

# **CORIO**<sup>™</sup>



ENGLISH





#### CORIO – the new laboratory circulators

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## The CORIO advantages at a glance.







#### Safety.

CORIO CD complies with Class III (FL), CORIO C complies with Class I (NFL) according to DIN 12876-1. Both models switch off automatically in case of high temperature or low liquid level alarm.





#### Modern. Reliable.

Every CORIO is equipped with high-grade components like i.e. platinum sensors, proven motor technology, CAN-Bus communication and much more.





#### Solid.

Minimized energy loss through high-quality insulation.

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ATC.

Absolute Temperature Calibration, 1-point calibration.



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#### Mobile.

Extra easy handling. Integrated castors for easy repositioning of refrigerated circulators. (CD-600F, 601F, 900F, 1000F).



You can rely on it. PID1 control and 'Active Cooling Control' make the new CORIO precise and perfect.



#### Condensation protection.

Superb design solution. Integrated ventilation directs air over the bath lid and minimizes condensation.

## JULABO exclusive

#### Locked in.

The lockable power plug guarantees safe connection. More process safety.





abic. Rubber feet allow for a se

Rubber feet allow for a secured footing of your CORIO to prevent damage to your laboratory equipment.



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# Tidy.

The special drain tap for easy draining of bath fluids without tools.





Remote control made easy. CORIO CD circulators feature a USB connection.



#### Connection. Easy.

Inclined pump connections (M16x1) facilitate the connection of applications. Each unit includes 2 barbed fittings of 8/12 mm diameter each.



#### NEW. CORIO.

#### Powerful. Robust.

CORIO is derived from the word 'Core'. Because the core characteristics of these newly developed laboratory circulators are exact temperature, absolute precision, and a wide working temperature range. In addition CORIO is equipped with all the core functions required in your laboratory for the temperature control of a wide variety of applications and samples.

#### Everything you need. Inside and out.

Precise, robust, and easy to operate units have proven their value in research and industry. That is all you really need. CORIO fulfills the highest demands for precision, reliability and handling. And that's not all. CORIO offers numerous additional advantages which will facilitate your daily work. An added value which will pay off.

#### Modern. Ambitious.

CORIO accentuates JULABO's ambition to create forward-looking technologies for modern laboratories. Outstanding functionality, ergonomics, easy operation, and a modern design. That is the core. That is CORIO.

#### Ergonomic. Elegant.

CORIO makes day-to-day laboratory tasks easier. With a user-friendly operation. A bright and clear display. Easy start-up. Exceptional core functions - you will be able to master the new CORIO in no time at all.

#### New. Different.

It is the multitude of innovative details which make CORIO products unique. Discover the many advantages for yourself.





## Julabo

#### **CORIO.** The best for your laboratory!

#### Made in Germany!

CORIO is produced according to the highest German quality standards. They utilize reliable and robust core equipment. They feature platinum sensors, proven motor technology, and CAN-Bus communication. Product development consistently applied environmentally friendly materials and technologies.

#### More comfort in your laboratory!

Switch on. And off you go. With the intelligent operating concept you will be able to set the new CORIO quickly and safely. All operating controls and safety functions can be accessed easily from the front. Not only do the new CORIO look good, they include integrated handles for superior ergonomics. The elegant, rounded design makes cleaning a breeze.

#### Safety for users and their processes!

CORIO is safe. The circulator and the refrigeration unit are operated via one common switch. The outstanding design of the bath lid and insulation prevent direct contact with hot surfaces. Rubber feet allow for a secured footing. A lockable power plug provides a secure connection which cannot be disconnected by accident. And the best: a stable and reliable perfomance of the CORIO at ambient temperatures of up to +40 °C.

#### Maximum benefit for your laboratory!

The new drain tap permits easy draining of your CORIO without tools – a clever and handy solution. The integrated USB interface of all CORIO CD models allows remote control. And only JULABO offers temperature control units with closed side panels. This saves laboratory space as you can place your CORIO right next to other units and applications.

# **Refrigerated Circulators**



**The Refrigerated / Heating Circulators** of the new generation CORIO provide more robustness, more reliability, and more advantages. They are ideal for all standard tasks and routine work in your laboratory.

#### **CORIO CD Series**

for working temperatures from -40 °C to +150 °C

Refrigerated / Heating Circulators of the new CORIO series distinguish themselves with a great price-to-performance ratio. They are ideal for all standard tasks and routine work in laboratories and industry.

- Models for internal and external applications
- Bright, white, easy to read display
- Very quiet
- Easy change-over from internal to external circulation and vice versa
- External pump connections (M16x1)
- USB interface
- Space-saving cooling coil design provides more usable space in the bath tank
- Bath lid and drain tap included
- Removable ventilation grid
- Refrigeration unit without side vents
- Class III (FL) according to DIN 12876-1

To adapt the CORIO Refrigerated / Heating Circulator to your individual application, we offer a comprehensive range of accessories (bath fluid, tubing, adapter, and more).

#### Applications

Temperature control of samples in a circulator bath or temperature control of an external application. For example: measuring cells, refractometers, polarimeters, photometers, viscometers, fermenters, electrophoresis chambers, chromatography columns, rotary evaporators, rheometers, and more.



#### Maintenance. Friendly.

The magnetic front grid can be removed easily for user-friendly cleaning and maintenance. Without tools.









