

## 45 Liter Refrigerated Circulator, -25°C



PP45R-20

### Key Specifications

|   |  |
|---|--|
| Description                             | -25, 45 L Ref. Circulator  |
| Controller Type                         | Performance Programmable   |
| Display                                 | 4.3" SmartTouch Touchscreen  |
| Connectivity                            | Ethernet, USB A & B, RS232/addressable RS485, Remote On/Off, External Temperature Probe            |
| Languages Supported                     | 11: French, German, Spanish, Chinese, Portuguese, Russian, Hindi, Arabic, Italian, Korean, English |
| Time/Temperature Programs & Steps       | Open Mode: No restriction on the number of programs or steps                                       |
| Swivel 180 Rotating Controller          | Yes  |
| Working Temperature Range °C            | -25° to 135°   |
| Temperature Stability °C                | ±0.005°  |
| Fluid Optimization/Specific Heat Tuning | Automatic and/or user-adjustable   |
| Temperature Calibration Capability      | 10-point   |
| Working Access (L x W x D) (cm)         | 54.9 x 39.8 x 14 cm  |

|   |  |
|---|--|
| Pump Type                               | Pressure/Suction   |
| External Temperature Control Capability | Yes  |
| Flammability Class (DIN 12876-1)        | III (FL)   |
| Electrical Plug Options                 | Part numbers listed are Standard U.S. and European types. <a href="#">Country specific plug types available</a> . Contact your <a href="#">regional distributor to order</a> . |

## Key Features

### Performance Programmable Controller

#### Key Features

- OpenMode time/temperature programming (no restrictions on number of programs or steps)
- Intuitive 4.3" (10.9 cm) SmartTouch display
- 11 languages: French, German, Spanish, Chinese, Portuguese, Russian, Hindi, Arabic, Italian, Korean, English
- Variable speed pump with open- and closed-loop external circulation capability
- Swivel 180™ Rotating Controller
- On-board connectivity: USB-A & B, Ethernet, RS-232/RS-485, remote on/off and external temperature probe
- Event scheduling (time & date) with real-time clock
- Review temperature trends for up to 10 days
- Multiple selectable home screens
- On-screen help
- Automatic and/or user-adjustable performance optimization
- 10-point calibration capability
- Includes Enhanced Performance Hardware & Software Package (Pt100 temperature probe, USB flash drive for data logging, stainless steel fittings and tubing adapters, PolyScience LabVIEW™ Virtual Instrument, iPhone® application download)
- Available with DeviceNet/CANbus, Modbus, and Profibus options

## Common Specifications

|                                     |              |
|-------------------------------------|--------------|
| Working Temperature Range °F        | -13° to 275° |
| Working Temperature Range °C        | -25° to 135° |
| Nominal Cooling Capacity @ +20C (W) | 1400         |

|   |   |
|---|---|
| Reservoir Capacity (gallons)                          | 11.88   |
| Reservoir Capacity (liters)                           | 45  |
| Reservoir/Tank Material                               | Stainless Steel   |
| Reservoir Cover                                       | Included  |
| DuraTop   | Yes   |
| Cleanable Air Filter                                  | Yes   |
| Working Access (L x W x D) (inches)                   | 21.6 x 15.68 x 5.5 in   |
| Working Access (L x W x D) (cm)                       | 54.9 x 39.8 x 14 cm   |
| Temperature Stability °F                              | ±0.01°  |
| Temperature Stability °C                              | ±0.005°   |
| Display   | 4.3" SmartTouch Touchscreen   |
| Display Resolution (Set)                              | 0.01  |
| Display Resolution (Read)                             | 0.001   |
| Pump Type   | Pressure/Suction  |
| Pump Speed  | Variable  |
| Process Connections                                   | 1/4" (F) NPT  |
| External Temperature Control Capability               | Yes   |
| Flammability Class (DIN 12876-1)                      | III (FL)  |
| Over-Temperature Protection / Failsafe Heater Control | Yes   |
| Low Liquid Level Protection                           | Yes   |
| WhisperCool Environmental Control Technology          | Yes   |
| Cool Command Refrigeration Technology                 | Yes   |
| Reservoir Drain                                       | Yes   |
| Included Software                                     | PolyTemp Viewer, TDMS file viewer, USB driver, PolyScience LabVIEW Virtual Instrument & Functions, Time/Temperature Program Generator, PolyTemp Remote iPhone application |
| Maximum Ambient Temperature °F                        | 95°   |
| Maximum Ambient Temperature °C                        | 35°   |
| Overall Dimensions (L x W x H) (inches)               | 35.8 x 22.4 x 42.1 in   |
| Overall Dimensions (L x W x H) (cm)                   | 90.9 x 56.8 x 107 cm  |
| Refrigerant   | R134a   |
| Environmental Compliance                              | RoHS, WEEE  |

|                             |       |
|-----------------------------|-------|
| Shipping Weight (pounds)    | 180.0 |
| Shipping Weight (kilograms) | 81.5  |
| Catalog Page Number         | 34-35 |

## 60 Hz Only

|                                       |   |
|---------------------------------------|---|
| Part Number                           | PP45R-20-A13D   |
| Maximum Pressure (psi)                | 4.3   |
| Maximum Pressure (bar)                | 0.30  |
| Maximum Pressure Flow Rate (gpm)      | 5.30  |
| Maximum Pressure Flow Rate (l/min)    | 20.1  |
| Maximum Suction Flow Rate (gpm)       | 3.9   |
| Maximum Suction Flow Rate (l/min)     | 14.7  |
| Cooling Capacity @ -20°C (W)          | 250   |
| Cooling Capacity @ 0°C (W)            | 800   |
| Cooling Capacity @ +20°C (W)          | 1400  |
| Cooling Capacity @ +100°C (W)         | 1400  |
| Included Hardware                     | PT100 temperature probe, USB drive, stainless steel hose adapters for 3/8", 1/4", and 3/16" |
| Heater Wattage                        | 2200  |
| Electrical Requirements (VAC/Hz/Ph/A) | 230/60/1/13   |
| Regulatory Approvals                  | ETL   |

## 50 Hz Only

|                                    |               |
|------------------------------------|---------------|
| Part Number                        | PP45R-20-A12E |
| Maximum Pressure (psi)             | 3.6           |
| Maximum Pressure (bar)             | 0.25          |
| Maximum Pressure Flow Rate (gpm)   | 4.40          |
| Maximum Pressure Flow Rate (l/min) | 16.7          |
| Maximum Suction Flow Rate (gpm)    | 3.2           |
| Maximum Suction Flow Rate (l/min)  | 12.2          |
| Cooling Capacity @ -20°C (W)       | 250           |
| Cooling Capacity @ 0°C (W)         | 800           |
| Cooling Capacity @ +20°C (W)       | 1400          |

|                                       |  |
|---------------------------------------|--|
| Cooling Capacity @ +100°C (W)         | 1400   |
| Included Hardware                     | PT100 temperature probe, USB drive, stainless steel hose adapters for 3/8", 1/4", and 3/16", and 1/4" NPT to M16 adapter |
| Heater Wattage                        | 2200   |
| Electrical Requirements (VAC/Hz/Ph/A) | 208-240/50/60/1/13   |
| Regulatory Approvals                  | CE   |

