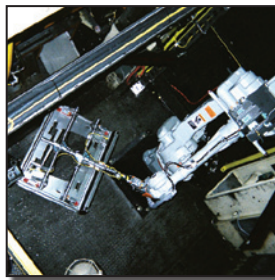


# MACHINE TENDING SOLUTIONS



## STANDARD “WORLD” MODULES

Yaskawa Motoman offers a wide range of pre-engineered, standard “World” modules for tending CNC machines, die cast machines, injection molding machines, presses and other types of metal-cutting and metal-forming machinery. These cost-effective modules can be configured to meet your production requirements and are easy to set up and operate.

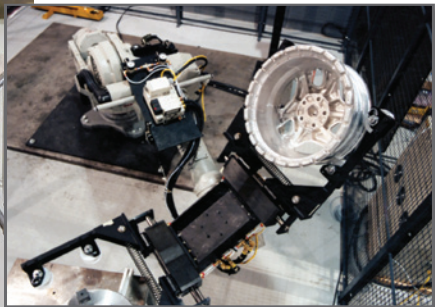
# LOAD IT! UNLOAD IT! TEND IT!

### LoadWorld® Modules

Yaskawa Motoman’s modular, flexible **LoadWorld** solutions are designed to load/unload work pieces like wheels, shafts, gears and other machined parts to and from CNC turning centers, CNC lathes or other automated machine tools. Multiple configurations are available to meet specific machine layout and throughput requirements, including:

- Single machines
- Dual machines facing each other
- Dual machines facing each other at 90 degrees
- Multiple machines arranged in U-shaped or circular layouts

LoadWorld series include a Motoman® robot, gripper, gripper valve pack, universal machine interface and cell guarding. Options include infeed/outfeed conveyors, rotary part feeding positioners, and machine-specific interfaces.



### Machine Tending Solutions

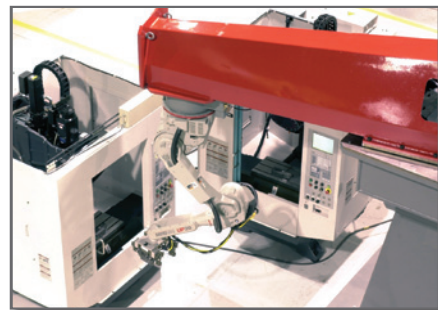
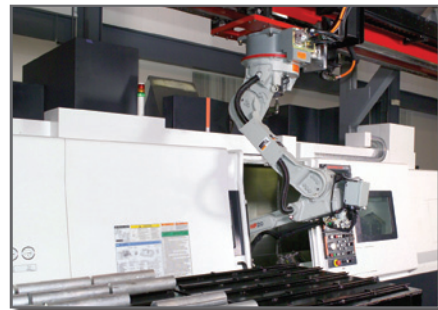
From modular designs to unique, custom-tailored solutions, Yaskawa Motoman offers innovative machine tending systems that will increase productivity and quality. Yaskawa Motoman’s extensive product line of more than 175 robot models includes a wide range of general-purpose manipulators, as well as application-specific models (used for foundry, die casting, press tending and injection molding).

### Innovative Robot Arms

Yaskawa Motoman’s revolutionary **7-axis SIA-series** robots feature an actuator-driven design that enables amazing freedom of movement, coupled with the ability to maneuver in very tight areas. SIA-series robots can be positioned between machines or out of the normal working area (floor-, ceiling, wall-, incline- or machine-mounted).

Yaskawa Motoman’s **dual-arm robots** provide enhanced, “human-like” flexibility of movement. This revolutionary, innovative design makes SDA-series robots ideally suited for a wide variety of machine tending, assembly, part transfer and other handling tasks that formerly could only be done by people. Both robot arms can work together to double

the payload or accomplish intricate tasks. In addition, both robot arms can perform tasks independently without degradation of throughput. A dual-arm robot can transfer a part from one of its arms to the other with no need to set the part down temporarily. It also provides “jigless” operation, allowing one robot arm to hold the part while the other performs the required process(es).



### Overhead Solutions

Some layouts call for robots to be mounted overhead:

- **MotoRail™ 7** series solutions feature one (or more) rail-mounted robot(s). This saves valuable floorspace and provides seven axes of motion, as well as extended reach and additional dexterity for handling secondary operations. MotoRail 7 enables the robot to access a line of machines from the top or front.
- **MotoSweep™ O** features a robot invert-mounted from a transport beam, providing the robot expanded reach to service multiple machines in radial arrangements. MotoSweep O provides improved clearance and flexibility to allow part loading/unloading to be performed from the front, side or top of machines. It facilitates access for tool change, part setups and maintenance.





