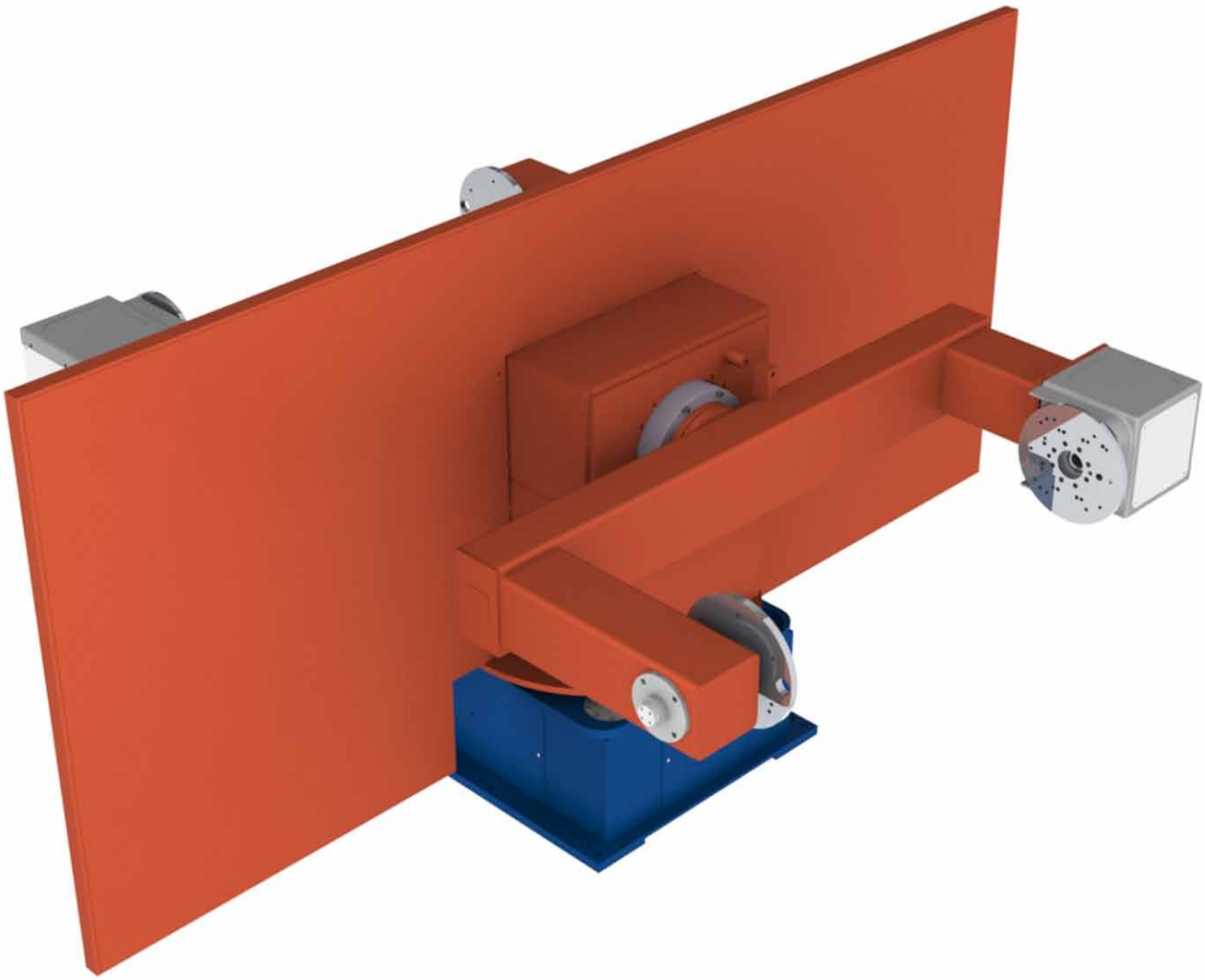
Technical features

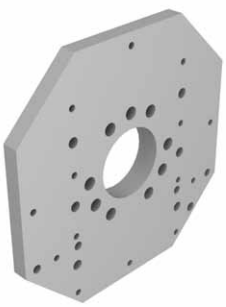
- Faceplate with universal hole pattern for mounting the workpiece fixture
- Very high travelling speed
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Grease cartridge for live ring
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- The free-turning radius can be adapted to the component size and the space on site.
- Indexing of the 0 position for motor change
- 5 digital drive systems

Options

- Rotary distributor for media supply
- Non-stop rotation of the faceplate
- Pneumatic indexing of the 0 position at the counter bearing

Technical data	WP-DH-TS-1	WP-DH-TS-2,5	WP-DH-TS-5	WP-DH-TS-10
Load	1.0 kN	2.5 kN	5.0 kN	10.0 kN
Free-turning radius	300 mm	500 mm	700-1000 mm	1000 mm
Grid free-turning radius			100 mm	
Faceplate height	0.85 m	0.75 m	0.9 m	1.0 m
Rotating speed	120.0 °/sec	120.0 °/sec	120.0 °/sec	90.0 °/sec
Tilting speed	120.0 °/sec	120.0 °/sec	90.0 °/sec	60.0 °/sec
Swivelling speed	50.0 °/sec	50.0 °/sec	50.0 °/sec	40.0 °/sec
Turning range	+/- 360°	+/- 360°	+/- 360°	+/- 360°
Swivelling range	+/- 180°	+/- 180°	+/- 180°	+/- 180°
Tilting range	+/- 185°	+/- 185°	+/- 185°	+/- 185°





Horizontal rotary positioner with turning/swivelling movement and counter bearing

The two-station positioner changes the station by a horizontal rotation. Each station is equipped with a horizontal swivelling axis. An extension arm with integrated turning axis and counter bearing is mounted on this axis. The positioner turns and tilts the workpiece so that light to medium-weight, long and complex workpieces can be welded.

