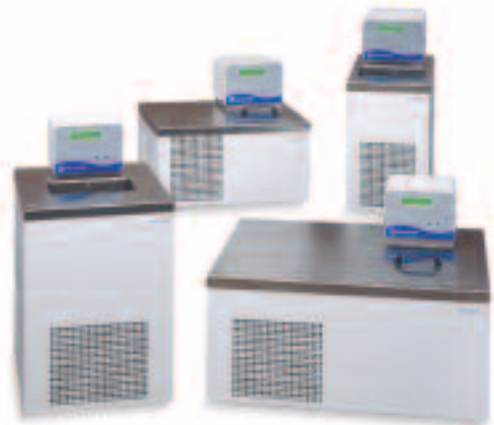# Isotemp® Bath Circulators

Fisher Scientific

Improve the productivity

of your lab with solutions

from Fisher Scientific

Isotemp® Refrigerated and Heating Bath Circulators

- **Three Controller Choices: Programmable, Digital, or Standard**
- **More Cooling and Heating Capacity**
- **Powerful Pumps**

The Isotemp bath/circulators are designed to answer the demanding temperature control requirements of today's wide variety of temperature-based applications. Built with strong pumps, robust cooling, powerful heaters, and a small footprint that maximizes bench space, these baths are an excellent choice for any application. Whether you require an open bath to immerse your samples in or you need to pump to an external application, these versatile circulators offer high quality and high value.

Exclusive features

Multiple Sizes

Seven different models allow you to choose the size that's perfect for your application. The 6-liter low profile, 6-liter upright, 13-liter, and 28-liter baths are available in heating and refrigerated bath combinations. All feature stainless steel seamless drawn tanks for durability, fluid compatibility and easy cleaning.

Powerful Pumps

The Isotemp bath/circulators are outfitted with a strong industrial grade circulating pump that delivers more pressure than most competitive brands. This extra pressure translates into more efficient heat exchange. Also, the extra pumping means you can locate the circulator at a distance from the application, or under a lab bench. For immersion applications, the strong pump ensures efficient reservoir agitation, and better fluid uniformity, even for heavy immersion loads.

Built-in Safety Features

The Isotemp bath/circulators are all protected by a built-in temperature safety. By setting your specific application temperature parameters, you can be sure that the Isotemp unit will shut down in the rare event of temperature overshoot. This allows your application, or immersion load, to remain safe from adverse temperatures.

More Cooling

The oversized refrigeration system offers excellent heat load removal at common operating temperatures. Fine-tuned refrigeration metering allows for excellent temperature stability under shifting heat loads. The systems comply with CSA and CE regulations.

Fast heat-up

Designed to be robust, these circulators feature long-life high wattage heaters that deliver rapid fluid heat up and assure fluid compatibility, even when applications produce fluctuating temperatures. The user can set an over temperature/low reservoir level cutout, assuring protection of the application from accidental heater overrun.

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Easy-to-Use Controllers

Choose from a selection of three different controllers that best meets your application requirements.

The **Programmable controller** offers multistep programming that allows you to store two programs with 10 steps each with a varying set point interval from 0 to 999 hours. There is also an RS 232C interface for computer control applications. This model will provide you with temperature stability and resolution of ±0.01 and enable you to cover wide temperature ranges.

The **Digital controller** offers the same precision, accuracy, and features of the programmable controller but does not have the multi-step ramping capabilities.

Lastly, the **Standard controller** offers fewer features than the other two models with a reduced temperature range, stability and resolution. This is an ideal choice for less demanding applications.

Programmable Controller

- Multistep programming
- RS 232C interface
- Remote temperature control of external systems (with optional probe)
- Adjustable PID control
- Two-line LCD display
- Over temperature/low level cutouts with audible, visual alarms
- Moisture-tight seamless keypad
- Selectable temperature display in °C, °F, or °U (user defined) with resolution of 0.1 or 0.01

Digital Controller

- Adjustable PID control
- Two-line LCD display
- RS 232C interface
- Over temperature/low level cutouts with audible, visual alarms
- Moisture-tight seamless keypad
- Selectable temperature display in °C, °F, or °U (user defined) with resolution of 0.1 or 0.01

Standard Controller

- Adjustable PID control
- Low-cost alternative for routine temperature control
- Single-line, easy-to-read LED display
- Over temperature/low level cutouts visual alarms
- Selectable temperature display in °C or °F with resolution of 0.1

