



# QIROX Welding robot

Systematic automated welding and cutting

**CLOOS**

Weld your way.

[www.cloos.de](http://www.cloos.de)

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## 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 decades-old know-how for continuous development. Thanks to the integration of innovative technologies, the new generation of QIROX welding robots guarantees 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 optimum positioning of the welding torch

- 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

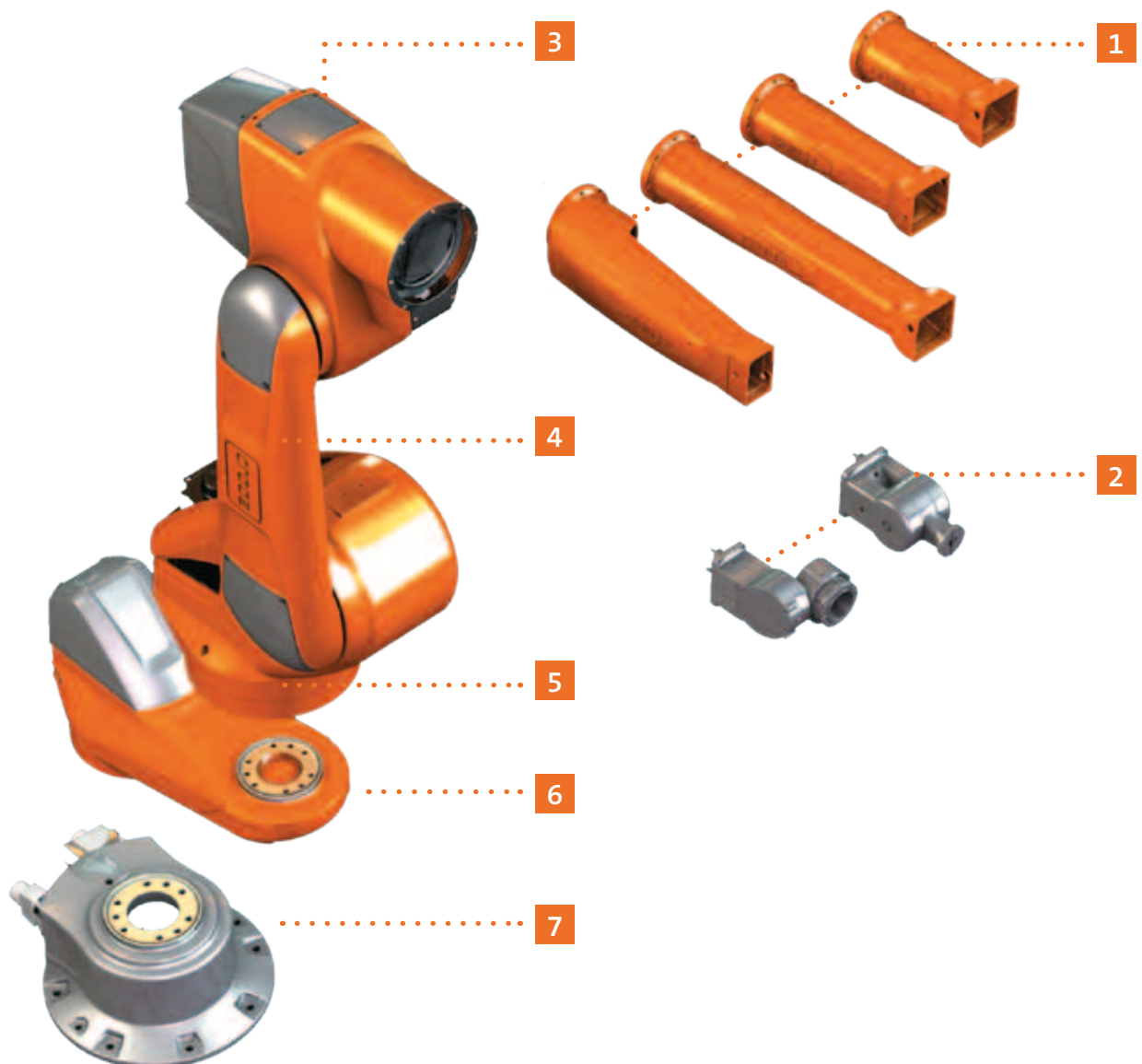
- The proven CLOOS quality ensures a particularly long service life and extended maintenance intervals

- Systems matched to production requirements, including suitable hardware and software



## 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.



## 1 Arm tubes

Design depending on the working range

## 2 Wrist

Classic  
Hollow shaft

## 3 Shoulder joint

## 4 Pivot arm

## 5 Angular base

## 6 7th axis

Enlarged working envelope

## 7 Robot base

Standard for upright and overhead mounting  
High for upright mounting



**QRH -280**  
Wrist with hollow shaft

Page **8**



**QRC-290**  
Classic wrist

Page **10**



**QRC-320/350/410-H**  
Classic wrist  
High robot base

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**QRC-320/350/410**  
Classic wrist

