



QIROX Micro Cells

The customised "Ready to weld" solution for automated small part welding

CLOOS

Weld your way.

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QIROX Micro Cells

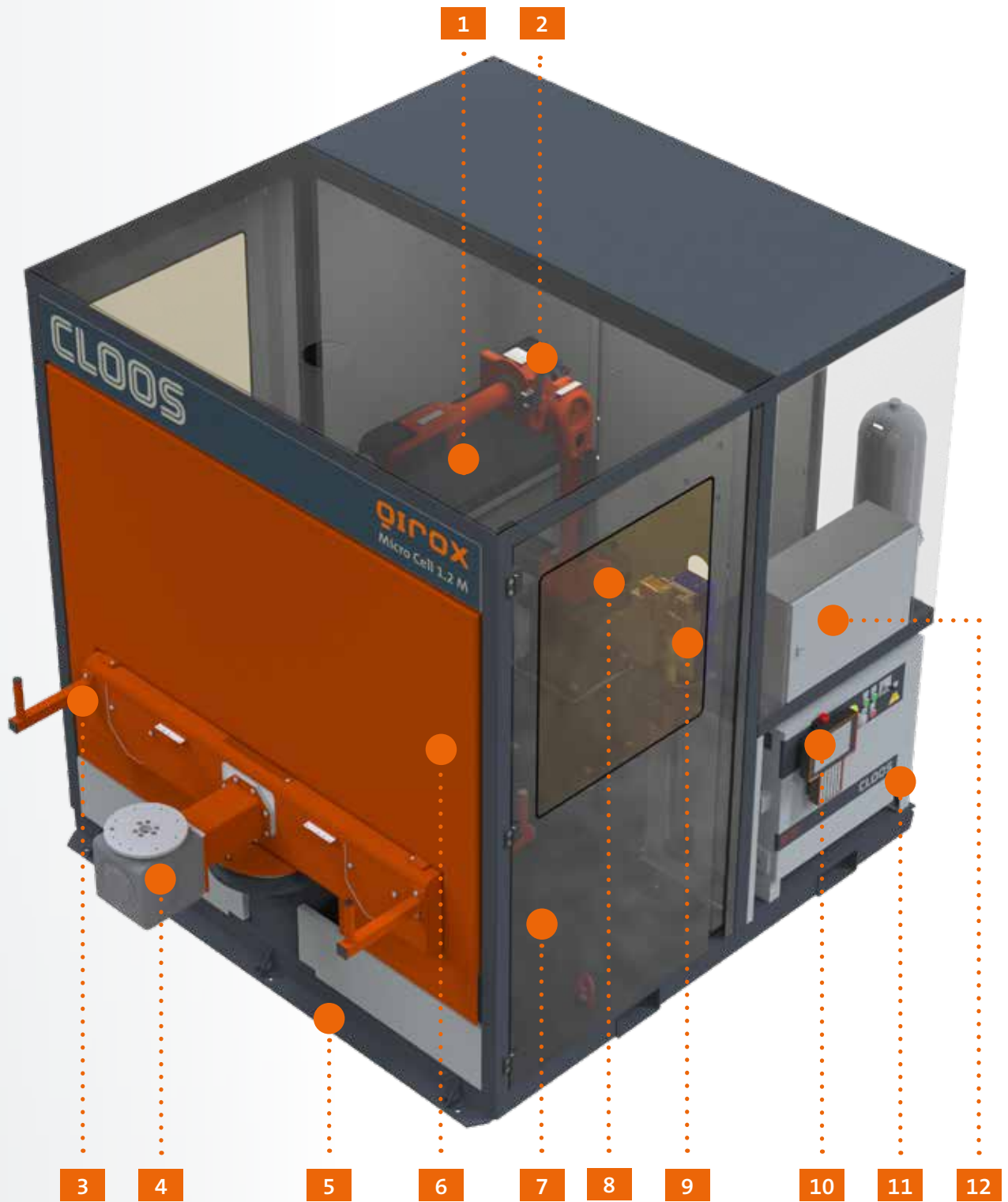
"Ready to weld" entry solution for automated small part welding

You wish to automatically weld even small workpieces at economical conditions and with excellent quality? The QIROX Micro Cells offer an optimal entry into the automated welding technology. The turnkey "Ready to weld" Micro Cells do not require much space. They can be integrated easily, quickly and flexibly into your production. From the welding robot to the controller and power source to the safety technology – You benefit from a customised unit with perfectly matched components from a single source. With the wide range of options, you can adapt the Micro Cells particularly to their individual requirements. Achieve excellent welding results at maximum efficiency!