Isotemp® Refrigerated Baths

Programmable Refrigerated Isotemp Baths

Model	3006P	3016P	3103P	3028P
Capacity	1½ gal (6L)	1½ gal (6L)	3½ gal (13L)	7⅜ gal (28L)

Temperature
    Range
    Stability
	-20 to 200°C
	±0.01°C
		-20 to 200°C
		±0.01°C
			-30 to 200°C
			±0.01°C
				-25 to 100°C
				±0.01°C

Display Resolution	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U
Reservoir (L x W x D)	5¼ x 8 x 6" 13 x 20 x15 cm	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 9 x 8" 13 x 23 x 20cm	11½ x 11¼ x 8" 29 x 29 x 20cm
Overall (L x W x D)	15¾ x 18¾ x 15⅝" 40 x 48 x 40cm	15¾ x 18¾ x 15⅝" 40 x 48 x 40cm	17⅞ x 15 x 26⅛" 45 x 38 x 66cm	22 x 27½ x 18⅝" 56 x 70 x 47cm
Shipping Weight	79lb. (36kg)	70lb. (32kg)	112lb. (51kg)	162lb. (73kg)
Electrical Requirements	115V 60Hz, 15A	115V 60Hz, 15A	115V 60Hz, 20A	115V 60Hz, 20A
Heater	800W	800W	800W	800W
Cooling Capacity	350W at +20°C 90W at -10°C, 190W at 0°C	350W at +20°C 90W at -10°C, 190W at 0°C	660W at +20°C 200W at -20°C, 480W at 0°C	700W at +20°C 175W at -20°C, 450W at 0°C

Pump
    Type
    Pressure
	Pressure
	15L/min. (4 gal./min.)
		Pressure
		15L/min. (4 gal./min.)
			Pressure
			15L/min. (4 gal./min.)
				Pressure
				15L/min. (4 gal./min.)

Cat #	**13-874-18**	**13-874-26**	**13-874-22**	**13-874-30**

Digital Refrigerated Isotemp Baths

Model	3006D	3016D	3013D	3028D
Capacity	1½ gal (6L)	1½ gal (6L)	3½ gal (13L)	7⅜ gal (28L)

Temperature
    Range
    Stability
	-20 to 200°C
	±0.01°C
		-20 to 200°C
		±0.01°C
			-30 to 200°C
			±0.01°C
				-25 to 100°
				±0.01°C

Display Resolution	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U
Reservoir L x W x D	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 9 x 8" 13 x 23 x 20cm	11½ x 11¼ x 8" 29 x 29 x 20cm
Overall L x W x D	15¾ x 18¾ x 15⅝" 40 x 48 x 40cm	15¾ x 18¾ x 15⅝" 40 x 48 x 40cm	17⅞ x 15 x 26⅛" 45 x 38 x 66cm	22 x 27½ x 18⅝" 56 x 70 x 47cm
Shipping Weight	79lb. (36kg)	70lb. (32kg)	112lb. (51kg)	162lb. (73kg)
Electrical Requirements	115V 60Hz, 15A	115V 60Hz, 15A	115V 60Hz, 20A	115V 60Hz, 20A
Heater	800W	800W	800W	800W
Cooling Capacity	350W at +20°C 90W at -10°C, 190W at 0°C	350W at +20°C 90W at -10°C, 190W at 0°C	660W at +20°C 200W at -20°C, 480W at 0°C	700W at +20°C 175W at -20°C, 450W at 0°C

Pump
    Type
    Pressure
	Pressure
	15L/min. (4 gal./min.)
		Pressure
		15L/min. (4 gal./min.)
			Pressure
			15L/min. (4 gal./min.)
				Pressure
				15L/min. (4 gal./min.)

Cat #	**13-874-7**	**13-874-9**	**13-874-11**	**13-874-13**

Standard Refrigerated Isotemp Baths

Model	3006S	3016S	3013S	3028S
Capacity	1½ gal (6L)	1½ gal (6L)	3½ gal (13L)	7⅜ gal (28L)

Temperature
    Range
    Stability
	-20 to 150°C
	±0.05°C
		-20 to 150°C
		±0.05°C
			-30 to 150°C
			±0.05°C
				-25 to 100°C
				±0.05°C