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**QRH-360/390-H**  
Wrist with hollow shaft,  
high robot base

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**QRH-360/390**  
Wrist with hollow shaft

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**QRC-350/410-E**  
Classic wrist with 7th axis

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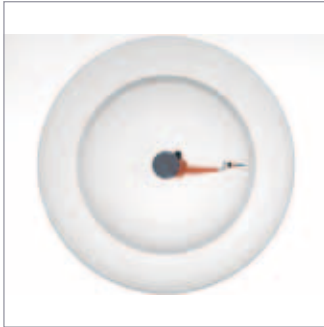
**QRH-360/390-E**  
Wrist with hollow shaft,  
with 7th axis

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# QRH -280

Compact robot mechanics  
Wrist with hollow shaft





## QIROX QRH Robot: The welding specialist

The QIROX QRH-280 is a six-axis articulated arm robot. It is mounted on a base or at a robot positioner, so that the robot is either used in upright or in overhead position. The cable assembly is led through a hollow shaft which is integrated in the wrist. The QIROX QRH-280 takes up welding torches weighing up to 6 kg at the hollow shaft wrist.

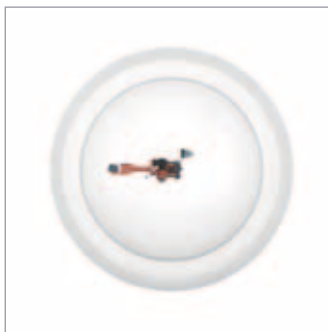
1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Process safety: The hollow shaft integrated in the wrist ensures an increased level of stability of the torch cable assembly.
3. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
4. Speed: High axis speeds for reduced cycle times
5. Quality: Repeatability, long service life and maintenance intervals

## Technical data

	Robot QRH-280-6
<b>Swivelling range</b>	
- Axis 1	+170° / -170°
- Axis 2	+90° / -125°
- Axis 3	-180° / +70°
- Axis 4	+179° / -179°
- Axis 5	+125° / -125°
- Axis 6	+300° / -300°
<b>Swivelling speed</b>	
- Axis 1	200 °/sec
- Axis 2	200 °/sec
- Axis 3	200 °/sec
- Axis 4	497 °/sec
- Axis 5	542 °/sec
- Axis 6	750 °/sec
Operating range	Ø 3800 mm
Operating range Axis 5 +90°	Ø 2800 mm
Operating range height	2250 mm
Pay load	6.00 kg
Repeatability	$\Delta \leq \pm 0,05 \text{ mm}$
Collision radius	500 mm
Floor space	Ø 400 mm
Weight	90 kg

# QRC-290

Compact robot mechanics



## QIROX QRC-290 Robot: The entry model

The QIROX QRC-290 is a six-axis articulated arm robot. It is mounted on a base or at a robot positioner, so that the robot is either used in upright or in overhead position. The QIROX QRC-290 robot has a classic wrist where gas- and water cooled welding torches with a weight of up to 4 kg can be mounted.

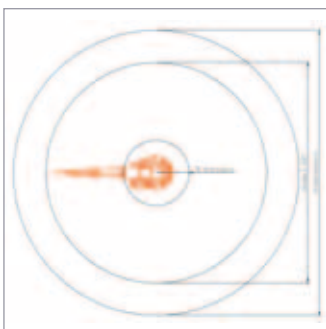
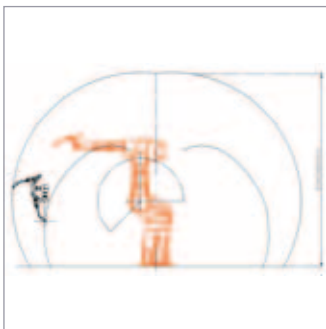
1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
3. Speed: High axis speeds for reduced cycle times
4. Floor space: Very low space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

## Technical data

Robot QRH-290-4	
<b>Swivelling range</b>	
- Axis 1	+120° / -120°
- Axis 2	+160° / -90°
- Axis 3	+80° / -200°
- Axis 4	+190° / -190°
- Axis 5	+140° / -140°
- Axis 6	+360° / -360°
<b>Swivelling speed</b>	
- Axis 1	230 °/sec
- Axis 2	230 °/sec
- Axis 3	230 °/sec
- Axis 4	430 °/sec
- Axis 5	430 °/sec
- Axis 6	630 °/sec
Operating range	Ø 3740 mm
Operating range Axis 5 +90°	Ø 2920 mm
Operating range height	1940 mm
Pay load	4.00 kg
Repeatability	$\Delta \leq \pm 0.15$ mm
Collision radius	Ø 550 mm
Floor space	285 mm x 285 mm
Weight	105 kg

# QRC-320/350/410-H

Robot mechanics  
Classic wrist, high robot base





## QIROX QRC Robot: The all-rounder

The QIROX QRC-320/350/410-H is a six-axis articulated arm robot. The robot has a high base which was particularly developed for floor mounting and is mounted in upright position on the shop floor, a base frame or at a robot positioner. The QIROX QRC-320/350/410-H robot has a classic 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.