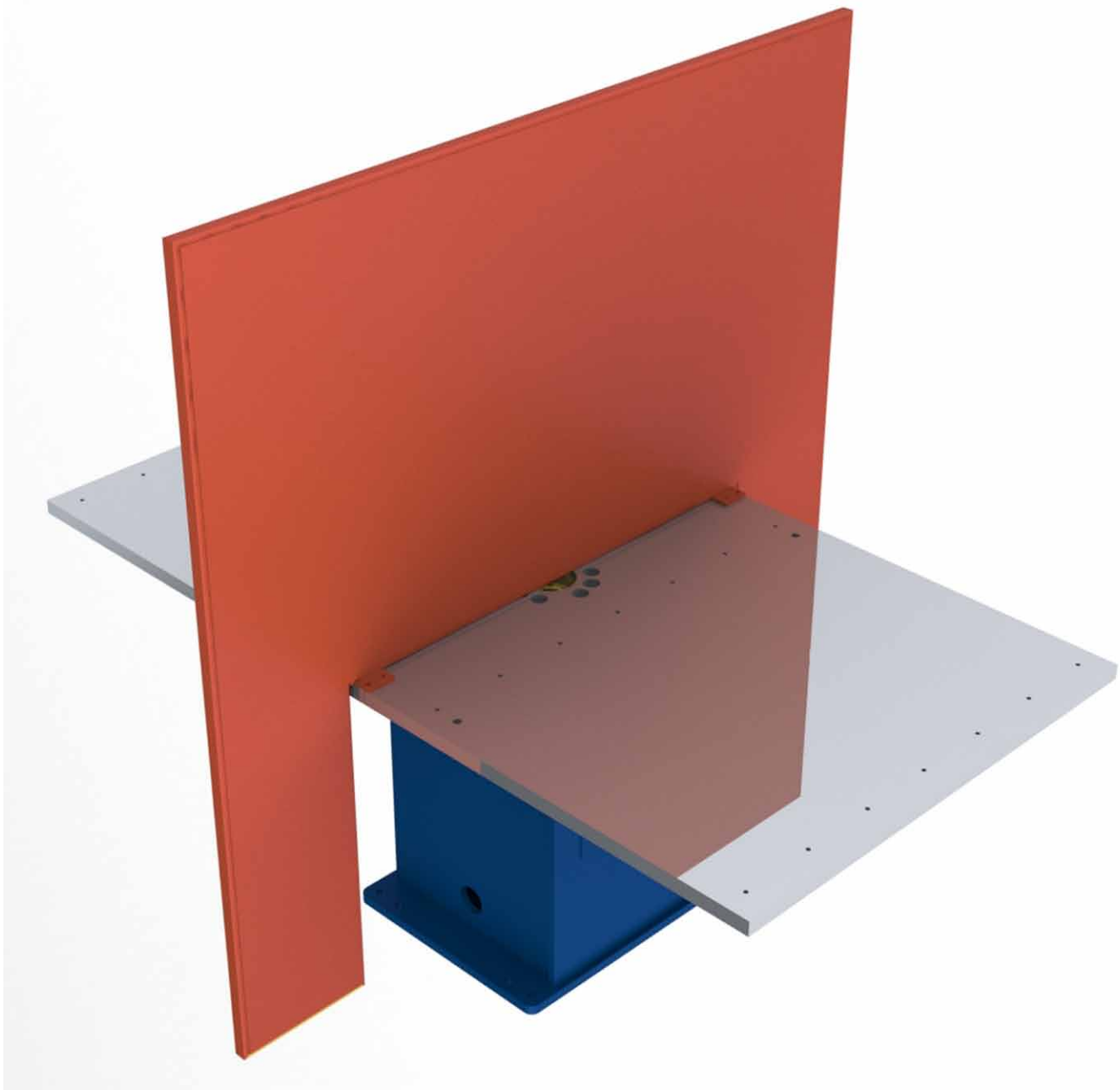
Technical features

- Faceplate with universal hole pattern for mounting the workpiece fixture
- Very high travelling speed
- Repeatability less than 0.1 mm
- Service-friendly direct drives
- Grease cartridge for live ring
- Opening in steel construction for a good accessibility during service works
- Earthing transmission for non-stop rotation
- Adjusting screws for a precise alignment during mounting
- Hollow-drilled shaft in the faceplate centre for media feed-through
- Clamping length and free-turning radius can be adapted to the component size and the space on site.
- 5 digital drive systems

Options

- Clamping stroke mounted on counter bearing (S)
- Counter bearing to be moved manually (M)
- Counter bearing to be moved by motor (E)
- Non-stop rotation of the faceplate
- Rotary distributor for media supply
- Holding angle for mounting the workpiece fixtures

Technical data	WP-DH-TSC-5	WP-DH-TSC-10
Load	5.0 kN	10.0 kN
Free-turning radius	500-750 mm	1200 mm
Grid free-turning radius	50 mm	100 mm
Clamping length	1.25-2.00 m	1.00-2.50 m
Grid clamping length	0.25 m	0.25 m
Faceplate height	1.1 m	0.85 m
Rotating speed	120.0 °/sec	120.0 °/sec
Swivelling speed	90.0 °/sec	20.0 °/sec
Turning speed	50.0 °/sec	30.0 °/sec
Turning range	+/- 360°	+/- 360°
Swivelling range	+/- 185°	+/- 185°
Turning range	+/- 180°	+/- 180°
Turning radius	2750 mm	3750 mm
Variants	M	



Two-station positioner with horizontal station change

The two-station positioner with horizontal station changeover has two opposite stations. A clamping plate is available to support the tools. The operator works parallel to the robot.

Technical features

- Indexing of the 0 position for motor change
- Digital drive system
- Adjusting screws for a precise alignment during mounting
- Opening in steel construction for a good accessibility during service works
- Service-friendly direct drives
- Repeatability less than 0.1 mm
- Parallel working of the system operator and the robot.

Technical data	WP-DH-2,5	WP-DH-7,5	WP-DH-10
Load	2.5 kN	7.5 kN	10.0 kN
Faceplate height	0.75 m	0.75 m	0.75 m
Swivelling speed	120.0 °/sec	120.0 °/sec	120.0 °/sec
Swivelling range	+/- 180°	+/- 180°	+/- 180°
Clamping plate	500x1000	1250x1550	800x1500

Compact cells

The QIROX compact cells are perfectly matched "ready to weld" systems in a compact size. Each compact cell is equipped with two welding areas so that a high and economic duty cycle can be obtained. The cells are characterised by a container design and mounted on a base frame which can be transported via forklift trucks. The basic system dimensions allow a transport by truck without any disassembly. Each system consists of a QIROX robot with controller, a water-cooled QINEO welding power source with wire drive unit, cable assemblies, welding torch, torch bracket incl. collision sensor and an automatic torch cleaning unit. Depending on the system, manual rotary tables, rotary tables with turning or turn-tilt positioners are available. We also supply a complete safety package, i. e. protective enclosure, service door, start preselection with emergency stop, glare shield and light barrier. The compact cell is the perfect solution to start with automation and to economically weld smaller components.

Compact cell 1

"Ready to weld system" with manual rotary table QR-WP-DH. The max. load per station is 100 kg, the horizontal clamping surface 1000 x 700 mm.
By means of a pneumatic indexing the positioner and thus the component to be welded is exactly positioned. The inserting height of approx. 900 mm and the end-of-stroke damper enable a gentle operation of the positioner and an ergonomic working space for your employees.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service

Technical data	CC-1
Positioner	
Load per station	1.0 kN
Clamping surface per station	1000 x 710 mm
Time for station changeover	manually by operator
Dimensions (L/W/H)	4590 x 2150 x 2000 mm
Weight	approx. 2.700 kg
Safety technology	

Compact cell 2

"Ready to weld system" with manual rotary table. Two fix clamping tables, 1000 x 670 mm each, load up to 150 kg, are placed in front of the robot. In the front loading area the start preselection is automatically activated by actuating a manual sliding door. Thus simultaneous welding and loading of the other working space is possible. The system convinces by very short ways and a very high availability.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service

Technical data	CC-2
Positioner	
Load per station	1.5 kN
Clamping surface per station	900 x 600 mm
Time for station changeover	
Dimensions (L/W/H)	3900 x 2150 x 2000 mm
Weight	approx. 2.800 kg
Safety technology	

Compact cell 3

"Ready to weld system" with two rotating positioners QR-WP-TV 2.5KN. In each station components up to Ø 700 mm, 650 mm long and 250 kg can be clamped. The welding area is closed by a manual sliding door which automatically releases the start preselection signal. Thus simultaneous welding and loading of the other working space is possible. The system convinces by very short ways and a very high availability. All robot and positioner axes are fully synchronised. This provides optimum welding results.

