

SMART STATION



3D INFOTECH
UNIVERSAL METROLOGY
AUTOMATION®

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UMA Smart Station

Robotic Inspection

SMART FACTORY MOBILE INSPECTION ▾

The UMA Smart Station is a turn-key inspection solution for the factory floor. Is used for mobile inspection in factories that are looking to remove the bottleneck of quality control in production processes; made to run inspections with just a single click, the UMA Station can support a variety of 3D scanners and 2D cameras carried by a safe collaborative robot.



3x6 ft

Equipped with UR10 robot, workstation, controller and 25" rotary table.

2x4 ft

Equipped with UR5 robot, workstation, controller and 18" rotary table.

Portability

Ruggedized cart with all hardware components in a single unit.

Motorized Rotary

Industrial grade automated rotary table with fixture plate.

Wide device support

Support of 2D cameras, 3D scanners and High speed, real-time scanning inspects difficult surface finishes including shiny or black.

UMA Smart Station

RUGGEDIZED CART DESIGN

With two sizes and including everything you need (workstation, robot, sensor and rotary table), the UMA Smart Station is the perfect inspection device. The cart design allows you to move this system freely to different locations within your factory, no need for forklift or re-installation, just plug & play.

Wide Support of 2D and 3D sensors

Both UMA Smart Station models are compatible with a wide variety of 3D scanners and 2D sensors. They can be equipped to become an optical CMM or a visual inspection station.



Motorized rotary table

- 310 kg (~700 lbs) payload
- 457 mm (18") diameter
- Rotary fixture plate with M6 threaded holes
- Absolute encoders
- Variable speeds
- Proprietary 3D Infotech firmware

Robot

- 6 axis of motion
- 5 kg payload
- 900mm reach
- IGUS cable management
- Robot controller
- Polyscope teach pendant

Built-in Workstation

- Ergonomic display arm 24"
- Touch screen display
- Rack-mounted PC option

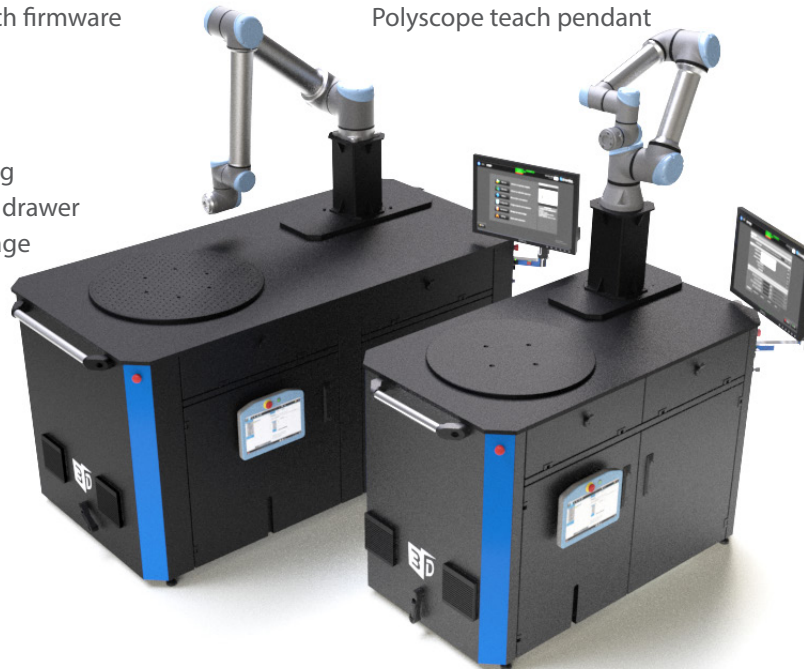
Accessibility

- Emergency Stops
- Built in fans for cooling
- Keyboard and mouse drawer
- Robot controller storage
- Power Input Range:
85-230 VAC, 50/60 Hz

Included Software

- Streamline software**
- Robot teaching
- Scanner configuration
- Rotary motion control
- Parts list management
- User access controls
- Bar code reader support
- Built-in scripting

- PolyWorks|Inspector**
- CAD import
- Scan to CAD alignment
- Dimensional analysis
- Smart GD&T
- Reporting
- Macro scripting



STREAMLINE, THE HEART OF UMA

Streamline software is included with Smart Station. It enables rapid deployment of metrology automation projects by providing a simple workflow and user interface allowing customers to quickly setup inspection templates. Once measurement results have been processed, reports and other traceability data can be seamlessly delivered to enterprise data management systems. Multipart variability can be tracked using SPC to improve production processes, reduce failure and increase repeatability.