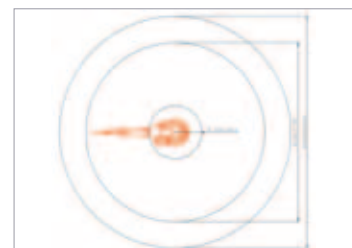
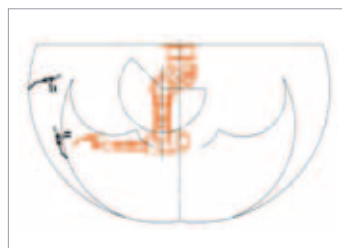
1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
3. Speed: High axis speeds for reduced cycle times
4. Application range: Changing tool allows to use different processes with a robot
5. Quality: Repeatability, long service life and maintenance intervals

## Technical data

Robot high base	QRC-320-H-15	QRC-350-H-15	QRC-410-H-10
<b>Swivelling range</b>			
- Axis 1	+170 / -170°	+170 / -170°	+170 / -170°
- Axis 2	+135 / -90°	+135 / -90°	+135 / -90°
- Axis 3	+80 / -210°	+80 / -210°	+80 / -210°
- Axis 4	+179 / -179°	+179 / -179°	+179 / -179°
- Axis 5	+135 / -135°	+135 / -135°	+135 / -135°
- Axis 6	+300 / -300°	+300 / -300°	+300 / -300°
<b>Swivelling speed</b>			
- Axis 1	184 °/sec	184 °/sec	184 °/sec
- Axis 2	184 °/sec	184 °/sec	184 °/sec
- Axis 3	177 °/sec	177 °/sec	177 °/sec
- Axis 4	497 °/sec	497 °/sec	497 °/sec
- Axis 5	542 °/sec	542 °/sec	542 °/sec
- Axis 6	528 °/sec	528 °/sec	528 °/sec
Operating range	Ø 4200 mm	Ø 4430 mm	Ø 5000 mm
Operating range Axis 5 +90°	Ø 3200 mm	Ø 3440 mm	Ø 4020 mm
Operating range height	2790 mm	2900 mm	3200 mm
Pay load	15.00 kg	15.00 kg	10.00 kg
Repeatability	$\Delta \leq s \pm 0,1 \text{ mm}$	$\Delta \leq s \pm 0,1 \text{ mm}$	$\Delta \leq s \pm 0,1 \text{ mm}$
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

# QRC-320/350/410

Robot mechanics  
Classic wrist



## QIROX QRC Robot: The all-rounder

The QIROX QRC-320/350/410 is a six-axis articulated arm robot. The robot is mostly used in upright or overhead position and is mounted on a base or directly at a robot positioner. The QIROX QRC-320/350/410 robot has a classic 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.

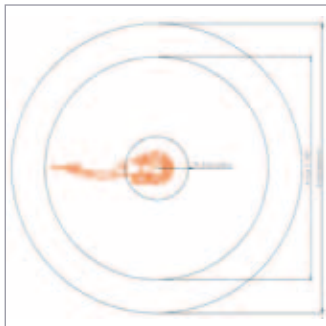
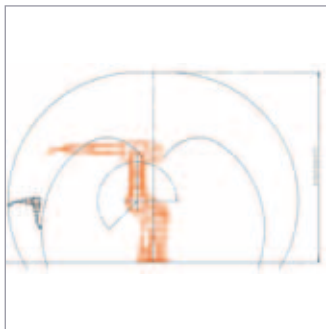
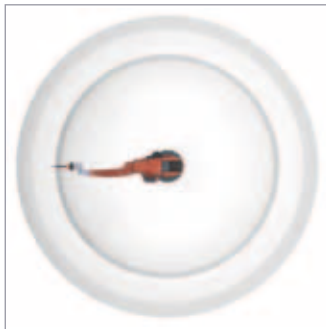
1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
3. Speed: High axis speeds for reduced cycle times
4. Application range: Changing tool allows to use different processes with a robot
5. Quality: Repeatability, long service life and maintenance intervals