D-200F		CORIO <sup>™</sup> (	D-2011	
9 012 701		Order No.	9 012 702	
CD-200F		Model	CD-201F	
-20 +15	0	Working temperature range °C	-20 +15	0
± 0.03		Temperature stability °C	± 0.03	
2		Heating capacity kW	2	
+20 °C	0 °C	•	+20 °C	0 °C
0.22	0.17	Cooling capacity kW (Bath fluid: Ethanol)	0.22	0.16
-10 °C	-20 °C		-10 °C	-20 °C
0.13	0.06	0 0	0.12	0.06
l/min	bar	Pump capacity	l/min	bar
15	0.35	Flow rate / Pressure	15	0.35
W x L / D 13 x 15 / 15	5	Bath opening / Bath depth cm	W x L / D 13 x 15 / 15	5
3 4		Filling volume liters	3 4	
W x L x H 23 x 39 x 6	5	Dimensions cm	W x L x H 44 x 41 x 4	4
	CD-200F -20 +15 ± 0.03 2 +20 °C 0.22 -10 °C 0.13 I/min 15 W x L / D 13 x 15 / 15 3 4 W x L x H	CD-200F         -20 +15∪         ± 0.03         2         •20 °C       0 °C         0.22       0.17         •10 °C       •20 °C         0.13       0.06         I/min       bar         15       0.35         W x L / D 13 x 15 / 15 ∪       5         3 4	CD-200F       Model $-20 \dots +150$ Working temperature range °C $\pm 0.03$ Temperature stability °C $\pm 0.03$ Heating capacity kW $\pm 20 °C$ $0 °C$ $0.22$ $0.17$ $0.02$ $0.17$ $0.13$ $0.06$ $V/min$ $bar$ $15$ $0.35$ $W \times L/D$ Bath opening / Bath depth cm $3 \dots 4$ Filling volume liters $W \times L \times H$ Dimensions cm	CD-200F       Model       CD-201F $-20 \dots +150$ Working temperature range °C $-20 \dots +150$ $\pm 0.03$ Temperature stability °C $\pm 0.03$ $\pm 0.03$ Heating capacity kW $\pm 0.03$ $+20 \circ C$ $0 \circ C$ $\pm 0.03$ $0.22$ $0.17$ $0.020 \circ C$ $0.22$ $0.13$ $0.06$ $0.12$ $0.12$ $Vmin$ bar       Pump capacity kW $0.12$ $15$ $0.35$ Pump capacity Result $0.12$ $V \times L / D$ $0.35$ $15$ $15$ $W \times L / D$ $3 \dots 4$ Filling volume liters $3 \dots 4$ $W \times L \times H$ Dimensions cm $W \times L \times H$

CODIO <sup>™</sup> (I	2000	1. A. A. A. A.
Model	CD-300F	
Working temperature range °C	-25 +15	0
Temperature stability °C	± 0.03	
Heating capacity kW	2	
	+20 °C	0 °C
Cooling capacity kW (Bath fluid: Ethanol)	0.31	0.28
	-10 °C	-20 °C
	0.2	0.11
Pump capacity	l/min	bar
Flow rate / Pressure	15	0.35
Bath opening / Bath depth cm	W x L / D 13 x 15 / 15	5
Filling volume liters	3 4	
Dimensions cm	W x L x H 24 x 42 x 66	5
	Order No.         Model         Working temperature         range °C         Temperature stability °C         Heating capacity kW         Gooling capacity kW         Bath fluid: Ethanol)         Pump capacity Flow rate / Pressure         Bath opening / Bath depth cm         Filling volume liters	ModelCD-300FWorking temperature range °C $-25 \dots +15$ Temperature stability °C $\pm 0.03$ Heating capacity kW (Bath fluid: Ethanol) $\pm 20$ °CCooling capacity kW (Bath fluid: Ethanol) $-10$ °C0.31 -10 °C $0.31$ -10 °CPump capacity Flow rate / PressureI/min 15Bath opening / Bath depth cm $W \times L / D$ $13 \times 15 / 15$ Filling volume liters $3 \dots 4$ Dimensions cm $W \times L \times H$

#### **Heat-up time** Bath fluid: Thermal



#### **Cool-down time** Bath fluid: Ethanol



#### Pump capacity Bath fluid: Water



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#### **Refrigerated Circulators**

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CORIO" (

Working temperature

Cooling capacity kW (Bath fluid: Ethanol)

Pump capacity Flow rate / Pressure Bath opening / Bath depth cm Filling volume liters Dimensions cm

Temperature stability °C Heating capacity kW

Order No. Model

range °C

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D-600F	CORIO <sup>™</sup> (	D-601F
9 012 704	Order No.	9 012 705
CD-600F	Model	CD-601F
-35 +150	Working temperature range °C	-40 +150
± 0.03	Temperature stability °C	± 0.03
2	Heating capacity kW	2
+20 °C 0 °C -10 °C		+20 °C 0 °C -10 °C
0.6 0.53 0.35	Cooling capacity kW	0.6 0.5 0.35
-20 °C -30 °C -40 °C	(Bath fluid: Ethanol)	-20 °C -30 °C -40 °C
0.22 0.1 -		0.2 0.07 0.01
l/min bar	Pump capacity	l/min bar
15 0.35	Flow rate / Pressure	15 0.35
W x L / D 22 x 15 / 15	Bath opening / Bath depth cm	W x L / D 22 x 15 / 20
5 7.5	Filling volume liters	8 10
W x L x H 33 x 47 x 69	Dimensions cm	W x L x H 36 x 46 x 74



#### The CORIO Principle

Powerful. Robust. CORIO features all core functions for the temperature control of a wide variety of applications and samples.

Everything you need. Inside and out. All that is needed for daily routine tasks in laboratories and industry.

Ergonomic. Elegant. CORIO incorporates forward-looking technologies with highest demands for precision, reliability, economy and operation.

New. Different. Discover the numerous advantages of the CORIO generation.









-10 °C 0.63 -40 °C

	D-90	0F		CORIO <sup>™</sup> (	D-10	00F		CORIO <sup>™</sup> (	D-10	01F
Order No.	9 012 70	06		Order No.	9 012 7	07		Order No.	9 012 70	)8
Model	CD-900F	-		Model	CD-100	DF		Model	CD-1001	IF
Working temperature range °C	-40 +	150		Working temperature range °C	-40 +	150		Working temperature range °C	-38 +	100
Temperature stability °C	± 0.03			Temperature stability °C	± 0.03			Temperature stability °C	± 0.03	
Heating capacity kW	2			Heating capacity kW	2			Heating capacity kW	2	
	+20 °C 0 °C -10	-10 °C		+20 °C	0 °C	-10 °C		+20 °C	0 °C	
Cooling capacity kW	0.9	0.8	0.55	Cooling capacity kW	1	0.9	0.73	Cooling capacity kW	1	0.9
(Bath fluid: Ethanol)	-20 °C	-30 °C	-40 °C	(Bath fluid: Ethanol)	-20 °C	-30 °C	-40 °C	(Bath fluid: Ethanol)	-20 °C	-30 °C
	0.35	0.15	0.02		0.5	0.25	0.1		0.35	0.13
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35		Pump capacity Flow rate / Pressure	l/min 15	bar 0.35		Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 26 x 35 /			Bath opening / Bath depth cm	W x L / D 22 x 15 /			Bath opening / Bath depth cm	W x L / D 35 x 41 /	
Filling volume liters	21 30	)		Filling volume liters	5 7.5			Filling volume liters	42 56	
Dimensions cm	W x L x H 39 x 62 x			Dimensions cm	W x L x H 42 x 49 x			Dimensions cm	W x L x H 45 x 64 x	



