



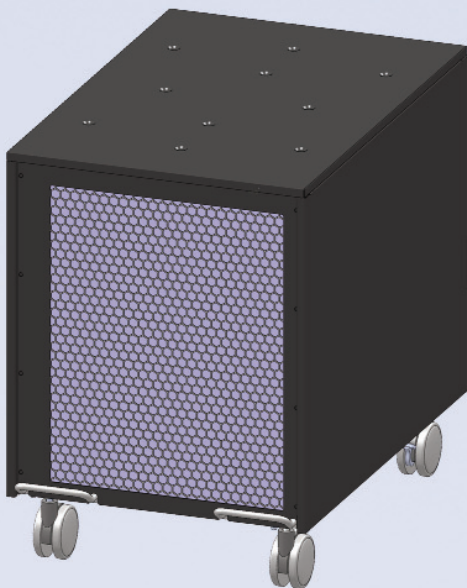
**NEW**

# Largest Capacity Rack - Mounted Chillers On This Planet

Rack-Mount Version



Free-Standing Version



3,000 watts (10,200 BTU's)

**“DMC” Max; Rack-Mounted Water Chillers**

**Ideal for Demanding Laser, Medical, Industrial, & Electronics Applications**

## CHILLER MODULE FEATURES

### K-O Concepts Model DMC-30

- **DMC-30**

Maximum performance in a minimum package. Industrial water chiller cooling systems for loads up to 3,000 watts. These water chillers cool lasers, diffusion pumps, electron microscopes, and MRI technology.

- **Easily Integrated**

Standard 19 inch, rack-mounted configuration allows the cooling module to be integrated with the equipment to be cooled. Fully enclosed cabinet is equipped with handles for ease of installation. Weights from only 98 lb. / 44.5 kg. The chiller is air-cooled for portability.

- **Standard 19 inch Enclosed Rack-Mount Chassis**

All models: 20.69 H x 20.50 W x 25.75 D inches (cabinet dimensions)

Front panel dimensions: 19.0 H x 19.25 W (11U height cabinet)

Request interface control drawing (ICD) number 25433300 for detailed dimensions.

- **Accurate Process Water Temperature Control**

Standard digital "PID" controller accurately maintains the desired process water temperature to within  $\pm 0.1^{\circ}\text{C}$  of set temperature. Dual digital readout displays both set and actual process water temperatures. Our newly developed control system is patent pending.

- **Heating**

Waste heat is harvested from the system's compressor to quickly raise the temperature of the process water. Approximately 40% of the BTU rating of the chiller unit is available for heating the process water up to  $32^{\circ}\text{C}$  without any external heat load.

- **Process Water Pumps**

Standard positive displacement (sliding vane) style process water pump with eight (8) speed settings provides flow from 3-10 liters per minute @ 70 psi (4.8 bar) available pressure.

- **Optional Deionized (DI) Water Package**

Includes nickel brazed heat exchanger, DI cartridge assembly, and upgraded 316 stainless steel fittings. Easy service to the DI cartridge is accomplished from the rear panel.

- **Easy To Service & Maintain**

Chillers are designed for easy service and maintenance. Convenient process water fill and drain features on all models. Options include quick disconnect fittings, particle filter, & dionizer cartridge.

- **Free-Standing Conversions Available**

Converts rack-mount to free-standing chiller with casters.