- **Optimum entry into automated welding technology:**
Maximum ROI and minimum risk
- **"Ready to weld" solution:**
Easy commissioning for a quick production start
- **Space-saving design with little floor space:**
Easy integration into the production environment
- **Wide range of options:**
Flexible adaptation to individual requirements
- **Single source supply:**
Perfectly matched components

Basic equipment of a Micro Cell

- 1 QINEO StarT 402 Premium welding power source
- 2 QIROX QRC-210/290 six-axis articulated arm robot
- 3 Manual rotary table
- 4 Freely programmable turning axis (option)
- 5 Load carrying frame
- 6 Safety housing
- 7 Service door
- 8 Wire drive unit
- 9 Welding torch cleaning
- 10 Teach pendant
- 11 QC2 Micro robot controller
- 12 Safety controller



Modular design

Modular design creates a multitude of possibilities

The QIROX Micro Cells have a modular design. The modular system consists of two basic cells equipped with QIROX welding robots of different working envelopes. The Micro Cells QR-MC-1.1S and QR-MC-1.2S are equipped with a QIROX welding robot QRC-210-4 with a range of 1,000 mm. The Micro Cells QR-MC-1.1M and QR-MC-1.2M are equipped with a QIROX welding robot QRC-290-4 with a range of 1,450 mm. Two turning positioners are available for each of these two basic types. The station change is made by hand. The rotary positioners of the QR-MC-1.1S and QR-MC-1.1M are used with one clamping plate per station. The QR-MC-1.2S and QR-MC-1.2M have a turning positioner that is equipped with a freely programmable rotary positioner per station. The base frame of the turning positioner allows the rotary positioner to be mounted in three positions. This results in many variants with which you can individually adapt the Micro Cell to your tasks. A later conversion and additions are easily and quickly possible.



QIROX
Micro Cell QR-MC-1.1S

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Micro Cell QR-MC-1.2S

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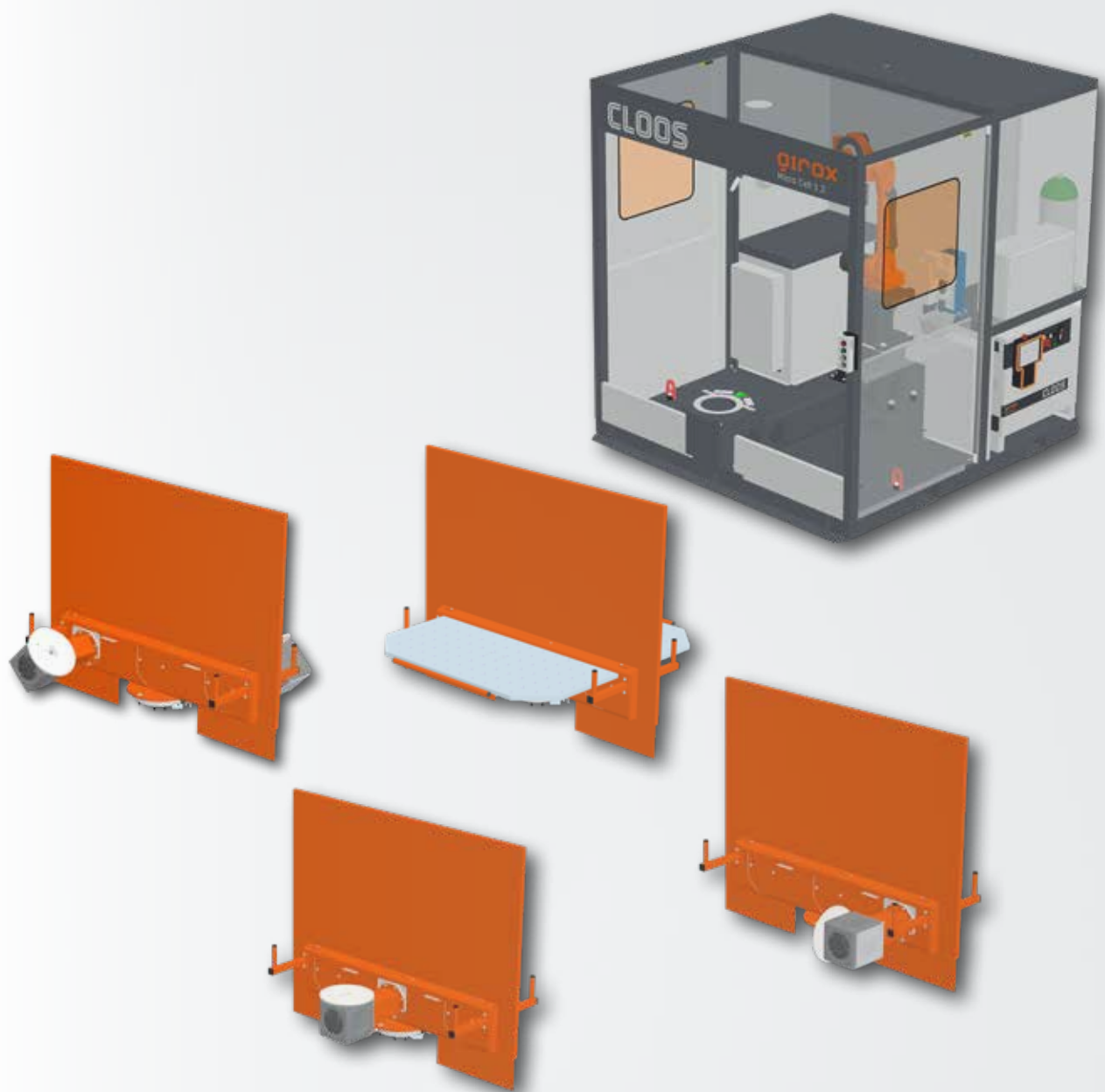
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Micro Cell QR-MC-1.1M