Technical features

- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- Minimal downtime from maintenance and repair work
- Easy integration into any production line
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- One contact for development, project management, production and service
-

Technical data	CC-3
Positioner	
Load per station	2.5 kN
Clamping surface per station	Ø 700 x 650 mm
Time for station changeover	
Dimensions (L/W/H)	4590 x 2150 x 2000 mm
Weight	approx. 3.000 kg
Safety technology	

Compact cell 4

"Ready to weld system" with two-station rotary table in H form. This system is characterised by a rotating positioner QR-WP-TC 21.5KN for components up to Ø 800 mm, 1000 mm long and 250 kg. By means of the rotary axis the station is turned from the loading area to the robot within 3 sec. During this procedure, the loading area is protected by a light barrier and an additional lateral safety fence There is a glare shield between the two stations. Thus the system operator is perfectly protected. Due to the rotating positioners your component is placed in optimum welding position. All robot and positioner axes are fully synchronised. This provides optimum welding results.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service

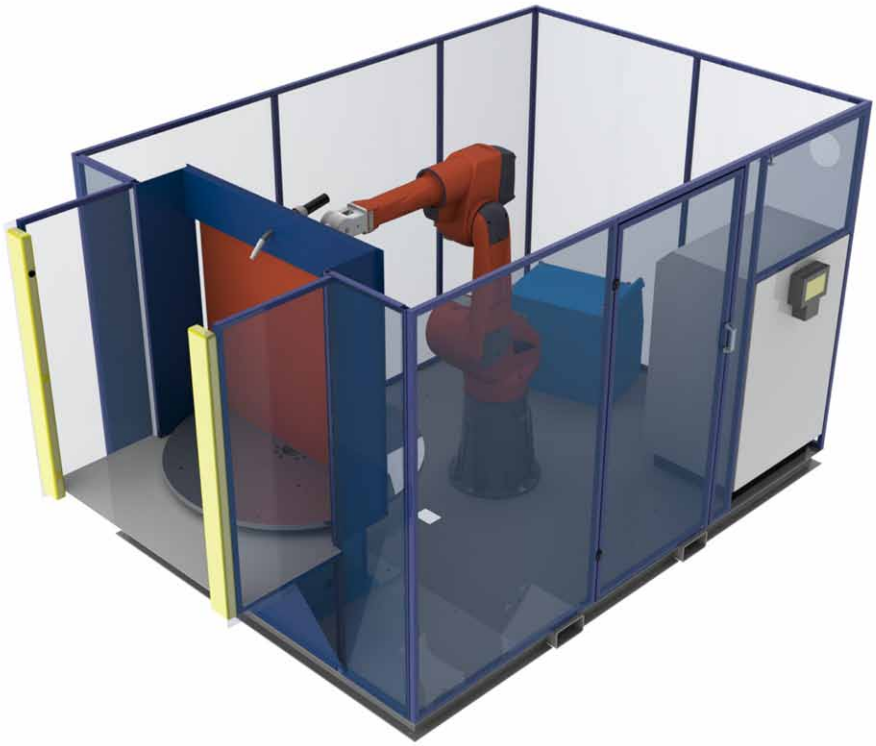
Technical data	CC-4
Positioner	
Load per station	1,2 - 2,5 kN
Clamping surface per station	Ø 800 x 1000 mm
Time for station changeover	
Dimensions (L/W/H)	5770 x 2000 x 2160 mm
Weight	approx. 2.800 kg
Safety technology	

Compact cell 5

"Ready to weld system" with automated rotary table QR-WP-TH. The max. load per station is 250kg, the horizontal clamping surface of the total plate Ø 1200. The cycle time of the rotary axis is only 2-3 sec. The loading area is secured by a light barrier within a short distance of approx. 300 mm to the clamping plate. This allows very short ways for the operator to load and unload the components. The inserting height of approx. 900 mm and a glare shield between the stations provide an ergonomic working space for your employees.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



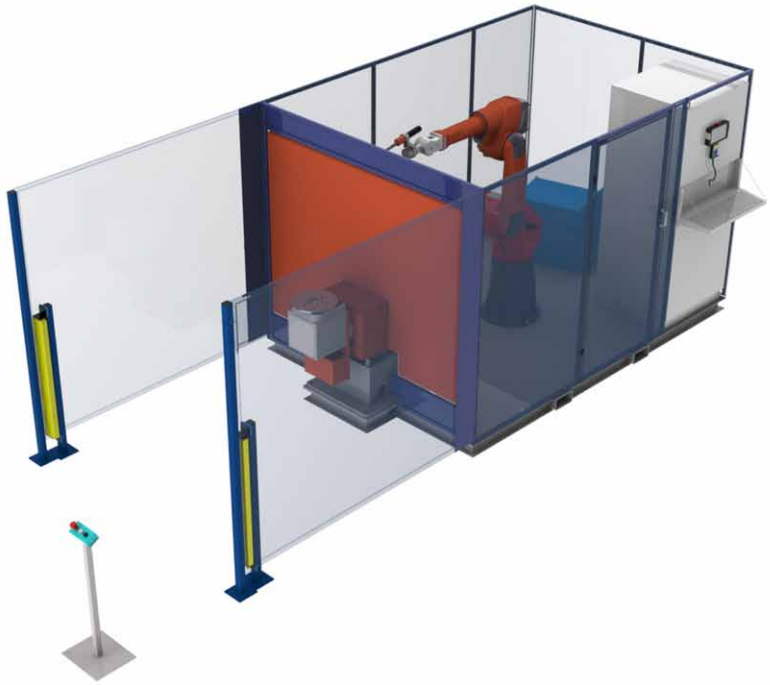
Technical data	CC-5
Positioner	
Load per station	5.0 kN
Clamping surface per station	650 x 400 mm
Time for station changeover	
Dimensions (L/W/H)	4250 x 2150 x 2000 mm
Weight	approx. 2.900 kg
Safety technology	

Compact cell 6

"Ready to weld system" with two-station positioner QR-WP-DH-TS-2.5KN. In each station components up to 250 kg and a diameter of up to Ø 900 mm can be clamped. Per station the positioner has a fully synchronised turn/tilt axis for an optimum component positioning. This provides optimum welding results. The loading area is protected by a lateral safety fence and a light barrier during the cycle. The inserting height of approx. 900 mm and a glare shield between the stations provide an ergonomic working space for your employees.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



Technical data	CC-6
Positioner	
Load per station	1.0 kN
Clamping surface per station	Ø 600 mm
Time for station changeover	approx. 3 sec.
Dimensions (L/W/H)	5770 x 2000 x 2160 mm
Weight	approx. 3.000 kg
Safety technology	

Compact systems

The QIROX compact systems are perfectly matched "ready to weld" systems in a compact size. Each compact system is equipped with two stations so that a high and economic duty cycle can be obtained.
While the robot is welding the components on one side, loading or unloading is carried out simultaneously on the other station. Robot and positioner are mounted on a common base frame. This guarantees a quick and perfectly adjusted system assembly.

