



Reducing Manual Labor in Post-Weld Processing

Robotic Grinding and Polishing

Problems at the polishing work site

- Manpower shortage
- Variations in quality due to workers
- Work environment (dust, heavy work)

Robotization issues

- Precise machining conditions
- Variation of excess height
- Identifying abrasive wear



DAIHEN's polishing robot system solves!

Under development

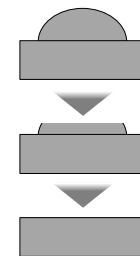
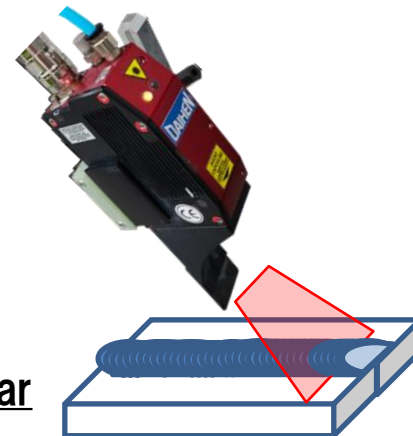
- Laser sensor detects weld bead excess height
- Uniform grinding to target residual height

Automatically switch to the optimum machining conditions according to the excess height

- No need for fine processing conditions
- Uniform grinding of bead that varies in excess height

Automatic replacement by estimating the abrasive condition of wear

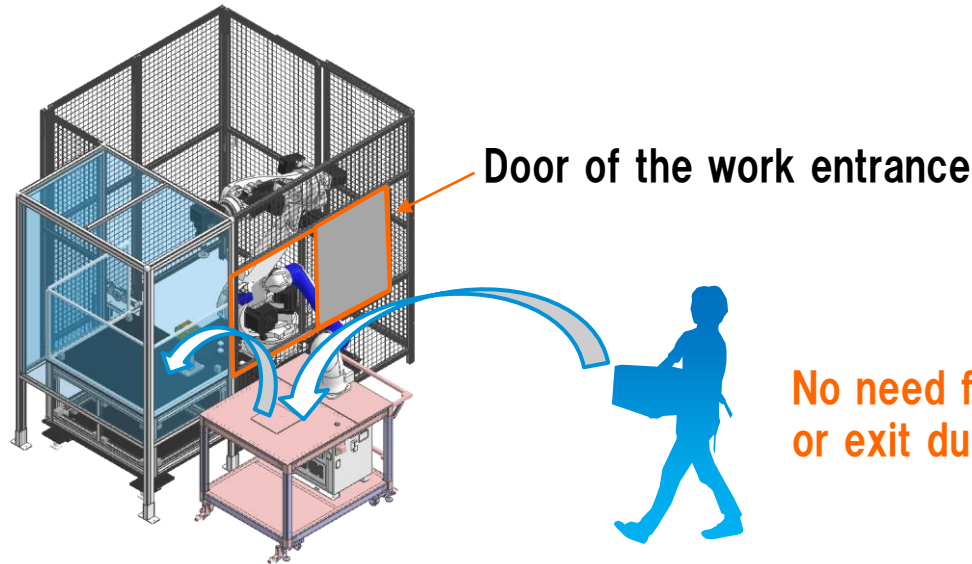
- No need for human judgment of the degree of wear



If you leave shaving
Grinding again

Automation of Polishing Work with Polishing Robot and Collaborative Robot

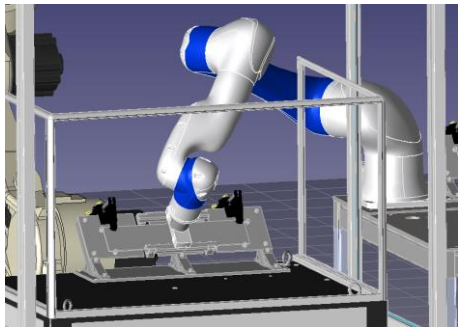
- Polishing work on the polishing robot in the safety fence.
- Carrying in and out of workpieces from outside the safety fence with the cooperating robot



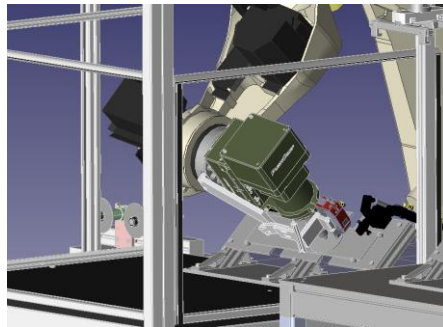
No need for workers to enter or exit dusty environments!

Roughing and finishing of butt weld bead

- ① Carrying in and out of workpieces using the cooperative robotic VC12
- ② The laser sensor detects the excess height of weld bead.
- ③ Weld bead polishing
- ④ Tool change
- ⑤ Finish polishing



Workpiece loading/unloading



Polishing

Workpiece	
Dimensions	500×100 mm
Material	Iron (SPCC) , plate thickness 4.5 mm
Bead shape	Excess 3 mm and breadth 8 mm

Reference polishing conditions	
Rotational speed	10,000 rpm
Feed speed	100 cm/ portion
Pressing force	20 N

**With DAIHEN's polishing robot system,
Contributes to the reduction of heavy labor
in the post-welding process**

DAIHEN