

# LASER Mate System 1™

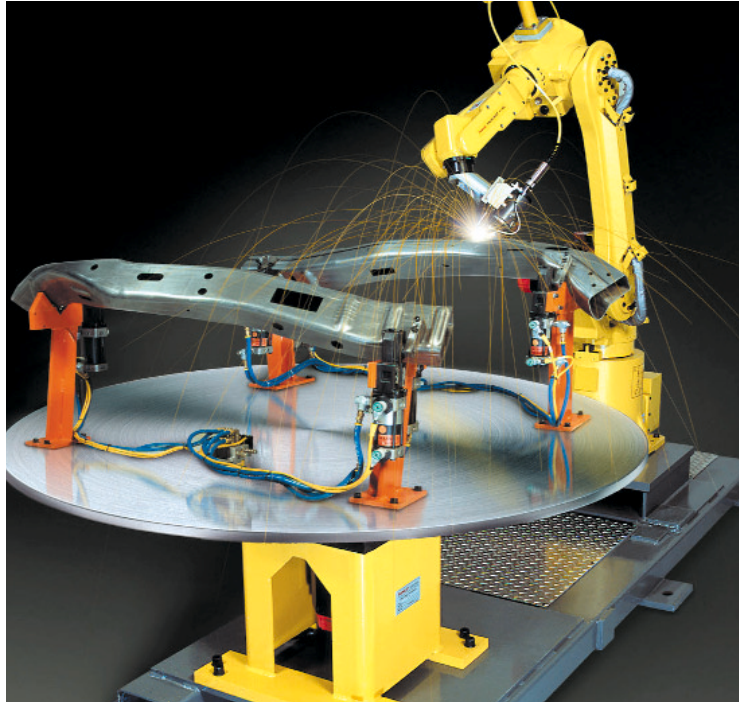
**FANUC**  
Robotics

## Basic Description

FANUC Robotics' LASER Mate System 1™ is a high-performance laser-processing cell designed to provide metal fabricators a complete, reliable and cost-effective process solution for laser cutting and welding. LASER Mate System 1™ includes the FANUC Robotics YAGROBOT™ series robot with proven application software, a FANUC Robotics AM-IN1000 servo controlled "Index Table" style positioner, laser process equipment and a safety environment with light tight enclosure.

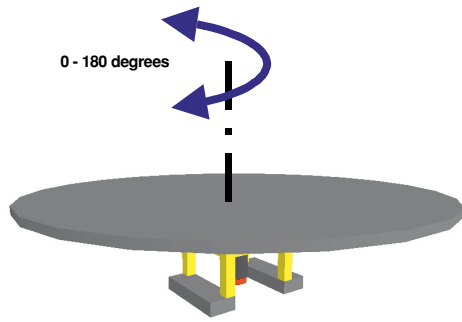
## Features and Benefits

- YAGROBOT™ is a complete laser processing solution that delivers optimum laser processing performance by utilizing superior mechanical design, advanced software control and leading edge laser technology through a common teach pendant interface.
- CDRH registered Class 1 light tight enclosure with electrically interlocked access door for operator safety.
- Patented passive light tight cell design provides fast and maintenance-free part interchanges.
- Shape Generation software reduces programming time for hole cutting and improves part quality.
- High-speed YAGROBOT™ and positioner allows quick repositioning to minimize cycle time.
- Index table design allows safe part load and unload on one side while robotic welding or cutting on the other side, maximizing system throughput.
- Sturdy design allows operator or robotic load and unload of parts without affecting process performance.
- Robot and operator work zones are electrically interlocked for operator safety during part load/unload.
- Ergonomic work height helps reduce operator fatigue.
- Electrical lockout on the main interchange axis ensures operator safety.
- Index table positioner with 1000 kg payload per side capacity minimizes fixturing constraints.
- Servo index function integrates the positioner control through the teach pendant providing 0° and 180° positions.
- Standard tooling plates ease fixture changeovers.
- The same FANUC AC servomotors and controls that deliver reliable robot performance are used on the servo-controlled positioner axes.
- Programmable Machine Controller (PMC) provides capability to execute Ladder Logic on the robot controller, eliminating the need for some external controllers.
- System control panel option includes power distribution, servo lockout, programmable logic controller (PLC) and dual robot interface.
- Operator station control option includes maintenance position, position index and clamp control.
- Rugged construction maximizes equipment longevity.
- FANUC RV reducers are designed for years of trouble-free performance.
- Pre-engineered mounting location for peripheral devices simplifies system integration.
- Standard system libraries for laser EOAT, maintenance positions/ paths and home position simplify setup and system modifications .
- Enclosed cables eliminate trip/ safety hazards.
- Ships on standard size trucks and can be installed with minimal rigging equipment.
- Low positioner table allows for tooling buildup while maintaining an ergonomic load height.