Streamline software provides a clean integration between the Universal Robots' cobot, the selected 2D or 3D sensor and PolyWorks, to automate the data analysis and reporting. 3D Infotech is able to deliver an affordable, flexible, mobile and easy-to-use automated inspection solution capable of both global and local measurements.



UMA EXTENDED SYSTEMS

When a UMA Smart Station is not enough for your project, Streamline supports additional modules that extend the features and hardware supported.



- ▶ Multiple 3D sensors (arrays or different technologies and field of view)
- ▶ Multiple motion control devices (rotary tables, linear rails, grippers)
- ▶ Machine Vision and Photogrammetry
- ▶ Enterprise Database Integration (ERP, QMS, PLM)
- ▶ PLC Integration
- ▶ Adaptive Manufacturing (grinding, scribing, deburring and drilling)
- ▶ Safety Area Scanners and Laser Curtains
- ▶ Automated Calibration
- ▶ Optical CMM Probing
- ▶ Alerts and Notifications



The UMA Smart Station has many successful deployments being used to inspect everything from consumer products, electronics assemblies, and small automotive and aerospace components. Companies that have implemented Smart Stations are reporting reduced scrap rates, repeatable process, more time savings (up to 20 times faster than current process).

KEY FEATURES ▾

- ▶ **Speed** - 5 to 10 times faster compared to CMMs, arms and scanners.
- ▶ **Easy to use** - You don't need a specialized robot programmer, Streamline software provides an interactive common interface amongst all hardware.
- ▶ **Portability** - Ruggedized cart design allows mobility within the factory.
- ▶ **Rapid deployment** - Go live in days vs. months.
- ▶ **High accuracy** - Measure parts up to 0.001" (0.025 mm).
- ▶ **Greatest value** - Highest productivity and lowest cost compared to any other automated metrology system.
- ▶ **Built on standards** - Components are easily available, supported and can be replaced.
- ▶ **Collaborative** - Robot is fully equipped to prevent accidental collisions.
- ▶ **Hybrid Metrology** - Streamline supports the combination of 2D vision, 3D scanning and contact probing devices.
- ▶ **Bi-directional control** - Logic inputs and outputs to monitor and trigger using industry standards. Easily ties into PLC, SCADA, HMI, Interlock and other systems in the factory.

About 3D Infotech, Inc.

Founded in 2005, 3D Infotech, Inc. is an award winning company that develops hardware and software tools to accelerate and simplify the quality assurance process for manufacturers in the aerospace, automotive, and consumer product industries.



