



QIROX Entry Package

Easy entry to automated welding technology

CLOOS

Weld your way.

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QIROX Entry Package

Entry package for automated welding

With the QIROX Entry Package, CLOOS offers you a basic solution for the quick and easy entry to automated welding technology. The package includes all important components, a 6-axis articulated arm robot with a load of 4 kgs and the complete welding equipment with gas-cooled welding torch. The QIROX QC2 Micro robot controller was particularly developed to control the components. The QOS QIROX Operating System offers you all important functions for a quick and efficient programming. The QINEO QinTron welding power source is part of the standard package and provides four welding processes. Enter the requested welding current and the setting of all other parameters is made automatically via the synergy characteristic curves. So you get professional welds from the very beginning. A multitude of options allows you expanding the entry package to meet your requirements. Create your individual package to fulfil your welding tasks efficiently.

1. **Cheap entry to automated welding technology:** Maximum ROI and minimum risk
2. **Easy commissioning:** Quick production start
3. **Low space:** Compact design saves production area
4. **Four welding processes:** Excellent welding results from the very beginning
5. **Single source supply:** Perfectly matched components without interface difficulties



QIROX QRC-290 Robot: The entry model

QIROX QRC-290

The QIROX QRC-290 is a 6-axis articulated arm robot. It is mounted on a base in upright position. The robot has a classic wrist where gas-cooled welding torches with a weight of up to 4 kg can be mounted.

Overview of the characteristics

1. **Flexibility:** Perfectly adapted to individual production requirements
2. **Dynamics:** Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
3. **Speed:** High axis speeds for reduced cycle times
4. **Floor space:** Very low space needed at a large range
5. **Quality:** Repeatability, long service life and maintenance intervals

Technical data

Swivelling range	
- Axis 1	+180 ° / -180 °
- Axis 2	+160 ° / -90 °
- Axis 3	+80 ° / -200 °
- Axis 4	+190 ° / -190 °
- Axis 5	+140 ° / -140 °
- Axis 6	+360 ° / -360 °
Swivelling speed	
- Axis 1	230 °/sec
- Axis 2	230 °/sec
- Axis 3	230 °/sec
- Axis 4	430 °/sec
- Axis 5	430 °/sec
- Axis 6	630 °/sec
Working area	Ø 3800 mm
Operating range Axis 5 +90°	Ø 2900 mm
Operating range height	2251mm
Pay load	4.00 kg
Repeatability	$\Delta \leq s \pm 0.15 \text{ mm}$
Collision radius	Ø 550 mm
Floor space	285 mm x 285 mm
Weight	140 kg



QIROX QC2 Micro

QIROX Controller QC2 Micro

The QIROX Controller QC2 Micro is particularly designed to meet the requirements of welding technology within the entry package. Our development of the QC2 Micro was particularly focused on a compact design and a low weight. The components are clearly arranged in a robust system cabinet where they are protected from dirt and are easily accessible thus contributing to a high reliability and a low maintenance expenditure. The QC2 Micro can control a maximum of eight robot axes. The integrated industrial PC is the heart of the controller where the QIROX Operating System QOS is installed. This is a CLOOS standard operating system which is used in all CLOOS robot controllers. So you have a wide range of software functions at your disposal which are easy to be programmed and equipped with many details for automated welding. The intuitive programming takes you to your goal quickly.

Overview of your benefits

1. **High end distributed computing power:** Dynamic movement and a high path accuracy of the robot
2. **Absolute reliability:** Clear dirt-protected arrangement of all components in the robust system cabinet
3. **Intuitive programming:** Thus you quickly reach your goal
4. **Space-saving:** Compact design and low weight
5. **Flexible use:** Easy transport with overhead crane, pallet or forklift truck

Technical data

QIROX QC2 Micro

Temperature:	0° - 45°
Type of protection:	IP 54
Internal axes:	6
External axes:	2
Field bus	
LAN	2x
RS232C:	2x
Digital & analogue I/O	
Connection capacity:	up to 12 kVa
Humidity:	EN 60204-1/4.4.4
L/W/H:	706 mm x 700 mm x 440 mm
Weight:	100 kg



QINEO StarT 402 Premium

QINEO StarT 402 Premium

Simply weld better with the QINEO StarT: The welding power source offers you an easy entry into the world of automated welding. Use the advantages of the four available CLOOS welding processes in addition to the standard processes. This allows you to start welding immediately – without a long parameter search. Benefit from numerous optional components and functions. This makes the QINEO StarT your individual power source – exactly as you need it for your automated welding tasks.