#### Saves energy.

CORIO comes with various modes for the refrigeration unit: permanently on, permanently off, or on as refrigeration is needed. CORIO CD-600F to CORIO CD-1001 additionally contain a continuous automatic adjustment of the coolingcapacity at the operating point to minimize the power consumption and the heat waste.

#### JULABO Thermal Bath Fluids

JULABO Thermal bath fluids have been carefully chosen after long-term testing. They are highly suitable for all of your temperature control applications guaranteeing safe and reliable operation.

Choosing the proper bath fluid is critical for high performance temperature control. The viscosity, oxidation and heat transfer characteristics of the Thermal fluids are specifically selected for use with JULABO temperature control instruments.

#### Advantages

- Wide temperature ranges
- Low viscosity
- High stability
- Good heat conductivity
- Minimum odor
- Low corrosion tendency
- Low toxicity
- Long fluid life





#### Makes routine laboratory work easier.

JULABO Thermal bath fluids are delivered in containers with a handy drain tap.



The special drain tap for easy draining of bath fluids without tools.







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		•••••

Thermal G	
Order No. 5 liters	8 940 125
Order No. 10 liters	8 940 124
Working temperature range °C	-30 +80
Flash point °C	not applicable
Fire point °C	not applicable
Viscosity, (kinematic at +20 °C) mm <sup>2</sup> /s	4.07
Density ( at +20 $^{\circ}$ C ) g/cm <sup>3</sup>	1.08
Pour point °C	-70
Boiling point °C	+108
Ignition temperature °C	+430
Color	light yellow

i.

Thermal H5	1.
Order No. 5 liters	8 940 107
Order No. 10 liters	8 940 106
Working temperature range °C	-50 +105
Flash point °C	+124
Fire point °C	+142
Viscosity, (kinematic at +20 °C) mm²/s	5.66
Density ( at +20 $^{\circ}$ C ) g/cm <sup>3</sup>	0.92
Pour point °C	-100
Boiling point °C	+288
Ignition temperature °C	+350
Color	clear

Thermal H10	and the state
Order No. 5 liters	8 940 115
Order No. 10 liters	8 940 114
Working temperature range °C	-20 +180
Flash point °C	>+170
Fire point °C	+220
Viscosity, (kinematic at +20 °C) mm²/s	10.8
Density ( at +20 $^{\circ}\text{C}$ ) g/cm³	0.94
Pour point °C	<-60
Boiling point °C	+288
Ignition temperature °C	+370
Color	clear

#### JULABO Thermal bath fluids based on silicone ...

... are chemically inert substances which do not affect metals like iron, copper, zinc, aluminum, chrome or nickel. Compared to other fluids, JULABO Thermal fluids have an extraordinarily high dielectric strength. When properly stored, the fluids will last for 12 months and longer as they are not susceptible to climatic influences.

#### JULABO Thermal bath fluids based on water-glycol ...

... (monoethyleneglycol with anti-corrosion additives) have excellent thermal characteristics and a low viscosity. In addition, they provide anti-freeze protection, i.e. they can be applied at temperatures below the freezing point of water.

#### More information on JULABO Thermal bath fluids ...

... in our brochure 'Thermal Bath Fluids' at www.julabo.com.

#### **Refrigerated Circulators Accessories**





#### Aqua Stabil Water protective media to prevent formation of algae and bacteria and Descaling Agent

Order No.	Description	Suitable for	
8 940 006	Aqua Stabil, 6 bottles 100 ml each	CD	
8 940 012	Aqua Stabil, 12 bottles 100 ml each	CD	
9 940 200	Descaling Agent 1 Liter	CD	

#### Hollow balls to reduce heat loss, evaporation, oxygen input, odors, action of light

Order No.	Description	Suitable for	A . 1 . 14
8 970 010	Hollow balls, Polypropylene <sup>®</sup> , 20 mm Ø, 1000 pcs. (up to +100 °C, for water only)	CD	



#### Heat exchangers/Cooling installations

Order No.		Suitable for
9 970 240	Bath cover with built-in heat exchanger	CD-200F, CD-201F, CD-300F
9 970 242	Bath cover with built-in heat exchanger	CD-600F, CD-601F, CD-1000F

#### **CR® tubing** (-30 °C ... +120 °C)

Order No.	Description	1.1.1	Suitable for	A 64 14
8 930 008	1 m, 8 mm inner dia.		CD	
8 930 010	1 m, 10 mm inner dia.		CD	
8 930 012	1 m, 12 mm inner dia.		CD	

### Viton® tubing

#### **Viton<sup>®</sup> tubing** (-35 °C ... +200 °C)

	A REAL PROPERTY AND A REAL
<b>8 930 108</b> 1 m, 8 mm inner dia.	CD
<b>8 930 110</b> 1 m, 10 mm inner dia.	CD
<b>8 930 112</b> 1 m, 12 mm inner dia.	CD

#### Tubing insulation (-50 °C ... +100 °C)

Order No.	Description	Suitable for
8 930 410	1 m, for tubing 8 - 10 mm inner dia.	CR <sup>®</sup> /Viton <sup>®</sup> Tubing
8 930 412	1 m, for tubing 12 mm inner dia.	CR <sup>®</sup> /Viton <sup>®</sup> Tubing

