



QIROX QRC-300 Robot

Robot mechanics of the WM series:
Agile and highly dynamic for short cycle times

CLOOS

Weld your way.

www.cloos.de

QIROX Robot: International top class

The robot is the central element in the QIROX solution package. You benefit in particular from the modular design of the entire mechanics. All components of the robot, from the robot base to the wrist, are perfectly matched to each other. By using different component groups, you get a customised welding robot for every production requirement. With our four robot series for different applications, optimal solutions can be realised for the most diverse welding processes and production environments. Depending on your requirements, you can choose between a robot with a classic or a hollow shaft wrist. The robot is supplemented by a variety of different positioners. These expand the working area of the robot and bring the workpieces into an optimal processing position.

- **Flexibility:** Modular design for tailor-made systems, perfectly adapted to individual production requirements
- **Quality:** Repeatability, long service life and maintenance intervals
- **Service:** Global dense service network and high availability of consumables and spare parts

The compact solution: Agile and highly dynamic for short cycle times

The models of the **WM series** are designed for standard welding processes. They are characterised by a compact design and act highly dynamically. Therefore, they are ideally suited for use in our compact cells and systems.

- Highly dynamic, agile and efficient
- Small floor space due to compact design



QIROX QRC-300 Robot

Welding equipment



QIROX QRC-300 of the WM series with classic wrist

The welding specialist

The QIROX QRC-300 is a six-axis articulated arm robot. The robot is used in upright or overhead position and is mounted on a base or directly at a robot positioner. The QIROX QRC-300 robot has a classic wrist where welding torches and other working tools with a weight of up to 8 kg can be mounted.

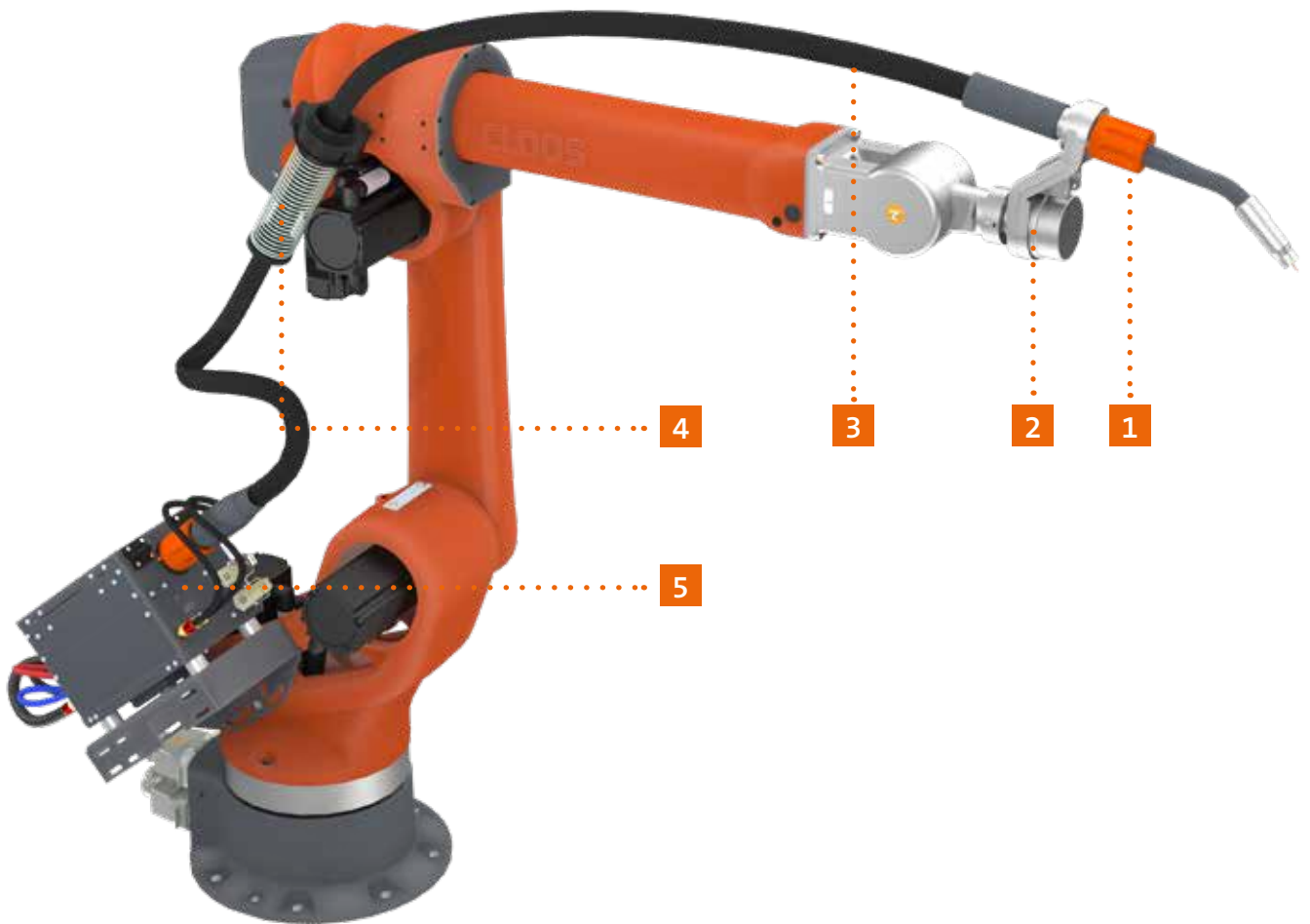
- **Compact solution:** Agile and highly dynamic for compact cells and systems
- **Processes:** Takes over all MIG/MAG and TIG welding processes, optionally leads a laser sensor
- **Flexibility:** Modular design for tailor-made systems, perfectly adapted to individual production requirements
- **Dynamics:** High dynamics due to slim product design, low weight and ergonomic shapes
- **Quality:** Repeatability, long service life and maintenance intervals