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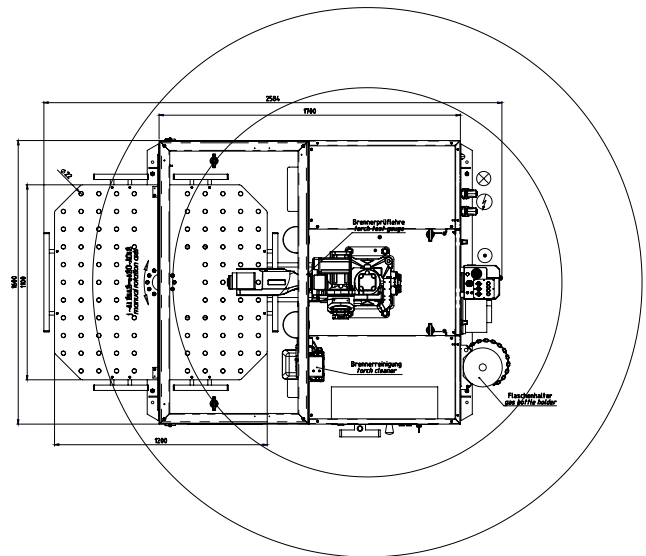
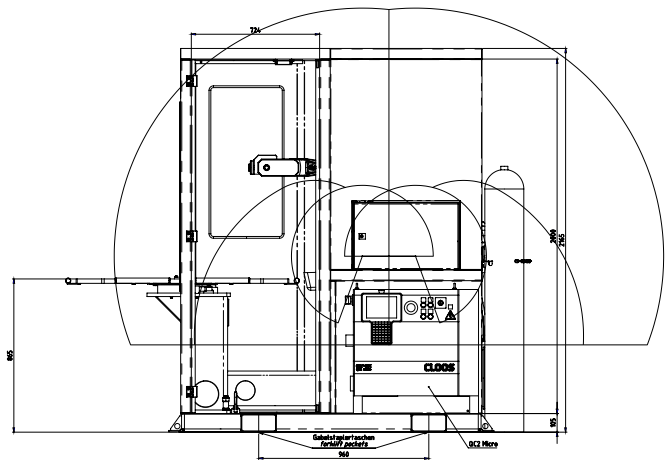


Micro Cell QR- MC-1.1S

QIROX Micro Cell QR-MC-1.1S

for welding very small parts

- QRC-210-4 welding robot with a range of 1,000 mm
- A clamping plate per station with the dimensions: 1,100 x 500 mm



