

Bath Circulator

Bath Circulator, Circulation Water Bath 2, 3
 , Cold Trap 4
 , High-Temp. Bath Circulator 5
 , Refrigerated / Heating Bath Circulator .. 6, 7



Circulation Water Bath

Digital Precise Circulation Water Bath
"WCB" 6 / 11 / 22L, 100 °C



Cold Trap Bath Circulator

Digital Precision Cold Trap Bath
"WCT" 10L, -40 / -80 °C



High-Temp Bath Circulator

Precise High-temp Bath Circulator
"MaXircu™ CH" 8 / 12 / 22 / 30L, 250 °C



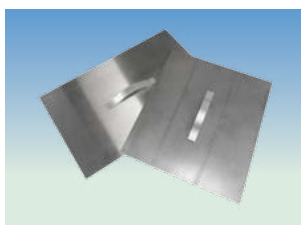
Refrigerated / Heating Bath Circulator

Digital Precise Refrigerated/Heating Bath Circulator
"MaXircu™ CR" 8 / 12 / 22 / 30L, - 25 ~ +150 °C

DAIHAN-brand® Digital Precise Circulation Water Bath “WCB”, 6-/11-/22- Lit, with Certi. & Traceability with 1 × Stainless-steel Flat Lid, Powerful Circulation Pump, up to 100°C, ±0.1°C, 5 Lit./min,



Digital Precise Circulation Water Bath “WCB-22”



Flat Lid, Stainless-steel
(Included)

- Made in Korea ■ CE Certified
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function
- * Ideal for Biotechnology, Clinical, Environmental, Medical, Petroleum, Food Industry, Pharmaceutical and Industrial Applications. * Alarm function : Error Status and Timer-end
- * Warning and Automatic Stop Function in case of Liquid Shortage.
- * Powerful Circulation Pump Assures Temp. Uniformity : Internal and External Circulation.
- * Connection with Evaporators and Viscometers is applicable.

Specifications & Ordering information

Spec.	Model	“WCB-6”	“WCB-11”	“WCB-22”
Capacity		6 Lit.	11 Lit.	22 Lit.
Temp. Range & Accuracy		Room Temp. +5°C~ 100°C, ±0.1°C		
Temp. Resolution		0.1°C-Display, 0.1°C-Control		
Temp. Uniformity & Probe		±0.2°C, PT100		
Heating Power		800 W	1 kW	2 kW
Pump		5 Lit. / min (Internal / External)		
Circulation Nozzle		i.d. 7×o.d. 11 mm (i.d. 9 / o.d. 12mm silicon tube connected for inner circulation)		
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end		
Controller & Display		Digital Fuzzy Controller with Back Light Digital LCD		
Safety Circuit		Over-Temp./-Current protection, Sensor Error & Low Level Detection		
Material		Stainless-steel (# 304)-Internal, Powder Coated steel-External		
Drain Valve		None		Mounted(φ9.5~11mm)
Dimension (w×d×h)	Effective Space	120×155×h150 mm	170×240×h150 mm	372×295×h150 mm
	Internal	300×155×h150 mm	302×240×h150 mm	500×295×h150 mm
	External	330×185×h385 mm	335×275×h385 mm	540×335×h410 mm
Packing Size (mm) and Gross Weight (kg)		350×210×h410mm, 11 kg	360×300×h420mm, 13 kg	580×380×h470mm, 18 kg
Electrical Reqts.		1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz		
Cat. No.	230V	DH.WCB00106	DH.WCB00111	DH.WCB00122

DAIHAN-brand® Digital Precise Circulation Immersion Pump Head “WCB-H”, 11-/22- Lit, up to 100°C with Digital Fuzzy Control System, Certi. & Traceability, Power Circulation Pump, 5 Lit/min,



Digital Precise Immersion Circulator Head “WCB-11H”

- Made in Korea ■ CE Certified
 - with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
 - Digital Fuzzy Control System Implementing Superior Temperature Accuracy
 - Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function
- * Ideal for Biotechnology, Clinical, Environmental, Medical, Petroleum, Food Industry, Pharmaceutical and Industrial Applications. * Alarm function : Error Status and Timer-end
 * Powerful Circulation Pump Assures Temp. Uniformity : Internal and External Circulation.

