

# Machine Tending Solutions

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Bring speed, flexibility, and precision to a new level with CNC machine tending solutions.

We can provide

- Increased efficiency
- Fast payback
- Consistent quality



**Ralph W. Earl**   
AUTOMATION SOLUTIONS

Automate a continuous machine tending cycle  
for your facility to improve production.



## With your CNC machine tending solution, you can:

- *Pick and place raw or finished parts*
- *Open and close machine doors*
- *Start machine*
- *Monitor machine status*
- *Air clean parts and workholding*
- *Open and close workholding*

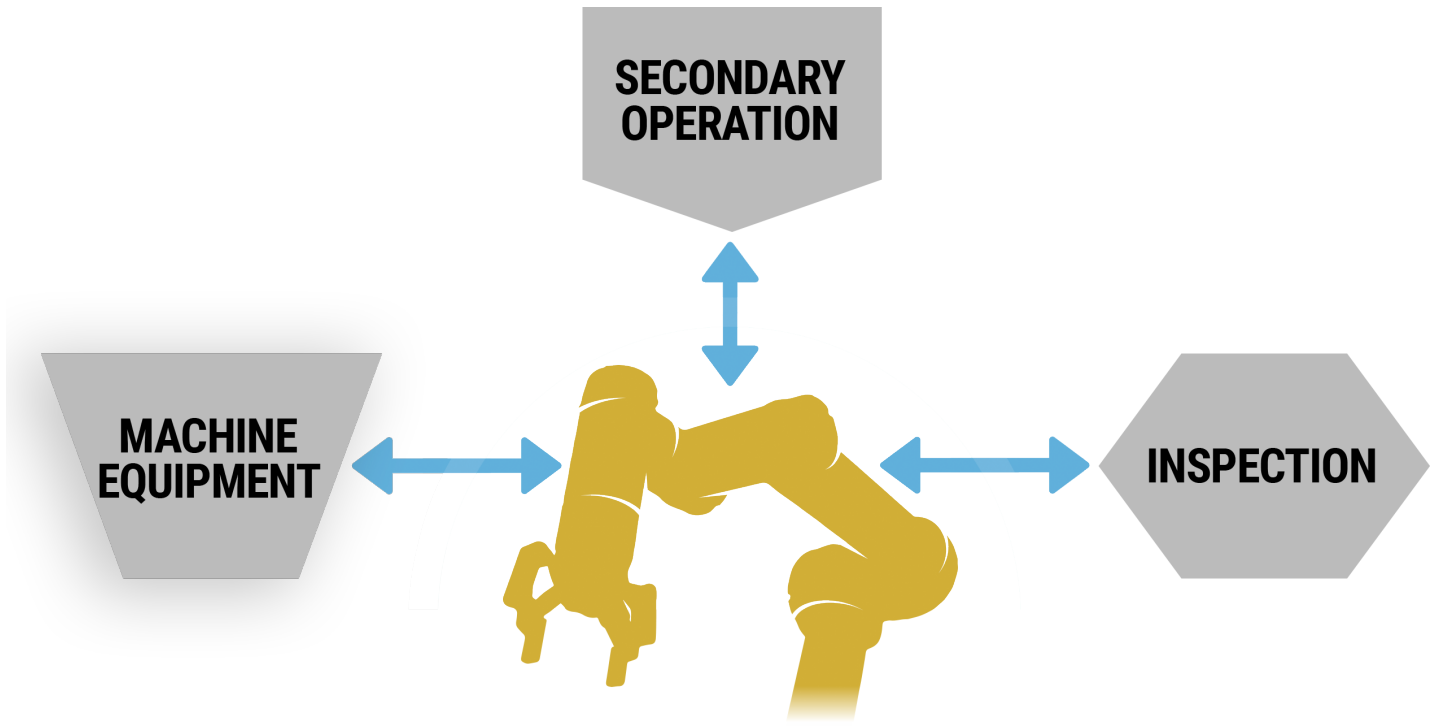
## Anatomy of a robotic machine tending cell:

- |                |                  |             |
|----------------|------------------|-------------|
| 1. CNC machine | 4. Operator      | 7. Gripper  |
| 2. Workholding | 5. Teach pendant | 8. Robot    |
| 3. Controller  | 6. Parts         | 9. CNC door |



# Flexxbotics™

Flexxbotics provides continuous operations, more capacity, greater efficiency, and increased profit per part.