#### Tube clamps











Metal tubing flexible, insulated, -50 °C  $\dots$  +200 °C

Order No.	Description	Suitable for
8 930 220	0.5 m Metal tubing, 2 fi ttings M16x1 female	CD
8 930 221	1.0 m Metal tubing, 2 fittings M16x1 female	CD
8 930 222	1.5 m Metal tubing, 2 fittings M16x1 female	CD
8 930 223	3.0 m Metal tubing, 2 fittings M16x1 female	CD

#### Adapters and connectors

Order No.	Description	Suitable for	ALC A	-
8 970 446	2 Barbed fittings for tubing 8 mm inner dia.	CD		
8 970 447	2 Barbed fittings for tubing 10 mm inner dia	CD		
8 970 445	2 Barbed fittings for tubing 12 mm inner dia.	CD		
8 970 443	1 Adapter M16x1 male to M16x1 male	CD		
8 970 490	2 Collar nuts M16x1 female	CD		
8 970 442	2 Elbow fittings 90°, M16x1 female/male	CD		
8 890 004	2 Adapters M16x1 female to NPT 1/4" male	CD		
8 890 005	2 Adapters M16x1 female to NPT 1/4" female	CD		
8 890 006	2 Adapters M16x1 female to NPT 3/8" male	CD		
8 890 007	2 Adapters M16x1 female to NPT 3/8" female	CD		
8 890 008	2 Adapters M16x1 female to NPT 1/2" male	CD		
8 890 009	2 Adapters M16x1 female to NPT 1/2" female	CD		
8 890 010	2 Adapters M16x1 male to NPT 1/4" female	CD		
8 891 008	1 Adapter M16x1 male to BSP 1/2" female	CD		
8 891 009	1 Adapter M16x1 male to BSP 3/4" female	CD		
8 890 011	2 Adapters M16x1 female to tube 1/4" male	CD		
8 890 012	2 Adapters M16x1 female to tube 3/8" male	CD		
8 890 013	2 Adapters M16x1 female to tube 1/2" male	CD		
8 890 024	2 Adapters M16x1 female to M16x1 female	CD		

#### Shut-off valves for loop circuit

Order No.	Description	Suitable for	-
8 970 457	Shut-off valve (-30 °C +200 °C), M16x1	CD	
8 970 456	Shut-off valve (-10 °C +100 °C), M16x1	CD	

#### Twin distributing adapters with barbed fittings

Order No.	Description	Suitable for
8 970 470	Twin distributing adapter with barbed fi ttings	Tubing 8 mm inner dia.
8 970 471	Twin distributing adapter with barbed fittings	Tubing 12 mm inner dia.
8 970 472	Twin distributing adapter with barbed fittings	Tubing 10 mm inner dia.
8 970 473	Twin distributing adapter M16x1 female to 2 x M16x1 male	CD



#### **Refrigerated Circulators Accessories**



Test tube racks made out of stainless steel, up to +150  $^{\circ}\mathrm{C}$ 

Order No.	Description	Suitable for
9 970 320	Test tube rack for 30 tubes 100 x 17 mm dia.	CD-200F, CD-201F, CD-300F
9 970 321	Test tube rack for 42 tubes 75 x 12/13 mm dia.	CD-200F, CD-201F, CD-300F
9 970 322	Test tube rack for 42 tubes 40 x 10/11 mm dia.	CD-200F, CD-201F, CD-300F
9 970 323	Test tube rack for 10 Falcon tubes 50 ml	CD-200F, CD-201F, CD-300F



#### Immersion-height adjustable platforms

Order No.	Description	Suitable for
9 970 506	Immersion-height adjustable platform	CD-900F



#### Accessories Beer Forcing Test

Order No.	Description	Suitable for
9 970 247	Transparent bath cover, Plexiglas, temperature range -10 °C $\dots$ +80 °C	CD1001F
9 970 337	Basket for 20 bottles 0.33 I/0.5 I, stainless steel	CD-1001F



EasyTEMP Software for instrument control, data recording and visualization

Order No.	Description	Suitable for
8 901 102	EasyTEMP Software (free of charge at www.julabo.com)	CD
8 901 102	EasyTEMP Professional Software, incl. USB-Dongle	CD
9 900 110	USB interface cable 2 m, type A-B	CD
9 900 112	USB 2.0 Repeater extension cable, length = $5 \text{ m}$	CD
9 900 114	USB 2.0 Repeater extension cable, length = $10 \text{ m}$	CD



#### Calibration and manufacturer's certificates

Order No.	Description	Suitable for
8 902 901	1-Point manufacturer's calibration certifi cate	CD
8 902 903	3-Point manufacturer's calibration certificate	CD
8 902 905	5-Point manufacturer's calibration certificate	CD
8 903 025	Manufacturer's Certificate for JULABO units (with up to 1 kW cooling capacity at $+20$ °C)	Refrigerated Circulators





#### IQ/OQ Documentation for Equipment Qualification

Order No. Descri	otion	Suitable for	
<b>2 310 110</b> IQ/OQ	Documentation, Category 1	CD	

#### **Preventative Maintenance Contract**

Order No.	Description	Suitable for
2 350 100	Preventative Maintenance Contract Standard includes the following ser- vices: Visual inspection, technical diagnostics, data analysis, BlackBox, tes- ting of tube connections and bath fl uid, thorough cleaning of condenser and other components, testing of temperature stability and sensor calibra- tion, testing/measuring of pump and cooling capacity (depending on mo- del) and firmware update (if no hardware adjustment is required)	CD
2 350 110	Preventative Maintenance Contract Premium includes all services listed above as well as spare parts and labor required for installation or replacement	CD



CORIO **Heating Circulators** feature professional technology for routine laboratory tasks. The portfolio permits a wide range of applications and includes immersion circulators, open heating bath circulators, and heating circulators.



# Heating Circulators

#### **CORIO C Immersion Circulator**

for working temperatures from +20 °C to +100 °C

The CORIO C is the basic model of the CORIO circulator portfolio. The bath attachment clamp is included in delivery and facilitates mounting of the circulator on any bath tank up to 30 liters.

- Precise temperature control
- For internal standard applications
- For bath tanks with a max. filling volume of 30 liters
- Immersion depth: 7.5 ... 16.5 cm
- Bright, white, easy to read display
- Whisper quiet
- Easy operation
- Class I (NFL) according to DIN 12876-1

To adapt the CORIO Immersion Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, and more).