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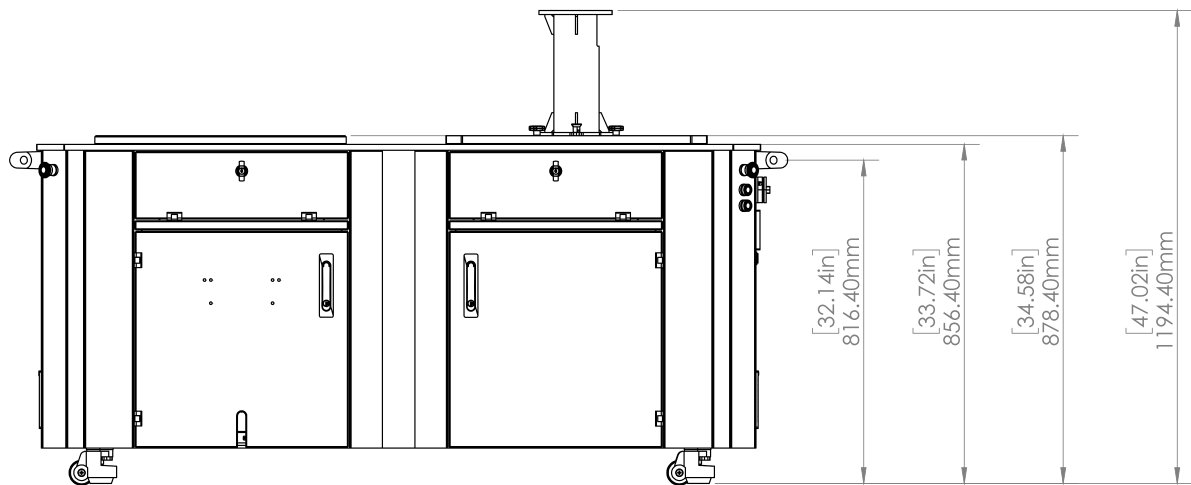
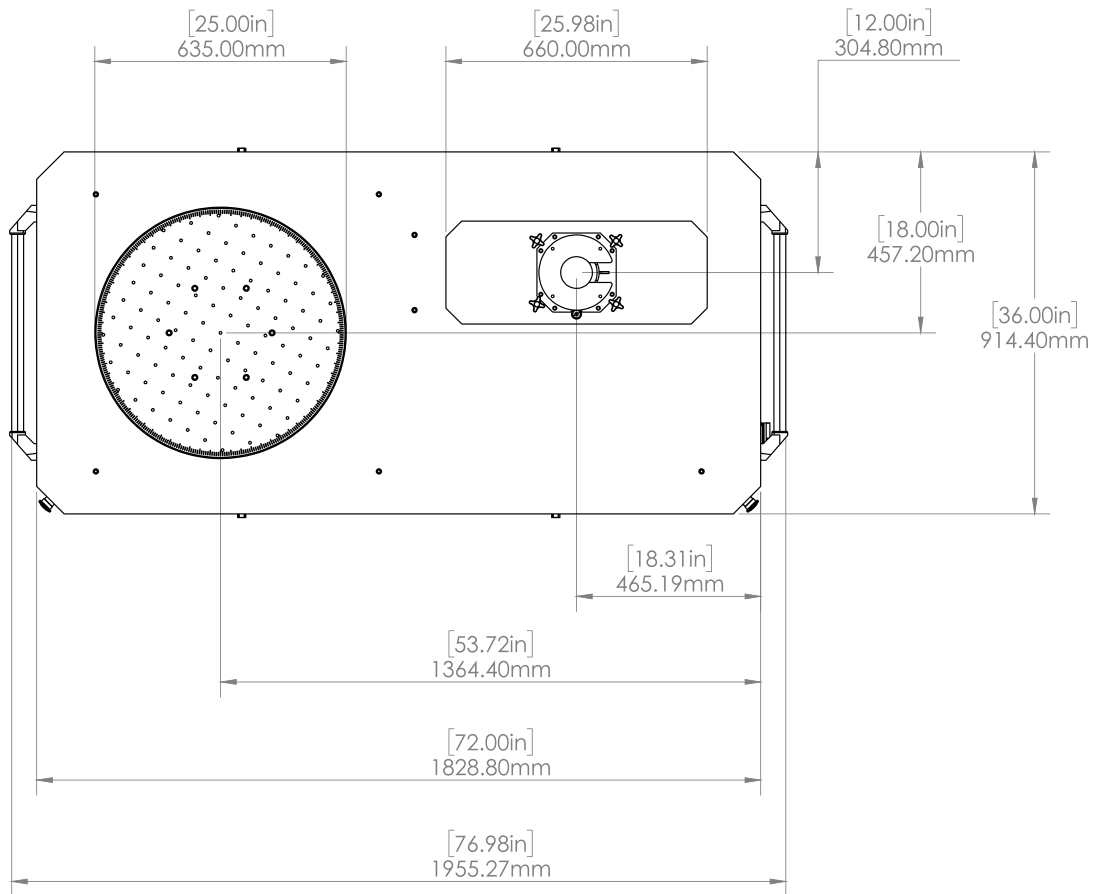
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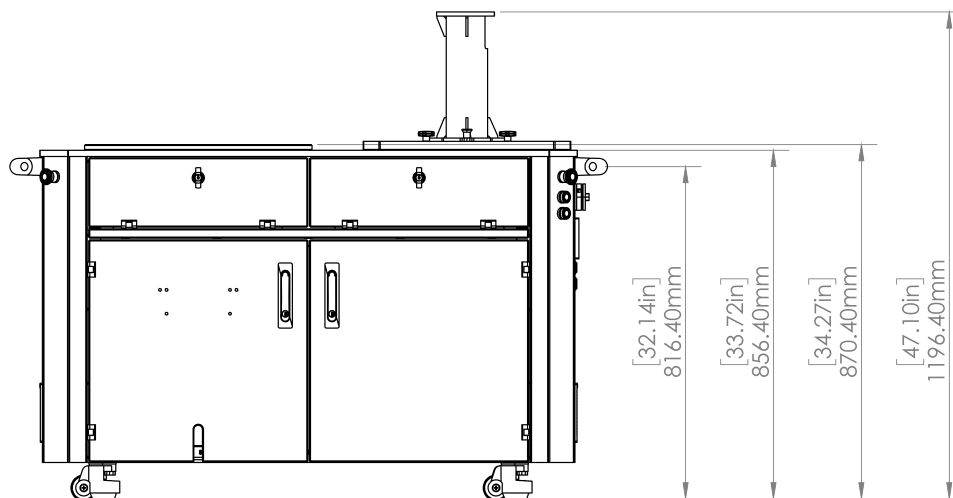
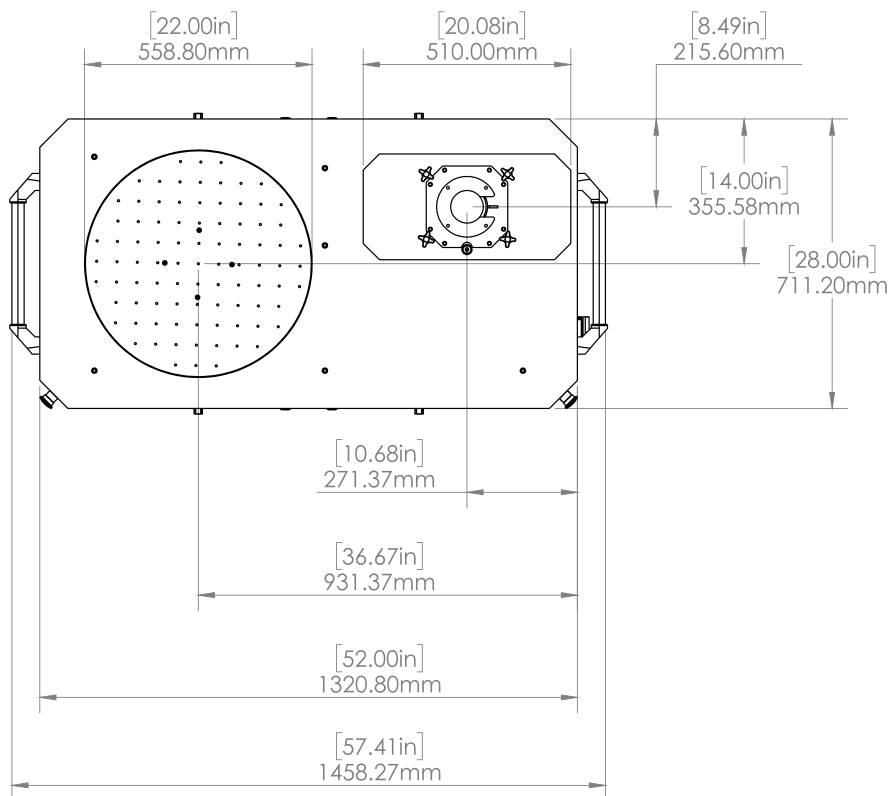
Dimensional Drawings

