



# Vante® ONYX

## Multi-Up Thermal Forming System



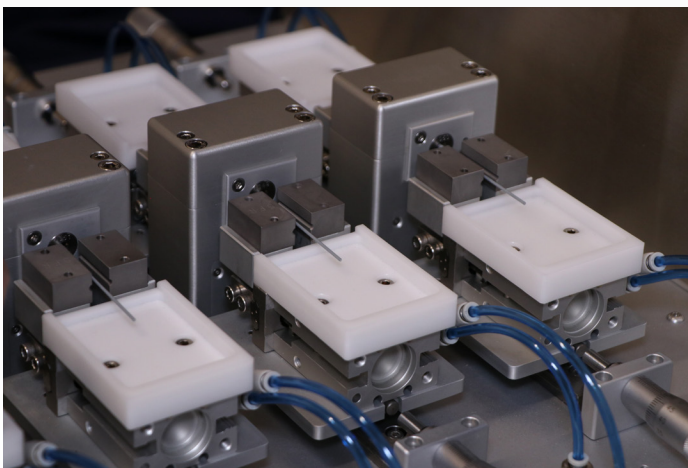
- The Vante Onyx catheter manufacturing system is designed to maximize production output while minimizing operating expense in high volume production environments. This system incorporates production capabilities of **up to four (4) independently controlled Vante tipping stations** into a compact table top platform which can be supported by a single operator.
- Vante systems utilize a closed loop temperature control system which produces precision temperature control and heat placement for the fastest and most repeatable catheter manufacturing processes.
- The system features “**Smart Mold**” technology which provides the ability for parametric data to be stored in the mold module for auto configuration of the system. Process parameters are loaded quickly and reliably via system configuration sensing and software control.
- The mold assembly is designed for easy installation and removal from the platform. Each lane can run independent process settings to enable a variety of tipping, welding and forming molds for many applications.

### ONYX RF Generator

The ONYX generator can be configured to provide energy to two (2) or four (4) forming stations. The generator can sit on the benchtop or below/above the working surface to minimize manufacturing space.

### ONYX Forming Platform

Up to four (4) forming stations which can run independently, in alternating pairs or all in tandem. Each tool pallet has left and right-hand actuation systems compatible with Onyx top load, quick change grippers. Grippers are sized specifically for each product OD.



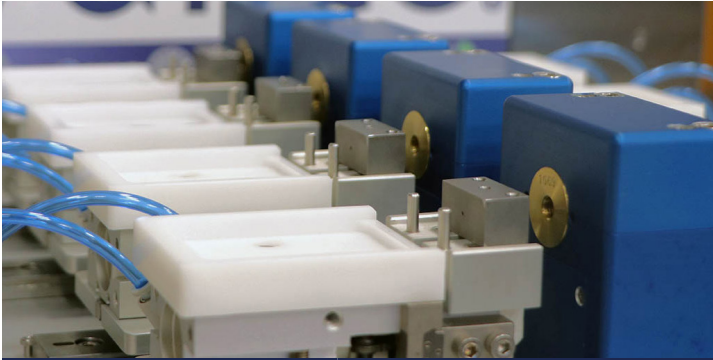
### Numerous features include:

- Digital Air Pressure Regulation
- Smart Mold
- Air cooled. No water chillers
- Closed loop temperature feedback
- Precise heat placement
- Proprietary low mass mold design
- Operator safe, no hot spots or pinch points
- Grip-slip detector alarms if grippers reach maximum extent of travel before completion of the tipping cycle.
- Optical touch switch to initiate machine cycle
- Solid state circuitry
- Temperature repeatable to  $\pm 1\%$  up to 350°C and  $\pm 2\%$  for 350°C to 425°C
- Multi-level password protection
- Advance control system featuring alarm monitoring and data collection

### Numerous benefits include:

- Compact footprint which saves clean-room space
- Repeatable, high quality results
- Easy to set up and validate
- Quantifiable and validatable process
- High production first pass yields
- Quick and easy tooling change
- Easy thermocouple, servo regulator calibration

# Vante® ONYX Thermal Forming System



|                            |  |
|----------------------------|--|
| Maximum Temp               | 425C   |
| Temperature Specifications | <i>Temperature repeatable to ± 1% up to 350°C and ± 2% for 350°C to 425°C*</i>   |
| Power Input                | <i>Specify 120V or 240V</i>  |
| Pneumatic Input            | <i>80 psi minimum compressed air, with 20 scfm max combined consumption dry, filtered air</i>  |
| Application Types          | <ul style="list-style-type: none"> <li>• Dilators</li> <li>• Sheaths</li> <li>• CVC</li> <li>• Taper tips</li> <li>• Soft tips</li> <li>• Radius tips</li> <li>• IV tips</li> <li>• Bullet tips</li> <li>• Neckdowns</li> <li>• Butt welds</li> <li>• Overlap bonds</li> <li>• Flares</li> <li>• Flanges</li> <li>• and more!</li> </ul> |
| Max Product Size           | <i>OD ≈ 16 fr<br/>Tip Length ≈ 0.625"</i>  |
| General Warranty           | <i>1 Year</i>  |

\* Temperature specifications may be different depending on mold geometry and size.

## ONYX Tipping System Dimensions

### Platform

- Weight: 65 lbs (30 kg)
- Height: 12.5" (317.5 mm)
- Width: 21" (534 mm)
- Depth: 24" (610 mm)

### Generator Box

- Weight: 75 lbs (34 kg)
- Height: 17" (432 mm)
- Width: 20" (508 mm)
- Depth: 12" (305 mm)

## ONYX 4-UP TIPPING SYSTEM

### MACHINE BASE AND CONTROL UNIT

- Four (4) pneumatically activated actuators which can run independently, in alternating pairs or all in tandem.
- Optical touch switch to initiate machine cycle
- Each tool pallet has left and right hand actuation systems compatible with Onyx top load, quick change grippers. Grippers are sized specifically for each product OD.
- Grip-slip detector alarms if grippers reach maximum extent of travel before completion of the tipping cycle.
- Activation system stroke length 2" maximum. Limits controlled by micrometer-head hard stops.
- Compatible with Onyx tooling and dies only. Housings are Vante automation-compatible design with integrated mold, induction coil, cooling nozzle and smart chip.
- Two (2) Vante dual channel RF Generators.
- Closed loop temperature control for each individual tool.
- Mechanical dial flow control valves for all pneumatic cylinders installed in a single easy-access location.
- 110 VAC 20 amp 60 hz or 210/240 VAC 20 amp 50/60 hz
- Separate compressed air circuits for cooling and actuation systems.

### CONTROL SYSTEM SPECIFICATIONS

- Beckhoff PLC/HMI control system.
- HMI is 15" color touch screen with multi-position articulating mounting arm.
- Mold smart chip enables automatic configuration of recipe settings for specific tool through USB communication
- Individual stage parameters include temperature, heat time, cool time, insert delay, two-stage activation pressure.
- Password protected areas: temperature/pressure calibration, maintenance and profile management.
- E-stop safety feature and process alarms monitored by the PLC and halts the machine.
- Batch data reporting
- Remote software support via ethernet