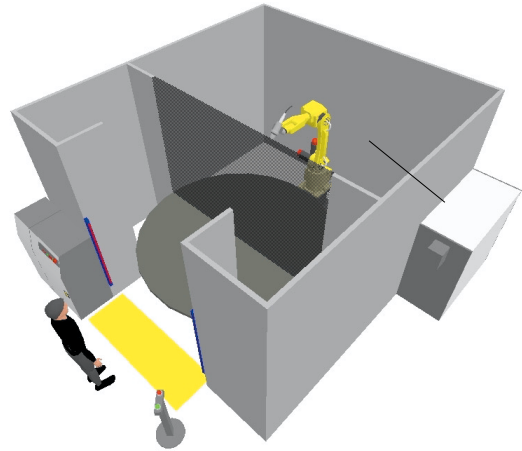


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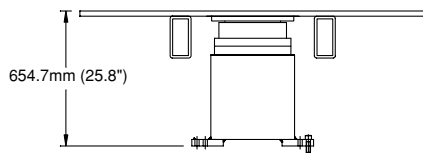
## AM-IN1000 Positioner Isometric



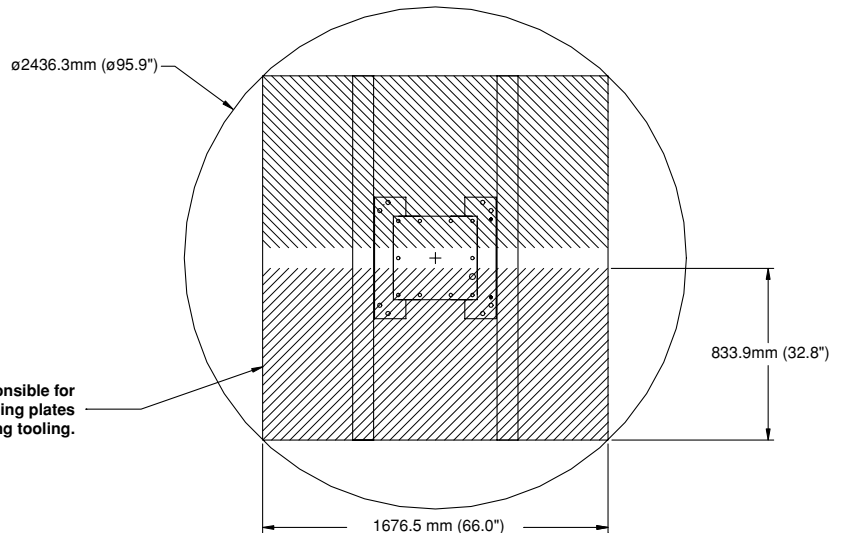
## LASER Mate System 1™ Isometric



## AM-IN1000 CAD data



**Side**



**Top**

Customer responsible for machining the tooling plates and mounting tooling.

## AM-IN1000 Specifications

| Items                     |                                      |
|---------------------------|--------------------------------------|
| Main interchange axis     |                                      |
| Motion range              | 0° to 180° horizontal oscillating    |
| Interchange time          | 3-4 sec                              |
| Fail safe brakes          | Standard                             |
| Maximum work axis payload | 1000kg balanced (2200 lbs.) per side |
| Mechanical brake          | Standard                             |
| Mounting plate            | 1676.5mm x 833.9mm (66.0" x 32.8")   |
| Max part size             | Within 2436.3 mm (95.92") diameter   |
| Repeatability             | 0.000146 mm/mm radius                |
| Weight                    | 800kg (1660 lbs.)                    |
| Load height <sup>A</sup>  | 654.7mm (25.8") at load side         |

**Note:**

A) May change, depending on customer application.



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