

**I FD-1 Front-entry Type**  
**Compact Automated Solution**  
**~ Practical, Easy to Operate and Affordable!**

# FD-1 +lathe Match combination



## Nimble. Practical

\*Meets the Automation Needs of Small and Medium Product Series

**FD-1** is your fully integrated solution for production. With flexible robot units, you can combine various processing steps with minimal personnel investment needed, providing versatile support for **High Mix small and large volume production.**

It can be used as a standalone unit, in conjunction with a machine tool, or as a component in a broader production line.

**FD-1** offers integrated automation solutions suitable for **High Mix small and large volume production.**

# What can you do with FD-1?



- ✓ **FD-1** is a material loading system that integrates with industrial robots. It is suitable for use in conjunction with milling, turning, cleaning, inspection, or other feed systems.
- ✓ **FD-1** can be configured alongside a single processing machine as part of the production operation. It utilizes multi-layered trays for increased storage capacity.
- ✓ **This** system is ideal for relatively small to medium-sized parts.
- ✓ **FD-1** retains work space for manual mold changing, and its arm can move left and right. The tray size is 15.35x12.6" 390x320mm, specifically suitable for small to medium-sized pieces, maintaining a weight that can be handled by one person even after loading the workpiece onto the tray.
- ✓ **The** trays can store different types of pieces, which can be loaded by the system according to processing requirements. Utilizing a touchscreen panel, FD-1 offers visual display of the production progress, enhancing user-friendliness and intuitiveness.
- ✓ **Its** control system is built on an industrial computer framework, enabling flexible communication with peripheral machines.

# Front-entry Type -Tray storage silo system

## Advantages

### • Advantage 1 :

- Continuous Production with Non-stop Material Refilling
- Suitable for small and medium-sized parts.
- Equipped with multiple-tier trays, providing flexible storage capacity.
- Small footprint.



# Front-entry Type -Tray storage silo system

## Advantages.



### • Advantage 2:

- Touchscreen panel for user-friendly operation.
- Displays production status for intuitive learning.
- PC-based system, easily integrates with peripheral systems for communication.
- The system can store multiple production items, enabling quick changeovers.
- The system can record error messages for information collection.
- The system is highly autonomous with minimal operator intervention needed.

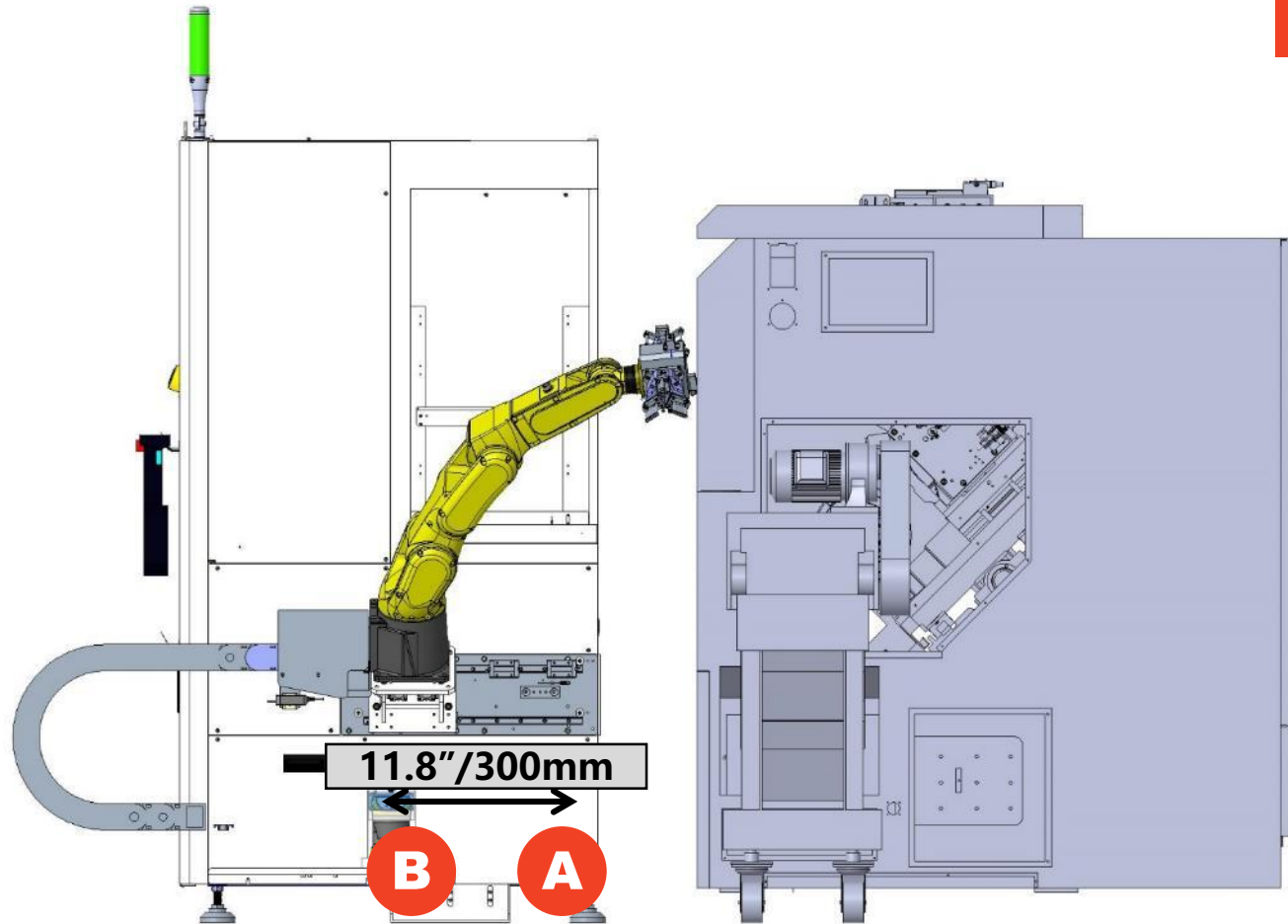
# Front-entry Type - Tray storage silo system