#### Option I

The universal bath attachment clamp permits mounting the CORIO Immersion Circulator on rectangular as well as round bath tanks.



#### Option II

Just a few simple steps and the bath attachment clamp is transformed into a mount for laboratory stands.



#### **Option III**

The Immersion Circulator can be attached directly to the rim of an open JULABO bath.



#### Flexibility.

The jet nozzle permits continuous adjustment of the direction of the pump stream in your bath.



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WxLxH

13.2 x 16 x 36.2

0.1

Flow rate / Pressure

. . . . . . . . . . .

Dimensions cm



#### **CORIO CD Immersion Circulator**

for working temperatures from +20 °C to +150 °C

In addition to the advantages of the CORIO C Circulator, the CORIO CD Immersion Circulator can be equipped with an optional pump set for temperature control of external applications.

- Precise temperature control
- For internal and external applications (accessories required)
- For bath tanks with a max. filling volume of 50 liters
- Immersion depth: 7.5 ... 16.5 cm
- Bright, white, easy to read display
- Very quiet
- Easy handling
- Pump change-over between internal and external circulation
- USB interface
- Class III (FL) according to DIN 12876-1

To adapt the CORIO Immersion Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, tubing, adapters, and more).

CORIO <sup>™</sup> CD Order No. Model	9 012 000 CD	
Working temperature range °C 1)	+20 +1	50
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Dimensions cm	W x L x H 13.2 x 16 x	36.2



#### **Optional pump set**

With a few simple steps you can install a pump set on the CORIO CD Immersion Circulator. In no time at all, your circulator is ready for temperature control of an external application.



#### Universal.

Universal bath attachment clamp. For straight containers. For round containers. For laboratory stands (in combination with stand attachment).

**Pump capacity** Bath fluid: Water



#### Applications (CORIO C and CD)

Flexible applications, for example when changing bath tanks. For a large variety of applications in chemistry, pharmaceutics, medicine, e.g. temperature applications for samples, analytics, or material testing, and more.

<sup>1)</sup> For applications near or below ambient temperature: use a cooling coil or JULABO immersion cooler.

#### **CORIO C Open Heating Bath Circulators**

for internal temperature applications with transparent bath tanks for working temperatures from +20 °C to +100 °C

The Open Heating Bath Circulators of the new CORIO series feature durable, high-quality transparent bath tanks.

- For internal applications
- Bright, white, easy to read display
- Whisper quiet

To adapt the CORIO Open Heating Bath Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, and more).



#### Clever.

A clean solution. The cleverly integrated drip off design. (B and BT baths)



CORIO <sup>™</sup> C	-BT5	
Order No.	9 011 305	
Model	C-BT5	
Working temperature range °C 1)	+20 +10	00
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Circulation capacity Flow rate / Pressure	l/min	bar
now rate / messare	6	0.1
Bath opening / Bath depth cm	W x L / D 15 x 15 / 15	5
Filling volume liters	3.5 5	
Dimensions cm	W x L x H 23 x 38 x 38	8











Order No.	9 011 309	
Model	C-BT9	
Working temperature range °C <sup>1)</sup>	+20 +10	00
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Circulation capacity Flow rate / Pressure	l/min 6	bar 0.1
Bath opening / Bath depth cm	W x L / D 23 x 15 / 15	
Filling volume liters	6 9	
Dimensions cm	W x L x H 32 x 38 x 38	3

CORIO <sup>™</sup> (-	BT19	
Order No.	9 011 319	
Model	C-BT19	
Working temperature range °C <sup>1)</sup>	+20 +100	D
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Circulation capacity Flow rate / Pressure	l/min 6	bar 0.1
Bath opening / Bath depth cm	W x L / D 30 x 35 / 15	
Filling volume liters	14 19	
Dimensions cm	W x L x H 38 x 58 x 38	

CORIO <sup>™</sup> (	-BT27	
Order No.	9 011 327	
Model	C-BT27	
Working temperature range °C 1)	+20 +10	0
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Circulation capacity Flow rate / Pressure	l/min 6	bar 0.1
Bath opening / Bath depth cm	W x L / D 30 x 35 / 20	
Filling volume liters	20 27	
Dimensions cm	W x L x H 38 x 58 x 43	

Applications

Temperature control of samples, preparation of samples for serology and clinical chemistry, analysis, material testing, and more.

Heat-up time Bath fluid: Water



<sup>1)</sup> For applications near or below ambient temperature: use a cooling coil or JULABO immersion cooler.

#### **CORIO C Open Heating Bath Circulators**

for internal temperature applications with stainless steel bath tanks for working temperatures from +20 °C to +100 °C

The Open Heating Bath Circulators of the new CORIO series feature high-quality bath tanks made of stainless steel.

- For internal applications
- Bright, white, easy to read display
- Whisper quiet
- High-quality bath tanks made of stainless steel
- Integrated drain screw (except for B5)

To adapt the CORIO Open Heating Bath Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, and more).

#### Applications

Temperature control of samples, preparation of samples for serology and clinical chemistry, analysis, material testing, and more.



CORIO <sup>™</sup> (	-B5		•
Order No.	9 011 405		
Model	C-B5		
Working temperature range $^{\circ}C^{1)}$	+20 +10	00	••••••
Temperature stability °C	± 0.03		
Heating capacity kW	2		
Circulation capacity Flow rate / Pressure	l/min 6	bar 0.1	
Bath opening / Bath depth cm	W x L / D 15 x 15 / 15		
Filling volume liters	3.5 5		
Dimensions cm	W x L x H 23 x 38 x 41		







C-B13

9 011 413

+20 ... +100

bar

0.1

C-B13

± 0.03

2

6

l/min

W x L / D

9 ... 13

WxLxH

38 x 40 x 42

30 x 18 / 15

21

Working temperature

Temperature stability °C

Heating capacity kW

Circulation capacity

Flow rate / Pressure

Filling volume liters

Bath opening /

Bath depth cm

Dimensions cm

Order No.

