Stable Quality Polishing with One Robot from Rough Cutting to Finishing

Robot System for Polishing

International Robot Exhibition 2023

Problems at the polishing work site

- Labor shortage due to lack of young workers
- The finish changes depending on the worker and the quality is unstable

DAIHEN's polishing robot system solves!

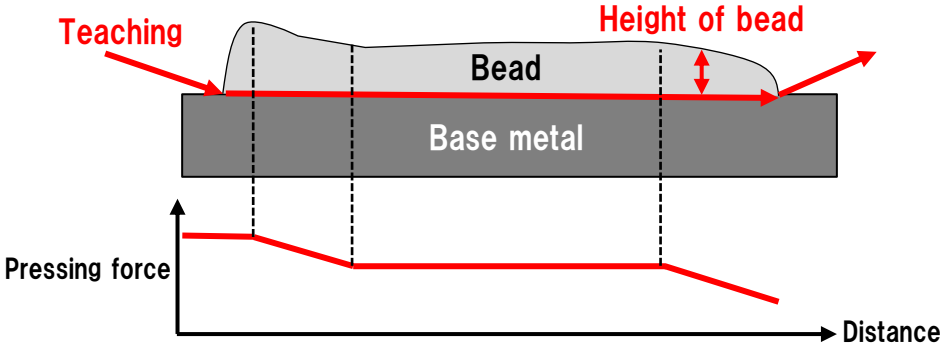
- Load control provides a stable finish with uniform polishing marks
- Automation from roughing to finishing with a single robot

Features of the polishing robot system

Pressing force during robot operation can be changed

Stable finish with uniform polishing marks

<For weld bead grinding>



Easy setting of machining conditions from the teach pendant

Low bead height

【Conventional】Pressing force constant

BAD

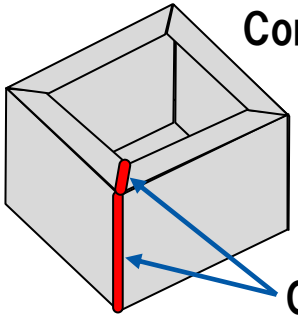
Scrape to the base metal

【New Functions】Push force change

GOOD

Uniform finish

Demonstration: Weld bead grinding + polishing



① By roughing the weld bead of the square joint
② Tool change and finish polishing

Workpiece

Dimensions ：150×150×100mm
Material: Steel (SPCC) ,Thickness 3.2mm
Bead shape: excess 3mm、width 7mm

Polishing conditions (bead grinding)

Speed: 10,000rpm
Feedrate: Top：70cm/min、Side：100cm/min
Push force: 15N
Polishing material: 3M's TS disc 982C 60+

Polishing conditions (finish polishing)

Speed: 10,000rpm
Feedrate: 120cm/min
Push force: 10N
Polishing material: 3M's TS Metacon AM #180

System configuration

DAIHEN OTC

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Automatic generation of multiple paths

Reduce teaching points
(Ex) 16→5

Robot with teaching support function dedicated to polishing and grinding

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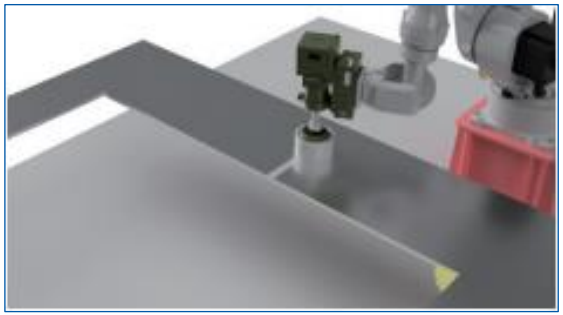
Grinding tool with load control device
(Made in the USA by PUSHCORP)

Aichi Sangyo is the exclusive domestic agent for PUSHCORP products

3M

High abrasive power and long life abrasive material

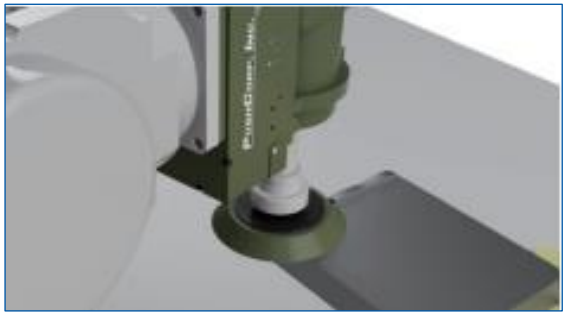
Application Examples



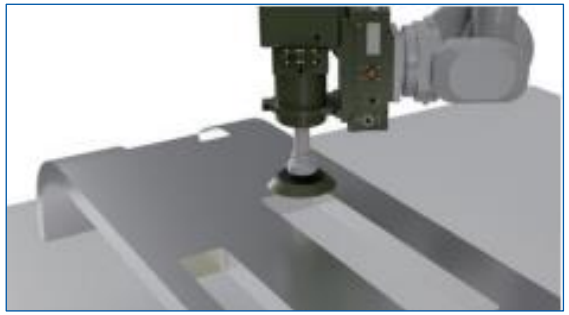
Vehicle side plate hairline finish

Automotive B pillar brazing polishing

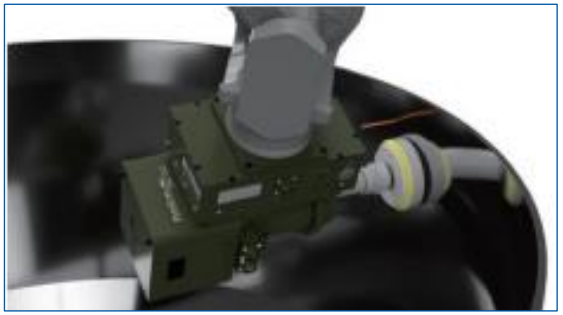
Scratch removal/polishing of steel plate



Slag removal for thick plate/gas cutting



Truck bumper sanding



Polishing stainless steel containers

Provided by Aichi Sangyo Co.,Ltd.

Daihen's robot system can help you automate your polishing work.

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