## Advantages.

- **Advantage 3 :**
  - The Robot is close to the tray, reducing the pick-and-place distance.
  - The arm can be manually moved 11.8" /300mm to the left or right, creating space at the machine door for easy mold change by personnel.
- **Advantage 4 :**
  - Compatible with a vision system..
  - The vision system can be used with randomly positioned workpieces. After the robot recognizes them, it can pick them and place them inside the machine tool, eliminating the need for custom trays.
  - Suitable for use with **High Mix small and large volume production**, diverse products, and quick changeovers.

# Robot movement range

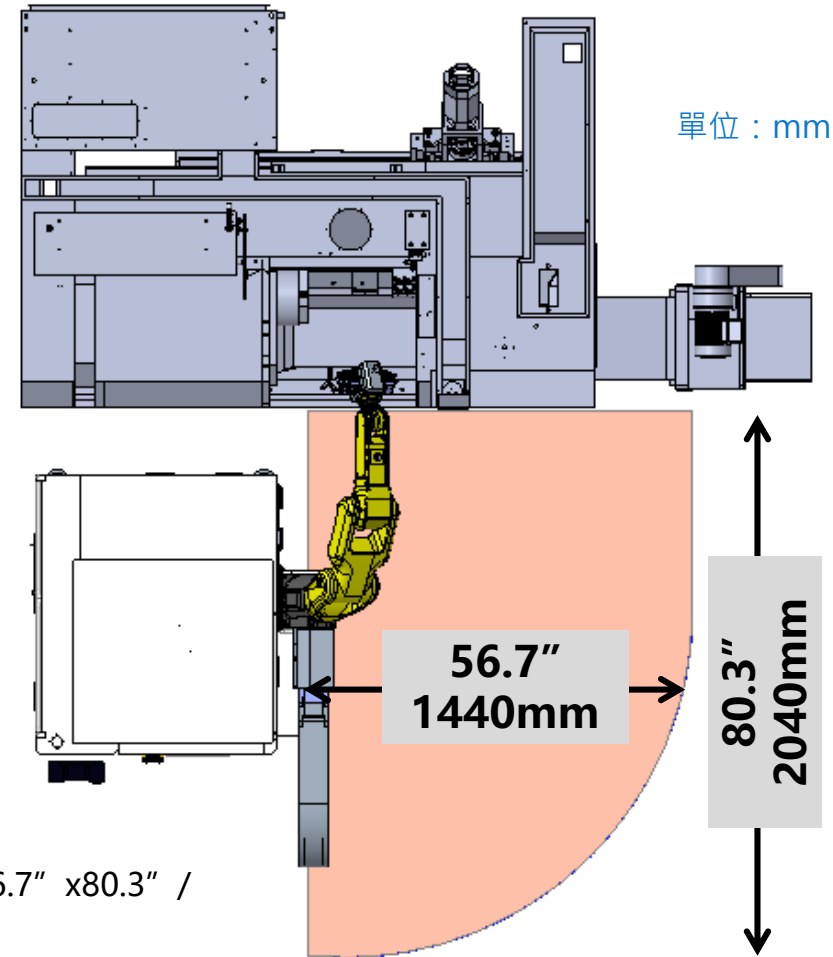
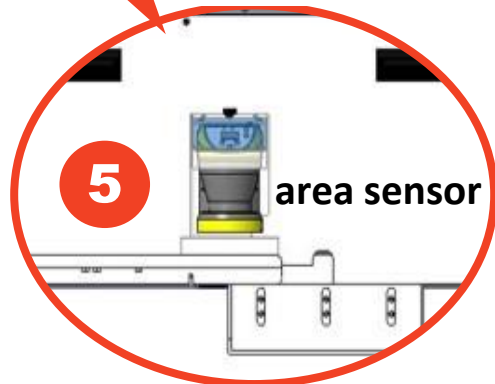
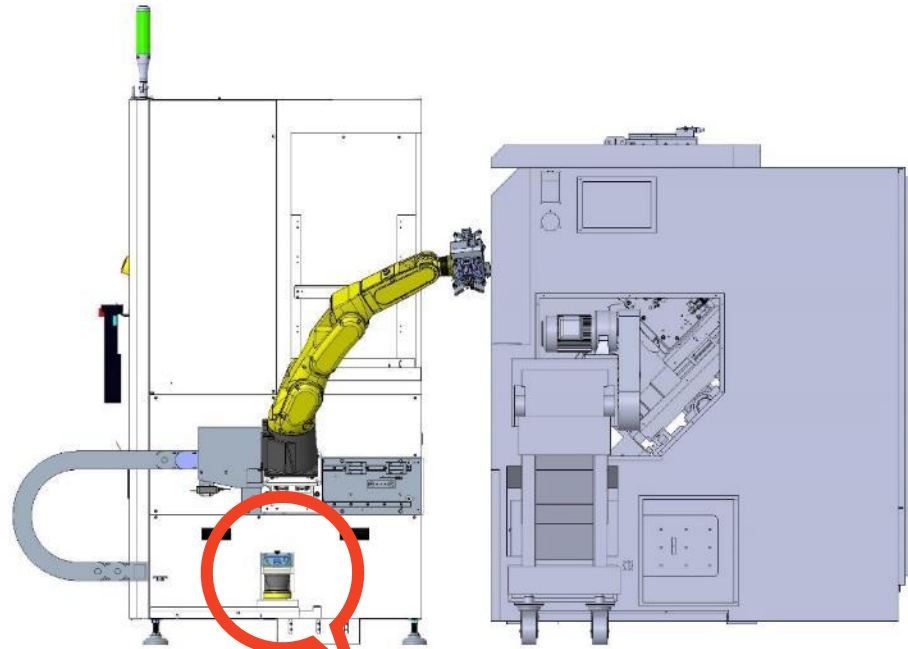


## Feature.

### Movable Robot use:

- Originally workers were impeded by the robot being located at the front entrance, blocking the space for mold changes.
- FD-1 utilizes a movable robot to address this issue.
- The robot can be manually moved 11.8" / 300mm within the AB range.
- When space is required, the robot is manually moved from A to B. When production needs to resume, it is moved back to point A.

