# Conserve Space with **Multi-pass Extrusion Cooling Tanks**

HTMP multi-pass tanks accommodate tight space demands for high speed, high rate tubing production. High technology vacuum sizing is integrated with over-sized servo-driven sheaves within the primary cooling tank to satisfy product-specific residence times while precisely cooling and metering the product. Ideally designed for cleanroom and other space limited production areas, the HTMP delivers the industry's best control for medical product sizing, ovality, tolerance and tension for flexible PVC, TPE, TPU and PE tubing.

Model HTMP 18-4

## Save Space, Eliminate Stretch and Tighten Tolerances

HTMP combination multi-pass vacuum tanks are designed for high-speed commodity tube extrusions requiring extensive bath cooling. The multi-purpose tanks take up to five times less floor space compared to standard cooling tanks. HTMP tanks incorporate a vacuum (or free extrusion) chamber and feature a servo-driven 20-inch {508 mm} diameter primary sheave that doubles as a puller. The large diameter and controlled pull force avoid tube flattening and distortion. Sheaves can be machined to a particular tube diameter, improving accuracy over belt pullers by eliminating any undesirable normal 'crush' effect. The driven sheave significantly shortens the travel distance of the tube before pickup, minimizing stretch and tension.

Precision glass bearings on non-driven sheaves eliminate drag and stretching as the tubing makes subsequent passes through the tank at line speeds up to 800 feet/minute {243 meters/minute}.

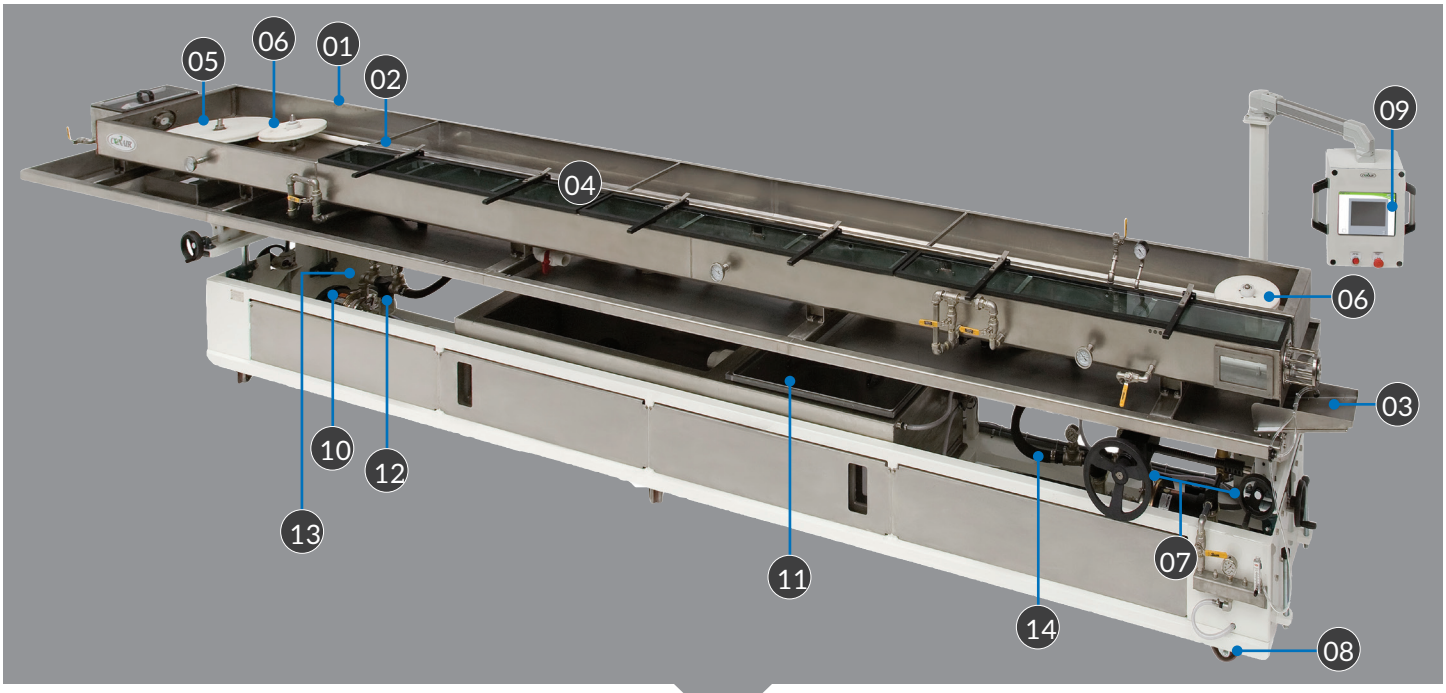
- **Improve process control**
  Supplied with an integral vacuum chamber, the HTMP adds critical stability to the process by holding precise and repeatable ovality, concentricity and wall thickness. Vacuum can be held to 0.10 inches of water {0.19 mm Mercury}. Seamless control integration with third party measuring systems ensure repeatability.

