PRECISION SIZING
FOR FLEXIBLE AND
RIGID MEDICAL
TUBE PRODUCTS

MedVac flood-cooling/sizing tanks are uniquely designed to meet the specialized process needs of medical tubing manufacturers. These high technology, simple-to-use systems feature advanced digital controls and rock-steady precision alignment systems to ensure optimum product quality for tubes from single and multi-lumen microbore heart catheters to large-gauge medical tubing.

ABSOLUTELY CONSISTENT DIMENSIONAL CONTROL

Available in five models, MedVac series vacuum tanks provide exceptional tube ovality and concentricity for product sizing under vacuum or as a process aid for free extrusion.

Industrial duty, stainless steel construction combined with bow resistant half-inch (12.7 mm) tempered glass lids and an integrated proportional valve allow fine-control of the vacuum level to within 0.1 inch of water for repeatable, precise process control. An optional water tempering unit controls the bath to ±1 degree optimizing heat transfer rates and obtaining specific material properties.

Pivoting overhead controls allow process adjustments and monitoring right at the extrusion die.

Specialized non-contact tooling is available for processing of low durometer materials.

- Cleaner interior design
  Tank interior is designed to ease daily cleanout by minimizing sharp corners and exposed threads where bacteria, pyrogens and other particulate matter can build up. Telescoping drip tray is one piece to aid wipe-down by eliminating open seams. Guide rollers inside the tank are fixed to free-standing removeable mounts for cleaning.

- Medical-grade filtration
  Process water is segregated from the heat/cool circuit to minimize contamination. System can be optionally fitted with a UV water purifier and a 5 micron sedimentary pre-filter.

- Easy set-up and operation
  Narrow tank frame accommodates almost any extruder or melt pump, even three layer. Three-axis tank alignment system with hand wheels, linear slides and ball-screw actuators provide stable, precision positioning to within thousandths of an inch.

- Process validation
  Optional PAVC control offers a serial interface for a host microprocessor to record process settings. Optional Patriot Transducer provides digital linear read-out for measuring/recording distance from die face to where the tube enters the water.
FEATURES

1. Stainless steel tank
2. Single piece, telescoping drip tray - easier to clean since there are no separate pieces to hide pyrogens or other contaminants.
3. Rounded bottom for easier cleaning - eliminates corners to ease cleanout and removal of contaminants.
4. Hinged one-half inch (12.7 mm) tempered glass tank lids - solid design restricts bending to provide excellent visibility of the product and uncompromised sealing.
5. Rock-steady, 3-axis precision position adjustment offers fine adjustment, is tighter and less prone to vibration and unwanted movement during process of critical tubes.
6. Manual 12 inch (305 mm) longitudinal adjustment with hand wheel provides smooth linear movement to and from the die.
7. Painted steel frame
8. Swing arm fully pivoting control pod with ten-turn potentiometer control and vacuum guage offers ease of access while allowing use of a co-extruder without frame interference.
9. Highly durable urethane swivel casters with jackscrews for positive positioning.
10. Full capacity stainless steel reservoir with easy access glass lids.

- Variable speed VFAC vacuum pressure blower. High CFM capacity with low RPM allows operation to 130 inches water (3.3 meters water) with minimum noise.
- Stainless steel (306) centrifugal water circulation pump and heat exchanger.
- Quick change, spin off filter
- Float valve for automatic filling and make up.
- Adjustable water level control with thermometer.
- Free-standing blank product roller assemblies lift out of the tank for ease of cleaning.

OPTIONS

- Left to right direction
- Special non-automotive powder coat
- Stainless steel frame
- Full-length stainless steel splash tray under main tank
- Passivation of stainless components to minimize corrosion caused by surface impurities that is recommended for medical applications
- Stainless steel plumbing package for deionized water
- Mounting of customer supplied ultrasonic wall unit in first 18 inches (457 mm) of vacuum chamber with water connections, including de-bubbling unit for water input
- Ultraviolet water treatment unit
- Filter housing with 5 micron rating filter
- Three additional view windows in vacuum compartment for total of four
TOOLING OPTIONS

- Pre-skinning chamber with independent water flow control valve complete with one set of tooling
- Additional sets of pre-skinner inserts for other product sizes
- Flow meter rated for 0 to 75 gallons per hour (0 to 284 liters per hour) with pressure regulator
- Split design air wipe assembly with mounting bracket
- Additional blank product guide roller assemblies
- Contoured product guide roller assemblies

CONTROLS

- Pre-skinning chamber with tooling inserts for flexible polymers
  - Calibrate/quench assembly for flexible materials
  - Hold-down guide rollers, contoured or non-contoured
  - Split-design air-wipe assemblies
  - Adjustable water level

**Potentiometer Control**

This potentiometer control provides push buttons to start and stop the vacuum blower and the water recirculation pump. Vacuum levels are adjusted using a 10-turn potentiometer, which controls the RPMs of the vacuum blower.