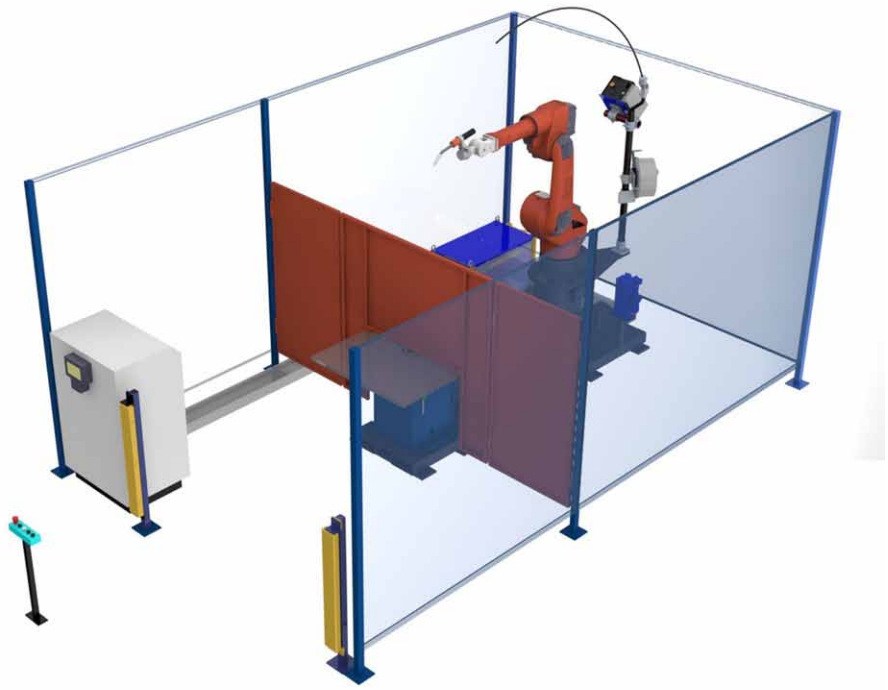
Each compact system consists of a QIROX robot with controller, a water-cooled QINEO welding power source with wire drive unit, cable assemblies, welding torch, torch bracket incl. collision sensor and an automatic torch cleaning unit. As an option, the processes TIG, TIG+cold wire, plasma welding and plasma cutting can be integrated. Depending on the system, rotary tables with fix clamping plates or a rotary table with turning or turn-tilt positioners are available. We also supply a complete safety package, i. e. swing doors, start preselection with emergency stop, glare shield and light barrier and optionally the protective housing. The compact system is the optimum solution for economic welding of small to medium-sized components up to 3000 mm and 1000 kg.

Compact system C10

"Ready to weld system" with automated rotary table QR-WP-TH. You can select the load per station from 250 - 1000 kg. According to the load, the horizontal clamping surface varies between 1000 x 500 mm to 2000 x 800 mm.
By means of a motor-drive rotary axis the positioner and thus the component to be welded is exactly positioned. Depending on the system, the cycle time is 2-6 sec. The inserting height of approx. 750 mm and the glare shield between the stations provide an ergonomic working space for your employees. The scope of supply also comprises the complete safety system such as swing doors, light barriers and start preselection panel with emergency stop button. As an option we also supply the protective enclosure adapted to the conditions at your site.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



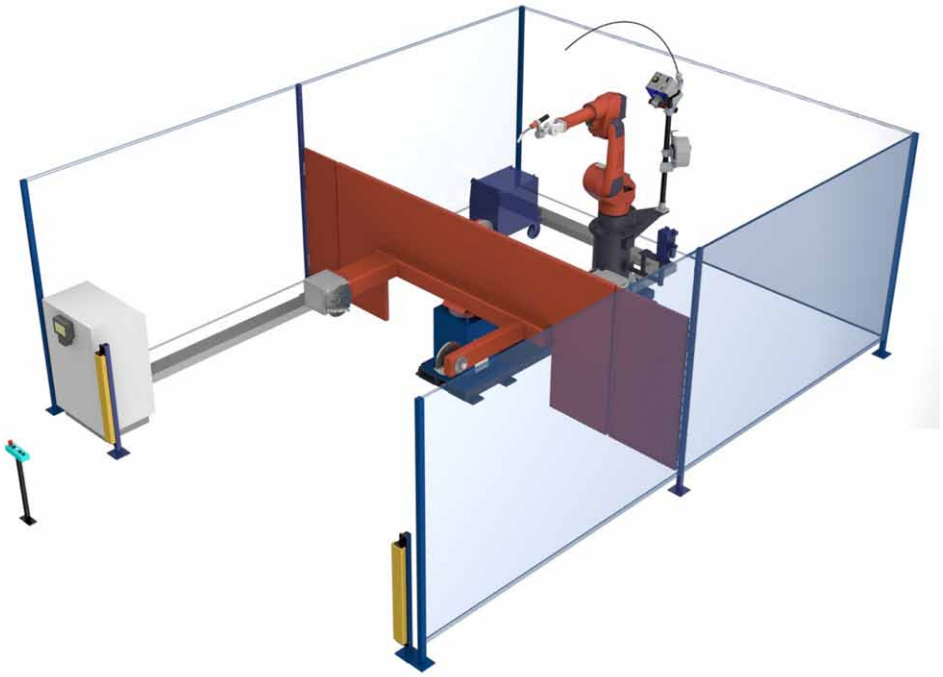
Technical data	CS-10-2,5kN	CS-10-7,5kN	CS-10-10kN
Load per station	2.5 kN	7.5 kN	10.0 kN
Peripheral equipment	Robot base	Robot base	Robot base
Robot mounting	Floor	Floor	Floor
Positioner			
Suitable tool size	100x500 - 200x800 mm	100x500 - 200x800 mm	100x500 - 200x800 mm

Compact system C20

"Ready to weld system" with two-station rotary table incl. a turning axis and a counter bearing per station. The robot is mounted in upright position. The turning axis changes the station by a horizontal rotation. Depending on the system, each station can be loaded with 250-1000 kg. Clamping lengths of 1250 mm - 2500 mm can be realised with this system.
Due to the two-station design, robot welding in one station and loading of the components in the other station is simultaneously possible. This reduces the secondary processing times and ensures a high system availability. The scope of supply also comprises the complete safety system such as swing doors, light barriers and start preselection panel with emergency stop button. As an option we also supply the protective enclosure adapted to the conditions at your site.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



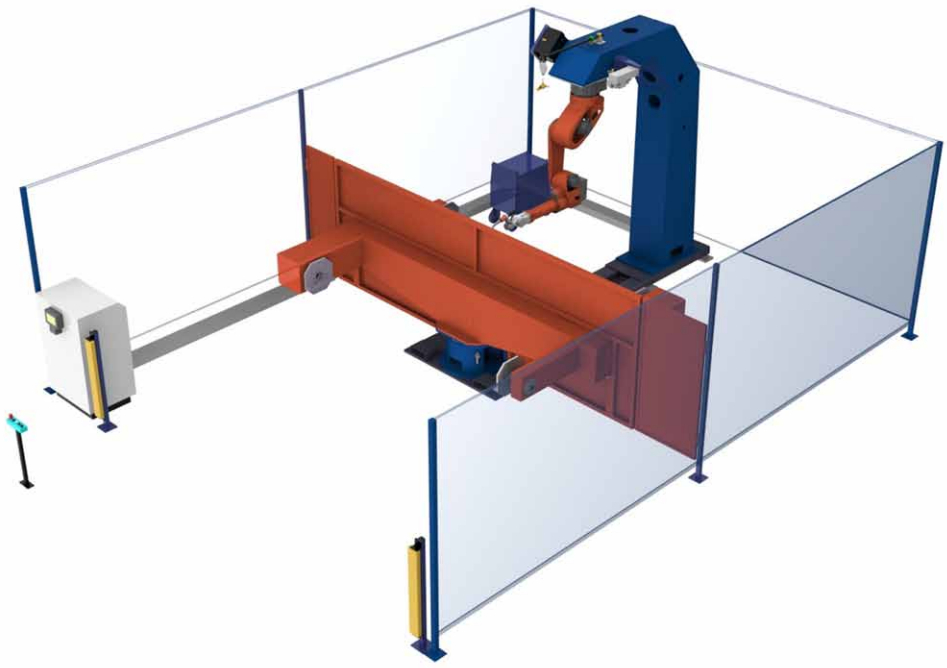
Technical data	CS-20-2,5kN	CS-20-5kN
Load per station	2.5 kN	5.0 kN
Peripheral equipment	Robot base	Robot base
Robot mounting	Floor	Floor
Positioner		
Suitable tool size	up to Ø 1600x2000 mm	up to Ø 1600x2000 mm