Specifications & Ordering information

Spec.	Model	“WCB-11H”	“WCB-22H”
Capacity		11 Lit.	22 Lit.
Temp. Range & Sensor		Room Temp. + 5°C ~ 100°C, PT100	
Heating Power & Pump		1 kW, 5 Lit. / min	2 kW, 5 Lit. / min
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end	
Controller & Display		Digital Fuzzy Controller with Back Light Digital LCD	
Safety Circuit		Over-Temp./-Current protector, Sensor Error & Low Level Detection	
Dimension		130 × 165 × h320 mm	
Packing Size (mm) and Gross Weight (kg)		400 × 280 × h200 mm, 8 kg	400 × 280 × h200 mm, 10 kg
Electrical Reqts.		1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz	
Cat. No.	230V	DH.WCB10011	DH.WCB10022



Side



Rear

DAIHAN-brand® Digital Precision Cold Trap Bath “WCT”, $-40^{\circ}\text{C}/-80^{\circ}\text{C}$, 10 Lit, with Certi. & Traceability with 2×Glass Cold Trap, Digital PID Control System, Back-Light LCD, CFC-free Refrigeration System,



Digital Precision Cold Trap Bath “WCT-40”



(1) Glass Cold Trap
“CTG1000”

※DAIHAN Recommendation
: Combination of the Cold Trap
Bath(WCT) with the Vacuum
Oven and Vacuum Pump.

- Made in Korea
 - CE Certified
 - with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
 - Digital PID Controller
 - CFC-free (R-404A) Refrigeration System
 - Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function
- * Ideal for exceptional Cooling System like Collecting Evaporation Vapor or Hazardous Vapor from Vacuum Line.
- * Durable Stainless-steel Bath and Powder Coated steel
- * Digital Timer Function : ‘Delay Time’ and ‘Operation Time’ : Can be Controlled.
- * User’s Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature.
- * Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

Specifications & Ordering information

Spec.	Model	“WCT-40”	“WCT-80”
Temperature Range		$-40^{\circ}\text{C} \sim -20^{\circ}\text{C}$	$-80^{\circ}\text{C} \sim -65^{\circ}\text{C}$
Bath Volume		10 Lit	
Bath Volume & Cold Trap Type		Stainless-steel 304, 2×Glass Trap	
Refrigerator		1/2 HP	1 HP
Power Consumption		900 W	1.8 kW
Refrigerator & Refrigerant		R-404A	HFC
Display		Digital LCD with Back-Light Function	
Controller		PID Controller with Jog-Shuttle Switch (Turn+Push)	
Drain Valve		Mounted	
Safety Circuit		Over Current protection, Sensor Error Detection, Leakage Breaker	
Material		Stainless-steel (#304)-Internal, Powder Coated steel, 1.2t, Doublepaint & Baked-External, 20 mm Thickness Polyurethane-Insulation	
Dimension (w×d×h)		220×220×h210 mm-Internal, 377×453×h705 mm-External	
Packing Dimension (mm) and Gross Weight (kg)		560×500×h1,010, 67 kg	680×640×h1,130, 90 kg
Electrical Reqts.		1 Phase, AC 120V, 60Hz or 230V, 50 / 60Hz	
Cat. No.	230V	DH.WCT00140	DH.WCT00180

Spare Glass Cold Trap

DH.WCT11000 (1) 1×Glass Cold Trap, $\phi 106 \times h249\text{mm}$, “CTG1000”, DURAN® Borosilicate Glass $\alpha 3.3$, Safety-Pressure, Resistant 1.5bar at 250°C , for “WCT”

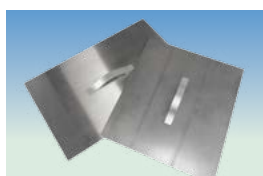
DAIHAN-brand® Precise High-temp Bath Circulator “MaXircu™ CH”, to 250°C, ±0.1°C, 8-/12-/22-/30- Lit with 1 × Stainless-steel Flat Lid/Digital Fuzzy Control System/Certi. & Traceability, Flow 16 Lit/min, Lift 2.8m
Ideal for Reactors, etc., External Circulating Connect - od.12.5/id.10.5mm,



High Temp. Bath Circulators : “CH-8” & “CH-12”