# Area sensor and CNC machining machine spatial configuration.



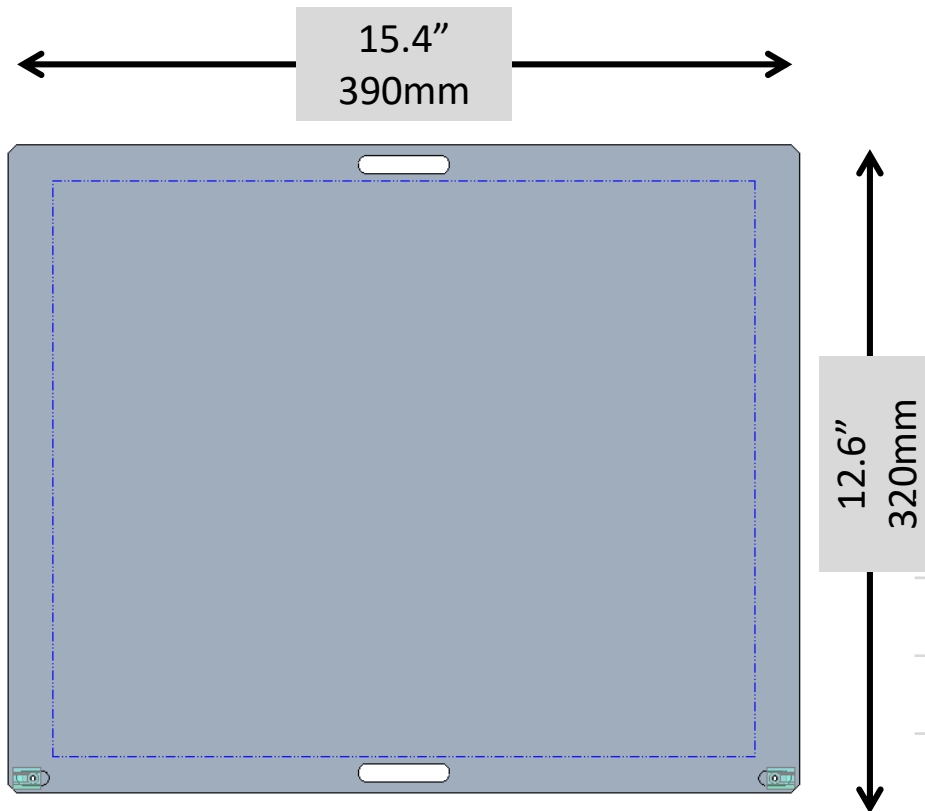
- **Area sensor range:**

- Floor scanning range 56.7" x80.3" / 1440mmx2040mm

(Adjust the scanning range as needed)



# Trays Specifications



- **Specifications:**

- Internal space inside the tray (within the dashed lines):  
Width 15.4x12.6" / 390mm x320mm
- Material: Aluminum
- Max load on single layer: 44lb/20kg

- **Reference for tray placement quantity:**

Part dimensions ("/mm)	Part height ("/mm)	Single layer quantity (units)	Total number of storage bins (units)
Ø65	2.3/58.8	20	320
Ø28	1.3/33	80	1280
3.8x2.4/96x60	0.5/12	35	560
1.2x1.7/30x43	0.7/17	63	1008

\* the actual placement of materials and weight depends on design specifications.

