



Weld Blending Cell

Model: ACT-WBR-20.3

The **ACT-WBR-20.3** is a precision weld blending machine that utilizes a 6-axis robotic articulated arm, blade scanner, and a finishing process that yields consistent and accurate airfoil shape, blade height, and chord width of tip weld repaired blades. The **ACT-WBR-20.3** eliminates hand grinding of weld tip repaired blades, increases productivity, minimizes scrap rate, and produces consistent blade geometry at a very low cost of consumables. The tip welds are ground to within 0.002" (0.05mm) from airfoil without cutting into the substrate material.

Specifications:

- 6-axes articulated robotic arm with controller
- Grinding stations
- Part surface and weld scanner
- Indexer for part loading
- Part tooling
- Base and Enclosure
- Dust collection ducts

Options:

- Automatic gripper change
- Squealer groove grinding
- Final inspection and measurement with data collection
- Dust collector
- Offline programming software
- ACT-WBR-50.3 for processing larger tip weld blades

Leading/ trailing edge weld blend robots:

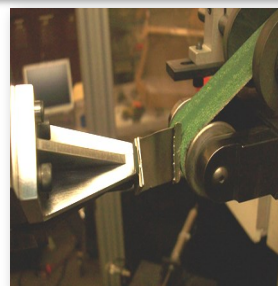
- ACT-LETEWBR-6.3
- ACT-LETEWBR-20.3
- ACT-LETEWBR-50.3



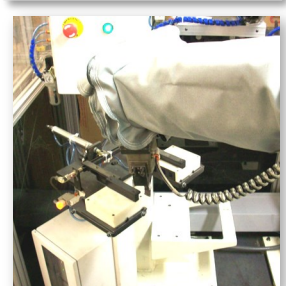
WELD BLENDING



TIP HEIGHT GRIND



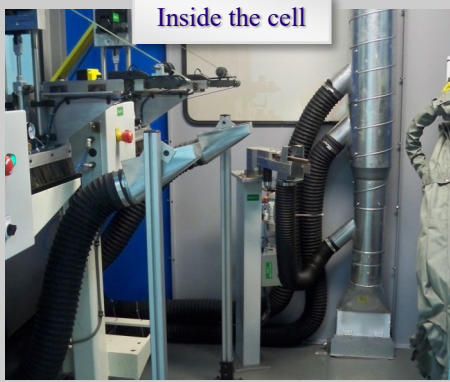
PART SCAN



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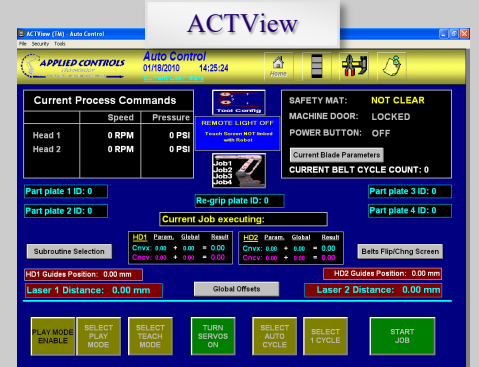


SEQUENCE

- Operator loads parts, selects and starts program
- Robot picks up part from load nest
- Part surface and weld are scanned
- Offsets are calculated based on part geometry
- Weld grinding steps are executed using motion path offsets
- Trim grinding of tip height and chord width is executed
- Drop the finished part and pick a new one

STATION AND FEATURES

- 6-axes articulated robotic arm with gripper
- Part geometry scanner
- Rough, fine, and super-fine grinding stations
- Automatic belt wear compensations
- ACTView interface with over 20 process parameter adjustments
- Common base and dust/sound enclosure
- Indexer for part loading
- Dust collection ducts



SPECIFICATIONS

- Typical airfoil tip weld blending accuracy 0 to +0.002" (+0.05mm)
- Typical tip height grinding accuracy: +/-0.004" (+/-0.1mm) from nominal
- Typical chord width trimming (not contouring): +/-0.002" (+/-0.05mm) from nominal
- Maximum blades size: 3" (75mm) wide and 6" (150mm) long

OVERALL DIMENSIONS:
3.00m x 2.20m x 2.70m

