

# Modular Tending Work Cell

Manufacturers increasingly require easily integratable, flexible, and compact machine systems. HQA is in the business of developing innovative solutions to help its customers achieve their growth objectives. With HQA's new line of machines, manufacturers can boost efficiency and quality on routine tasks at attractive purchase costs.



To achieve current demands in automation, HQA developed modular solutions to manage various small manufacturing applications like component loading, assembly, inspection, pick and place and so much more.

Standard pre-engineer work-cell normally includes robot cart and application cart attached together.



## Robot Units



### UR5 Collaborative Unit

**Payload:** ----- 5kg

**Reach:** ----- 850mm

The UR5e is a lightweight, adaptable collaborative industrial robot that tackles medium-duty applications with ultimate flexibility. The UR5e is designed for seamless integration into a wide range of applications.

Easy programming technology lets operators with no programming experience quickly set up and operate UR5 with intuitive, 3D visualization. Universal Robots has revolutionized robot set-up by reducing typical robotic deployment from weeks to a matter of hours.



### Epson VT6L unit

**Payload:** ----- 6kg

**Reach:** ----- 900mm

All-in-One 6-Axis robot is ideal for a wide variety of simple applications. Delivering many powerful Epson's features including powerful Epson RC+® development software and easy integration tools such as vision guidance, the VT6L offers a reach up to 900 mm and a payload up to 6 kg.

A feature-packed performer, it includes a built-in controller, plus simplified cabling with a hollow end-of-arm design – all at a remarkably low cost, in a compact structure. The VT6L offers 110 V and 220 V power and installs in minutes. Plus, there is no battery required for the encoder, reducing the overall cost of ownership.

## Application Carts



Standard sizes (normally stocked):

L: 48" W: 32" H: 26"    L: 48" W: 24" H: 26"    L: 48" W: 16" H: 26"

\*Custom sizes available upon request



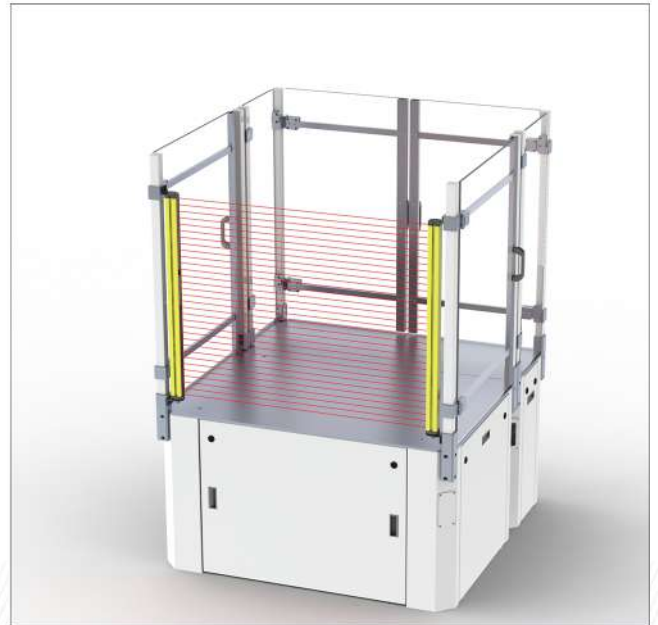
Tabletop available in 0.5" thick aluminum