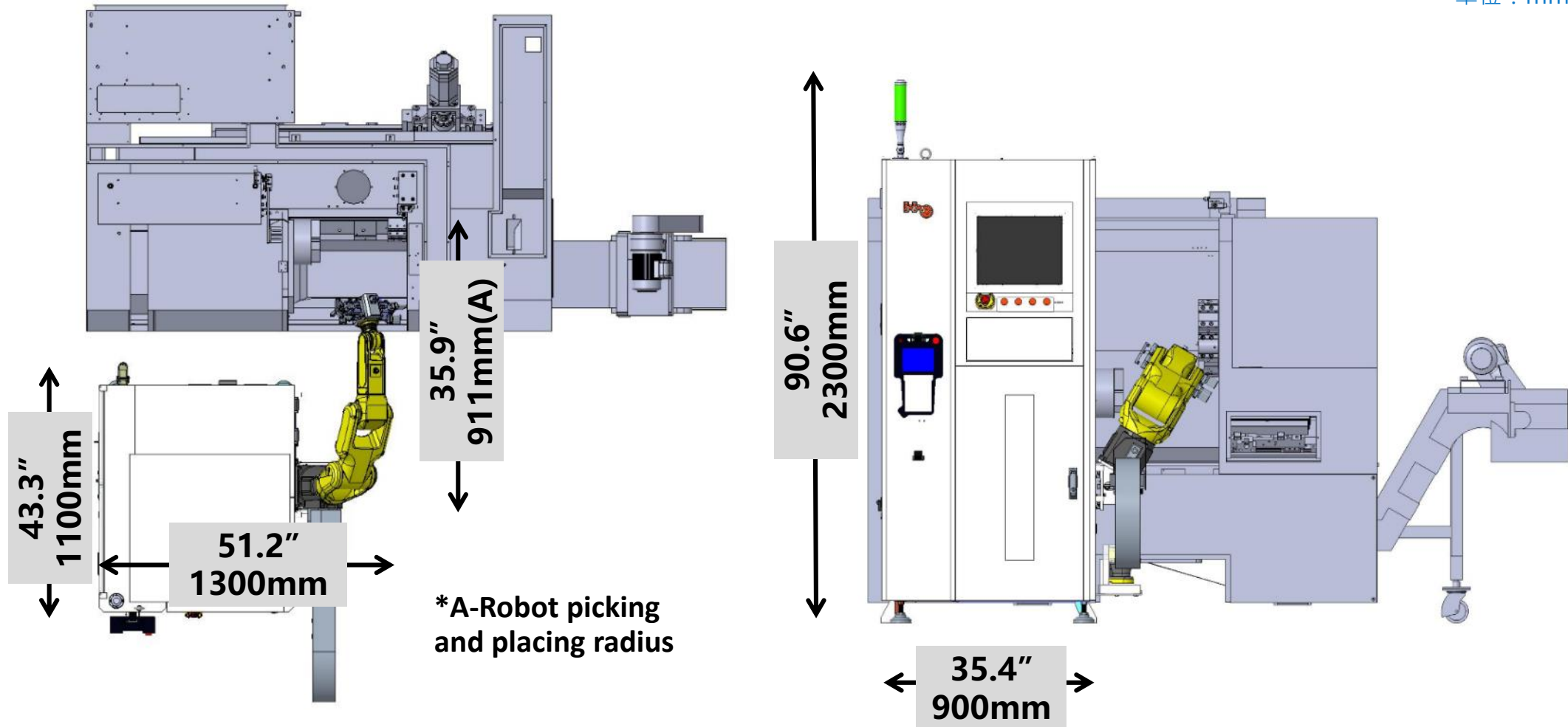
# Robot, Communication, and Footprint Specifications



	Description	
		FANUC Or as per customer requirements
<b>Robot Type</b>	FANUC Type	LR Mate 200iD/7L
	Payload robot	15.4lb / 7kg
	FANUC Max. reach(X, Y) ( "/mm)	35.9" / 911mm , 64.7" / 1643mm
<b>Interface Specifications</b>	Interface specifications	Standard configuration      IO-Link
		Optional                      Physical I/O cards, hardware, etc.
<b>Footprint Specifications</b>	<b>Dimensions:</b>	
	Length * Width * Height ( "/mm)	53.2" x43.3" x90.6" / 1300mmx1100mmx2300mm

# Footprint Illustration

單位 : mm



# Application Areas



# Ideation. Realization.



- **Ideation:**

- We understand that business owners want to know how automation affects finances, what its cost's are, and what advantage it can bring to you. Therefore, automation's primary purpose is to enable the company's ability to compete in the long run.
- When it comes to the implementation of CNC automation in the production line, the challenge is not in choosing the brand and price of robotic arms but in planning the utilization of automation. The needs of each business owner vary, with differences in facilities, manpower, products, and more. These factors cannot be resolved simply by comparing prices.
- It's ideal when repetitive tasks and production of products during nights and weekends can be carried out with greater autonomy through automation!
- Planning for automation is highly customized, but we believe we can assist you through this process.

# Ideation. Realization.



- **Realization:**

- Like procuring CNC machines, there are many peripheral considerations that need to be taken into account, with utilization rates being the main one. After evaluating your organizational manpower, product output, process sequences, inspection requirements, facility layouts, information flow configurations, etc. , we will provide a planning diagram that aligns with your expectations, ensuring successful implementation.
- Planning doesn' t account for all variables , but our years of integration experience demonstrate that we can help you realize your needed automation plan. The only thing left now is for you to call us!
- **We welcome you to contact us and look forward to working together to achieve your automation goals.**



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