External Circulating Nozzle



Flat Lid, Included



Ex. Multi-use High Temp. Bath Circulator with Modular Reactor System

- Made in Korea. ■ CE Certified.
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System.
- Advanced Heating System Ensures Temperature Performance.
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy.
- Innovated Powerful Circulation Pump ensures Temp. Uniformity : Internal and External Circulation (Max Flow Rate : 16 Lit./min.).
- Controlled 5 Steps Circulation speed(Flow Rate).
- Patented Jog-Dial Control System and Capacitive Touch Button.
- * 304 Stainless-steel Bath and Lid for Superior Durability and High Thermal Efficiency.
- * Compensation Function to Control Difference between Real Temp. and Indicated Temp.
- * Digital Timer Function : ‘Delay Time’ and ‘Operation Time’ can be Controlled.
- * Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be Disabled).

Specifications & Ordering information

Spec.	Model	MaXircu™ CH-8	MaXircu™ CH-12	MaXircu™ CH-22	MaXircu™ CH-30
Bath Volume		8 Lit.	12 Lit.	22 Lit.	30 Lit.
Pump		Max Flow Rate : 16 Lit./min. (Controlled 5 Steps Flow Rate Speed), Max Pressure : 5 psi, Max Lift : 2.8m			
Temp. Range & Accuracy		Room Temp +5°C ~ 250°C, ±0.1°C			
Temp. Resolution		0.1°C-Display, 0.5°C-Control			
Temp. Uniformity & Probe		±0.2°C, PT100			
Heating Power		1.0 kW	1.5 kW	2.2 kW	2.5 kW
Heat-up Time		50 min. to 100°C			
External Circulation Nozzle		id.10.5 / od.12.5 mm			
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end			
Display		Digital LCD with Back-Light Function			
Controller		Digital Fuzzy Controller with Jog - Dial Knob (Turn+Push)			
Safety Circuit		Over-Temp./-Current protection, Sensor Error & Low Level Detection			
Material		Stainless-steel (#304)-Internal, Powder Coated steel-External, 50mm Thickness Ceramic Fiber-Insulation			
Lid & Drain Valve		included Stainless-steel Flat Lid, Ball Valve, Optional Dome Lid,			
Dimension (w × d × h)	Effective Space	180×130×h155	250×130×h155	340×250×h155	340×250×h200
	Mounted	180×320×h155	250×320×h155	340×440×h155	340×440×h200
	External	303×443×h569	373×443×h569	463×563×h569	463×563×h614
Packing Size (mm) & Gross Weight(kg)		470×400×h500 19 kg	470×400×h500 21 kg	600×490×h500 23 kg	600×490×h500 37 kg
	Electrical Reqts.	1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz			
Cat. No.	230V	DH.WCH00408	DH.WCH00412	DH.WCH00422	DH.WCH00430

Insulated Silicone & Teflon PFA Circulation Hose, Id ϕ 10 ~ 19mm, L1/1.5m

- Supplied by SciLab Korea * ϕ 37mm Black NBR Foam Insulated Silicone or PFA-Hose
- * Silicone Vacu-Hose : id 10×od 13mm, id 15×od 20mm, id 18×od 24mm, 220°C * SL.Tub4031 & SL.Tub4032 : PFA Hose
- * PFA Hose : id 10×od 12mm / PTFE Hose : id 15×od 16mm, id 19×od 21mm, -100 + 260°C

(1) Insulated Silicone Hose, 220°C

- SL.Tub4021 Sili-hose, id 10mm, L1m
- SL.Tub4022 , L1.5m
- SL.Tub4023 , id 15mm, L1m
- SL.Tub4024 , L1.5m
- SL.Tub4025 , id 18mm, L1m
- SL.Tub4026 , L1.5m

(2) Insulated PFA Hose, 260°C

- SL.Tub4031 PFA-hose, id 10mm, L1m
- SL.Tub4032 , L1.5m
- SL.Tub4033 PTFE-hose, id 15mm, L1m
- SL.Tub4034 , L1.5m
- SL.Tub4035 , id 19mm, L1m
- SL.Tub4036 , L1.5m

(3) Best Insulatedly & Flexible Stainless-steel Circulation Hose, Id ϕ 17mm, L1m, 360°C