Display Resolution	0.1° in °C or °F	0.1° in °C or °F	0.1° in °C or °F	0.1° in °C or °F
Reservoir (L x W x D)	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 9 x 8" 13 x 23 x 20cm	11½ x 11¼ x 8" 29 x 29 x 20cm
Overall (L x W x D)	15¾ x 18¾ x 15⅝" 40 x 48 x 40cm	15¾ x 18¾ x 15⅝" 40 x 48 x 40cm	17⅞ x 15 x 26⅛" 45 x 38 x 66cm	22 x 27½ x 18⅝" 56 x 70 x 47cm
Shipping Weight	79lb. (36kg)	70lb. (32kg)	112lb. (51kg)	162lb. (73kg)
Electrical Requirements	115V 60Hz, 15A	115V 60Hz, 15A	115V 60Hz, 20A	115V 60Hz, 20A
Heater	800W	800W	800W	800W
Cooling Capacity	350W at +20°C 90W at -10°C, 190W at 0°C	350W at +20°C 90W at -10°C, 190W at 0°C	660W at +20°C 200W at -20°C, 480W at 0°C	700W at +20°C 175W at -20°C, 450W at 0°C

Pump
    Type
    Pressure
	Pressure
	15L/min. (4 gal./min.)
		Pressure
		15L/min. (4 gal./min.)
			Pressure
			15L/min. (4 gal./min.)
				Pressure
				15L/min. (4 gal./min.)

Cat #	**13-874-20**	**13-874-28**	**13-874-24**	**13-874-32**

Isotemp® Heated Baths

Programmable Heated Isotemp Baths

Model	3016HP	3103HP	3028HP
Capacity	1½ gal (6L)	3½ gal (13L)	7⅜ gal (28L)
Temperature Range Stability	Ambient + 15° to 200°C ±0.01°C	Ambient + 15° to 150°C ±0.01°C	Ambient + 15° to 150° ±0.01°C
Display Resolution	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U
Reservoir (L x W x D)	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 9 x 8" 13 x 23 x 20cm	12 x 10¼ x 8" 30 x 26 x 20cm
Overall (L x W x D)	14¾ x 9¼ x 14" 37 x 23 x 36cm	15½ x 10⅞ x 15⅜" 39 x 28 x 39cm	22¾ x 13¼ x 15⅜" 58 x 33 x 39cm
Shipping Weight	34lb. (15kg)	45lb. (20kg)	96lb. (44kg)
Electrical Requirements	115V 60Hz, 8A	115V 60Hz, 8A	115V 60Hz, 8A
Heater	800W	800W	800W
Pump Type Pressure	Pressure 15L/min. (4 gal./min.)	Pressure 15L/min. (4 gal./min.)	Pressure 15L/min. (4 gal./min.)
Cat #	**13-874-34**	**13-874-38**	**13-874-42**

Digital Heated Isotemp Baths

Model	3016HD	3013HD	3028HD
Capacity	1½ gal (6L)	3½ gal (13L)	7⅜ gal (28L)
Temperature Range Stability	Ambient + 15° to 200°C ±0.01°C	Ambient + 15° to 150°C ±0.01°C	Ambient + 15° to 150°C ±0.01°C
Display Resolution	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U	0.1° or 0.01° in °C, °F, °U
Reservoir (L x W x D)	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 9 x 8" 13 x 23 x 20cm	12 x 10¼ x 8" 30 x 26 x 20cm
Overall (L x W x D)	14¾ x 9¼ x 14" 37 x 23 x 36cm	15½ x 10⅞ x 15⅜" 39 x 28 x 39cm	22¾ x 13¼ x 15⅜" 58 x 33 x 39cm
Shipping Weight	34lb. (15kg)	45lb. (20kg)	96lb. (44kg)
Electrical Requirements	115V 60Hz, 8A	115V 60Hz, 8A	115V 60Hz, 8A
Heater	800W	800W	800W
Pump Type Pressure	Pressure 15L/min. (4 gal./min.)	Pressure 15L/min. (4 gal./min.)	Pressure 15L/min. (4 gal./min.)
Cat #	**13-874-1**	**13-874-3**	**13-874-5**

