

## 7-Axis Rail-Mounted Welding Robot for H-Beams

A complete 7-axis welding robot system for structural steel: it welds H-beams (I-beams), columns, crane runway beams and the stiffeners, end plates, corbels and cleats fitted to them — programmed from your 3D model, not taught point by point.



The 7-axis rail-mounted layout.

### Key figures

**1,500 mm**

Maximum workpiece width

**10.63 m**

Effective travel on the standard 12 m rail

**70–120 m**

Weld length per robot per day shift

**1–5 days**

Operator training time

### Specifications

| Item                          | 7-Axis Rail-Mounted Welding Robot                                                                                          |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Workpiece width               | Up to 1,500 mm                                                                                                             |
| Ground rail length (standard) | 12 m                                                                                                                       |
| Effective travel (standard)   | 10.63 m                                                                                                                    |
| Robot reach                   | 2,014 mm                                                                                                                   |
| Robot payload                 | 6 kg                                                                                                                       |
| Robot repeatability           | ±0.08 mm                                                                                                                   |
| Welding process               | GMAW: CO <sub>2</sub> / MAG / MIG, DC and pulse                                                                            |
| Welding torch                 | Water-cooled, up to 500 A                                                                                                  |
| Welding positions             | Flat (PA), horizontal fillet (PB), vertical down (PG)                                                                      |
| Weld types                    | Straight, polyline, curved and vertical fillet welds; lap and wrap-around welds; intermittent welds on straight seams      |
| 3D model import               | STEP, IFC                                                                                                                  |
| Programming                   | Teachless from the 3D model; scan-based modelling for flat web plates with stiffeners; simple teach mode for special welds |
| Staffing                      | One operator runs 3–6 stations                                                                                             |
| Material                      | Carbon structural steel                                                                                                    |

### Contact

Send drawings, a model or photos of the parts you want to weld for a free part evaluation.

<https://steelweldingrobot.com/7-axis-rail-mounted-welding-robot/>  
[sales@steelweldingrobot.com](mailto:sales@steelweldingrobot.com)

## 7-Axis Rail-Mounted Welding Robot for H-Beams

### What it welds

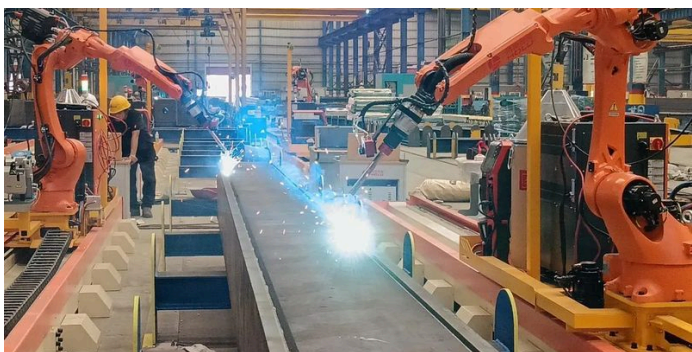
- H-section columns
- Crane runway beams
- Cross columns
- Corbels and brackets
- Roof beams
- Curved beams
- Box beams
- Purlin cleats

### Station configuration

- **Ground rail and travelling carriage** — the seventh axis, moving the robot along the member.
- **6-axis welding robot** with a water-cooled torch.
- **Laser vision** that locates the part after loading and finds each seam before welding. One camera covers both model-based and scan-based work.
- **Teachless software** that imports STEP/IFC models, extracts welds, plans paths and checks for collisions.
- **Welding power source** with a structural steel process library.
- **QR code job loading:** scan the part label to load its model; the welded length is reported after each job.
- **Twin-robot option:** two robots on one rail for long members.

### Services

- Free part evaluation
- We reply within one business day.
- Book a live video tour, or visit our plants in China and operate a robot yourself.
- Software updates are free for the life of the station.
- Free Tekla Structures plug-in for batch IFC export



Twin rail-mounted robots welding in our production.

### Workflow

#### 1 Load the job

Scan the QR code on the part label, or open the STEP or IFC model from Tekla or other detailing software.

#### 2 Plan automatically

The software extracts the welds, takes parameters from the process library, plans the path and checks it for collisions.

#### 3 Locate the part

A laser line scan finds where the part lies on the station and matches it to the model.

#### 4 Find each seam and weld

Before each weld the robot scans the seam to locate it, then welds with arc tracking.

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