## Chiller Module Specifications & Options

### K-O Concepts Model DMC-30

MODEL NUMBERS		DMC-30
Cooling Capacities <sup>1</sup>	Watts	3,000
	BTU/hour	10,200
Cooling Process	Compressor	All models use refrigerant based compressors.
Refrigerant Type	R134a	All models use R134a (HFC-134a) / CFC-free.
Heat Dissipation Note: Air flows from rear to front of cabinet.	Air (air cooled)	All models dissipate heat to ambient air via fan.
Process Coolant Temperature Range	°C / °F	5-35° / 41-95°
Ambient Temperature Range	°C / °F	15-35° / 59-95°
Process Coolant Temperature Stability <sup>2</sup>	°C	±0.1°
Process Coolant Tank Capacity	Gallons / liters	1.3 / 4.9
Process Coolant Maintenance	Fill / drain	All models feature fill & drain via back panel.
Process Coolant Pump Performance Note: 8 selectable water flow rates. Pump provides same flow & pressure performance @ 50 or 60 Hz.	Gallon / liters per minute	0.75-2.63 / 3-10
Process Coolant Pressure Note: Other pressures offered.	PSI / bar	70 / 4.8 available pressure.
Process Coolant Pump Head Material	Stainless steel	Standard Feature: PDM-3-10-SS
Process Coolant Connections (FNPT)	Inches	Standard Feature: ½
Input Power Requirements	Volts AC 60 Hz Single phase	208-230 VAC
Full Load Amperage (typical) Note: Typical line current @ 60 Hz.	Amps @ 230 VAC	6.0
Circuit Breaker	SP	20 A circuit breaker is located on the back panel.
Weight	Dry lbs. / kg.	98 lb. / 44.5 kg.
Cabinet Dimensions ( W x D x H) Note: Standard 19 inch rack-mount configuration, fully enclosed, w/ 19.25 inch / 11 unit (U) high front panel.	Width: in / mm Depth: in / mm Height: in / mm Panel: in / mm	17.12 / 434.85 24.27 / 616.46 19.20 / 487.68 19.0 W x 19.25 H / 482.6 W x 488.95 H
Process Coolant Temperature Controller	Standard Feature: Digital (PID) controller w/ dual display	
Electrical Interface Signals Note: All interface signals are contact closures & are normally closed (N.C.) in the passed condition. Interface signals accessed via (DA 15S) connector located on the back panel.	Standard Feature: Process water flow signal (reed switch). Standard Feature: Process water level signal (reed switch). Standard Feature: Process water temperature alarm (relay contact). Standard Feature: Compressor temperature warning (thermostat).	
Condenser Fan	Standard Feature: Speed-controlled for quiet operation.	
Communications (RS-485) Note: RS-485 serial communication & interface software package is available.	Optional Feature: Serial communications from process coolant temperature controller w/ port via (DA 15S) connector located on back panel.	
Process Coolant Types Note: Coolant additives available.	Standard Feature: Demineralized (steam distilled) water compatible. Optional Feature: Deionized (DI) water compatible. Optional Feature: PAO synthetic coolant oil compatible.	
Coolant Particle Filter	Optional Feature: Canister or cartridge style, coolant particle filters.	
Deionized (DI) Water Package	Optional Feature: Materials upgrade for DI water compatibility.	
Free-Standing Chiller Conversion	Optional Feature: Converts rack-mount to free standing chiller w/casters.	

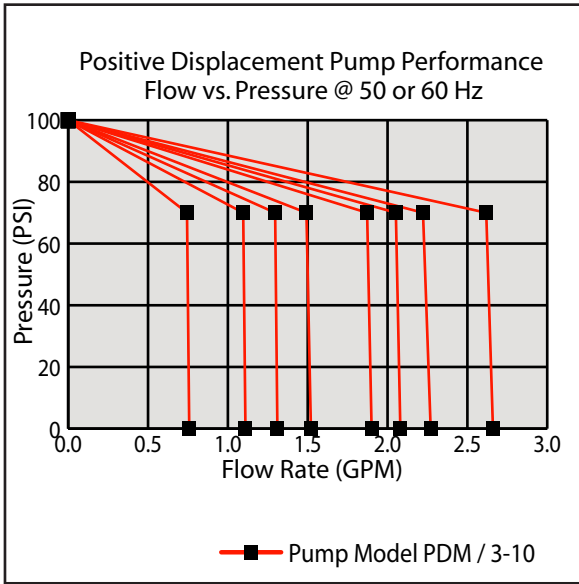
#### Notes:

- <sup>1</sup> Cooling capacity ratings are with process coolant @ 20°C / 68°F.
- <sup>2</sup> Temperature stability performance requires a stable heat load input.
- \* Data shown is with 30°C / 86°F (unrestricted) ambient air.
- \* See Thermal Performance chart for cooling capacities @ other process temperatures.
- \* Specifications are subject to change without notice.