## Technical data

	QRC-320-15	QRC-350-15	QRC-410-10
<b>Swivelling range</b>			
- Axis 1	+170 / -170°	+170 / -170°	+170 / -170°
- Axis 2	+135 / -90°	+135 / -90°	+135 / -90°
- Axis 3	+80 / -210°	+80 / -210°	+80 / -210°
- Axis 4	+179 / -179°	+179 / -179°	+179 / -179°
- Axis 5	+135 / -135°	+135 / -135°	+135 / -135°
- Axis 6	+300 / -300°	+300 / -300°	+300 / -300°
<b>Swivelling speed</b>			
- Axis 1	184 °/sec	184 °/sec	184 °/sec
- Axis 2	184 °/sec	184 °/sec	184 °/sec
- Axis 3	177 °/sec	177 °/sec	177 °/sec
- Axis 4	497 °/sec	497 °/sec	497 °/sec
- Axis 5	542 °/sec	542 °/sec	542 °/sec
- Axis 6	528 °/sec	528 °/sec	528 °/sec
Operating range	Ø 4200 mm	Ø 4430 mm	Ø 5000 mm
Operating range Axis 5 +90°	Ø 3200 mm	Ø 3440 mm	Ø 4020 mm
Operating range height	2470 mm	2580 mm	2880 mm
Pay load	15.00 kg	15.00 kg	10.00 kg
Repeatability	$\Delta \leq s \pm 0,1 \text{ mm}$	$\Delta \leq s \pm 0,1 \text{ mm}$	$\Delta \leq s \pm 0,1 \text{ mm}$
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

# QRH-360/390-H

Robot mechanics  
Hollow shaft wrist, high robot base





## QIROX QRH Robot: The welding specialist

The QIROX QRH-360/390-H is a six-axis articulated arm robot. The robot has a high base which was particularly developed for floor mounting and is mounted in upright position on the shop floor, a base frame or at a robot positioner. The cable assembly is led through a hollow shaft which is integrated in the wrist. The QIROX QRH-360/390-H takes up welding torches weighing up to 15/10 kg at the hollow shaft wrist.

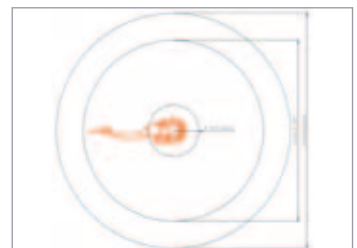
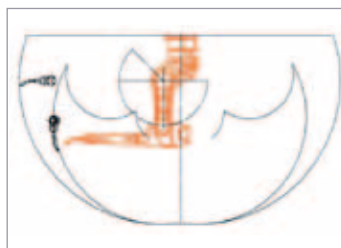
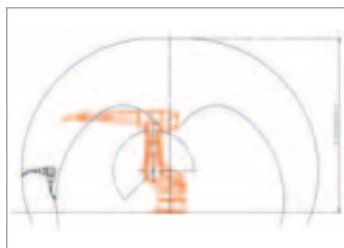
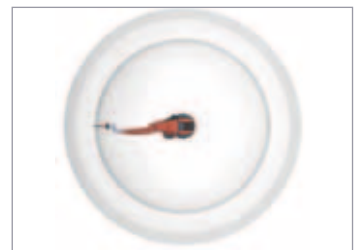
1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Process safety: The hollow shaft integrated in the wrist ensures an increased level of stability of the torch cable assembly.
3. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
4. Speed: High axis speeds for reduced cycle times
5. Quality: Repeatability, long service life and maintenance intervals

## Technical data

Robot high base	QRH-360-H-15	QRH-390-H-10
<b>Swivelling range</b>		
- Axis 1	+170 / -170°	+170 / -170°
- Axis 2	+135 / -90°	+135 / -90°
- Axis 3	+80 / -210°	+80 / -210°
- Axis 4	+179 / -179°	+179 / -179°
- Axis 5	+125 / -125°	+125 / -125°
- Axis 6	+270 / -270°	+270 / -270°
<b>Swivelling speed</b>		
- Axis 1	184 °/sec	184 °/sec
- Axis 2	184 °/sec	184 °/sec
- Axis 3	177 °/sec	177 °/sec
- Axis 4	497 °/sec	497 °/sec
- Axis 5	542 °/sec	542 °/sec
- 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	$\Delta \leq \pm 0,1 \text{ mm}$	$\Delta \leq \pm 0,1 \text{ mm}$
Collision radius	500 mm	500 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	255 kg	260 kg

# QRH-360/390

Robot mechanics  
Hollow wrist



## QIROX QRH Robot: The welding specialist

The QIROX QRH-360/390 is a six-axis articulated arm robot. The robot is mostly used in upright or overhead position and is mounted on a base or at a robot positioner. The cable assembly is led through a hollow shaft which is integrated in the wrist. The QIROX QRH-360/390 takes up welding torches weighing up to 15/10 kg at the hollow shaft wrist.