Standard Heated Isotemp Baths

Model	3016HS	3013HS	3028HS
Capacity	1½ gal (6L)	3½ gal (13L)	7 3/8 gal (28L)
Temperature Range Stability	Ambient + 15° to 150°C ±0.05°C	Ambient + 15° to 150°C ±0.05°C	Ambient + 15° to 150°C ±0.05°C
Display Resolution	0.1° in °C or °F	0.1° in °C or °F	0.1° in °C or °F
Reservoir (L x W x D)	5¼ x 8 x 6" 13 x 20 x15cm	5¼ x 9 x 8" 13 x 23 x 20cm	12 x 10¼ x 8" 30 x 26 x 20cm
Overall (L x W x D)	14¾ x 9¼ x 14" 37 x 23 x 36cm	15½ x 10⅞ x 15⅜" 39 x 28 x 39cm	22¾ x 13¼ x 15⅜" 58 x 33 x 39cm
Shipping Weight	34lb. (15kg)	45lb. (20kg)	96lb. (44kg)
Electrical Requirements	115V 60Hz, 8A	115V 60Hz, 8A	115V 60Hz, 8A
Heater	800W	800W	800W
Pump Type Pressure	Pressure 15L/min. (4 gal./min.)	Pressure 15L/min. (4 gal./min.)	Pressure 15L/min. (4 gal./min.)
Cat #	**13-874-36**	**13-874-40**	**13-874-44**

Isotemp® Open Heating Bath Circulators

- **Three sizes to choose from**
- **Thermally resistant up to 100°**
- **Less expensive than stainless steel**

These very rigid baths made from modified polyphenyleneoxide (PPO) are thermally resistant up to 100°C making them an excellent alternative to stainless steel.

Combined with temperature control units 2100 and 2150, they are inexpensive open-bath circulators to be used with water as the heat transfer liquid. These baths have integrated grips and supports and are fitted with bridge plates for locating the temperature control unit.

The 2100 series offers an economical yet stable and reliable analog controller with a powerful 1000 watt heater. The 2150 series is our state-of-the-art digital controller featuring a powerful 1200 watt heater. Both models come standard with a powerful pressure pump to ensure uniform temperature throughout the entire bath.

Standard Heated Isotemp Baths

Model	2100-B5	2100-B14	2100-B21	2150-B5	2150-B14	2150-B21
Temperature Range	25°-100°C	25°-100°C	25°-100°C	25°-100°C	25°-100°C	25°-100°C
Stability	±0.04	±0.04	±0.04	±0.02	±0.0	±0.2
Setting	Analog	Analog	Analog	Digital	Digital	Digital
Control	Analog	Analog	Analog	PID	PID	PID
Bath Opening (L x W x D)	5 x 7 x 6" 13 x 17 x 16cm	12 x 8 x 6" 30 x 19 x 16cm	12 x 15 x 6" 30 x 38 x 16cm	5 x 7 x 6" 13 x 17 x 16cm	12 x 8 x 6" 30 x 19 x 16cm	12 x 15 x 6" 3 x 38 x 16cm
Bath Capacity	5L	14L	21L	5L	14L	21L
Pumping Capacity Pressure, L/min	14L	14L	14L	14L	14L	14L
Dimensions (L x W x H)	6 x 13 x 14" 16 x 33 x 36cm	13 x 15 x 14" 33 x 38 x 36cm	13 x 21 x 14" 33 x 54 x 36cm	6 x 13 x 14" 16 x 33 x 36cm	13 x 15 x 14" 33 x 38 x 36cm	13 x 21 x 14" 33 x 54 x 36cm
Electrical Requirements	115V, 60Hz	115V, 60Hz	115V, 60Hz	115V, 60Hz	115V, 60Hz	115V, 60Hz
Heater Wattage	1000W	1000W	1000W	1200W	1200W	1200W
Cat. No.	13-874-323	13-874-324	13-874-318	13-874-320	13-874-319	13-874-321

Accessories

Cat. No.	Description	Cat. No.	Description
13-641-737	Bath Cover for B5	13-872-139	Racks for B5 bath, 18 tubes, 16mm ⌀
13-641-736	Bath Cover for B14	13-872-140	Racks for B5 bath, 26 tubes (1.5ml), 10mm ⌀
13-641-738	Bath Cover for B21	22-269-403	Basic rack without inserts (1 x B14, 2 x B21)
13-872-126	Set for external circulation	22-269-404	Inserts for tubes into basic rack/ 86 - 10mm ⌀
13-872-128	Tap water cooling coil	13-872-132	Inserts for tubes into basic rack/ 46 - 16mm ⌀
		13-872-133	Inserts for tubes into basic rack/ 23 - 25mm ⌀

Isotemp® Immersion Circulators

- **Digital PID or Analog Controller**
- **Up to 1200 watts heating capacity**
- **Temperature control up to 50 liters**

Clamp an Isotemp Immersion Circulator to open baths, jar-style baths or ring stands to make a constant temperature bath for your specific application.