- **Integrated components save cost**
  The HTMP integrates a precision vacuum tank, primary puller, multi-pass cooling and air wipe chamber into a single package, eliminating added cost and space requirements for stand-alone components.

- **Cut material waste and increase yield**
  Precision vacuum combined with a third party ID/OD gauge provides exceptional dimensional control to save tens of thousands of pounds of material while increasing production yield. Example: HTMP systems can have reduced tolerances from ±0.005 inch {±0.127 mm} down to ±0.003 inch {±0.076 mm}.

- **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 vacuum tank are fixed to free-standing mounts to allow removal for cleaning.

# Features and Options




01
Heavy guage stainless steel tank

02
Single piece, telescoping drip tray - easier to clean since there are no separate pieces to hide pyrogens or other contaminates.

03
Stainless steel splash tray

04
Hinged one-half inch {12.7mm} tempered glass tank lids

05
20-inch {508 mm} primary sheave

06
12-inch {304 mm} secondary sheaves

07
Rock-steady, 3-axis precision position adjustment with manual 12 inch {304} longitudinal, 1 inch {25 mm} side to side and ±2 inch {51 mm} height adjustment.

08
Urethane swivel casters with jackscrews for positive positioning

09
Ten-turn potentiometer control with vacuum gauge

10
Stainless steel (304) centrifugal water circulation pump and heat exchanger

11
Full capacity stainless steel reservoir with easy access glass lids

12
Variable speed VFAC vacuum pressure blower

13
Water circulation pump for cooling

14
Braised stainless steel heat exchanger

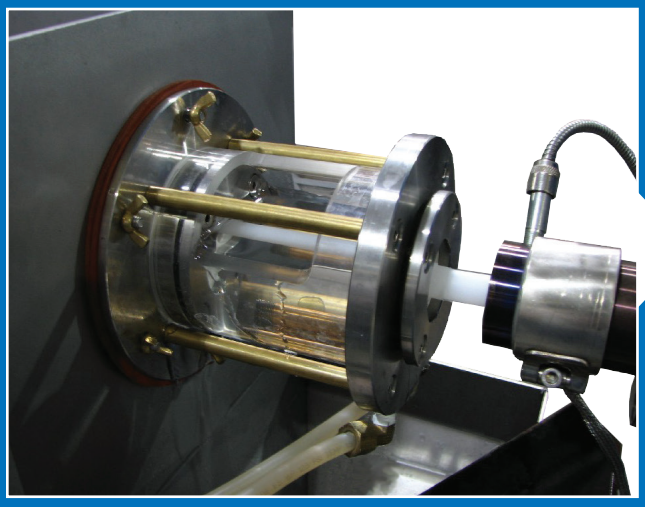
## Options

- **Float valve** for automatic filling and make up
- **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 (304) centrifugal water circulation pump** and heat exchanger
- **Rounded bottom for easier cleaning -** eliminates corners to ease cleanout and removal of contaminates
- **Blank product roller assemblies** for vacuum tank
- **Adjustable water level control** with thermometer
- **Painted steel frame**
- **Quick change, spin-off filter**
- **Left-to-right operation**
- **Custom paint**
- **RAL9003 white paint**
- **Passivation of stainless steel** recommended for medical applications
- **Stainless steel frame**