Overview of your benefits

1. High-quality components with optimum price/performance ratio and excellent welding characteristics
2. Simple, quick and intuitive operation with the MasterPlus Compact operating module
3. Faster to the target with the preset four CLOOS welding processes
4. Prepared for many commonly used standard interfaces
5. Modular design and extensive accessories for flexible application possibilities adapted to individual requirements

Technical data

QINEO StarT 402 Premium

Welding current	20 A / 15 V - 400 A / 34 V
Welding current at 60 % duty cycle	
Welding current at 100 % duty cycle	400 A
Open circuit voltage	78.7 V at 3 x 400 V
Mains voltage	380 V - 400 V 3 phases
Connection cable	4 x 6 mm ²
Mains fuse / 400V slow-acting	32 A
Protection class	IP 23
Insulation class	F
Cooling type	F
Dimensions L/W/H	720 x 340 x 500 mm

Wire drive unit QINEO QWD-R1 Master

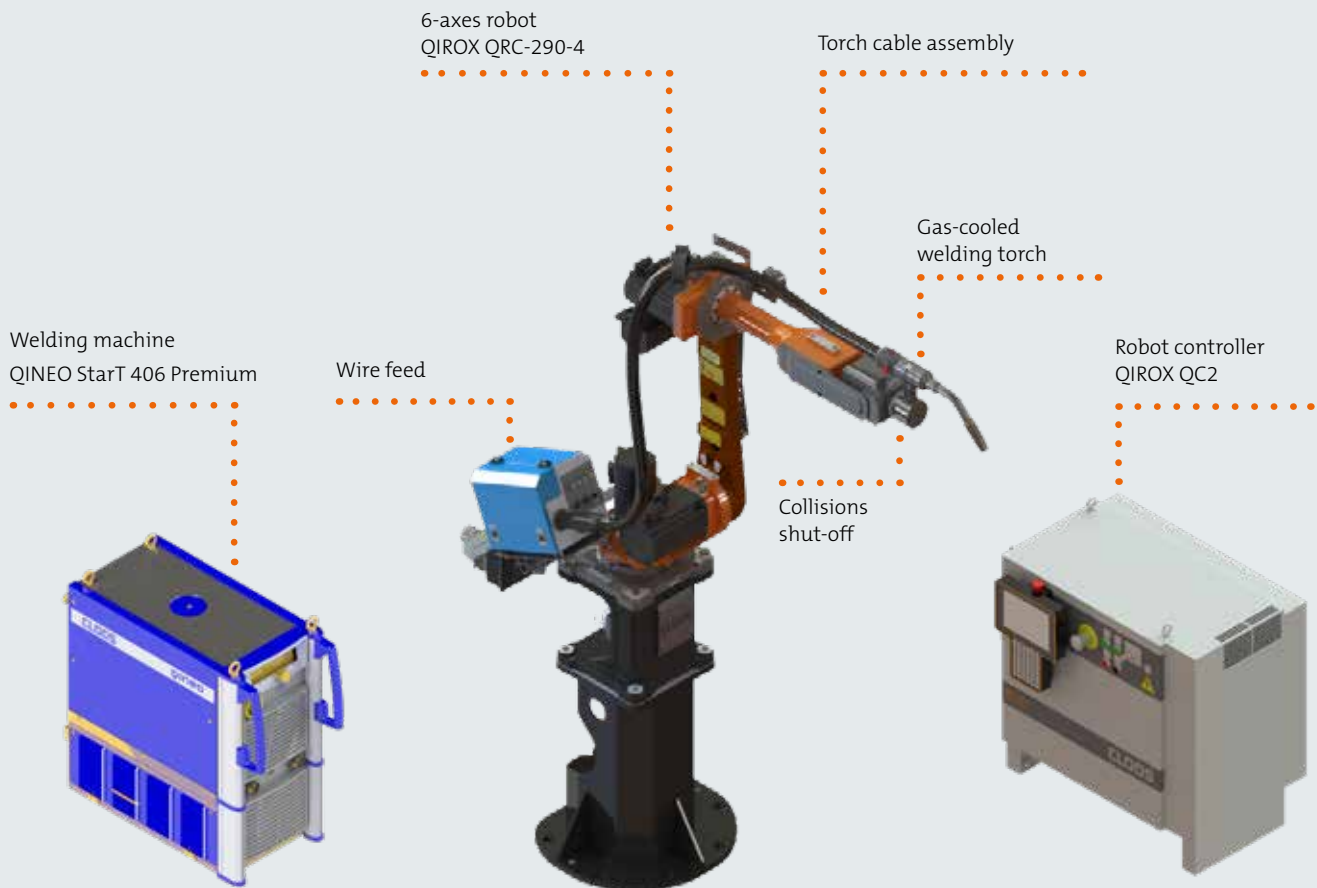
Wire feed speed	max. 30 m / min
Dimensions L/W/H	342 x 203 x 215 mm
Weight	6.0 kg
Wire diameter	0.8 to 1.6 mm