Compact system C30

"Ready to weld system" with two-station rotary table incl. a turning axis and a counter bearing per station. The robot is mounted in overhead position on a C frame. The turning axis changes the station by a horizontal rotation. Depending on the system, each station can be loaded with 500-1000 kg. Clamping lengths of 2000-3500 mm can be realised with this system.
Due to the two-station design, robot welding in one station and loading of the components in the other station is simultaneously possible. This reduces the secondary processing times and ensures a high system availability. The scope of supply also comprises the complete safety system such as swing doors, light barriers and start preselection panel with emergency stop button. As an option we also supply the protective enclosure adapted to the conditions at your site.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



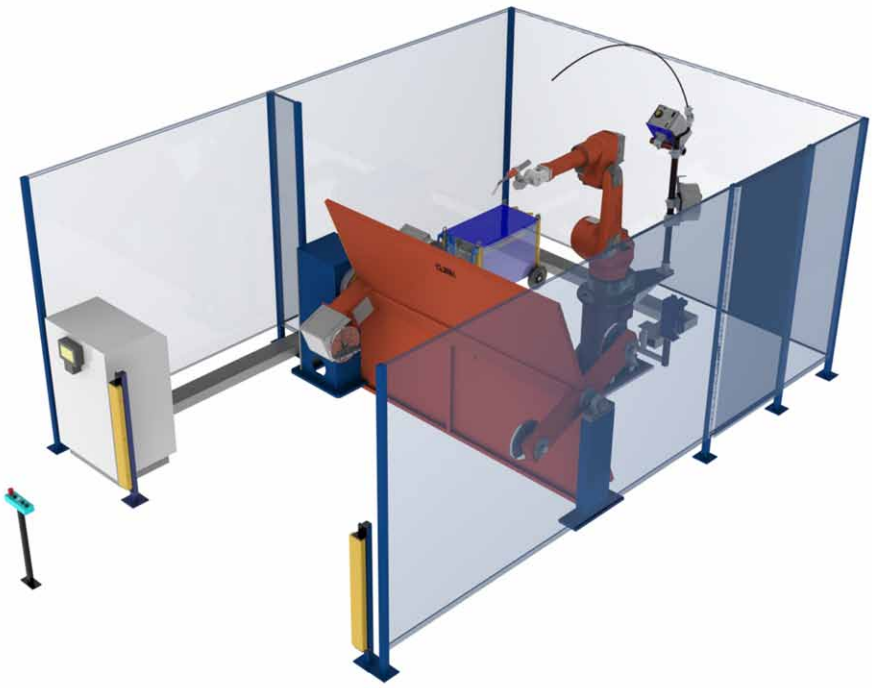
Technical data	CS-30-5kN	CS-30-7,5kN
Load per station	5.0 kN	7.5 kN
Peripheral equipment	C-frame	C-frame
Robot mounting	Floor	Floor
Positioner		
Suitable tool size	up to Ø 1600x3000 mm	up to Ø 1600x3000 mm

Compact system C40

"Ready to weld system" with two-station rotary table incl. a turning axis and a counter bearing per station. The robot is mounted in upright position. The turning axis changes the station in vertical direction. Depending on the system, each station can be loaded with 250-500 kg. Clamping lengths of 1250 mm - 3000mm can be realised with this system.
Due to the two-station design, robot welding in one station and loading of the components in the other station is simultaneously possible. This reduces the secondary processing times and ensures a high system availability. The scope of supply also comprises the complete safety system such as swing doors, light barriers and start preselection panel with emergency stop button. As an option we also supply the protective enclosure adapted to the conditions at your site.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



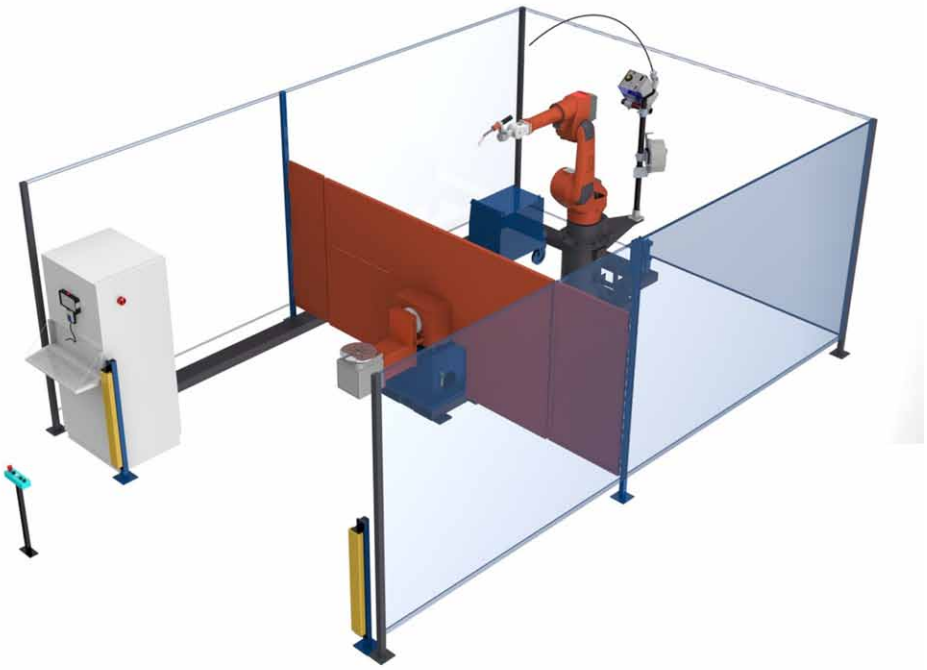
Technical data	CS-40-2,5kN	CS-40-5kN
Load per station	2.5 kN	5.0 kN
Peripheral equipment	Robot base	Robot base
Robot mounting	Floor	Floor
Positioner		
Suitable tool size	Ø 800x1500 mm	Ø 800x1500 mm

Compact system C50

"Ready to weld system" with two-station rotary table incl. a turn/tilt axis per station. The robot is mounted in upright position. Depending on the system, each station can be loaded with 250-1000 kg. A free-turning diameter of 1000 mm and a faceplate of 330 mm (250 kg variant) or 1400-1600 mm with a faceplate of 600 mm (500/1000 kg variant) offer optimum processing conditions for your components.
Due to the two-station design, robot welding in one station and loading of the components in the other station is simultaneously possible. This reduces the secondary processing times and ensures a high system availability. The scope of supply also comprises the complete safety system such as swing doors, light barriers and start preselection panel with emergency stop button. As an option we also supply the protective enclosure adapted to the conditions at your site.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