SMART STATION 3X6



Specifications

SMART STATION 2X4



Specifications

	Smart Station 2x4	Smart Station 3x6
Rotary Table Size	559 mm (22")	635 mm (25")
Rotary Speed	45°/s	45°/s
Rotary Table Accuracy	< 0.05°	< 0.05°
Fixture Plate Pattern and hole size	22":89pcs M6x7mm on 50x50 mm grid	217pcs M8x14 mm on 50x50 mm grid
Rotary Payload Capacity	100 kg (220lbs)	315kg (700lbs)
Full Product Weight	310 kg	410 kg
Shipping Weight	450 kg	560 kg
Product Dimensions (without robot) WxDxH	1470x735x875 mm	1970x920x1014 mm
Shipping Dimensions (W x D x H)	1600x900x1140 mm	2180x1100x1260 mm



Specifications

	Smart Station 2x4	Smart Station 3x6
IP Rating	IP50	IP50
Power Requirements	100-230 V AC 50-60 Hz	100-230 V AC 50-60 Hz
Operating Temperature	0 ~ 45°C	0 ~ 45°C
What's in the Box	Cart frame, System controller with integrated E-stop system, Servo driven rotary table with motion controller and absolute encoder.	
Adjustable Mount Position	Horizontal 540 - 660 mm	Horizontal 800 - 1000 mm
IoT Connectivity	Gigabit Ethernet	Gigabit Ethernet
Database / QMS Support	Oracle, eDHR, MS SQL, MS Access, QC-Calc	Oracle, eDHR, MS SQL, MS Access, QC-Calc
Embedded Statistical Process Control	Yes	Yes