Technical data

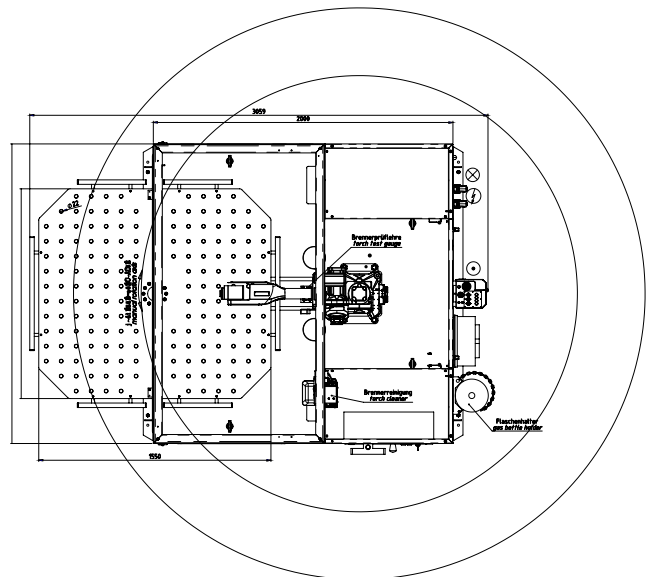
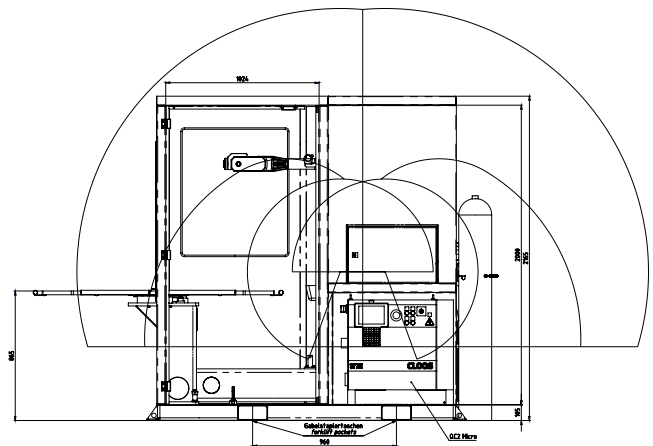
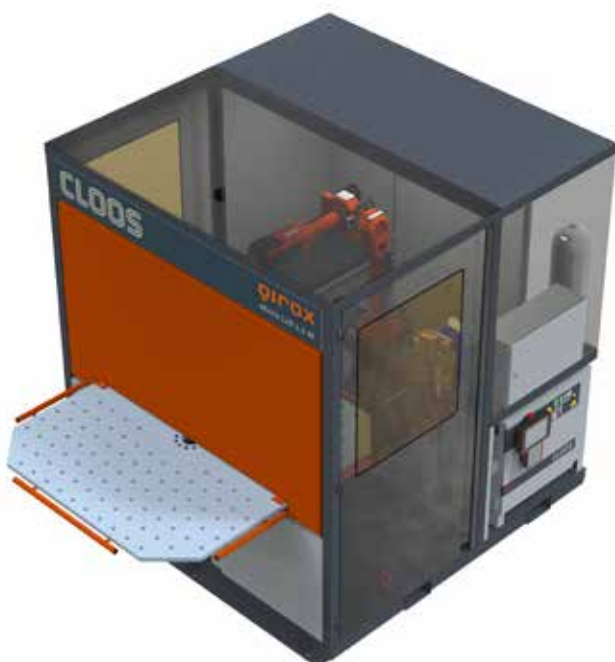
Component weight per station	125 kg
System size [LxWxH]	2600 x 1600 x 2165 mm
Cell weight	max. 1300 kg

Micro Cell QR-MC-1.1M

QIROX Micro Cell QR-MC-1.1M

for welding small parts

- QRC-290-4 welding robot with a range of 1,450 mm
- A clamping plate per station with the dimensions: 1,400 x 700 mm



Technical data

Component weight per station	125 kg
System size [LxWxH]	3050 x 2000 x 2165 mm
Cell weight	max. 1500 kg

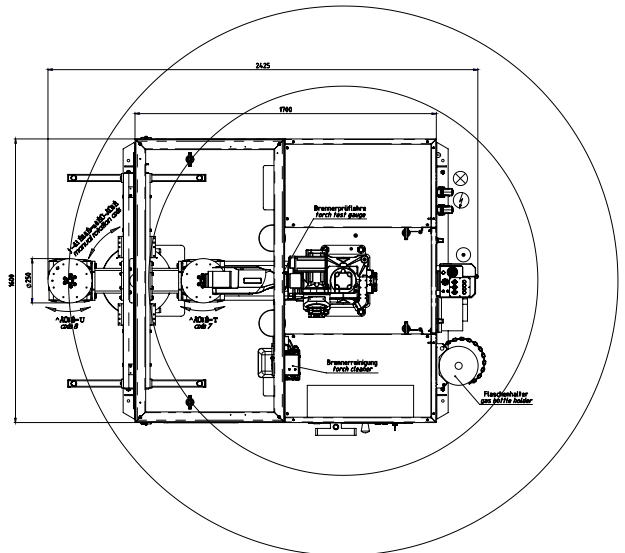
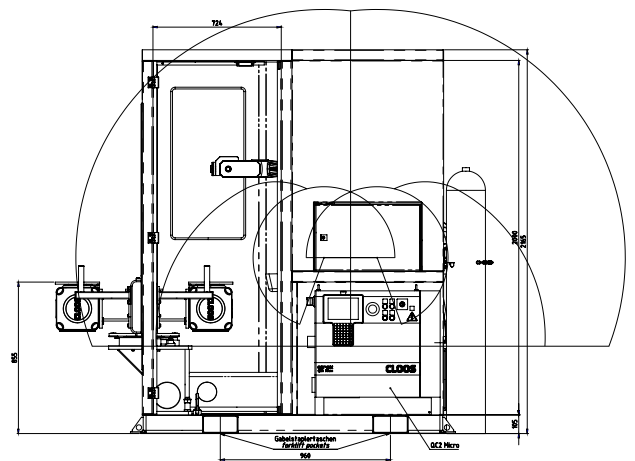
Micro Cell