1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Process safety: The hollow shaft integrated in the wrist ensures an increased level of stability of the torch cable assembly.
3. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
4. Speed: High axis speeds for reduced cycle times
5. Quality: Repeatability, long service life and maintenance intervals

## Technical data

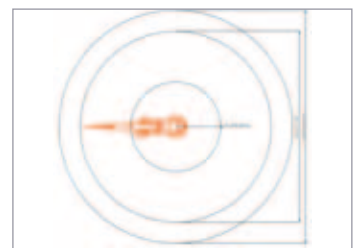
	QRH-360-15	QRH-390-10
<b>Swivelling range</b>		
- Axis 1	+170 / -170°	+170 / -170°
- Axis 2	+135 / -90°	+135 / -90°
- Axis 3	+80 / -210°	+80 / -210°
- Axis 4	+179 / -179°	+179 / -179°
- Axis 5	+125 / -125°	+125 / -125°
- Axis 6	+270 / -270°	+270 / -270°
<b>Swivelling speed</b>		
- Axis 1	184 °/sec	184 °/sec
- Axis 2	184 °/sec	184 °/sec
- Axis 3	177 °/sec	177 °/sec
- Axis 4	497 °/sec	497 °/sec
- Axis 5	542 °/sec	542 °/sec
- 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	$\Delta \leq \pm 0,1 \text{ mm}$	$\Delta \leq \pm 0,1 \text{ mm}$
Collision radius	500 mm	500 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	235 kg	240 kg

# QRC-350/410-E

Robot mechanics

Classic wrist

7th axis with enlarged working range





## QIROX QRC-410-10-E Robot: The all-rounder with a high range

The QIROX QRC-350/410-E is a six-axis articulated arm robot with an eccentric axis 7 which is integrated between robot base and centre point of axis 1. The movements of all seven robot axes are synchronised by 100 %. The robot is mostly used in upright or overhead position and is mounted on a base or directly at a robot positioner. The QIROX QRC-350/410-E robot has a classic 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.

1. Flexibility: Modular design for tailor-made systems, 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. Application range: Changing tool allows to use different processes with a robot
5. Range: Seventh axis for increasing the working envelope and optimum positioning of the welding torch
6. Quality: Repeatability, long service life and maintenance intervals

## Technical data

Robot 7th Axis	QRC-350-E-15	QRC-410-E-10
<b>Swivelling range</b>		
- Axis 1	+170 / -170°	+170 / -170°
- Axis 2	+135 / -90°	+135 / -90°
- Axis 3	+80 / -210°	+80 / -210°
- Axis 4	+179 / -179°	+179 / -179°
- Axis 5	+135 / -135°	+135 / -135°
- Axis 6	+300 / -300°	+300 / -300°
- Axis 7	+120 / -120°	+120 / -120°
<b>Swivelling speed</b>		
- Axis 1	184 °/sec	184 °/sec
- Axis 2	184 °/sec	184 °/sec
- Axis 3	177 °/sec	177 °/sec
- Axis 4	497 °/sec	497 °/sec
- Axis 5	542 °/sec	542 °/sec
- Axis 6	528 °/sec	528 °/sec
- Axis 7	90 °/sec	90 °/sec
Operating range	Ø 5470 mm	Ø 6100 mm
Operating range Axis 5 +90°	Ø 4470 mm	Ø 5050 mm
Operating range height	2830 mm	3120 mm
Pay load	15.00 kg	10.00 kg
Repeatability	$\Delta \leq s \pm 0.1 \text{ mm}$	$\Delta \leq s \pm 0.1 \text{ mm}$
Collision radius	1050 mm	1050 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	345 kg	350 kg

# QRH-360/390-E

Robot mechanics  
Hollow shaft wrist  
7th axis with enlarged working range



## QIROX QRC-E Robot: The welding specialist with a high range

The QIROX QRC-360/390-E is a six-axis articulated arm robot with an eccentric axis 7 which is integrated between robot base and centre point of axis 1. The movements of all seven robot axes are synchronised by 100 %.

The robot is mostly used in upright or overhead position and is mounted on a base or at a robot positioner. The cable assembly is led through a hollow shaft which is integrated in the wrist. The QIROX QRH-360/390-E takes up welding torches weighing up to 15/10 kg at the hollow shaft wrist.