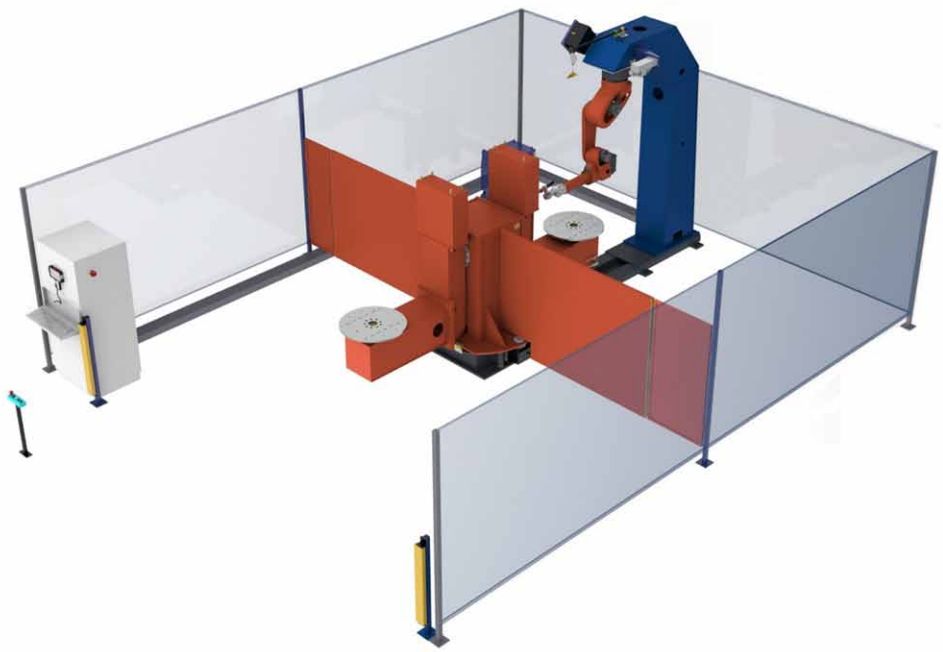
Technical data	CS-50-2,5kN	CS-50-5kN
Load per station	2.5 kN	5.0 kN
Peripheral equipment	Robot base	Robot base
Robot mounting	Floor	Floor
Positioner		
Suitable tool size	up to Ø 1600 mm	up to Ø 1600 mm

Compact system C60

"Ready to weld system" with two-station rotary table incl. a turn/tilt axis per station. The robot is mounted in overhead position on a C frame. Depending on the system, each station can be loaded with 500-1000 kg. A free-turning diameter of 1400-1600 mm with a face-plate of 600 mm offer optimum processing conditions for your components.
Due to the two-station design, robot welding in one station and loading of the components in the other station is simultaneously possible. This reduces the secondary processing times and ensures a high system availability. The scope of supply also comprises the complete safety system such as swing doors, light barriers and start preselection panel with emergency stop button. As an option we also supply the protective enclosure adapted to the conditions at your site.

Technical features

- Minimal downtime from maintenance and repair work
- Short commissioning times due to pre-assembly and run-off tests
- High productivity thanks to parallel work stations
- Low space requirement due to compact design
- Easy integration into any production line
- Comprehensive standard supply and individual options
- Excellent efficiency due to optimum product quality and perfectly matched components
- One contact for development, project management, production and service



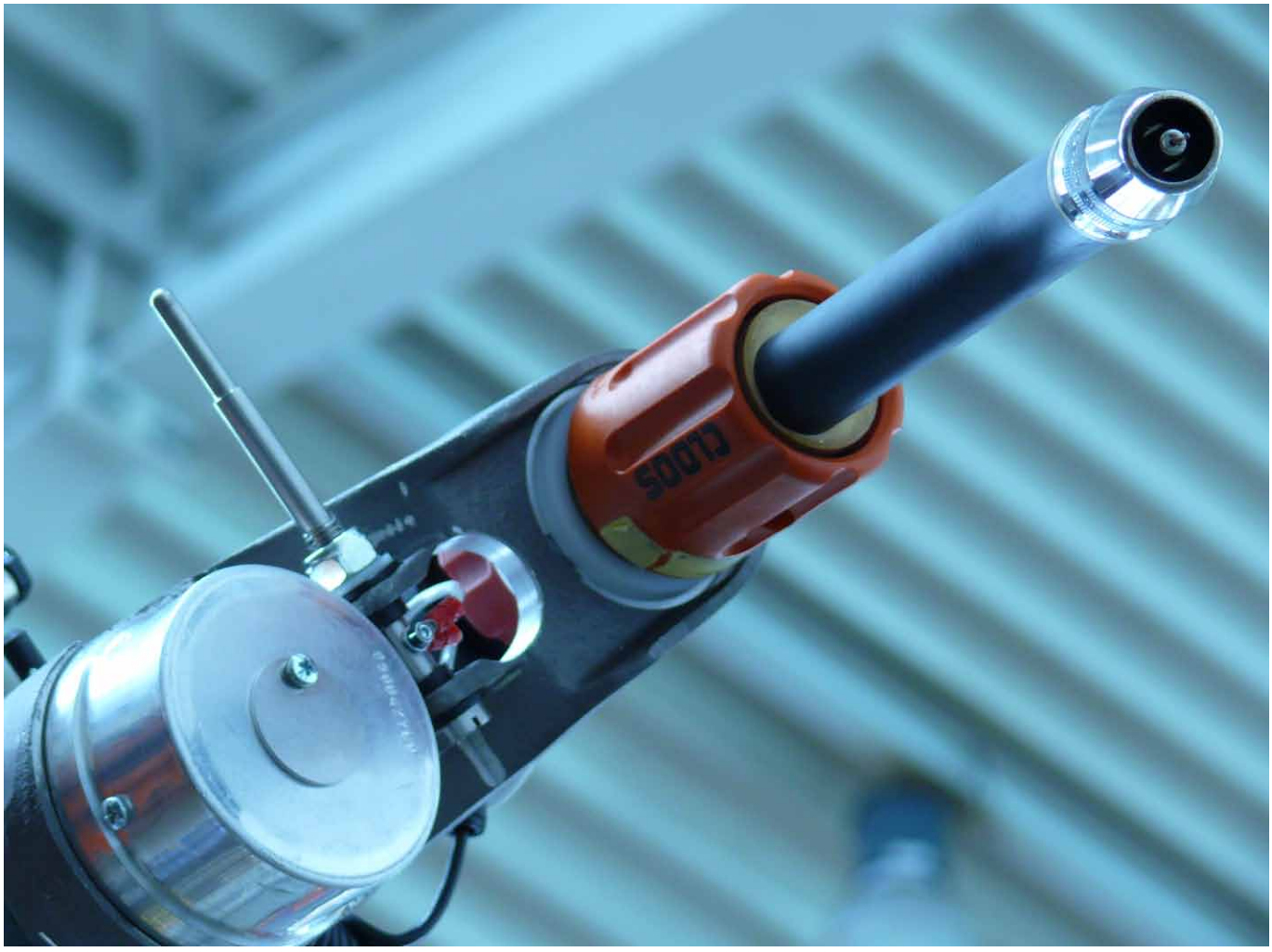
Technical data	CS-60-2,5kN	CS-60-5kN
Load per station	2.5 kN	5.0 kN
Peripheral equipment	C-frame	C-frame
Robot mounting	Overhead	Overhead
Positioner		
Suitable tool size	up to Ø 1600 mm	up to Ø 1600 mm

QIROX Sensor systems QR-SN

The main task of our sensor systems is to ensure quality control through precise welding procedures. The flexibility of your systems increases due to the control and compensation of tolerances between the programmed paths and the real workpieces.