QR-MC-1.2S

QIROX Micro Cell QR-MC-1.2S

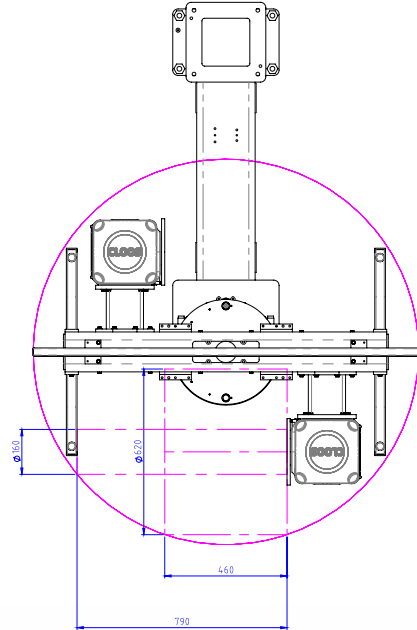
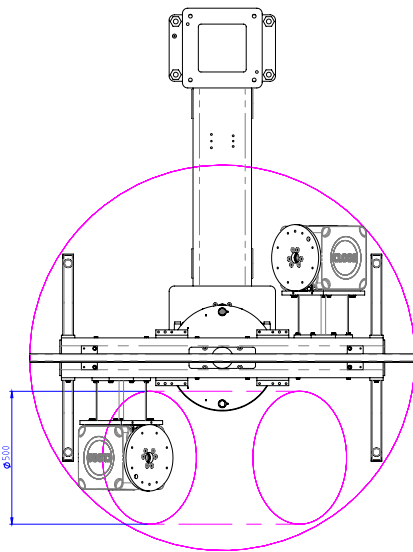
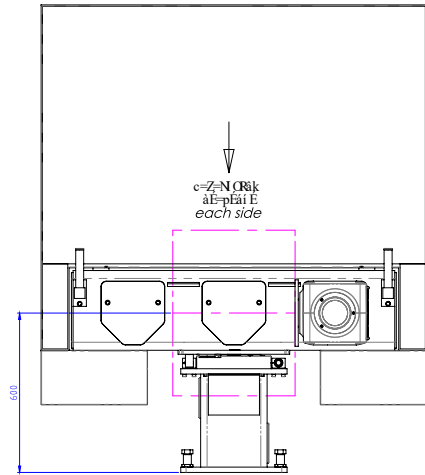
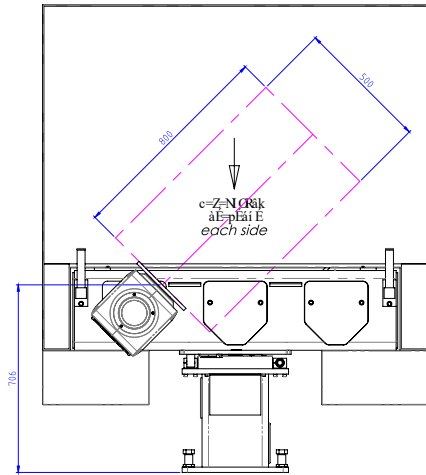
for welding very small parts with contours

- QRC-210-4 welding robot with a range of 1,000 mm
- One rotary positioner per station with a turning radius of 500 mm



Technical data

Component weight per station	125 kg
System size [LxWxH]	2600 x 1600 x 2165 mm
Cell weight	max. 1400 kg



