YASKAWA
PARTNER SUPPORT
Shared Integration Experience

This document captures ideas, experiences, and informal recommendations from the Yaskawa Partner Support team. It is meant to augment – not supersede manuals or documentation from motoman.com. Please contact the Partner Support team at partnersupport@motoman.com for updates or clarification.

Data Needed for a MotoSim Simulation

Introduction

For a simulation to produce accurate results, specific kinds of data are needed from the customer or the simulation results will fail.

Below are lists of common and unique data types required for a successful simulation.

General Data Needed for all Simulations:

Most simulations require a common set of data needed for accurate results.

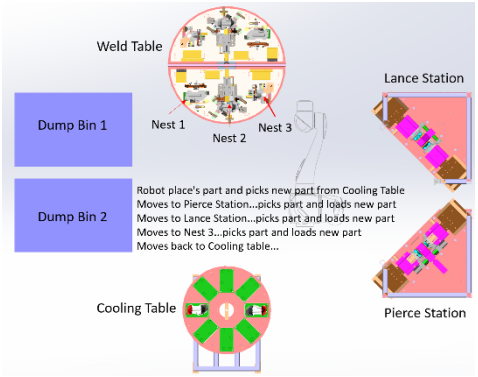
Below are 6 data types needed for any simulation.

Data Type	**Notes**
1. 3D Model of the Cell Layout	If a 3D model is not available, then 2D drawings will be needed, but will reduce accuracy
2. 3D Model of the Tool	The tool's mass and center of gravity are also needed
3. 3D Model of the Part	The part's mass and center of gravity are also needed
4. Visual Process flow of Layout	Definitions and workflow needed for simulation (see example image below)
5. Tool Actuation Time	The time it takes for a handling tool to activate (in seconds)
6. Requested Cycle Time	Helps fine-tune the programming

NOTE: When importing 3D models into MotoSim, the best CAD formats are in this order:

1. Original CAD format (Solidworks, Inventor, CATIA, CREO)
2. Parasolid (x_t)
3. STEP file
4. IGES

In addition, there are unique data types needed for handling type and process type simulations…



Handling Type Simulations:

A document showing the robot pick/place location is important to help define where cycle begins and ends. The table below lists additional, specific data needed:

Simulation Type	Specific Data Needed
Assembly	Assembly Instructions
Case Packing	Case Patterns
Machine Tending	Machine Actuation Time
Palletizing	Pallet Patterns
Press Tending	Press Actuation Time

Process Type Simulations:

A 3D model representing a fixture is usually needed for a process simulation. The table below lists additional, specific data needed:

Simulation Type	Specific Data Needed
Arc Welding	Weld print
Cutting/Trimming	Trim Path Document
Dispensing	Dispense Path Document
Machining	Press Actuation Time
Paint	Paint Spray Definition and Paint Pattern
Spot Welding	Weld Print