- SL.Tub7021 Flexible Stainless-steel Circulation Hose, id 17×od 60mm, L1m

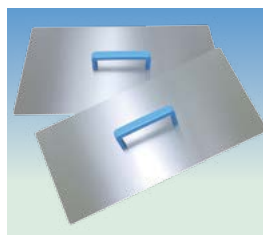
DAIHAN-brand® -35°C ~ +150°C Digital Precise Refrigerated/Heating Bath Circulator “MaXircu™ CL”, ±0.2°C with 1×Flat Lid/Digital Fuzzy Control/CFC-free/Certi. & Traceability, Flow 25Lit/min, Lift 4m, 8-/12-/22-/30-Lit. Ideal for Evaporators, etc., with External/Internal Circulating Connect - od.12/id.10mm



-35°C ~ +150°C Refrigerated / Heating Bath Circulator “MaXircu™ CL-8” & “MaXircu™ CL-12”



External Circulation Nozzle



Flat Lid, Stainless-steel (Included)

- Made in Korea ■ CE Certified
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Advanced Refrigeration System Ensures Temperature Performance
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- Innovated Powerful Circulation Pump ensures Temp. Uniformity : Internal and External Circulation (Max Flow Rate : 25 Lit./min.)
- Controlled 5 Steps Circulation speed(Flow Rate).
- Innovated Refrigeration System, CFC-free (R-404A)
- Patented Jog-Dial Control System and Capacitive Touch Button, Digital LCD with Back-Light Function
- External & Internal Circulation : Possible.
- * For Inner Circulating : to Connect directly the In-/outlet Nozzle.
- * RS232C Interface for Remote Monitoring and Controlling with PC
- * More Faster Cool-down Time * Urethane Foam Insulation
- * All models Built in Caster * Proper Liquid Level Line in Bath
- * Connection with Evaporator or Viscometer is applicable
- * User's Self-compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C).
- * Warning and Auto-Stop Function in case of Liquid Shortage.
- * Auto-controlled Refrigeration System for Compressor Protection and Power Saving.
- * Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be Disabled)

Specifications & Ordering information

Spec.	Model	MaXircu™ CL-8	MaXircu™ CL-12	MaXircu™ CL-22	MaXircu™ CL-30
Temp. Range & Accuracy		-35°C ~ +150°C, ±0.1°C			
Temp. Resolution		0.1°C-Display, 0.1°C-Control			
Temp. Uniformity & Probe		±0.2°C at -20°C, PT100			
Pump		Max Flow Rate : 25Lit./min(Controlled 5 Steps Flow Rate Speed), Max Pressure : 7.5 psi, Max Lift : 4m			
Bath Volume		8 Lit.	12 Lit.	22 Lit.	30 Lit.
Heating Power		1 kW	1.5 kW	2 kW	2.2 kW
Refrigerator		1/2HP	1/2HP	7/8HP	1HP
Cooling Capacity	at +20°C	500 W	530 W	860 W	1030 W
	at 0°C	340 W	370 W	620 W	760 W
	at -20°C	200 W	210 W	400 W	500 W
Refrigerant		CFC -Free(R-404A) Refrigeration System			
Total Power Consumption		1.7 kW	2.2 kW	3 kW	3.3 kW
Compressor Control		Intelligent Control of Refrigerator for preventing Compressor Overload			
External Circulation Nozzle		id.10.5 / od.12.5mm(For Inner Circulat. : to Connect directly the in-/outlet Nozzles)			
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end			
Display		Digital LCD with Back-Light Function			
Controller		Digital Fuzzy Controller with Jog-Dial Knob (Turn+Push)			
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection, Leakage Breaker			
Material		Stainless-steel (# 304)-Internal, Powder Coated steel-External, 40 mm Thickness Urethane Foaming - Insulation			
Lid & Drain Valve		included Stainless-steel Flat Lid, Ball Valve, Optional Dome Lid			
Dimension (w×d×h)	Effective Space (mm)	175×153×150	230×181×150	290×220×200	330×290×200
	Internal (mm)	175×320×150	230×350×150	290×390×200	330×460×200
	External (mm)	400×523×807	400×523×807	483×563×850	494×633×906
Packing Size (mm) & Gross Weight (kg)		630×530×972	630×530×972	670×615×1022	740×625×1072
		50 kg	55 kg	65 kg	78 kg
Electrical Reqts.		1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz			
Cat. No.	230V	DH.WCL00408	DH.WCL00412	DH.WCL00422	DH.WCL00430



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