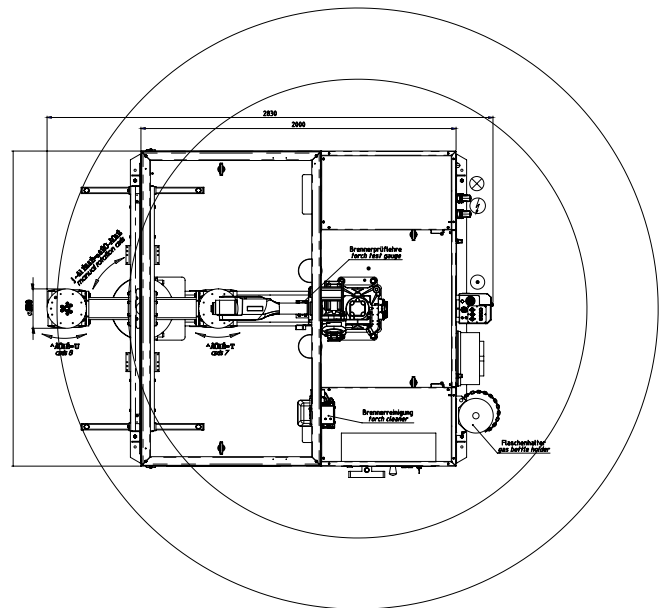
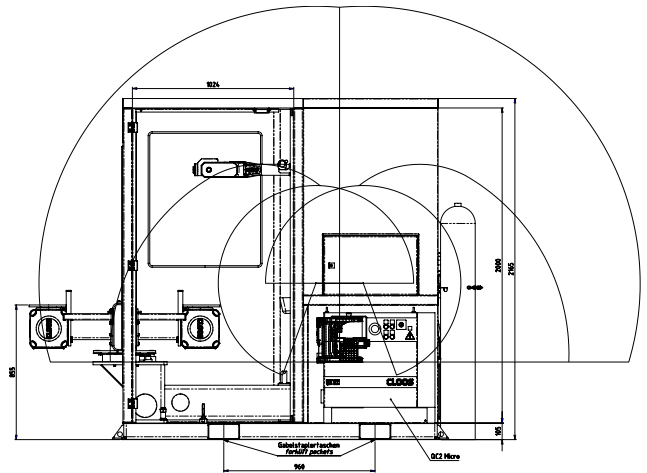
Micro Cell

QR-MC-1.2M

QIROX Micro Cell QR-MC-1.2M

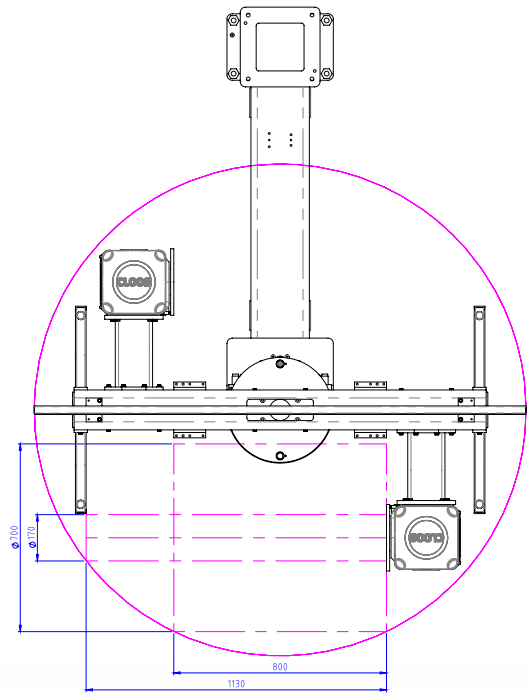
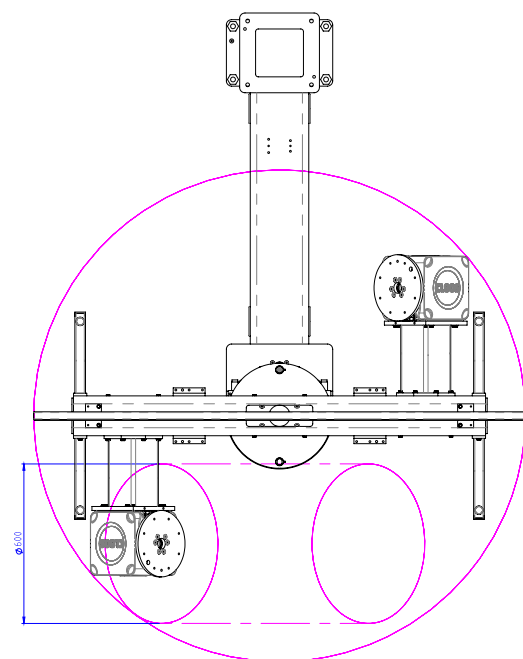
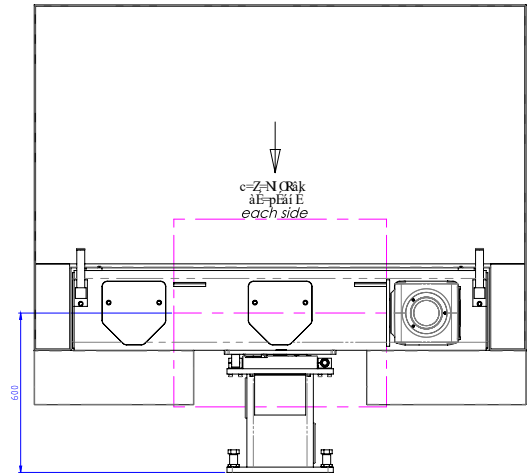
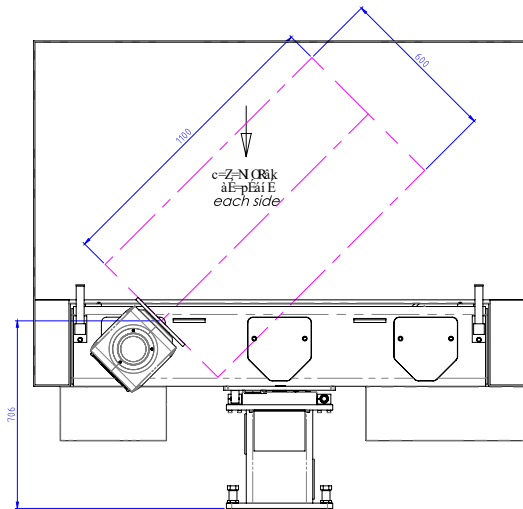
for welding small parts with contours

