

# Applications: Fluid cooling for all imaging modalities

- MRI
- C
- Linear Accelerators
- Molecular Imaging
- X-Ray

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## **Reliable Fluid Cooling Solutions**

Your medical equipment is a serious investment with critical purpose and high reliability needs. It requires heat removal to maintain precise and reliable temperature control and you can count on Koolant Koolers to satisfy all your heat management needs.

Koolant Koolers provides a fully standardized model line which has been designed specifically for the exacting requirements of your equipment. Each machine has been engineered for reliability under various workloads, created with high quality components and the utmost precision controls, representing the latest in state-of-the-art technology. When combined with our service and support, the result is a comprehensive package unmatched in the industry.

## Highlights at a Glance

- Ease and Convenience Designed, manufactured and serviced through our Kalamazoo, Michigan facility.
- Peace of Mind Redundant designs (where applicable) for refrigerant and flow on larger units.
- Outstanding Service Proven service success by Koolant Koolers technicians and specially certified local technicians.
- Install Support Koolant Koolers is available for all technical questions from unit specification and site planning, through start-up.
- Limitless Value-Add Opportunities All orders include an 18 month parts and labor warranty. Custom options available for service contracts, precooling, noise reduction or real-time information and monitoring.





# **Preferred Partnerships**

We forge them. Whether you are an end-user, a project manager over multiple complexes, or a thriving OEM, we will work hand-in-hand with you. From conceptualization through installation and well beyond, our technical sales and service staff work with you, your architects, and your engineers to streamline project management.

### Protect Your Investment with a Koolant Koolers Medical Chilller

- Dual independent refrigeration circuits
- Redundant fluid pumps with automatic switchover
- Galvanized cabinet
- Remote monitoring package
- Quiet operation between patient exams and overnight
- Removable side panels for easy access to interior components
- Wall mounted remote display panel for real-time information on system operation
- UL compliance, CE and CSA available upon request OPTIONS
- City-water bypass panels
- Vibration isolation springs
- OSHPD international seismic certification







# **Specifications**



Model		WO3000	WO3000-HA	WO5000	W07500	WO2-5000	WO2-2-3000		
Voltage / Hertz ± 10 %		208-230/3/60							
		460/3/60							
Full load amperage	@ 230	26	28	37	48	66	94	А	
	@ 460	13	15	19	24	33	72		
Control voltage			24 VAC						
Cooling Capacity (incl. pump) <sup>1</sup>	t <sub>w</sub> 50°F / t <sub>A</sub> 95°F	30800	33710	60000	90000	120000	144000	BTU/H	
Flow rate (Pump)		9	9	15	21	30	30	GPM	
Pump pressure		50	50	50	50	60	60	PSIG	
Ambient temperature range	-20 +105								
Fluid temperature range (outlet)	+44+70								
Set point		50						°F	
Set point value tolerance	± 2.0								
Refrigerant	Туре	407c							
Condenser Fan Air Flow	t <sub>w</sub> 50°F / t <sub>A</sub> 95°F	1800	3000	3000	4500	9000	9000	CFM	
Reservoir capacity		20	20	40	40	72	72	GAL	
Fluid inlet / outlet connections		1"	1"	1.25"	1.5"	1.5"	1.5"	FNPT	
Wet weight (without packaging)		900	1200	1230	1265	2600	2700	LB	
Construction - housing		GALV, UPGRADEABLE TO 430 STAINLESS STEEL WITH E-COATED CONDENSER  CORROSIVE ENVIRONMENTS							
Dimensions (length x width x height)		50 x 28.5 x 65	60	x 38 x 65		111 x 34.5 x 76		IN	
Available Options									
ULTRA LOW AMBIENT PACKAGE		X	Х	Х	Х	Х	Х		
OSHPD CERTIFIED DESIGN		X	Х	Х	Х	Х	2		
BMS AND REMOTE COMMUNICATIONS PKGS		Х	Х	Х	Х	Х	Х		

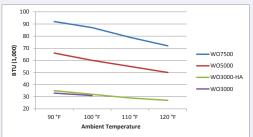
#### Notes:

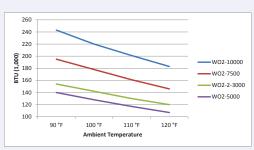
 $t_W$  /  $t_A$  = Temperature of Water / Temperature Ambient

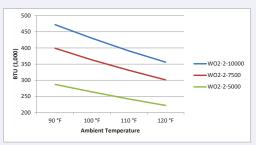
- 1) Pump is factored into the cooling capacity.
- 2) New design, undergoing OSHPD certification process, expected to be complete in 2014  $\,$
- 3) Other pump flows and pressures also available; FLA and chiller capacity will change with pump changes



# **Cooling Capacity Performance Curves**







Model	WO2-7500	WO2-10000	WO2-2-5000	WO2-2-7500	WO2-2-10000				
	208-230/3/60 -								
Voltage / Hertz ± 10 %	460/3/60								
@230	86 -								
Full load amperage @ 460	43	60	65	87	100	Α			
Control voltage	24 VAC								
Cooling Capacity (incl. pump) <sup>1</sup> t <sub>w</sub> 50°F / t <sub>A</sub> 95°F	186000	232000	275000	380000	470000	BTU/H			
Flow rate (Pump) <sup>3</sup>	30	0 35							
Pump pressure	60	60 70							
Ambient temperature range	-20 +122								
Fluid temperature range (outlet)	+44+70								
et point 50									
Set point value tolerance	± 2.0								
Refrigerant <b>Type</b>	407c								
Condenser Fan Air Flow t <sub>w</sub> 50°F / t <sub>A</sub> 95°F	12000	14400	14400	18000	24000	CFM			
Reservoir capacity	72	100	100	100	100	GAL			
Fluid inlet / outlet connections	1.5"	2.0"	2.0"	2.0"	2.0"	FNPT			
Wet weight (without packaging)	2600	3350	4050	4350	4850	LB			
Construction - housing	GALV, UPGRADEABLE TO 430 STAINLESS STEEL WITH E-COATED CONDENSER CORROSIVE ENVIRONMENTS								
Dimensions (length x width x height)	111 x 34.5 x 76   111 x 44 x 84.5   138 x 44 x 84.5								
Available Options									
ULTRA LOW AMBIENT PACKAGE TO -40 °F/°C	Х	Х	Х	Х	Х				
OSHPD CERTIFIED DESIGN	Х	2	Х	Х	2				
BMS AND REMOTE COMMUNICATIONS PKGS	Х	Х	Х	Х	Х				

#### Notes

 $t_W / t_A = Temperature of Water / Temperature Ambient$ 

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## **Our Service and Support Promise**

When making a purchase decision the quality of the product is vital and when paired with a superb support package, will prevent downtime. In the case of Medical Technology, lost time results in delayed patient care and lost revenue, which quickly surpasses the cost of the purchase itself. Koolant Koolers and our sister company, RIEDEL, are proud partners with all major OEMs to meet their exacting standards.

Our in-house, state-of-the-art testing station provides highly detailed and accurate monitoring of refrigerant superheat, sub-cooling, and discharge temperatures under a wide range of simulated operating conditions. This state-of-the-art equipment is one of the most sophisticated testing stations of its kind in the United States.

Supported by a global 24-hour service network which extends to various points around the world, our products feature high-quality components manufactured in our ISO-9001 certified facility and are backed by a warranty that redefines industry standards. We continue to be distinctive in every product and service we offer to our customers.

### What About Installation?

The Koolant Koolers design team is always available for technical consulting. Service packages are available on all medical systems to assist with start-up, preventative maintenance and all facets of chiller use. The customer is responsible to provide the slab/fixture for mounting, placing all rigging, and all initial plumbing and electrical connections. Once this is complete our trained technicians will then visit the site to verify all work and initialize the machine, ensuring proper readings.



### We Promise and Provide:

- Exceptional designs tailored to meet the needs of our medical clientele.
- A vast specially authorized medical service network, contracted in the local region of the installation.
- Koolant Koolers trained technicians to provide all service.



1-800-YOU-KOOL 2625 Emerald Drive Kalamazoo, MI 49001 www.dimplexthermal.com