Model

range °C 1)

· · · · · · · · · · · · · · · · · · ·	****
4	
*******	

CORIO

Working temperature

Temperature stability °C

Heating capacity kW

Circulation capacity

Flow rate / Pressure

Filling volume liters

Bath opening /

Bath depth cm

Dimensions cm

Order No.

range °C<sup>1)</sup>

Model

C-B17

C-B17

± 0.03

2

6

l/min

W x L / D

13 ... 17

WxLxH

38 x 40 x 47

30 x 18 / 20

9 011 417

+20 ... +100

bar

0.1



CORIO <sup>™</sup> (	-B19	
Order No.	9 011 419	
Model	C-B19	
Working temperature range °C <sup>1)</sup>	+20 +10	10
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Circulation capacity Flow rate / Pressure	l/min 6	bar 0.1
Bath opening / Bath depth cm	W x L / D 30 x 35 / 15	
Filling volume liters	14 19	
 Dimensions cm	W x L x H 38 x 58 x 42	2
 	****	



Heat	t-up	time	
Bath	fluid	l: Wate	r



<sup>•••</sup> ••••••••••••			
CORIO <sup>™</sup> (	-B27		
Order No.	9 011 427		
Model	C-B27		
Working temperature range $^{\circ}C^{1)}$	+20 +10	0	
Temperature stability °C	± 0.03		
Heating capacity kW	2		
Circulation capacity	l/min	bar	
Flow rate / Pressure	6	0.1	
Bath opening / Bath depth cm	W x L / D 30 x 35 / 20		
Filling volume liters	17 27		
Dimensions cm	W x L x H 38 x 58 x 47		

<sup>1)</sup> For applications near or below ambient temperature: use a cooling coil or JULABO immersion cooler.

#### **CORIO CD Open Heating Bath Circulators**

for internal and external temperature applications with transparent bath tanks for working temperatures from +20  $^\circ C$  to + 100  $^\circ C$ 

The Open Heating Bath Circulator of the new CORIO series feature durable, high-quality transparent bath tanks and pump connections.

- For internal and external applications
- Bright, white, easy to read display
- Very quiet
- Pump change-over between internal and external circulation

To adapt the CORIO Open Heating Bath Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, tubing, adapters and more).

Heat-up time Bath fluid: Water



**Pump capacity** Bath fluid: Water



#### Applications

Temperature control of samples, preparation of samples for serology and clinical chemistry, analysis, material testing, and more. External temperature control applications in combination with measuring instruments, measuring cells, photometers, refractometers, polarimeters, and more.









Order No.	9 012 30	5	C
Model	CD-BT5		N
Working temperature range °C <sup>1)</sup>	+20 +	100	W ra
Temperature stability °C	± 0.03		Te
Heating capacity kW	2		Н
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35	P Fl
Bath opening / Bath depth cm	W x L / D 15 x 15 /	15	B B
Filling volume liters	3.5 5		Fi
Dimensions cm	W x L x H 23 x 38 x	38	D

CORIO <sup>™</sup> C	D-BT1	9
Order No.	9 012 319	0
Model	CD-BT19	
Working temperature range °C <sup>1)</sup>	+20 +10	00
Temperature stability °C	± 0.03	•
Heating capacity kW	2	•
Pump capacity	l/min	bar
Flow rate / Pressure	15	0.35
Bath opening / Bath depth cm	W x L / D 30 x 35 / 15	5
Filling volume liters	14 19	
Dimensions cm	W x L x H 38 x 58 x 38	8

	CORIO <sup>™</sup> (	D-BT	27
	Order No.	9 012 32	27
	Model	CD-BT27	,
0	Working temperature range °C <sup>1)</sup>	+20 +	-100
	Temperature stability °C	± 0.03	
	Heating capacity kW	2	
	Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
0	Bath opening / Bath depth cm	W x L / D 30 x 35 /	20
	Filling volume liters	20 27	
	Dimensions cm	W x L x H 38 x 58 x	



<sup>1)</sup> For applications near or below ambient temperature: use a cooling coil or JULABO immersion cooler.

#### **CORIO CD Open Heating Bath Circulators**

for internal and external temperature applications with stainless steel bath tanks for working temperatures from +20 °C to +150 °C

The Open Heating Bath Circulators of the new CORIO series feature high-quality bath tanks made of stainless steel and with pump connections.

- For internal and external applications
- Bright, white, easy to read display
- Very quiet
- Pump change-over between internal and external circulation
- USB connection
- High-quality bath tanks made of stainless steel
- Integrated drain screw (except for B5)

To adapt the CORIO Open Heating Bath Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, tubing, adapters, and more).

#### **Applications**

Temperature control of samples, preparation of samples for serology and clinical chemistry, analysis, material testing, and more. External temperature control applications in combination with measuring instruments, measuring cells, photometers, refractometers, polarimeters, and more.

**Pump capacity** 

Bath fluid: Water

CD

12

15 l/mi

bar 0.40

0.30

0.20

0.10

0



CORIO <sup>™</sup> (	D-B5	
Order No.	9 012 405	
Model	CD-B5	
Working temperature range °C <sup>1)</sup>	+20 +15	50
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 15 x 15 / 15	i
Filling volume liters	3.5 5	
Dimensions cm	W x L x H 23 x 38 x 41	I









CORIO <sup>™</sup> (	D-B13	
Order No.	9 012 413	
Model	CD-B13	
Working temperature range $^{\circ}C^{1)}$	+20 +15	50
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 30 x 18 / 15	

9 ... 13 W x L x H 38 x 40 x 42

Filling volume liters Dimensions cm



CORIO <sup>™</sup> (	D-B27	
Order No.	9 012 427	
Model	CD-B27	
Working temperature range $^{\circ}C^{1)}$	+20 +1	50
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 30 x 35 / 20	)
Filling volume liters	17 27	
Dimensions cm	W x L x H 38 x 58 x 4	7



CORIO <sup>™</sup> (	D-B17	
Order No.	9 012 417	
Model	CD-B17	
Working temperature range °C <sup>1)</sup>	+20 +15	0
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 30 x 18 / 20	
Filling volume liters	13 17	
Dimensions cm	W x L x H 38 x 40 x 47	,

• • •



D-B33	
9 012 433	
CD-B33	
+20 +15	0
± 0.03	
2	
l/min	bar
15	0.35
W x L / D 66 x 32 / 15	
26 39	
W x L x H 91 x 36 x 43	1
	CD-B33 +20 +15 ± 0.03 2 I/min 15 W x L / D 66 x 32 / 15 26 39 W x L x H



CORIO <sup>™</sup> (	D-B19	
Order No.	9 012 419	
Model	CD-B19	
Working temperature range °C <sup>1)</sup>	+20 +15	60
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 30 x 35 / 15	
Filling volume liters	14 19	
Dimensions cm	W x L x H 38 x 58 x 42	



CORIO <sup>™</sup> (	D-B39	
Order No.	9 012 439	
Model	CD-B39	
Working temperature range °C $^{1)}$	+20 +15	0
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 33 x 30 / 30	
Filling volume liters	35 41	
Dimensions cm	W x L x H 54 x 34 x 57	,

<sup>1)</sup> For applications near or below ambient temperature: use a cooling coil or JULABO immersion cooler.