- QRC-290-4 welding robot with a range of 1,450 mm
- One rotary positioner per station with a turning radius of 700 mm



Technical data

Component weight per station	125 kg
System size [LxWxH]	4600 x 2400 x 2500 mm
Cell weight	max. 1600 kg

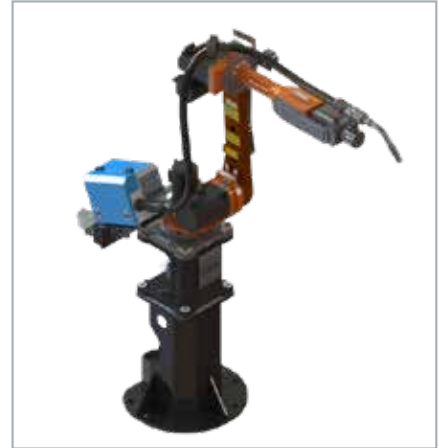


Components

QIROX welding robot QRC-210 or 290

6-axis articulated arm robot with classic wrist

- Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
- Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
- Speed: High axis speeds for reduced cycle times
- Floor space: Very low space needed at a large range
- Quality: Repeatability, long service life and maintenance intervals



QIROX Controllers

Central core of the compact cell

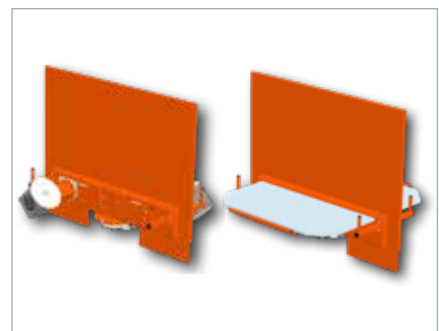
- Digital drive system with high end distributed computing power
- Modular design due to the use of standard components
- Programming unit with touch-sensitive operating surface
- Software particularly adapted to welding technology
- Simultaneous control of all internal and external axes



QIROX 2-station positioner

Always in perfect position

- Robust: Manual position change
- Efficient: Worker and robot work parallel
- Flexible: Variable mounting possibilities of the rotary positioner
- User-friendly: Hole matrix in clamping plate simplifies the mounting of the clamping device



Welding power source QINEO StarT 402 Premium

Simply welding

- Efficient: Excellent price-performance ratio
- Flexible: 4 welding processes in one machine
- Robust: High-quality components and robust design
- User-friendly: Direct control from the QIROX Controller QC2 Micro via interface
- Complete: Extensive welding equipment package for a welding current of up to 400 ampere



Wire feed distance

Safe wire feed for perfect welding results

- Powerful 4 roller drive
- Slip- and abrasion-free wire feed
- Maintenance-friendly.