## Basic

- *Load/Unload Parts*
- *Cycle Start*
- *End Cycle Detection*
- *Peripheral Control*

## Standard

- *Status & Downtime*
- *Fault Detection*
- *Alerts & Escalations*
- *Part Count and Cycle Time*

## Advanced

- *In-line QC*
- *Closed-loop SPC*
- *Failure Count & Reasons & Yield*
- *Utilization, OEE and more*

# New Scale Robotics

## Machine Parts Automated Gauging System

Part handling and gauging is automated with mobile robotic workstations in high mix, small batch manufacturing applications.



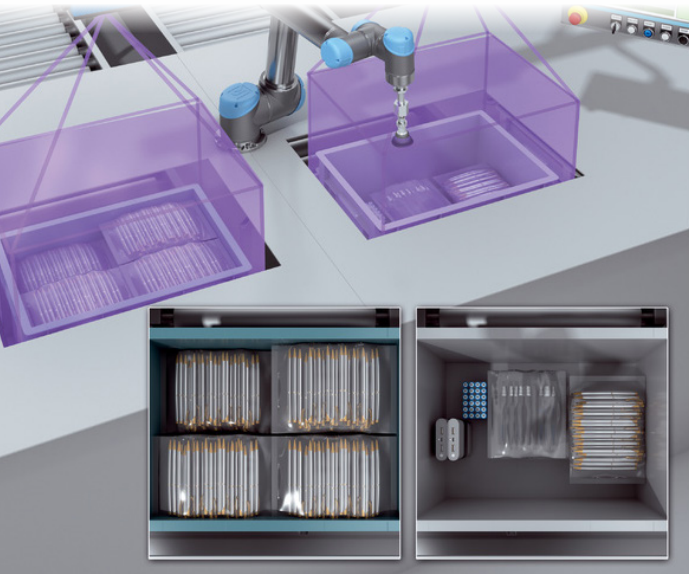
# MiR

## ER-FLEX

**Reduces machine tending downtime and automation costs using:**

- *Integrated vision system*
- *Status light indication system*
- *Integrated safety/ E-stop system*
- *Fixing plate for attaching accessories*
- *Modular and flexible for any application*





## 3D Bin Picking with Photoneo and SICK

- 3D Vision system
- Powerful localizing algorithms
- Full path planning and collision avoidance
- Robot agnostic
- Speedy cycle time
- 24/7 operational