### Options (continued)

- **Stainless steel and plastic plumbing package** including nickel braised heat exchangers. (no copper or brass)
- **230/3/60, 380/3/50 or 575/3/60 power supply**
- **Servo driven 20-inch first pass roller**
- **UV Max ultraviolet water treatment unit**
- **Minntech (brand) polypropylene filter** housing with 5 micron rating filter
- **Two additional non driven wheel** for five pass operation
- **1/2 inch thick polycarbonate hinged covers** with gas shocks for the non vacuum section
- **CE Certification**
- **UL Certification**

## Tooling Options

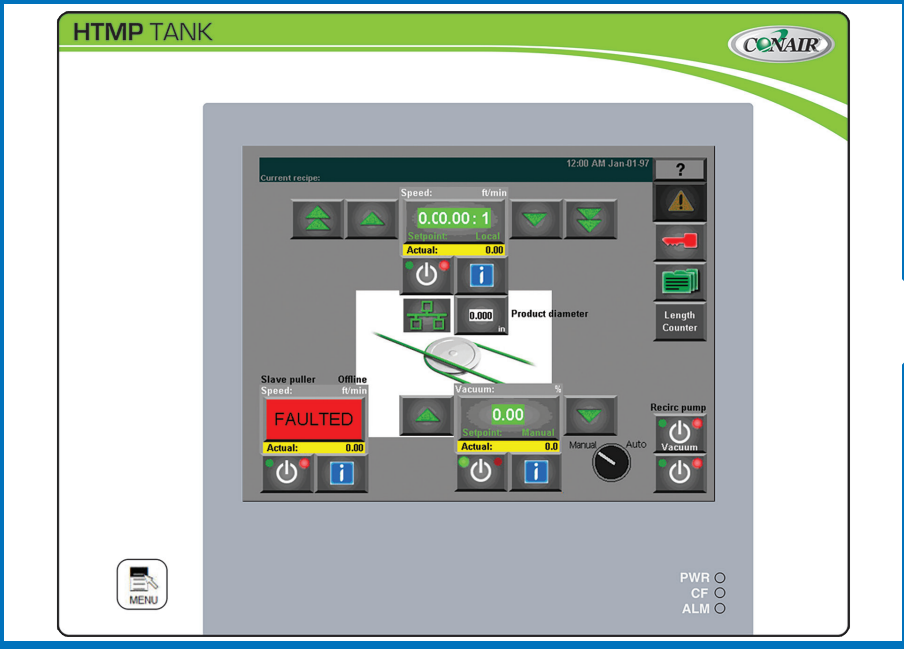


**Pre-skinning chamber with tooling inserts for flexible polymers**

- Calibrate/quench assembly for flexible materials
- Hold-down guide rollers, contoured or non-contoured
- Split-design air-wipe assemblies

- Additional sets of pre-skinner inserts for other product sizes
- Flow meter rated for 0 to 70 gallons per hour {0 to 265 liters per hour} with pressure regulator
- Flow meter option in stainless steel
- Split design air wipe assembly with mounting bracket
- Additional blank product guide roller assemblies
- Contoured product guide roller assemblies