Technical data

	QRC-300
Swivelling range	
- Axis 1	-170 ° / +170 °
- Axis 2	-90 ° / +125 °
- Axis 3	-220 ° / +70 °
- Axis 4	-170 ° / +170 °
- Axis 5	-135 ° / -135 °
- Axis 6	-300 ° / +300 °
Swivelling speed	
- Axis 1	200 °/sec
- Axis 2	200 °/sec
- Axis 3	230 °/sec
- Axis 4	490 °/sec
- Axis 5	540 °/sec
- Axis 6	520 °/sec
Working area	Ø 3000 mm
Pay load	8.00 kg
Repeatability	+/- 0.1 mm
Floor space	400 x 400 mm
Weight	110 kg

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Welding equipment



1 Robot welding torch QN-MRW-380

2 Mounting flange with integrated anti-collision sensor

3 Torch cable assembly

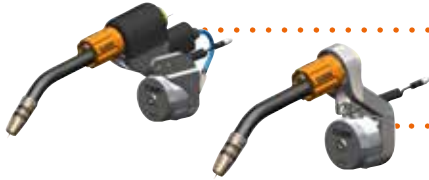
4 Flexible hose guide

5 QWD-AR wire drive unit



■ MIG/MAG DuoDrive Standard

Single wire



Tandem



■ TIG



■ Sensors



QIROX QRC-300 Robot

Welding equipment

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



Sensors

Quality assurance through precise welding processes

- Considerably improved weld quality
- Reduction of manual effort
- Minimum rework



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

Fine Weld

Extremely low spatter MIG/MAG short arc for mixed gas and CO₂ welding

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

TIG welding

Reliable process for clean and precise welding

... due to modern
processes

Control centre of the QIROX robot systems

The QIROX Controller is specially designed for the requirements of robot technology. A digital drive system with high end distributed computing power ensures dynamic movement and a high path accuracy of the robot during welding. All processes are controlled by an industrial PC with the capacity to simultaneously control seven internal robot axes and numerous external peripheral axes. The components are clearly arranged in a robust system cabinet where they are protected from dirt and easily accessible. This contributes overall to a high reliability and a low maintenance expenditure.

- ▣ **High end distributed computing power:** Dynamic movement and a high path accuracy of the robot
- ▣ **Absolute reliability:** Clear dirt-protected arrangement and easy change of all components in the robust system cabinet
- ▣ **Numerous extra functions:** Many optional combinations with the RoboPlan offline programming software and CarolaEdi, Remote Service Manager (RSM), Process Data Manager (PDM) and User Management (UMS) by CLOOS



QIROX Controllers

- ▣ QIROX Controller **Master** Robot controller in basic design
- ▣ QIROX Controller **Advanced** Robot controller in standard design
- ▣ QIROX Controller **Advanced Double** Robot controller in standard design for complex systems

Optimum "man-machine" interface

The QIROX Operating System QOS offers a user-friendly and intuitive programming of the QIROX robots. The light and robust teach pendant with touch interface and keyboard as well as the optional additional monitor support the operator in the best possible way when programming the different components. The integrated QINEO interface allows him to select the welding parameters directly in the QOS. You benefit from a significant reduction of the programming times for a maximum system efficiency. The simple integration of sensors into the process run ensures excellent weld quality. In addition, the C-Gate enables an optimal data flow and makes your robot system fit for Industry 4.0. Furthermore, you can use a variety of optional modules to adapt the QOS to your individual requirements.

- ▣ **Intuitive programming:** Quick and easy for reduced programming times
- ▣ **Efficient interfaces:** Integration of all process-managing devices and sensors into the programming of the QOS
- ▣ **C-Gate:** Built-in future for the world of Industry 4.0



All over the world



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