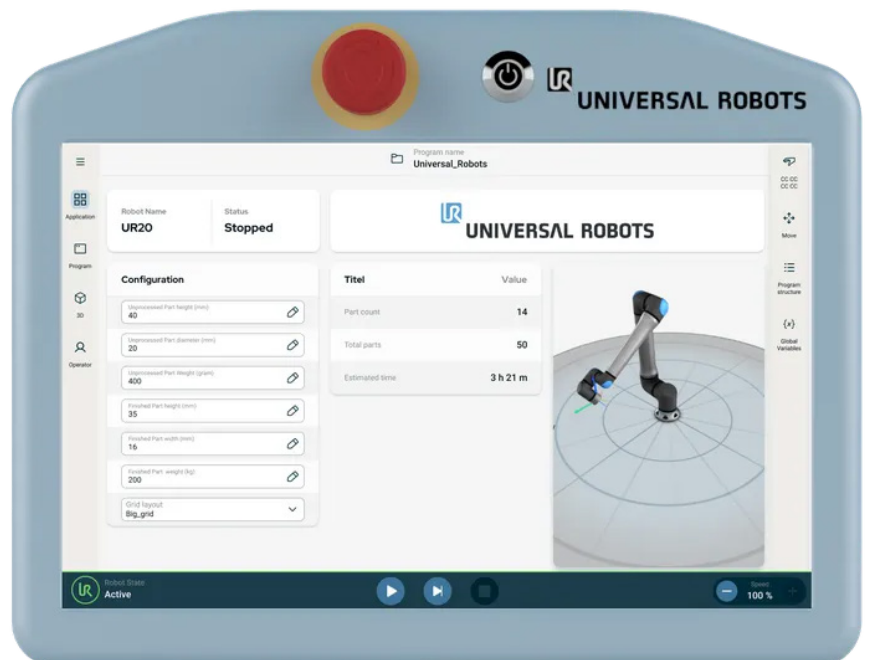


# UNIVERSAL ROBOTS

**PolyScope X:** Software platform that allows for flexibility in machine tending applications.

### Capabilities:

- Enhanced integration toolbox
- Reuse codes
- Intuitive interface
- Simplified visual controls



# V E R S A **B U I L T** R O B O T I C S

## Mill Automation System:

Requiring no robot experience for operation, the Mill System allows for the complete automation of high-mix machining and multi-operation parts.

## Lathe Automation System:

A reliable solution for automating turning operations using a simple, intuitive interface and no programming.

## Build your own system:

Choose the components you need for specific parts, to create a system that can match the complexity of your task.

## Quick-change:

Workholding which includes a MultiGrip Vise, a MultiGrip Gripper, and MultiGrip Jaws and Pallets.

## MultiGrip Vise:

Automation-ready CNC milling vise with a quick change jaw system.

## MultiGrip Gripper:

A pneumatic, long-travel gripper that uses the MultiGrip jaws to pick parts for processing.

## MultiGrip Jaws:

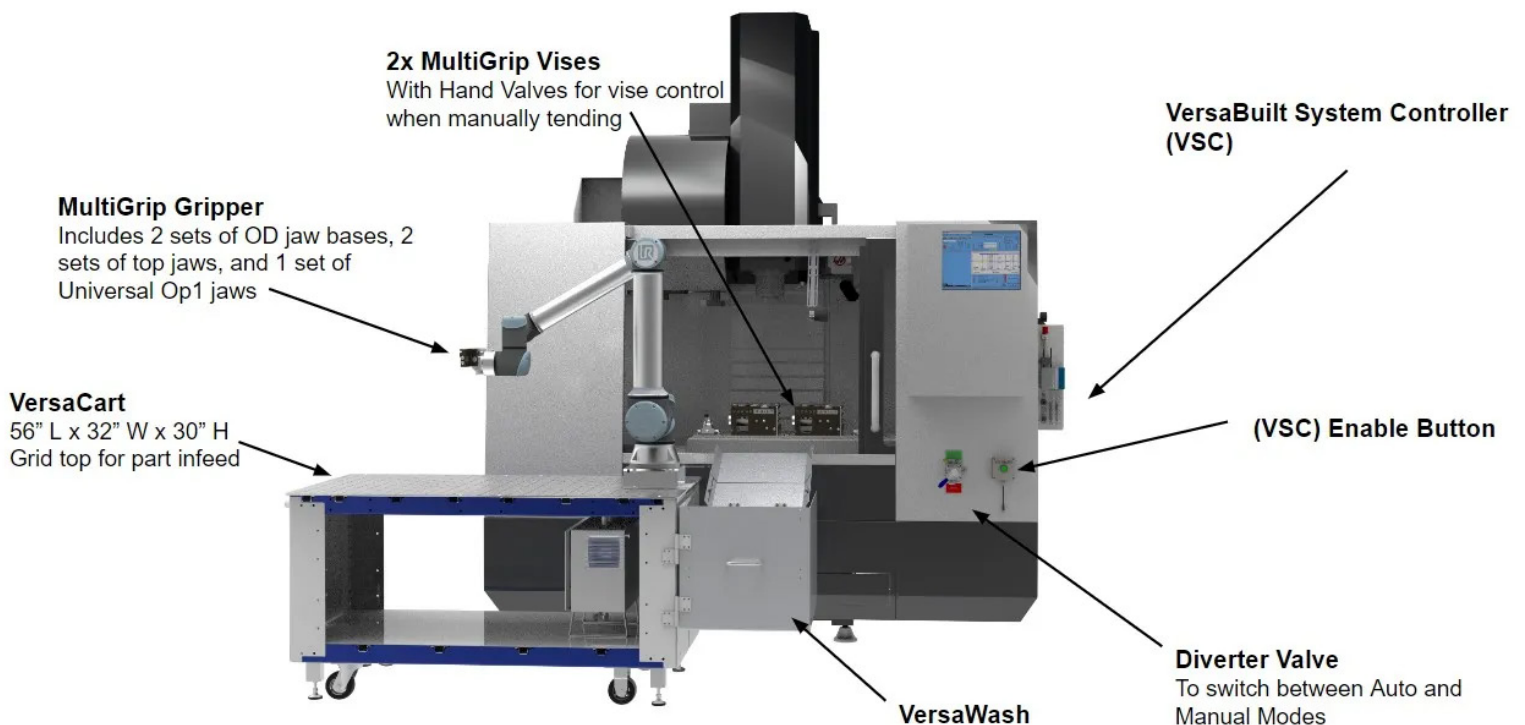
Enable quick-change manual workholding in automation.