1. Flexibility: Modular design for tailor-made systems, perfectly adapted to individual production requirements
2. Process safety: The hollow shaft integrated in the wrist ensures an increased level of stability of the torch cable assembly.
3. Dynamics: Higher dynamics and weight reduction due to a leaner product design with rounded ergonomic forms
4. Speed: High axis speeds for reduced cycle times
5. Range: Seventh axis for increasing the working envelope and optimum positioning of the welding torch
6. Quality: Repeatability, long service life and maintenance intervals

## Technical data

Robot 7th Axis	QRH-360-E-15	QRH-390-E-10
<b>Swivelling range</b>		
- Axis 1	+170 / -170°	+170 / -170°
- Axis 2	+135 / -90°	+135 / -90°
- Axis 3	+80 / -210°	+80 / -210°
- Axis 4	+179 / -179°	+179 / -179°
- Axis 5	+125 / -125°	+125 / -125°
- Axis 6	+270 / -270°	+270 / -270°
- Axis 7	+120 / -120°	+120 / -120°
<b>Swivelling speed</b>		
- Axis 1	184 °/sec	184 °/sec
- Axis 2	184 °/sec	184 °/sec
- Axis 3	177 °/sec	177 °/sec
- Axis 4	497 °/sec	497 °/sec
- Axis 5	542 °/sec	542 °/sec
- Axis 6	528 °/sec	528 °/sec
- Axis 7	90 °/sec	90 °/sec
Operating range	Ø 5680 mm	Ø 6030 mm
Operating range Axis 5 +90°	Ø 4620 mm	Ø 4960 mm
Operating range height	2930 mm	3110 mm
Pay load	15.00 kg	10.00 kg
Repeatability	$\Delta \leq s \pm 0.1 \text{ mm}$	$\Delta \leq s \pm 0.1 \text{ mm}$
Collision radius	1050 mm	1050 mm
Floor space	Ø 500 mm	Ø 500 mm
Weight	345 kg	350 kg

# Attached parts

## Robot mechanics

### 1. Robot welding torches

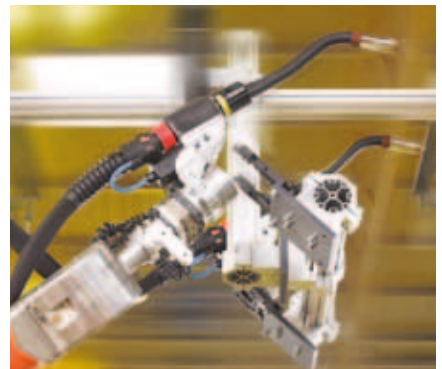
- Single wire torches
- Tandem welding torches
- TIG welding torches

CLOOS robot welding torches are the result of years of development and experience in the field of automated MIG/MAG welding. The welding torch is mounted to the robot flange with a holder. An anti-collision sensor is integrated in the robot flange.



### 2. Tool changing system

Allows the combination of different processes or the use of several welding torches with different geometries at one robot.



### 3. Integrated DuoDrive wire drive unit

The intelligent DuoDrive wire drive system transports mainly thin and soft welding wires easily and reliably without restricting the robot's freedom of movement. The slim and compact design of the wire drive unit guarantees an optimum accessibility in confined spaces.



### 4. Other applications

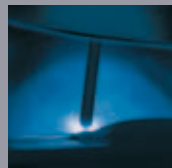
We supply individual manufactures on demand:

- Laser and laser hybrid
- Cutting
- Handling
- Special applications, e.g. Torch/gripper combination