QIROX Entry Package

The QIROX Entry Package - Everything for automated welding

The standard package includes all components being necessary for automated welding, matched to each other and easy to mount. Everything for an easy start into the world of automated welding.



Note: The entry package is supplied without the safety technology which is necessary for operation. The company being responsible for commissioning takes care that the robot system is used according to the customary local safety regulations. The QIROX QC2 Micro robot controller is prepared for the connection of an external emergency-stop circuit.

Capacity increase QINEO StarT welding machine to 500 ampere

Increase the capacity range of the QINEO QinTron by 100 ampere to a maximum welding current of 500 ampere. So you also weld thick workpieces.

- Larger welding range: Wider workpiece range
- Maximum welding current of 500 ampere: Reduce the cycle time by means of a higher welding speed



16 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



Extension of the connection cables

Depending on the layout of the robot system you need cable lengths which are longer than the standard. In this case we offer extension options for the following cables:

- Robot connection cable
- Connection cable for the drive units of the external axes
- Connection cable of the teach pendant (PHG)

Options

Entry Package

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
- No interference from attached parts: Perfect accessibility



Extension of the robot axes by one or two external axes

You can choose whether you wish to extend the robot by one or two additional rotary axes. We supply the drive units with capacities of 1.25 kN, 2.5 kN, 5.0 kN and 10 kN. The suitable faceplate and the necessary welding current transmission can be delivered on demand. The external axes can be programmed like the robot axes and are integrated in the movement control.

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



Expand the application range of the QIROX Entry Package by using external axes.

Bring the component into the perfect position for welding and improve the weld quality considerably. You can weld workpieces with circular seams and contours without any problem. You program the external axes like the robot axes. The synchronisation of the robot movements with the movements of the external axes is made automatically in the QIROX Controller. Here we show you three possibilities how to use the external axes.



Example 1: QRC-290 with rotary positioner with faceplate in vertical position



Example 2: QRC-290 with rotary positioner with faceplate in horizontal position



Example 3: QRC-290 with a combination of two rotary positioners to an L-shaped positioner



Rotary positioner with faceplate in vertical position



Rotary positioner with faceplate in horizontal position



Combination of two rotary positioners to an L-shaped positioner

Efficiency ...



Control Weld

Reliable MIG/MAG welding process for thin and thick materials



Speed Weld

Stable MIG/MAG pulsed arc for numerous applications



Vari Weld

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



Rapid Weld

High-capacity MIG/MAG spray arc for efficient welding



Cold Weld

Heat-reduced MIG/MAG AC pulsed arc for optimum results when welding sensitive materials



MoTion Weld

MIG/MAG arc with reversing wire drive unit



Tandem Weld

Combination of two synchronised MIG/MAG arcs for double capacity



WIG welding

Reliable process for clean and precise welding



Laser Hybrid Weld

Combination of laser welding and MIG/MAG arc for maximum efficiency and quality

... due to modern
processes

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 addition-
al services!



... in all industries!



... all over the world!



... to your utter satisfaction!



... for more than 100 years!

... all from a single source!



All over the world!



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