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#### **CORIO CD Heating Circulators**

for internal and external temperature applications with stainless steel baths for working temperatures from +20  $^\circ C$  to +150  $^\circ C$ 

CORIO Heating Circulators feature professional technology for demanding applications. These units facilitate internal temperature control in the bath tank or control of externally connected applications.

- For internal and external applications
- Bright, white, easy to read display
- Very quiet
- Pump change-over between internal and external circulation
- USB connection
- High-quality bath tanks made of stainless steel with bath lid and drain tap
- Integrated pump connection M16x1
- Integrated cooling coil for counter-cooling

To adapt the CORIO Heating Circulator to your individual application we offer a comprehensive range of accessories (racks, bath lids, tubing, adapters, and more).

#### Applications

External temperature applications in combination with jacketed reactors, distillation apparatus, mini-plant applications, photometers, refractometers and more, internal temperature applications of samples and small objects.



CORIO <sup>™</sup> (	D-BC4	
Order No.	9 012 504	
Model	CD-BC4	
Working temperature range °C <sup>1)</sup>	+20 +15	0
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 13 x 15 / 15	
Filling volume liters	3 4.5	
Dimensions cm	W x L x H 23 x 41 x 42	2

Optional

Bath cover with built-in heat exchanger.









Order No.	9 012 506		C
Model	CD-BC6		Ν
Working temperature range °C <sup>1)</sup>	+20 +15	50	V ra
Temperature stability °C	± 0.03		Т
Heating capacity kW	2		F
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35	P F
Bath opening / Bath depth cm	W x L / D 13 x 15 / 20	)	B B
Filling volume liters	4.5 6		F
Dimensions cm	W x L x H 24 x 44 x 47	7	D

CORIO <sup>™</sup> (	D-BC12	2
Order No.	9 012 512	
Model	CD-BC12	
Working temperature range °C 1)	+20 +15	0
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity	l/min	bar
Flow rate / Pressure	15	0.35
Bath opening / Bath depth cm	W x L / D 22 x 15 / 20	
Filling volume liters	8.5 12	
Dimensions cm	W x L x H 33 x 49 x 47	,

CORIO <sup>™</sup> (	D-BC	26
Order No.	9 012 52	6
Model	CD-BC26	;
Working temperature range °C <sup>1)</sup>	+20 +	150
Temperature stability °C	± 0.03	
Heating capacity kW	2	
Pump capacity Flow rate / Pressure	l/min 15	bar 0.35
Bath opening / Bath depth cm	W x L / D 26 x 35 /	20
Filling volume liters	19 26	
Dimensions cm	W x L x H 39 x 62 x	48

**Heat-up time** Bath fluid: Thermal



### Pump capacity Bath fluid: Water



<sup>1)</sup> For applications near or below ambient temperature: use a cooling coil or JULABO immersion cooler.

#### JULABO Thermal Bath Fluids

JULABO Thermal bath fluids have been carefully chosen after longterm testing. They are highly suitable for all of your temperature control applications guaranteeing safe and reliable operation.

Choosing the proper bath fluid is critical for high performance temperature control. The viscosity, oxidation and heat transfer characteristics of the Thermal fluids are specifically selected for use with JULABO CORIO CD temperature control instruments.

#### Advantages

- Wide temperature ranges
- Low viscosity
- High stability
- Good heat conductivity
- Minimum odor
- Low corrosion tendency
- Low toxicity
- Long fluid life

Thermal G	
Order No. 5 liters	8 940 125
Order No. 10 liters	8 940 124
Working temperature range °C	-30 +80
Flash point °C	not applicable
Fire point °C	not applicable
Viscosity, (kinematic at +20 °C) mm <sup>2</sup> /s	4.07
Density ( at +20 °C ) g/cm	<sup>3</sup> 1.08
Pour point °C	-70
Boiling point °C	+108
Ignition temperature °C	+430
Color	light yellow



#### Makes routine laboratory work easier.

JULABO Thermal bath fluids are delivered in containers with a handy drain tap.








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Thermal HS	A State
Order No. 5 liters	8 940 103
Order No. 10 liters	8 940 102
Working temperature range °C	+20 +250
Flash point °C	+270
Fire point °C	+360
Viscosity, (kinematic at +20 °C) mm²/s	55
Density ( at +20 $^{\circ}$ C ) g/cm <sup>3</sup>	0.96
Pour point °C	<-60
Boiling point °C	+246
Ignition temperature °C	>+400
Color	light brown

Thermal H10	C. Star
Order No. 5 liters	8 940 115
Order No. 10 liters	8 940 114
Working temperature range °C	-20 +180
Flash point °C	>+170
Fire point °C	+220
Viscosity, (kinematic at +20 °C) mm²/s	10.8
Density ( at +20 °C ) g/cm <sup>3</sup>	0.94
Pour point °C	<-60
Boiling point °C	+288
Ignition temperature °C	+370
Color	clear

Thermal H20	S
Order No. 5 liters	8 940 109
Order No. 10 liters	8 940 108
Working temperature range °C	0 +220
Flash point °C	+230
Fire point °C	+264
Viscosity, (kinematic at +20 °C) mm²/s	22.3
Density ( at +20 $^{\circ}\text{C}$ ) g/cm³	0.95
Pour point °C	-70
Boiling point °C	+424
Ignition temperature °C	+385
Color	light brown

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#### JULABO Thermal bath fluids based on silicone ...