# CHILLER MODULE PERFORMANCE DATA

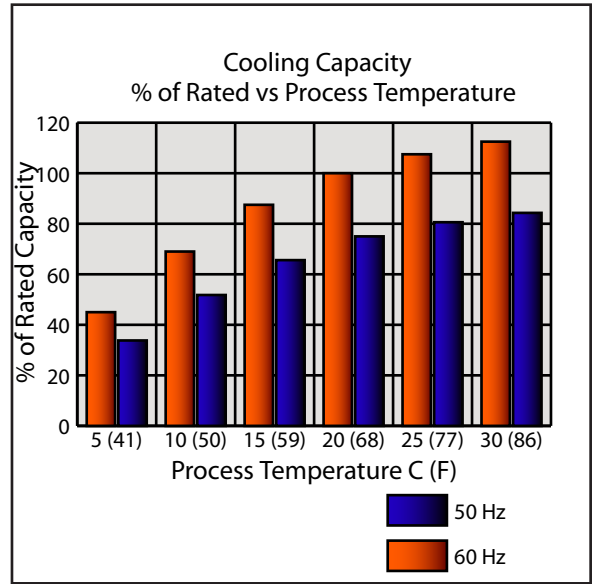
## K-O Concepts Model DMC-30

### Process Water Pump Performance

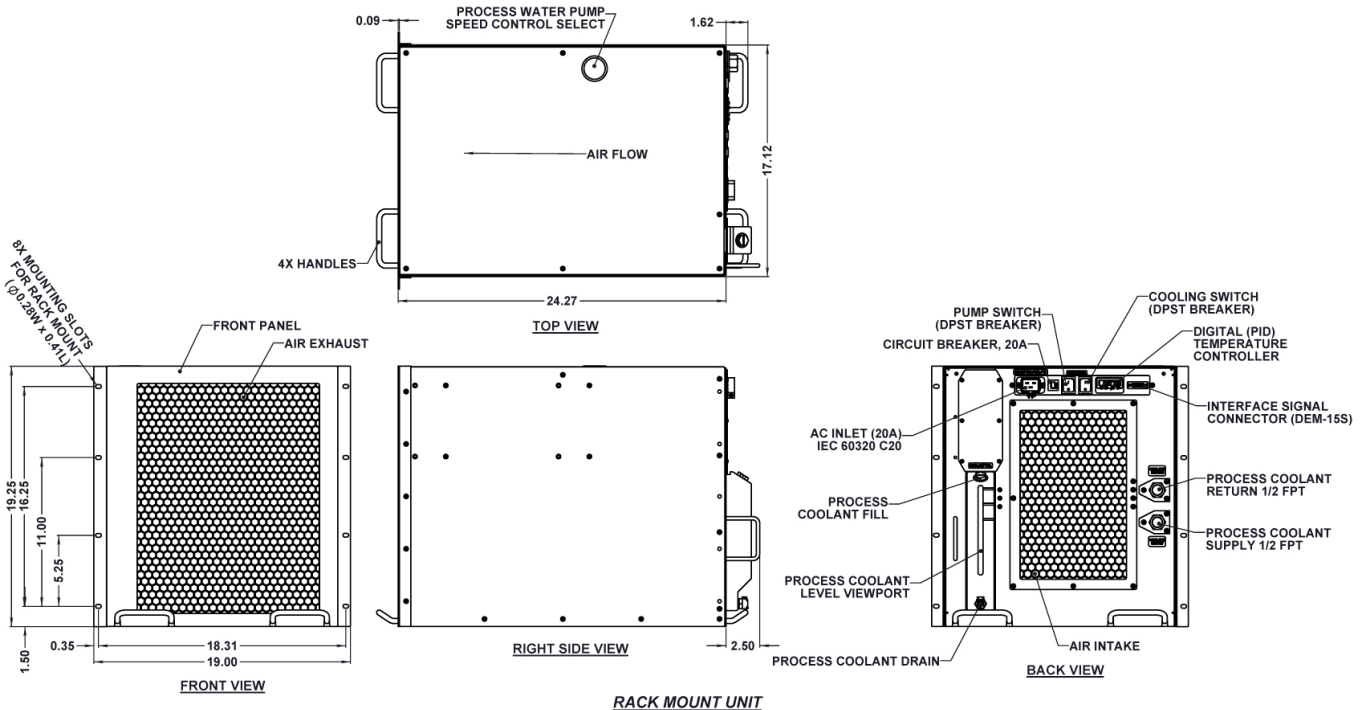


**Note:** Pump Model "PDM / 3-10" provides eight "8" selectable flow vs. pressure curves as shown. Internal valve setting shown starts coolant bypass @ 70 PSI / 4.8 bar & dead heads @ 100 PSI / 6.8 bar. Other pump curves & bypass values available upon request.

### Thermal Performance



### FEATURES & DIMENSIONS (All Models)



**K-O Concepts, Incorporated**  
4375 South Street  
Titusville, Florida, 32780  
Phone: 407/296-7788 • Fax: 321/567-0046  
E-Mail: Sales@K-OConcepts • Web: www.K-OConcepts.com

**K-O Concepts**  
Chillers & Cooling Modules  
Catalog & Custom