# CUSTOM SOLUTIONS

Yaskawa Motoman delivers highly custom solutions to meet unique customer requirements through our experienced Automation Group.



## Automation Group

Yaskawa Motoman's Automation Group has provided unique, innovative solutions for more than 20 years to meet customer-specific robotic application needs. Projects typically range from \$80,000 to \$10 million.

The Automation Group performs design, build, testing and installation of fully integrated custom automation systems. The Automation Group provides a single source for robots, application process expertise, controls, material handling, safety, integration and installation.

Application engineers with extensive process experience evaluate the project, then concept and quote the best robotic solution to meet each customer's automation needs. This solution may use many of our standard "World" modules or be a completely unique custom system. A Project Manager is assigned to every Automation Group project and coordinates all details to ensure that a customer's schedule, delivery and budget requirements are met.

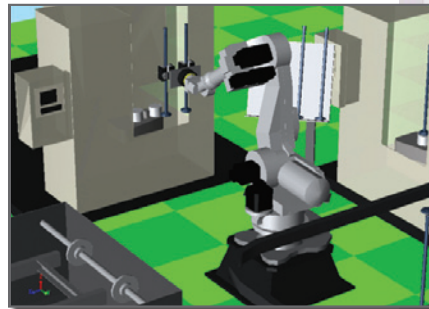
Our goal is always total customer satisfaction!

# MOTOMAN CAN HANDLE IT!

## ADVANCED SOFTWARE ENHANCES PRODUCTIVITY, UPTIME

Yaskawa Motoman also offers a comprehensive suite of advanced software tools designed to help customers maximize productivity and system uptime.

- **MotoSim® EG** (Motoman Simulation System with Enhanced Graphics) is advanced, PC-based, next-generation robot simulation software with improved graphics and new features that allow users to optimize robot performance and minimize time required for installation and start-up. It provides standard tools to import product and design information from CAD systems. MotoSim EG also allows for optimization of solution layout and verification of reach and cycle time early in the design phase.
- **MotoCal®** PC-based calibration software increases accuracy of simulations allowing highly accurate off-line programming.
- **RobotPro®** PC-based troubleshooting, maintenance and repair software helps optimize system uptime.
- **Communications software packages** transfer robot programs between PC and robot controller (FMS – File Management System), MotoFTP™, MotoAdmin™, VDE Ethernet, VDE Serial, MotoCom SDK, FDE – Floppy Disk Emulation for Windows®, and Visual DCI with OLE.)
- **EasyLoad™ Pendant** software improves productivity for basic machine tending applications. This software allows the robot to be programmed using graphics and engineering units rather than traditional robot programming, which dramatically reduces setup time and makes robotics feasible even for job shop operations.