CLOOS sensors which have been proven in the field are available for the most varied materials, weld forms and applications:

QR-SN-LS / QIROX® - Laser offline sensors
QR-SN-LT / QIROX® - Laser online sensors
QR-SN-ST / QIROX® - Arc sensors
QR-SN-TS / QIROX® - Tactile offline sensors
QR-SN-TT / QIROX® - Tactile online sensors


CLOOS

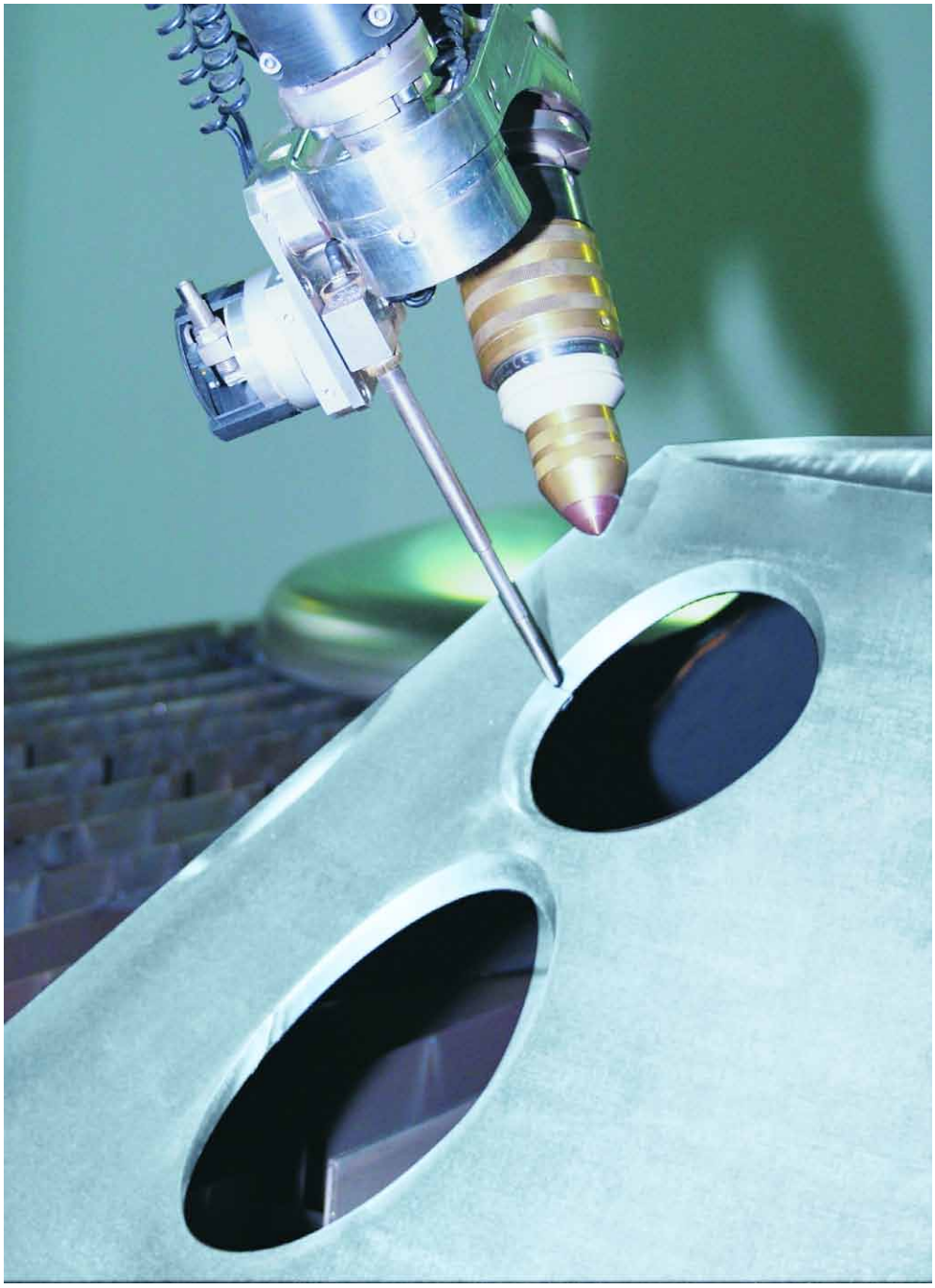
Tactile offline sensors QR-SN-TS

The CLOOS tactile sensor uses the torch gas nozzle, the welding wire or a separate tracer pin to determine the start and/or end of the weld seam and corrects the programmed welding path. In the case of a V seam, the CLOOS tactile sensor also measures the seam volume. Furthermore, the tactile sensor can be combined with the arc sensors. In the case of a V seam, the CLOOS tactile sensor measures the seam volume and calculates the seam volume. Weld parameters can be adapted to the seam volume change. The tactile sensor is normally used together with the arc sensors.

Technical features

- Direct integration into the user program
- No interference from attached parts (except when using a tracer pin)

Technical data	QR-SN-TS-W	QR-SN-TS-G	QR-SN-TS-P-F	QR-SN-TS-P-M
Mains connection	400V ~ / 0.2A	400V ~ / 0.2A	400V ~ / 0.2A	400V ~ / 0.2A
Measuring voltage	60 V & 700 V	60 V & 700 V	60 V & 700 V	60 V & 700 V
Dimensions (mm)	L:380 W:210 H:300	L:380 W:210 H:300	L:380 W:210 H:300	L:380 W:210 H:300
Weight	1200 grams	1200 grams	1200 grams	1200 grams
Detecting tool	Welding wire	Gas nozzle	Tracer pin fix	Tracer pin flexible
Tracking speed	approx. 30 cm/min	approx. 30 cm/min	approx. 30 cm/min	approx. 60cm/min



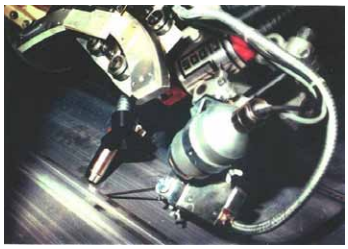
Tactile online sensors QR-SN-TT

The CLOOS analogue sensor is a tactile measuring system to be used with machines for automated welding. The sensor scans the joint of the workpiece and directly corrects the welding torch.

Technical features

- Memory function – data storage for welding of cover runs
- Online compensation of workpiece tolerances

Technical data	QR-SN-TT
Max. tracking speed	150 cm/min
Measuring distance	100 mm
Joint depth min.	2 mm
Mains connection	230 V
Measuring voltage	+/-10 V
Detecting tool	Tracer pin flexible




CLOOS

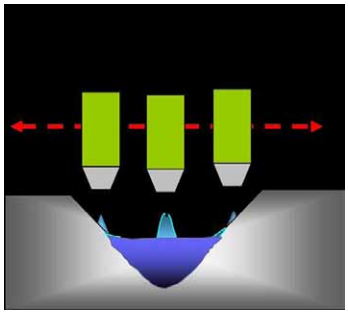
Arc sensor QR-SN-ST

The CLOOS arc sensor uses the arc to measure the joint position of the workpiece. As the arc sensor enables measurement and welding to be carried out simultaneously, the cycle times are not influenced. At the same time workpiece distortions – for example due to heat expansion – are directly compensated for. After the robot has welded the root seam, the correction data determined is saved and used for welding the cover runs. The final result is further improved when combined with the CLOOS gas nozzle or offline sensor. Due to the weld start determination by the gas nozzle sensor and the subsequent seam guide by the arc sensor an optimum result is reached when having big tolerances.