**Optional Digital Control**

The Precision Automatic Vacuum Control (PAVC) provides manual or automatic control of the vacuum system. Using a PID program and built-in vacuum transducer, the PAVC controls the vacuum level to the setpoint entered.

The PAVC can be connected to an in-line product gauge for automatic adjustment of the vacuum setpoint. The PAVC also has a serial port for data acquisition or remote control.

A remote digital potentiometer is available only with the addition of this option.
SPECIFICATIONS

VACUUM SIZING EQUIPMENT

MEDVAC TANKS

MODELS

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<tbody>
<tr>
<td>PERFORMANCE CHARACTERISTICS</td>
<td></td>
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<tr>
<td>Tube/profile capacity</td>
<td>Up to 2 inch (51 mm)</td>
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<tr>
<td>Vacuum system</td>
<td>Variable-speed vacuum blower / 0 to 130 ln. H₂O (0 to 32.38 kPa)</td>
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<tr>
<td>Water system</td>
<td>Stainless steel centrifugal water circulation pump and heat exchanger with spin-off filter</td>
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<tr>
<td>Recirculating pump Hp (kW)</td>
<td>1 (0.75)</td>
<td>1 (0.75)</td>
<td>1 (0.75)</td>
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<tr>
<td>Vacuum pump Hp (kW)</td>
<td>1.70 (1.26)</td>
<td>1.70 (1.26)</td>
<td>1.70 (1.26)</td>
<td>1.70 (1.26)</td>
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<tr>
<td>Tank length inches (mm)</td>
<td>60 (1524)</td>
<td>96 (2438)</td>
<td>132 (3353)</td>
<td>204 (5181)</td>
<td>276 (7010)</td>
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<td>Number of compartments</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>COMPARTMENT TYPE</td>
<td></td>
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<tr>
<td>Vacuum inches (mm)</td>
<td>36 (914)</td>
<td>72 (1829)</td>
<td>108 (2743)</td>
<td>180 (4572)</td>
<td>252 (6401)</td>
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<td>Water (flood) seal inches (mm)</td>
<td>10 (254)</td>
<td>10 (254)</td>
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<tr>
<td>Air wipe inches (mm)</td>
<td>14 (355.6)</td>
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<tr>
<td>Blank roller assemblies included</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>12</td>
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<td>DIMENSIONS in. (mm)</td>
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<td>A - Overall height</td>
<td>76.8 (1951)</td>
<td>76.8 (1951)</td>
<td>76.8 (1951)</td>
<td>76.8 (1951)</td>
<td>76.8 (1951)</td>
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<td>B - Height to centerline</td>
<td>42 ± 2 inch (1067 ± 51 mm)</td>
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<td>C - Overall length</td>
<td>77.5 (1969)</td>
<td>106 (2692)</td>
<td>142 (3607)</td>
<td>214 (5436)</td>
<td>285 (7239)</td>
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<td>D - Overall depth</td>
<td>33 (838)</td>
<td>33 (838)</td>
<td>33 (838)</td>
<td>36 (914)</td>
<td>36 (914)</td>
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<td>Longitudinal adjustment (manual)</td>
<td>8 - 12 inches (203 - 305 mm)</td>
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<tr>
<td>Tank compartment cross section</td>
<td>8 x 8 inch (203 x 203 mm)</td>
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<tr>
<td>APPROXIMATE WEIGHT lb (kg)</td>
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<td>Shipping</td>
<td>1250 (567)</td>
<td>1400 (635)</td>
<td>1600 (726)</td>
<td>2100 (953)</td>
<td>2600 (1180)</td>
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<td>Voltage</td>
<td>460 volts/3phase/60Hz</td>
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<td>WATER REQUIREMENTS</td>
<td>City, tower or chiller water. Main supply line: 1 inch NPT fitting</td>
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SPECIFICATION NOTES:
Specifications may change without notice. Consult a Conair representative for the most current information.

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