









circulating water bath selection guide

		refrigerated/heated water baths						heated circulating water baths				immersion circulator (thermostat)		
														
Capacity		7 liters		15 liters		20 liters	28 liters	45 liters	7 liters	15 liters	20 liters	28 liters	up to 28 liters	
Maximum Temperature ¹		200°C						135°C	200°C				135°C	
Minimum Temperature ²		-20°C	-40°C	-20°C	-30°C	-40°C	-30°C	-30°C	-25°C	Ambient +10°C				Ambient +10°C
Cooling Capacity @ 20°C		200 watts	505 watts	200 watts	915 watts	1000 watts	915 watts		1400 watts					
Mode	Performance Programmable	PP07R-20	PP07R-40	PP7LR-20	PP15R-30	PP15R-40	PP20R-30	PP28R-30	PP45R-20	PP07H200	PP15H200	PP20H200	PP28H200	
	Advanced Programmable	AP07R-20	AP07R-40	AP7LR-20	AP15R-30	AP15R-40	AP20R-30	AP28R-30	AP45R-20	AP07H200	AP15H200	AP20H200	AP28H200	
	Performance Digital	PD07R-20	PD07R-40	PD7LR-20	PD15R-30	PD15R-40	PD20R-30	PD28R-30	PD45R-20	PD07H200	PD15H200	PD20H200	PD28H200	
	Advanced Digital	AD07R-20	AD07R-40	AD7LR-20	AD15R-30	AD15R-40	AD20R-30	AD28R-30	AD45R-20	AD07H200	AD15H200	AD20H200	AD28H200	
	Standard Digital	SD07R-20		SD7LR-20	SD15R-30		SD20R-30	SD28R-30		SD07H170	SD15H170	SD20H170	SD28H170	
	MX	MX07R-20		MX7LR-20	MX15R-30		MX20R-30			MX07H135	MX15H135	MX20H135		MX-CL
Working Access (L x W x H)		6.18 x 5.59 x 5 in. 15.7 x 14.2 x 12.7 cm		8.35 x 10.88 x 5.5 in. 21.2 x 27.6 x 14 cm		9.85 x 12.45 x 5.5 in. 25 x 31.6 x 14 cm	12.35 x 14.13 x 5.5 in. 31.4 x 35.9 x 14 cm	21.6 x 15.68 x 5.5 in. 54.9 x 39.8 x 14 cm	6.18 x 5.59 x 5 in. 15.7 x 14.2 x 12.7 cm	8.35 x 10.88 x 5.5 in. 21.2 x 27.6 x 14 cm	9.85 x 12.45 x 5.5 in. 25 x 31.6 x 14 cm	12.35 x 14.13 x 5.5 in. 31.4 x 35.9 x 14 cm		N/A
Drain		○	○	○	○	○	○	○	○	○	○	○	○	

1. Maximum temperature is controller dependent; see Circulator Controller Features.

2. Minimum temperature is shown with no external heat load.



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circulator controller features

	controller type	performance programmable	advanced programmable	performance digital	advanced digital	standard digital	MX
performance	Maximum Temperature	200°C	200°C	200°C	200°C	170°C	135°C
	Temperature Stability	±0.005°C	±0.01°C	±0.005°C	±0.01°C	±0.04°C	±0.07°C
	Swivel 180° Rotating Controller	○	○	○	○	○	
	Pump	Variable-Speed	Variable-Speed	Variable-Speed	Variable-Speed	2-speed	1-speed
	Pressure Flow Rate (maximum) 60Hz/50Hz	20.1 LPM/16.7 LPM	20.1 LPM/16.7 LPM	20.1 LPM/16.7 LPM	20.1 LPM/16.7 LPM	11 LPM/10.2 LPM	12.8 LPM/10.6 LPM
	Suction Flow Rate (maximum) 60Hz/50Hz	14.7 LPM/12.2 LPM	14.7 LPM/12.2 LPM	14.7 LPM/12.2 LPM	14.7 LPM/12.2 LPM		
	Closed-Loop Operation	○	○	○	○	○	○
	Open-Loop Operation	○	○	○	○		
	Fluid Optimization/Specific Heat Tuning	○	○	○	○		
	Temperature Calibration Capability	10-point	5-point	10-point	1-point	1-point	1-point
	External Temperature Control Capability (Pt100)	○	○	○	○		
	WhisperCool™ Environmental Control System	○	○	○	○	○	○
Inert Gas Reservoir Purge	○	○	○	○	○		
operation	Display Type & Size	SmartTouch™ Color LCD 4.3 inches	SmartTouch™ Color LCD 4.3 inches	SmartTouch™ Color LCD 4.3 inches	LCD Touch-Pad 3.75 inches	LCD Touch-Pad 3.75 inches	LCD 3.25 inches
	Enhanced Data Display Capability	7 selectable views	7 selectable views	6 selectable views	Message bar		
	Multi-Language Menus or Prompts	11 languages	6 languages	11 languages	4 languages	Icon/English	Icon/English
	Displays Temperature Trend	○	○	○			
	Time/Temperature Programs & Steps	OpenMode	Ten 100-step programs				
	Date & Time with Calendar Start/Stop	○	○	○			
	Timer	○	○	○	○		
	On-Screen Help or Prompts	○	○	○	○		
	RS232/RS485 Serial Output	○	○	○	○	RS232	
	USB A and USB B	○	○	○	○		
	Ethernet	○	○	○	○		
	DeviceNet™/Canbus, Modbus®, Profibus® (optional)	○		○			
Software support for LabVIEW™ included	○		○				
Remote On/Off Capability	○		○				
safety & process protection	Safety Class (DIN 12876-1)	III	III	III	III	I	I
	Over-Temperature Protection	○	○	○	○	○	○
	Failsafe Heater Control	○	○	○	○	○	○
	High and Low Temperature Limits/Alarms	○	○	○	○	○	○
	Low-Liquid-Level Safety	○	○	○	○	○	○
	Alarm and Fault Indicators	Message	Message	Message	Message	Icon	Icon



Performance Programmable,
Performance Digital,
Advanced Programmable



Rear View of
Performance Programmable,
Performance Digital,
Advanced Programmable



Advanced Digital



Standard Digital



MX