Technical features

- Adaptation of the correcting sensitivity
- Direct connection to the QIROX® robot controller
- No interference from attached parts - no restriction of accessibility
- Memory function – data storage for welding of cover runs
- Nearly constant cycle times

Technical data	QR-SN-ST
Mains connection	24V DC / 1A
Weld current range	50 - 500 A
Min. side height	5.0 mm
Max. welding speed	200 cm/min



Laser offline sensors QR-SN-LS

The offline laser sensors are non-contact optical measuring systems to position the robot and to determine the weld geometry. The laser sensor tracks the weld seam (offline) before starting the welding process. An optimum combination is to use the offline laser sensor for weld start determination and the arc sensor for seam tracking.

Technical features

- Fixture below or beside the collision sensor
- Short search intervals due to optimum sensor position
- Maximum flexibility: Largely irrespective of the material
- Memory function – data storage for welding of cover runs
- Programming and analysis possible using the QIROX® robot controller teach pendant
- Insensitive due to non-contact measuring procedure

Technical data	QR-SN-LS-S 100-40 C	QR-SN-LS-L 400-85 C	QR-SN-LS-L 400-85 C-M
Measuring distance	100 mm	400 mm	400 mm
Measuring range	+/- 40 mm	+/- 85 mm	+/- 85 mm
Resolution horizontal	50 µm	50 µm	50 µm
Resolution vertical	16 µm	110 µm	110 µm
Min. side height	1.0 mm	1.0 mm	1.0 mm
Gap width min.	1.0 mm	1.0 mm	1.0 mm
Max. tracking speed	300 cm/min	300 cm/min	300 cm/min
Dimensions (mm)	D:42 W:85 H:160	Diam.:100 H:43	Diam.:100 H:43
Laser protection class	2	3R	3R
Safety distance		6.5 m	6.5 m
Video camera	no	no	yes


CLOOS
DIGI-I/S
SERVO ROBOT
AVOID EXPOSURE

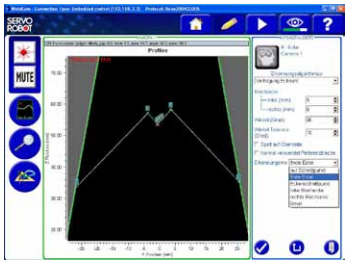
Laser online sensors QR-SN-LT

The operation of the CLOOS online laser sensor opens up completely new application areas for automated welding. The online laser sensor first moves to the programmed start position. The tracking section is then measured online during welding. These sensors are used in nearly any application ranges. During welding the weld geometry is measured and the welding parameters are adaptively adjusted.

Technical features

- Direct connection to the QIROX® robot controller
- For the most varied weld seam shapes
- Integrated quality control with interruption n the case of tolerance deviations
- Online compensation of workpiece tolerances
- Weld parameter selection in the case of weld geometry changes
- Tracking of weld start and weld end

Technical data	QR-SN-LT 140-50-140	QR-SN-LT 100-35-65	QR-SN-LT 110-60-90
Measuring distance	140 mm	100 mm	110 mm
Vertical field of view	140 mm	65 mm	90 mm
Horizontal field of view	50 (27-76) mm	35 (23-46) mm	60 (37-83) mm
Resolution horizontal	50 µm	35 µm	60 µm
Resolution vertical	90 µm	60 µm	150 µm
Min. side height	1.0 mm	1.0 mm	2.0 mm
Gap width min.	1.0 mm	1.0 mm	2.0 mm
Max. tracking speed	200 cm/min	200 cm/min	200 cm/min
Dimensions (mm)	L:33 B:58 H:158.9	L:35 B:60 H:172.4	L:35 B:60 H:172.4
Laser protection class	3B	3B	3B
Safety distance	1.5 m	2.0 m	1.7 m



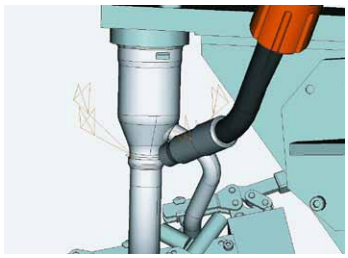
Laser tool measurement system QR-SN-LTM

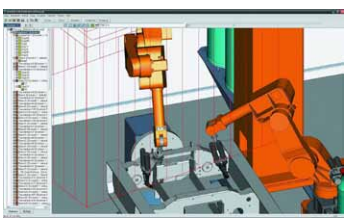
The robot repeatability is essential for the processing quality of a robot system. Even minimal differences between the actual and calculated central tool position can have an adverse effect on the processing quality. If an automatic test facility is integrated into the program run, this risk will be reduced. The robot checks the tool tip position in the tool measurement system which is mounted on the robot base and measures the tool tip by means of a light barrier.

Technical features

- Integrated auxiliary equipment enables cause of fault to be quickly recognised and removed
- Program reproducibility is maintained
- Quality assurance
- Production of faulty workpieces is almost completely prevented
- No interruption of the production due to the measurement process

Technical data	Tool Controller CTMS incl. robot software
Fork opening	50 mm
Mains connection	10 - 35V DC / <30mA
Output	1 x pnp
Load current	200 mA, short circuit protection
smallest part to be detected	Ø 0.5 mm
Operating temperature	-10°C - 60°C
Max. tracking speed	50 cm/min
Type of protection	IP 64
Laser protection class	2





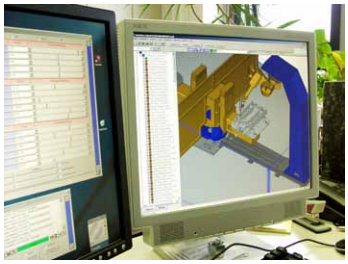
RoboPlan professional

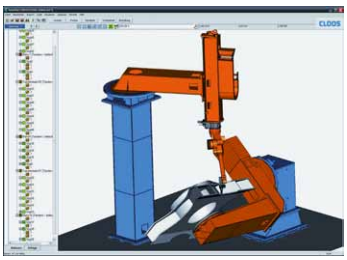
QIROX RoboPlan QRP professional
Roboplan QRP professional is the maximum configuration level of the modular Cloos Offline programming software. Due to the application of various software modules you can perfectly match the system to your requirements. Thus you reach the highest programming efficiency.

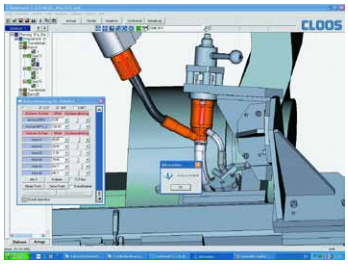
QIROX RoboPlan QR XRoI:
Roboplan QR XRoI is the first step into the world of offline programming. It offers an intuitive user interface and an excellent price/performance ratio.
For simple standard robot systems XRoI is the optimum solution for cost-efficient programming with a low after-teach expenditure. Roboplan QR XRoI cannot be extended with the Roboplan QRP modules, however, the upgrade to Roboplan QRP professional is always possible.

Technical features

- Program reload
- Program upload
- Transfer path generation
- Weld path generation
- Search in pipe interior
- RoboMod
- Renumber points
- Collision testing
- Excel conversion
- Fade-out of component collision
- Save views as picture
- AVI Video generation







CLOOS

Weld your way.

Carl Cloos Schweißtechnik GmbH
Industriestraße
D-35708 Haiger

Telefon +49 (0)2773 85-0
Telefax +49 (0)2773 85-275
E-Mail info@cloos.de
www.cloos.de