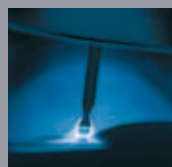


# Efficiency ...



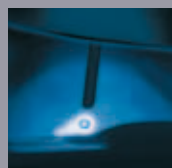
## **Control Weld**

Reliable MIG/MAG welding process for thin and thick materials



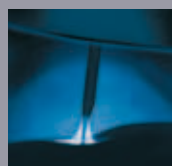
## **Speed Weld**

Stable MIG/MAG pulsed arc for numerous applications



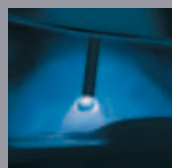
## **Vari Weld**

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



## **Rapid Weld**

High-capacity MIG/MAG spray arc for efficient welding



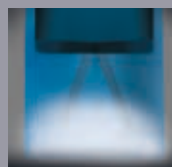
## **Cold Weld**

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



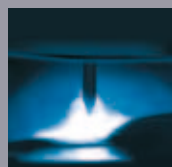
## **Tandem Weld**

Combination of two synchronised MIG/MAG arcs for double capacity



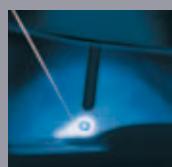
## **Narrow Gap Weld**

MIG/MAG process with narrow gap technology for efficient thick plate welding



## **TIG 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

# Attached parts

## Robot mechanics

### The all-rounder QRC

MIG/MAG

DuoDrive

Standard

Single wire



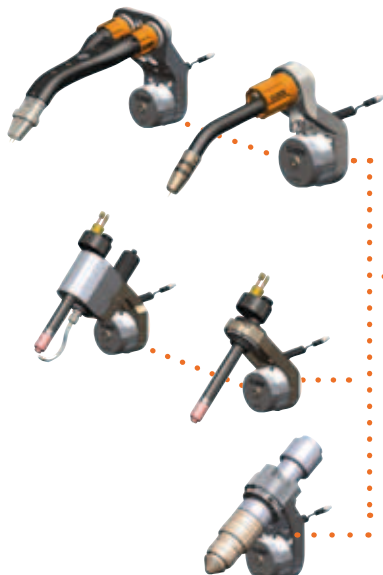
Tandem



TIG



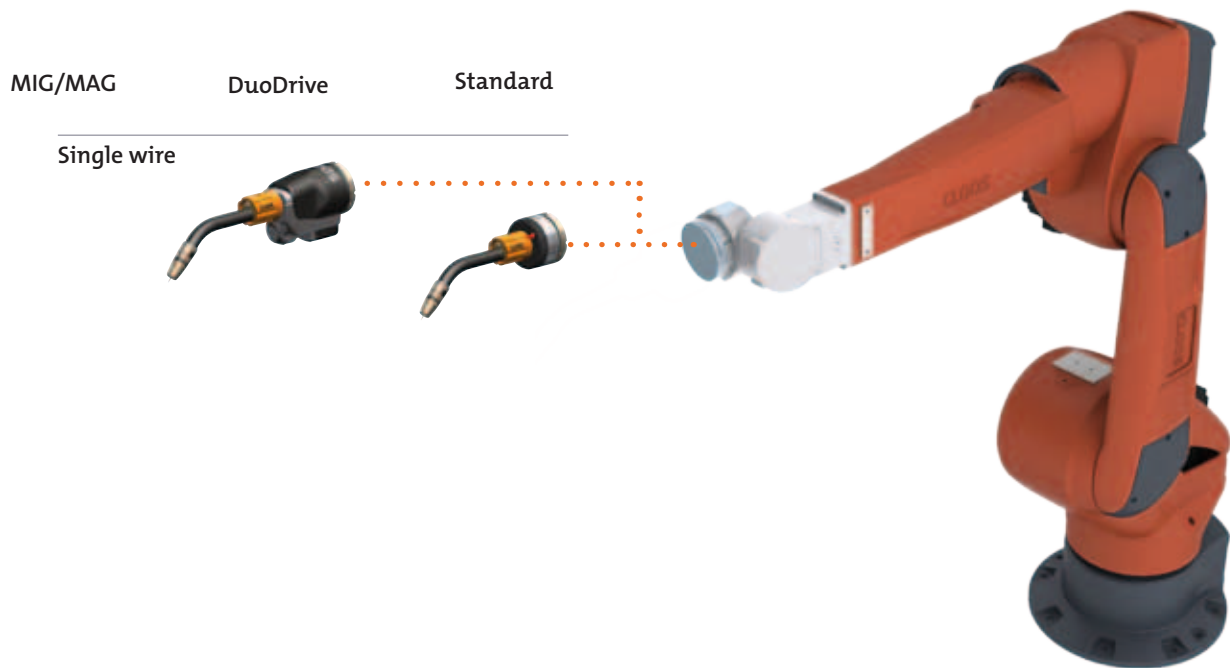
CUT



Enhancement of the application range  
due to a tool changing system



## The welding specialist QRH



## Comparison of QIROS robots

Robot mechanics	Operating range [mm]	Pay load	MIG/MAG single wire	DuoDrive single wire	DuoDrive hollow shaft	MIG/MAG Tandem	DuoDrive Tandem	TIG	Laser Welding	Cut	Narrow gap blade	Changing tool
QRH-280-6	Ø 3800 mm	6 kg	X	X	X							
QRC-290-4	Ø 3740 mm	4 kg	X					X				
QRC-320-15	Ø 4200 mm	15 kg	X	X		X	X	X	X	X	X	X
QRC-350-15	Ø 4430 mm	15 kg	X	X		X	X	X	X	X	X	X
QRC-410-10	Ø 5000 mm	10 kg	X	X		X	X	X		X		X
QRC-350-E-15	Ø 5470 mm	15 kg	X	X		X	X	X		X	X	X
QRC-410-E-10	Ø 6100 mm	10 kg	X	X		X	X	X		X		X
QRH-360-15	Ø 4570 mm	15 kg	X	X	X							
QRH-390-10	Ø 4900 mm	10 kg	X	X	X							
QRH-360-E-15	Ø 5680 mm	15 kg	X	X	X							
QRH-390-E-10	Ø 6030 mm	10 kg	X	X	X							

# Further information

## Welding

### Process diversity in perfection

With a large range of proven and innovative processes for manual and automated welding applications, we at CLOOS can offer solutions for the future providing excellent quality, maximum efficiency and productivity.