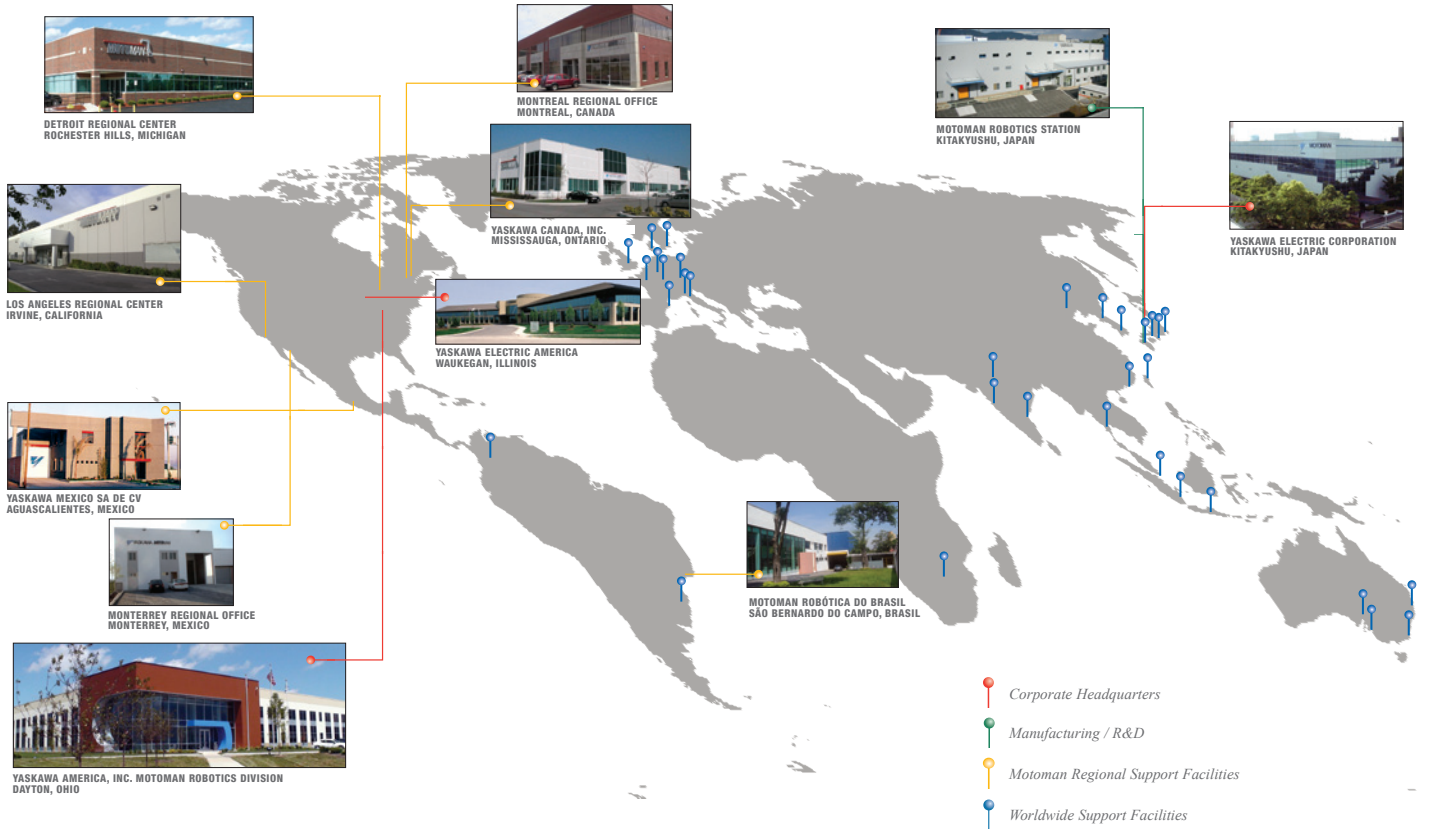
## CUSTOMER SATISFACTION

Yaskawa Motoman's commitment to providing the ideal solution for your robotic application does not end with the installation. Once installation is complete, our Customer Satisfaction Group will assist you to ensure that your system uptime is maximized and that your costs are minimized, allowing for the quickest return on your investment. Yaskawa Motoman offers:

- Worldwide support
- 24-hour technical support hotline: 937.847.3200
- Highly qualified application programming support
- Expert regional field service technicians
- 80+ robots, 13 classrooms and 11 instructors dedicated to technical education classes



# GLOBAL SUPPORT NETWORK



## HEADQUARTERS

Yaskawa America, Inc.  
 Motoman Robotics Division  
 100 Automation Way  
 Miamisburg, Ohio 45342  
 Tel: 937.847.6200  
 Fax: 937.847.6277

## REGIONAL SUPPORT CENTERS

*Detroit Regional Center*  
 2050 Austin Ave.  
 Rochester Hills, Michigan 48309  
 Tel: 248.668.8800  
 Fax: 248.668.8811

*Los Angeles Regional Center*  
 1701 Kaiser Avenue  
 Irvine, California 92614  
 Tel: 949.263.2640  
 Fax: 949.263.2644

## INTERNATIONAL FACILITIES

*Yaskawa Canada, Inc.*  
 3530 Laird Road Unit 3  
 Mississauga, Ontario L5L 5Z7  
 Canada  
 Tel: 905.569.6686  
 Fax: 905.569.2240

*Yaskawa Canada, Inc.*  
 Montreal Technical Center  
 298 Labrosse  
 Pointe Claire, Quebec H9R 5L8  
 Canada  
 Tel: 514.693.6770  
 Fax: 514.693.9212

*Yaskawa Mexico SA de CV*  
 Circuito Aguascalientes Oriente 134-C  
 Parque Industrial del Valle  
 de Aguascalientes  
 Aguascalientes, AGS. Mexico 20140  
 Tel: 52.449.973.1170  
 Fax: 52.449.973.1171

*Yaskawa Mexico SA de CV*  
 Monterrey Mexico Regional Office  
 Av. Regioparque 128  
 Fracc. Industrial Regioparque  
 Apodaca, N. L. C. P. 66633 Mexico  
 Tel: 52.81.8386.8113  
 Fax: 52.81.8386.8112

*Motoman Robótica do Brasil*  
 Av. Dona Ida Cerati Magrini, 936 -  
 Vila Oriental  
 09951-260 - Diadema - São Paulo  
 CEP 09951-260  
 Tel: 55 11.4352.3002  
 Fax: 55 11.4352.3338

# www.motoman.com

YASKAWA AMERICA, INC. • MOTOMAN ROBOTICS DIVISION  
 100 AUTOMATION WAY, MIAMISBURG, OHIO 45342  
 TEL: 937.847.6200 • FAX: 937.847.6277