Model 2100* and Model 2150 come with an adjustable clamp to secure to any bath with a wall thickness up to 2.5 cm.
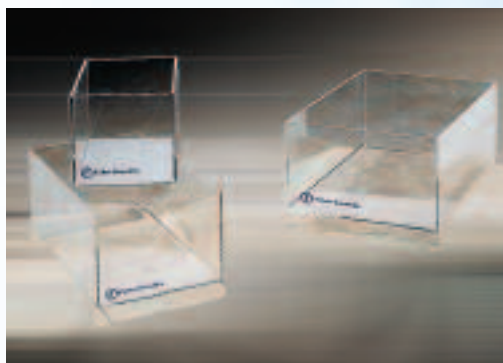
Model	2100	2150
Temperature Range	25°-100°C	25°-200°C
Stability	±0.04	±0.02
Setting	Analog	Digital
Control	Analog	Digital
Pumping Capacity Pressure, L/Min.	14L	14L
Power Requirements	115V/60Hz	115V/60Hz
Heater Wattage	1000W	1200W
Cat. No.	13-873-44A	13-873-45A

Model 2100 Model 2150

*Use only with water

Isotemp® Open Baths

- **Stainless Steel or Acrylic**
- **Choose Your Own Bath Combination**
- **Refrigerated/Heating Applications**

These open bath combinations offer you the flexibility to choose the one that's right for your application. Choose between three different clear acrylic baths, two stainless steel open baths and one refrigerated open bath, and then clamp on an immersion circulator (featured on page 5). You now have an open circulating bath.

Acrylic Baths

Choose between an 8, 14, or 21 liter clear acrylic bath for applications ranging from ambient to 80°C. These clear baths are less expensive than stainless steel and provide good visibility to your temperature-controlled samples.

Capacity	8L	16L	21L
Working Area (L x W x D)	11½ x 7½ x7"	18 x 10 x 7"	18 x 12 x 7"
Overall Dimensions (L x W x D)	12 x 8 x 8½"	18½ x 10½ x 8½"	18 x 12½ x 8½"
Cat. No.	**13-873-13**	**13-873-14**	**13-873-15**

Stainless Steel Baths

Available in two sizes, 13 and 28 liters, these rugged, seamless stainless steel tanks are an ideal choice for any laboratory application requiring the temperature control of immersed samples up to a temperature range of 200°C.

Capacity	13L	28L
Working Area (L x W x D)	11⅝ x 9⅜ x 8⅜"	19⅜ x 11⅜ x 8⅜"
Overall Dimensions (L x W x D)	13¼ x 10⅝ x 9"	21³⁄₁₆ x 13 x 9"
Cat. No.	**13-873-10**	**13-873-11**

Refrigerated Stainless Steel Bath

This 13-liter refrigerated bath is designed to be used with an Isotemp immersion circulator (page 5) to control temperatures from 0 to 150°C. Used without an immersion circulator, this bath will cool down uncontrolled to its minimum temperature.

Capacity	13L
Temperature Range	0 - 150° C
Cooling Capacity @ 20°C	350W
Working Area	11 x 9 x 7½
Overall dimensions	16 x 21½ x 11½
Cat. No.	
115V/60Hz	**13-873-12A**
208V/50Hz	**13-873-12B**

Accessories

Bath Fluids

Use Ethylene Glycol for low-temperature applications to -30°C and silicone oil for high-temperature applications to +150°C. Available in 5-gallon containers.

Cat. No.	
Ethylene	**13-265-155**
Silicone	**13-265-154**

Algicide

Chloramine-T algicide, when added to an Isotemp constant temperature bath, restricts the growth of algae which can damage equipment and instrumentation.

Cat. No	
	13-265-156

Flow Controller

Connect a flow controller to the outlet fitting on the Isotemp bath/circulator to allow flow adjustment. Available in stainless steel or brass.

Cat. No	
Stainless Steel	**13-265-150**
Brass	**13-265-151**

Plumbing Packages

Plumbing packages for Isotemp bath/circulators include 25′ of tubing insulation and 4 hose clamps. the Tygon® package allows circulation between -25°C and +100°C, and the silicone package is for use between -100°C and +100°C

Cat. No	
Tygon	**13-265-136**
Silicone	**13-265-153**
Tubing insulation	**13-265-149**

Remote RTD Temperature Probe

To be used with the programmable controllers to temperature control external systems.

Cat. No.	
	13-265-20A

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