

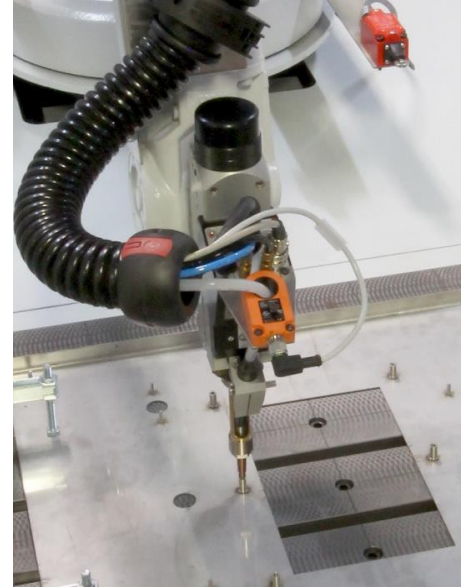
The MACStud3D is a professional-grade, pre-engineered, robotics based flexible automation cell. The MACStud3D is suited for stud welding onto, curved, three-dimensional surfaces with multiple sized studs. This is unlike the standard gantry stud welder, which can only weld on a single flat plane. The pre-engineered features and options make for a great value with quick deliveries, while also allowing for easy size and layout customization.

This third-generation design has been fine-tuned to provide a service life greater than 15 years, unparalleled fit and finish, modern globally available hardware, precision designs for product repeatability and low process variability. It also has available features such as parametric programming that allow for push-button changeovers and batch size of one processing.

Models	5x7 MINI	8x12	9x16
Skid nom. dimension	5'W x 7'L x 7'H	8'W x 12'L x 8'H	9'W x 16'L x 8'H
Robot Quantity	One standard (up to two)	One standard (up to two)	One standard (up to three)
Robot Brand	ABB, Yaskawa Motoman, and Fanuc brands		
Robot Riser	Yes		
Sheet Metal Guarding	Yes		
Windows	One standard (mounted in door) Additional windows available as an option		
Front Guarding Type	Light curtain protection and other options		
Guard door type	One standard, 36" wide, swing or sliding door Additional doors available as an option		
Guard door switch	Power to unlock, (1) E-stop, (3) PBs, escape handle		
High Voltage Controls	High Voltage power distribution panel with segregated high voltage		
Low Voltage Controls (Rockwell)	Rockwell CompactLogix L30, dual Ethernet, Safety PLC		
Low Voltage Controls (Siemens)	Siemens S7 1200F dual Profinet, Safety PLC		
HMI (Rockwell)	PanelView Plus 7, Touch Screen, 10.4 inches		
HMI (Siemens)	SIMATIC TP900, 9 inches		
HMI option	Industrial PC with 15" monitor, O&M manual storage		
Independent shielding gas	SMC brand components		
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	Configured for Industry 4.0, data package available as an option		
Cell lighting package	Available as an option		
Camera Package	CCTV Camera with TV or Industrial monitor mounted to outside of the cell Available as an option		

Bolt-On Modules

- Positioners
 - Single-axis turntable
 - H-frame welding positioner (turntable with headstock/tailstock on either side)
 - Single or multi-axis vertical turntable or Ferris wheel with headstock/tailstock
- Product Loading
 - Conveyorized product feed with no rollers or belt
- Stud Welding Modules
 - Stud welding power supplies and guns for capacitor discharge and drawn arc welding processes.
- Stud Feeding Modules
 - Stud bowl feeder
 - Non-flanged stud feeding
 - Stud diverter
 - Stud feeder
 - Bowl feeder stand



Configurable Options

- Fixturing
 - Custom designed and professionally built with features such as remote I/O blocks, cleanly run and shielded cables, and anti-spatter features.
 - Servo Fixture – Fixture specifically designed to hold square/ rectangular type products (i.e. frames, enclosures or panels). Servo motion control for push button batch size of one processing.
- **Robot Carrier or Robot transfer unit:** Up to 30' long with overhead or floor mount, 3 m/s velocity
- **Fume Collection/Roof:** Kemper America exhaust hood with Central Unit, Sheet metal roof, other options
- **Stud specific 2D and 3D Vision Systems for:**
 - Locating stud positions from a feature or datum point – position
 - Locating welded studs' presence or absence
- Other
 - Stud weld integrity QC system by monitoring weld parameters
 - Remote Troubleshooting

