

MESH Automation Cell: MACJoin

Technical Data Sheet



The MACJoin is a professional grade, skid mounted assembly platform, designed for mechanical joining processes such as riveting (orbital, blind, self-piercing, etc.), inserting rivet nuts and clinching. Three platform sizes, a variety of robot sizes and bolt on modules can be selected to handle a wide range of part sizes and types. Additionally, because assembly processes normally have machine tending and material handling processes associated with them, the MACJoin is designed to accommodate these processes as well.

The MACJoin is an excellent solution for automating your mechanical joining process.

MODEL	MACJoin Mini	MACJoin med	MACJoin Max
Footprint w x l x h	5' x 7' x 7'	8' x 12' x 8'	9.5' x 16' x 8'
Guarding Type	Mesh fencing with access doors protected by permit to entry locking safety switches	Mesh fencing with access doors protected by permit to entry locking safety switches	Mesh fencing with access doors protected by permit to entry locking safety switches
Changeover	No tool, pushbutton recipe driven from the HMI. Bar code scan is optional		
Operating environment	Production environment typical of assembly operations.		
Robot brand	ABB, Fanuc and Yaskawa Motoman		
Robot Riser	Yes		
Operator loading safety	See below for Optional "bolt on" Process Modules		
Industry 4.0 Compliant	Yes		
Low Voltage Controls (Rockwell)	Rockwell CompactLogix L30, dual Ethernet, safety PLC		
Low Voltage Controls (Siemens)	Siemens S7 1200F dual Profinet, safety PLC		
Low Voltage Controls (Omron)	CJ safety PLC		
High Voltage Controls segregated	High-voltage power distribution panel segregated from the low voltage		
HMI (Rockwell)	PanelView Plus 7, touch screen, 10.4"		
HMI (Siemens)	SIMATIC TP900, 9"		
HMI (Omron)	NA V1 series 9"		
Plant Utilities	Electrical: 460VAC, 30Amp, Pneumatic: 85psi min.		
Safety	Fully compliant with ISO 12100 and ANSI/RIA R15.06-2012 safety standards; ABB Safemove II, Fanuc DCS or Yaskawa Motoman FSU		
Industry 4.0 data packages	Available as an option		
Camera Package	CCTV Camera with TV or Industrial monitor mounted to outside of the cell available as an option		

Optional “bolt on” Joining Process Modules

- RIVIT® module for feeding rivnuts, finding the hole through 2-D vision, inserting the RIVIT® mandrel, and swaging the rivnut.
- Quality control features to assure a rivnut has been applied and applied correctly
- Orbital riveting module by OrbitForm with MESH added tending features and material handling solutions
- Fastener driving module

Optional “bolt on” Quality Control Process Modules

- Laser measurement
- 2-D vision inspection
- 3-D inspection stations using 3-D lasers