Welding torch with anti-collision sensor

Powerful welding torch for robot application

- Liquid cooled
- Very high capacity class 400 A at 100% duty cycle
- Robust and compact design



Torch cleaning unit

Automated removal of weld spatters

- Guaranteed constant weld quality
- Productivity of the robot system is increased by reduction of the down-times



Safety technology

Standard safety devices for a safe handling of the cells

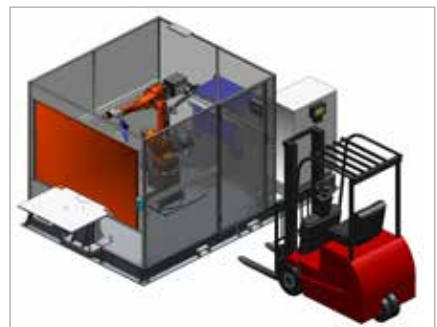
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- DIN EN ISO 10218-2
- DIN EN ISO 13850:



Load carrying frame

Integrated forklift pockets allow a fast commissioning

- Easy change of the location
- PLUG & WELD

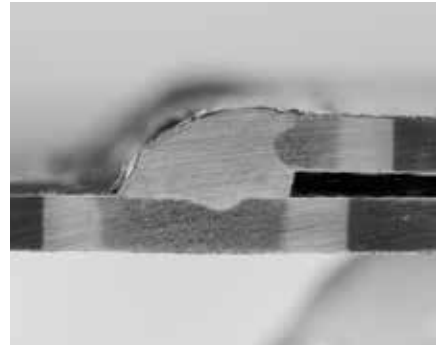


Options

Fine Weld with QINEO StarT 406 Premium

Fine Weld is an energy-reduced, current-controlled MSG short arc process for mixed gas and CO2 welding. Due to the minimised spatter formation, Fine Weld is suitable particularly for thin, coated plates and fine visible weld seams. The stable arc is characterised by an optimum gap-bridging ability and can be mastered excellently in all welding positions.

- **Minimised spatter formation**
- **Controllable heat input**
- **Reduced workpiece distortion**
- **Optimum gap bridging ability**
- **Stable, quiet, well controllable arc**



Additional digital inputs/outputs expand the contacts to the outside world

The digital inputs and outputs allow the signal exchange between robot controller and functions in the surrounding area. For example, you can query whether all components are inserted in the fixture or you can directly approach the tool clamps. Just combine the external function with the robot movements in the user program.

- **Combination of the robot movements with external functions: Extend the variety of the robot system**
- **Higher degree of automation: Increase of efficiency and flexibility**



Find the exact start and/or end position

In practice, there are deviations to the programmed points because of workpiece tolerances. To enable these deviations to be quickly and accurately compensated for, the tactile gas nozzle sensor checks the start and/or end positions and corrects the programmed welding path correspondingly to the measured deviation.

- **Recognition of workpiece tolerances: Considerable improvement of the weld quality**
- **Direct integration into the user program: Quick and easy programming**
- **The compact design allows mounting at the robot mechanics.**



Efficiency ...

Rapid Weld

High-capacity MIG/MAG spray arc for efficient welding

Control Weld

Reliable MIG/MAG welding process for thin and thick materials

Vari Weld

MIG/MAG pulsed arc for optimum welding results even under demanding conditions

Root Weld

Energy-reduced, controlled MIG/MAG short arc for special requirements when root welding or thin plate welding

... due to modern processes

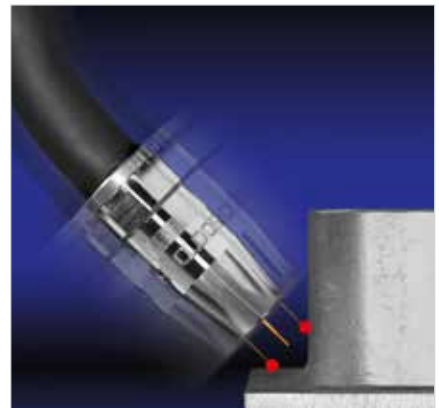


Options

Arc sensor: Welding and Measuring

Loss of time is minimised because measuring and welding take place simultaneously with the arc sensor. At the same time, workpiece distortion – e.g. due to thermal expansion – is directly compensated for. The CLOOS arc sensor thus combines productivity with optimised quality. Attached parts are not necessary.

- Correction of the torch position during welding for compensation of material tolerances.
- Direct integration into the user program: Quick and easy programming
- No interference from attached parts



Rotary positioner

- Welding of circular seams, for example: Expansion of the robot applications
- Optimum weld position: Improve the welding results
- Interpolation between the movements of the robot axes with the external axes: Simple and fast programming



Trainings

- Robot programming - Basic Course
 - Users who have to edit, correct and maintain the robot programs
 - Robot programmers
- Robot programming - Advanced Course
 - Conditions: Completion of Robot programming Basic Course



With CLOOS you weld and cut ...



... all types of metal!



... all material thicknesses
from 0.5 to 300 mm!



... with innovative processes!



... manually or automated,
just as you need it!



... efficiently and individually!



... and profit from many
additional services!



... in all industries!



... all over the world!



... to your utter satisfaction!



... and benefit from more
than 100 years of welding
experience!

... Single source supply!



All over the world!



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