

# MPAC

MULTI PANEL  
ASSEMBLY CELL

**COMPOSED** TO COMPETE

- Maximum Flexibility for Panel Assembly
- Ideal for large parts such as wing covers, or fuselage panels
- Fastest Reconfiguration
- High Payload and Throughput



## MPAC - TECHNICAL INFORMATION

### Area of Application

The Multi Panel Assembly Cell (MPAC) is an automated fastening machine for various panel types. The flexible configuration with all-electric end effector and independent inner vehicle enables highest throughput rates and maximum workpiece flexibility.

MPAC systems are ideal for moving lines efficiently utilizing both the rail-based movable gantry system and the moving workpiece. The 10-axes positioner makes the system extremely adaptable. It can be configured with the optional Broetje-Automation Flexible Tooling to allow assembling multiple aircraft panels on one system, e.g. shells, skin panels or wings.

### Technical Data

#### Riveter

Drill speed: 50 - 20.000 rpm	Drill spindle feed: up to 300 "/min / 7620 mm/min
Countersink repeatability: ± 0.0006" / ± 0.015 mm	Material: Al/Ti / optional composite
Fastener diameter: 4/32" - 8/32" / 3.2 mm - 6.4 mm, others on request	optional 10/32" / 7.9 mm Positioner
Clamping force: 90 - 675 lbf / 41 - 300 daN	Upset force: up to 18,000 lbf / 8,000 daN

#### Positioner

Positioning accuracy per axis: ± 0.002" / ± 0.05 mm	TCP Speed: >40 m/m Step time 0,8 sec/inch
Work travel: X-axis: 1,397.2 inch / 35,488 mm (not limited) Y-axis: 244 inch / 6,200 mm Z-axis: 129 inch / 3,277 mm	Work travel: A-axis: 180 deg B-axis: 40 deg

### Special Features

- No limitation in workpiece length
- Easy expandable for future application because of big work envelope
- No extra time for loading / unloading needed => higher throughput time
- All components reachable from floor level => no platforms
- 180 deg fastening capability
- All electric fastening system (AEFS)
- High speed tool changer for drill bits and upper anvils
- Micro Peck VAD Capability
- Automated fastener feeding system (AFFS)
- Sensoric system for:  
Fastener Position Detection, Distance, Normality, Workpiece zeropoint, Tack-rivet-detection, Countersink, Head Height, Sealant
- Siemens NC Controls (10 ea axes for positioner)
- Optional slug fasteners
- Optional drill and trim
- Optional collar installation
- Optional Lower Tool Changer
- Minimal Quantity Lubrication System (MQL) / BA Lube



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