## QIROX Controller

### Optimum "man-machine" interface

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 up to twelve external peripheral axes.



## QIROX Sensors

### Best quality at each weld seam

With our QIROX sensor systems you achieve optimum welding results and an excellent quality because of exact welding procedures. Four practice-proven CLOOS sensors are available for the most different materials and applications: Tactile sensor, arc sensor, laser offline sensor and laser online sensor.



## Application examples

### Customised technologies for the most different industries

With highly innovative products we work out individualised solutions to meet the growing requirements of your industry. For decades, customers from the most different industries have trusted in our welding technologies and our know-how.



# The way ...



## Consulting

With this comprehensive “pre-service”, we take care of your project from the beginning and transfer our integrated process expertise to your component..



## Planning

We elaborate a solution which perfectly meets your individual requirements.



## Design

Due to the modular design of our product series we develop customised solutions which meet all your production requirements.



## Production

Welding machine and robot technology is our strength - including our core competence: the arc.



## Commissioning

Our specialists carry out the installation step-by-step in your production hall and test your system for faultless functionality.



## Training

We train your employees and service technicians in programming, operation and maintenance in our modern training centre

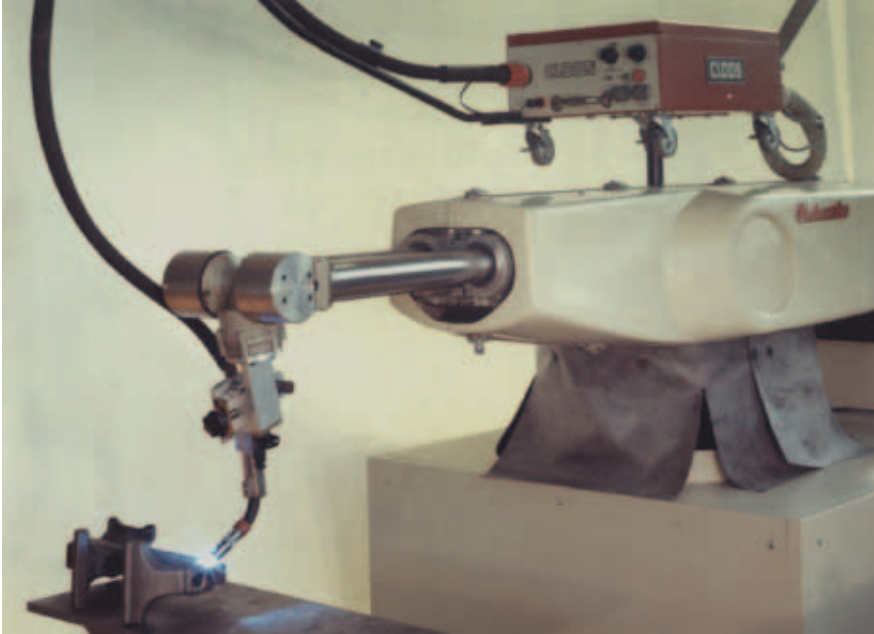


## Service

Our competence team advises you on any extensions, modifications and retrofits of your existing robot and welding systems.

# ... to your success.

# Pioneer work



Delivery of the first welding robot: 1977

**For nearly 100 years we have been belonging to the pioneers concerning new manual and automated welding technologies.**

We have already used industrial robots for automated MIG/MAG welding since 1977. And shortly after that time we turned out to be a provider for complete solutions. Because everything comes from a single source – from the welding technology, robot mechanics and controller to positioners, software and sensors – we supply you all relevant components from a single source. For some years, many automation solutions have tended to apply systems with automated workpiece identification and loading and unloading processes. Also in welding technology, digitalisation and networking become more and more important. Our products are ready for the fourth industrial revolution. Already today

tool carriers, robots, power sources and master controllers successfully communicate with each other in CLOOS welding systems all over the world.

With our solutions for automated welding we make you faster, more economic and more flexible - and thus fit for future production!



1982: Development and production of robot and controller from a single source: CLOOS



Delivery of chained systems: 1985



Robot assembly in 1995



# With CLOOS you weld and cut ...



... all types of metal!



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



... with innovative processes!



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



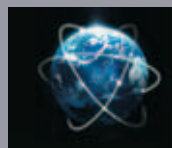
... efficiently and individually!



... with many additional services!



... in all industries!



... all over the world!



... to your utter satisfaction!



... and benefit from almost 100  
years of welding experience!

## ... all from a single source!



# All over the world!



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# CLOOS

Weld your way.