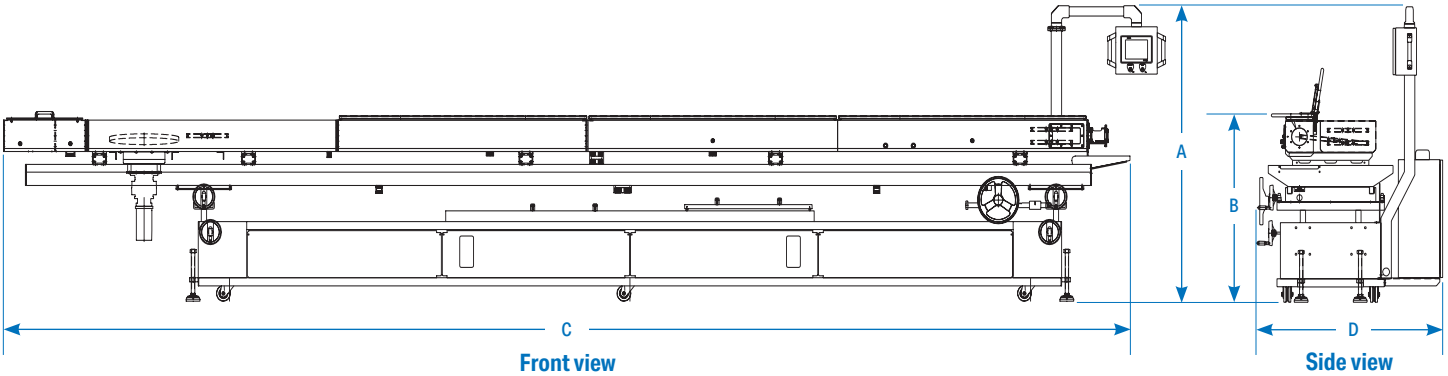
## PAVC+ Vacuum Control




The touchscreen PAVC+ Vacuum Control digitally maintains a constant and precise vacuum pressure within the tank. Connections are provided for automatic feedback control of the setpoint by use of X/Y laser scanners that monitor the profile. The PAVC+ provides recirculation and vacuum pump Start and Stop, with input conditioning. Setpoint adjustment is done via the HMI control panel of the vacuum tank. The local setpoint can also be adjusted externally via Raise and Lower contacts, or Ethernet communications.

With recipe storage and optional Ethernet communication for interfacing with a host computer or other equipment, the PAVC+ control is ideal for fine tuning vacuum sizing and storing those settings for rapid startups in the future.

# Specifications




Front view | Side view

| Models | HTMP-12-3 | HTMP-18-4 | HTMP-24-5 |
|---|---|---|---|
| **Performance characteristics** | | | |
| Capacity (tube) | Up to 0.5 inch {12.7 mm} diameter | | |
| Compartments | 3 | 4 | 5 |
| Number of passes | Up to 5 | | |
| Vacuum system | Variable-speed vacuum blower / 0 to 130 In. H2O {0 to 32.38 kPa} | | |
| Water circulation pump (vac) | 2 Hp | | |
| Water circulation pump (open) | 2 Hp | | |
| Water system contacts | Non-ferrous | | |
| **Dimensions** inches {mm} | | | |
| A - Overall height inches {mm} | 76.8 {1951} | | |
| B - Tank height inches {mm} | 8 {203} | | |
| C - Overall length feet {mm} | 15.25 {387.3} | 21.25 {539.75} | 27.20 {690.88} |
| D - Overall width inches {mm} | 55 {1397} | | |
| Vacuum chamber length feet {mm} | 6 {1829} | 12 {3657} | 18 {5486} |
| Vacuum chamber width inch {mm} | 8 {203} | | |
| Cooling chamber length feet {mm} | 12 {3658} | 18 {5486} | 24 {7315} |
| Cooling chamber width inch {mm} | 26 {660} | | |
| Air wipe chamber length inch {mm} | 24 {610} | | |
| Primary (driven) sheave inch {mm} diameter | 20 {508} | | |
| Secondary (non-driven) sheave | 12 {304} | | |
| Adjustments | 3-plane manual | | |
| Centerline height inches {mm} | 42 ±2 {1066.8 ±50.8} | | |
| **Construction** | | | |
| Tank material | Stainless steel | | |
| Full length splash tray | Stainless steel | | |
| Product guide roller brackets* | 12 | 18 | 24 |
| Base frame | Carbon steel | | |
| **Approximate weight** lb {kg} | | | |
| Shipping | 2800 {1270} | 3400 {1542} | 3900 {1769} |
| **Voltage** Full Load Amps † | | | |
| 460V/3 phase/60 Hz | Consult Conair | | |

## Specification Notes

* Product guide roller bracket not included.

† FLA data for reference purposes only. Does not include any options or accessories on equipment. For full FLA detail for power circuit design of specific machines and systems, refer to the electrical diagrams of the equipment order and the nameplate applied to the machine.

Specifications may change without notice. Consult with a Conair representative for the most current information.