\*Can be customized upon request

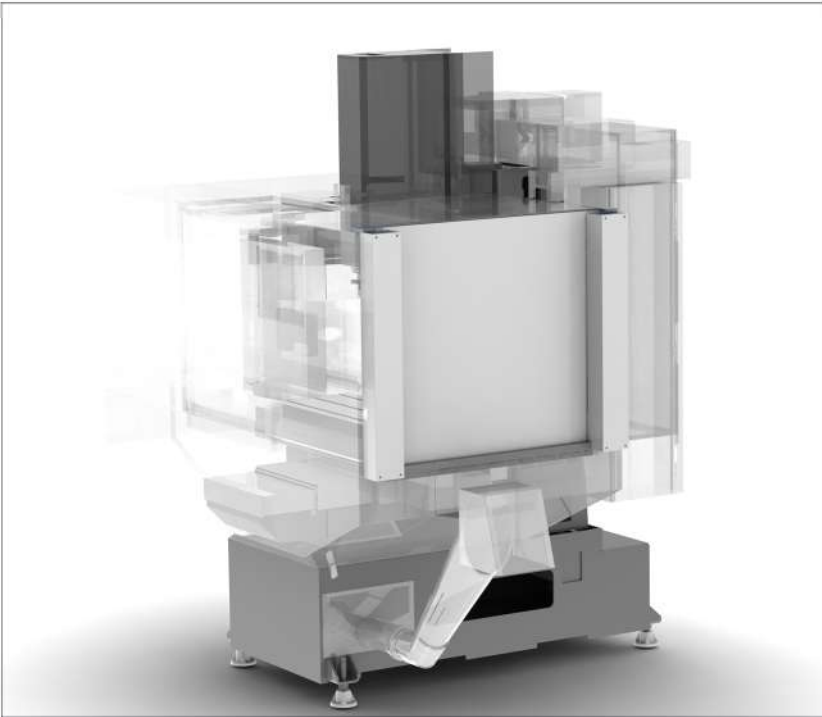
Open frame design allows to use them in various application



All carts features control cabinet with back plate on each side for easy automation placement and IP54 protection. each corner ready for poll or electrical connector.



In stock and ready to ship, our machine guarding system provides an effective way to protect personnel from the dangers posed by automated equipment. These barriers are a strong and economical solution to plant safety needs. We provide versatile options for easy integration of access doors, light curtains, and guards.



#### Automatic CNC doors

Pneumatic, or electrical

\*With control package included

### Control system ready units

HQA offer various options to control robotic cell. Each unit share standard ready features:

- 240 VAC single phase power with lockable disconnect
- Safety circuit ready for emergency stop, fencing
- 240 VAC power distribution system
- 24 VDC control power
- 24 VDC power distribution system
- Air pressure regulator, filter and drain
- 10-Position modular air manifolds for directional control valves

We offer multiple PLC/HMI systems to control cell:

1. Budgetary unit utilize robot controller to control various automation components UR and Epson robot have 16 digital inputs and 16 digital outputs ready for use.
2. Allen-Bradley Control system includes:
  - a. 10" panel view
  - b. 5380/5370 CompactLogix or GuardLogix controllers
  - c. 5069/1734 Remote IO for app cart
3. Omron Control system:
  - a. 9" NA series operator interface
  - b. NX1 Controller
  - c. NX1 Remote IO for app cart
4. Windows based control system
  - a. 17" Touchscreen
  - b. Windows PC
  - c. Modbus TCP remote IO for app cart

## Integration Examples

The **AK01** unit is a solution for machine tending application with low cost 6-axis robot. System was specially design to run multiple jobs at same machine with quick change time.

- 6-axis robot arm with 6kg payload
- PC control system with 17" Touchscreen
- Build in safety
- Tool Changer



To support quick job changes the robot tools and pallets are RFID tagged with unique ID. The operator just places a new pallet on the table. The system automatically loads the assigned program and tells the operator what tool to attach to the robot. The robot is equipped to automatically verify that the right tool is loaded.

System software allows customers to design, build and easily integrate their own tooling with only 4 hours in-person training. HQA engineers are available to design and build custom tool sets for your job. Price for single pick/place tool and two pallets is \$2000\$ with a 4 weeks lead time.

DDTCF

Epson 6-axis robot: **\$45,000**

UR 6-axis collaborative robot: **\$65,000**

Lead Time: **6 weeks**

## Robot Units

**IF02** unit is universal solution for small parts packaging. Machine automatically pack parts into pre-formed plastic packaging.

- 6-axis collaborative robot arm
- 5 kg payload
- Omron control system
- Product conveyer



The system is designed to pack formed wire into pre-formed plastic packaging. This design allows autonomous production for up to four hours.

HQA engineers can design and supply packaging for your application.

DDTCE

Epson 6-axis robot: **\$55,000**

UR 6-axis collaborative robot: **\$75,000**

Lead Time: **6 weeks**

Interested in implementing this technology in your facility or simply want to know more about it?

Please contact us today for additional information:

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