## DuoGrip Gripper:

A high gripping force part that can be used in any load/ unload application.

## CNC Automation Tools:

- Robot2CNC Basic Edition
- Robot2CNC Advanced Edition
- VersaDoor
- VersaCart
- VersaWash
- Wrist Air Versablast for DuoGrip
- Mill Push Tools (Y and Z Push Tools)
- Accu-Z Lathe Push Tool



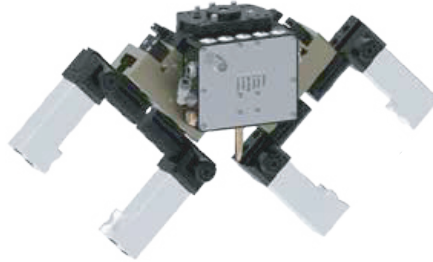
### Single Gripper Kit



#### Single Gripper JGP-P

- JGP-P 80-1 or 100-1
- Sealed valve box
- Integrated blow-off nozzle

### Double Gripper Kit



#### Double Gripper JGP-P







- JGP-P 64-1 or 80-1
- Sealed valve box
- Integrated blow-off nozzle

### Clamping Force Block Kit



#### Clamping Force Block PGS3

- PGS3 100
- Sealed valve box
- Integrated flange

Deburring			Grinding and polishing	
	No drive	pneumatically	pneumatically	electrically
Axial compensation		 <p>FDB-AC MFT PCFC</p>	 <p>AOV MFT PCFC</p>	
Radial compensation	 <p>CDB</p>	 <p>FDB CRT</p>	 <p>MFT-R</p>	 <p>RCE</p>



### Accessories from SCHUNK– for more Options

The following components make the application kits even more productive:

- **Universal intermediate jaw for grippers**  
Allowing fast, tool-free and reliable adjustment of the gripper stroke range.
- **Jaw quick-change system for grippers**  
For fast, manual and tool-free exchange of top jaws.
- **Finger blanks**  
Blanks for grippers or clamping force blocks with prefabricated mounting holes for rework by the customer.
- **Universal top jaw for grippers**  
For gripping cylindrical or square workpieces.

**With our machine tending solutions, achieve more output in less time. Control production quality 24/7 and address staffing challenges simultaneously.**

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Explore the solutions that work best for you;  
we can provide resources  
to answer your needs.



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