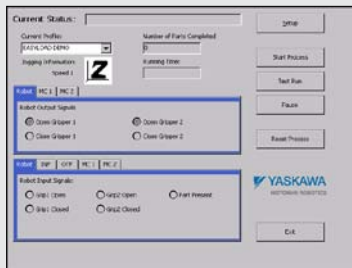


# EasyLoad

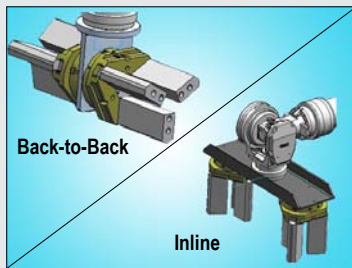
## EasyLoad Machine Tending Software



EasyLoad™ machine tending software is a pendant application that uses a touch screen interface on the DX100 and NX100 programming pendants to provide conversational, graphics-based robot programming. EasyLoad includes a software wizard that guides the user through simple step-by-step procedures to create complete, custom robot programs for the desired machine tending process. Job setup is fast and easy.



OPERATIONS SCREEN



GRIPPER OPTIONS

### TOP REASONS TO BUY!

- Reduces the training required for system operation! Allows operators with minimal programming skills to quickly and easily configure the Motoman® robot(s) using a conversational, graphics-based approach.
- Enhances productivity by reducing programming time.
- Maximizes capital investment in automation by allowing one robot to perform a multitude of processes on a wide variety of parts.

### HIGHLIGHTS

#### Conversational Programming

■ Using a conversational, graphics-based approach, EasyLoad wizard leads the user through every step of the simple setup process.

■ Instead of text-based commands, most programs can be created using graphics and data input screens.

■ The user only needs to be able to manipulate the robot, record points and enter specific data about the process.

■ User teaches several positions for each machine, as well as pickup/set-down points. EasyLoad uses this information to generate programs.

■ Traditional point-to-point programming is not typically required, but is available, if needed.

■ Part setup is fast and easy, and so is making changes during a production run.

■ Videos on the pendant demonstrate common tasks that the operator must perform.

■ EasyLoad configurations can be set up once, then applied to multiple workcells.

#### Wizard-Guided, Step-by-Step Approach

■ Using the touch screen, the user enters critical dimensions for the part and other process data at different steps within the operational sequence.

■ User selects the machine model for each operation and enters a sequence of operations. Machines already configured in EasyLoad include critical machine dimensions. The inputs and outputs required to communicate between the machine and robot are also included in the machine configuration.

■ User attaches simple teaching aids to the robot arm and teaches touch-off points for each key position within the workcell. After recording points, the user removes teaching aids.

■ Once required data is entered, EasyLoad software automatically generates the robot program, using pre-defined templates. These templates include basic logic and safety signals.

#### Flexibility

■ EasyLoad works with a variety of infeed and outfeed equipment, including:

- Conveyors
- Turntables
- Pallets

■ Variety of machines supported:

- Haas SL-series lathes
- Haas vertical machining centers (VF-1 through VF-5)
- Other machines (contact Motoman for engineering review)

■ Supports single or dual grippers in either back-to-back or inline configuration (back-to-back gripper required for pallet tending applications).

■ Job templates and profiles can be customized, as needed.

■ Multiple configurations can be saved for re-use, allowing one robot to handle variety of parts or processes.

#### ARM YOURSELF...

...with EasyLoad software and make programming machine tending applications fast and easy.

## SCREENS

**Part Dimensions**

Part Dimensions:  
 A: 100.00 mm  
 B: 100.00 mm  
 C: 90.00 mm

Define Grab Position:  
 Pick up part on side #: 2  
 Pick up part: 50.00 mm from side #: 5  
 Pick up part: 49.00 mm into gripper.  
 Place side #: 1 into next chuck onto next surface.  
 Place: 30.00 mm into chuck or past next surface  
 Overdrive: 1.00 mm past calculated destination

Side 1 is touching the XY plane.

<- Back   Accept   Cancel

PART DIMENSION

**Machine Setup**

Select the Number of CNC Machines:  
 One Machine    Two Machines    Three Machines

How to maneuver robot < Help >   Where to touch off   Speed: 1   Z

Machine 1   Machine 2

Select Machine Type: Haas SL-20

Positioning  
 Maneuver the robot to each of the touch off points and click Record after each point.

Clear Positions

Standby Point	Record Standby	Recorded	Verify Standby
Touch Off Point 1	Record Point 1	Recorded	Verify Point 1
Touch Off Point 2	Record Point 2	Recorded	Verify Point 2
Touch Off Point 3	Record Point 3	Recorded	Verify Point 3

When all points have been recorded, move the robot back to the Safe Home position, then hit Next.

Accept   Cancel

MACHINE SETUP

**Process Sequence**

New entries will be added after highlighted step. Please define the sequence of operations for current part. Use the options below and push Add to create a process step.

Action:  
 Goto: Outfeed Station   Action:  Pick Part  
 Gripper 1    Gripper 2    Place Part

Machine #: MC 1   Operation #: OP 1

Auxiliary Station:  
 Call INFORM Job: BITSHIFT

Record Waypoints

Do not return to standby position

Delete Step   <- Back   Accept   Cancel

PROCESS SEQUENCE

**Pallet/Conveyor Configuration**

Please enter the critical dimensions of your conveyor or pallet.  
 NOTE: If you are using multiple infeeds or outfeeds, the dimensions are common for all infeeds or all outfeeds.

Number of Items on X-Axis: 4  
 Number of Items on Y-Axis: 3  
 Number of Layers: 1

Distance To Part Center From Origin (X-Axis) (mm): 60.00  
 Distance To Part Center From Origin (Y-Axis) (mm): 57.00  
 Distance To Base of Part From Origin (Z-Axis) (mm): 0.00

Distance Between Parts (X-Axis) (mm): 126.00  
 Distance Between Parts (Y-Axis) (mm) (C): 126.00  
 Distance Between Layers (mm) (D): 0.00

<- Back   Accept   Cancel

PALLET-CONVEYOR CONFIGURATION

## Optional Teaching Aids

- Several standard teaching aids are available as an option from Motoman. These teaching aids allow the user to accurately locate parts and machines within the cell. The accuracy of this information is important for the best system performance.
- Because of the wide range of part sizes and fixtures, the customer might prefer to design and machine their own teaching aids. Motoman will provide basic drawings which can be customized to fit specific needs.