... are chemically inert substances which do not affect metals like iron, copper, zinc, aluminum, chrome or nickel. Compared to other fluids, JULABO Thermal fluids have an extraordinarily high dielectric strength. When properly stored, the fluids will last for 12 months and longer as they are not susceptible to climatic influences.

**JULABO Thermal bath fluids based on water-glycol ...** ... (monoethyleneglycol with anti-corrosion additives) have excellent thermal characteristics and a low viscosity. In addition they provide anti-freeze protection, i.e. they can be applied at temperatures below the freezing point of water.

More information on JULABO Thermal bath fluids  $\dots$   $\dots$  in our brochure 'Thermal Bath Fluids' at www.julabo.com.

## Heating Circulators Accessories



Aqua Stabil Water protective media to prevent formation of algae and bacteria and Descaling Agent

Order No.	Description	Suitable for	A 1 1
8 940 006	Aqua Stabil, 6 bottles 100 ml each	C, CD	
8 940 012	Aqua Stabil, 12 bottles 100 ml each	C, CD	
9 940 200	Descaling Agent 1 Liter	C, CD	

## Transparent bath tanks up to +100 $^{\circ}\mathrm{C}$

Order No.	Description	Inner dimensions cm	Outer dimensions cm	Suitable for	A	
9 901 305	Bath tank BT5	15 x 30/15	22 x 37 x 16	C, CD		
9 901 309	Bath tank BT9	24 x 30/15	31 x 37 x 16	C, CD		
9 901 319	Bath tank BT19	30 x 50/15	37 x 58 x 16	C, CD		
9 901 327	Bath tank BT27	30 x 50/20	37 x 58 x 21	C, CD		



#### Stainless steel bath tanks up to +150 °C, insulated

Order No.	Description	Inner dimensions cm	Outer dimensions cm	Suitable for
9 903 405	Bath tank B5	15 x 30/15	22 x 37 x 20	C, CD
9 903 413	Bath tank B13	30 x 32/15	37 x 40 x 20	C, CD
9 903 417	Bath tank B17	30 x 32/20	37 x 40 x 25	C, CD
9 903 419	Bath tank B19	30 x 50/15	37 x 58 x 20	C, CD
9 903 427	Bath tank B27	30 x 50/20	37 x 58 x 25	C, CD
9 903 433	Bath tank B33	83 x 30/15	90 x 36 x 20	C, CD
9 903 439	Bath tank B39	30 x 50/30	34 x 58 x 35	C, CD



#### Bath covers

Order No.	Description	Suitable for
9 970 296	Flat bath cover	B5, BT5
9 970 290	Flat bath cover	B13, B17
9 970 291	Flat bath cover	B19, B27, BT19, BT27
9 970 292	Flat bath cover	B33
9 970 293	Flat bath cover	B39
9 970 253	Lift-up gable bath cover made of stainless steel	B13, B17
9 970 254	Lift-up gable bath cover made of stainless steel	B19, B27, BT19, BT27
9 970 257	Lift-up gable bath cover made of stainless steel	B33





#### Assembly frames

Order No.	Description	Suitable for
9 970 229	Stainless steel bridge including assembly frame	C-BT5, C-B5
9 970 228	Stainless steel bridge including assembly frame	C-BT19/27, C-B13/17/19/27





Order No.	Description	Suitable for	
8 970 010	Hollow balls, Polypropylene <sup>®</sup> , 20 mm Ø, 1000 pcs. (up to +100 °C, for water only)	C, CD	



Test tube racks m	made out of stainless steel, up to +150 °C
-------------------	--

Order No.	Description	Suitable for
9 970 320	Test tube rack for 30 tubes 100 x 17 mm dia.	B5, BT5
9 970 321	Test tube rack for 42 tubes 75 x 12/13 mm dia.	B5, BT5
9 970 322	Test tube rack for 42 tubes 40 x 10/11 mm dia.	B5, BT5
9 970 323	Test tube rack for 10 Falcon tubes 50 ml	B5, BT5



#### Test tube racks made out of high grade plastic, up to +100 °C

Order No.	Description	Suitable for
9 970 300	Test tube rack for 60 tubes 100 x 16/17 mm dia.	B13, B17, B19, B27, B33, BT19, BT27
9 970 301	Test tube rack for 90 tubes 75 x 12/13 mm dia.	B13, B17, B19, B27, B33, BT19, BT27
9 970 303	Test tube rack for 21 tubes 30 mm dia.	B13, B17, B19, B27, B33, BT19, BT27

1 Ser	Which type can be inse		est tub	e racks	are av	ailabl	e for yo	our bat	h and	how m	nany	
	Order No.	BT5	BT9	BT19	BT27	B5	B13	B17	B19	B27	B33	B39
	9 970 320	1	-	-	-	1	-	-	-	-	-	-
-	9 970 321	1	-	-	-	1	-	-	-	-	-	-
	9 970 322	1	-	-	-	1	-	-	-	-	-	-
	9 970 323	1	-	-	-	1	-	-	-	-	-	-
-	9 970 300	-	-	3	3	-	1	1	3	3	6	-
_	9 970 301	-	-	3	3	-	1	1	3	3	6	-
	9 970 303	-	-	3	3	-	1	1	3	3	6	-

## Heating Circulators Accessories



### Immersion-height adjustable platforms

Order No. Description	Suitable for
9 970 506 Immersion-height adjustable platform	CD-BC26
9 970 503 Immersion-height adjustable platform	B13, B17
9 970 502 Immersion-height adjustable platform	B19, B27



#### Universal bath attachment clamp

Order No.	Description	Suitable for
9 970 420	Bath attachment clamp for wall thickness up to 30 mm	C, CD



#### $\label{eq:pump set} Pump \ set \ for \ external \ temperature \ applications$

Order No.	Description	Suitable for
9 970 140	Pump set (Pump connectors M16x1)	CD



#### Stand attachment for laboratory stands

Order No.	Description	1.1.1.1.1.1	Suitable for	A . A . A .
9 970 022	Stand attachment with rod 200x12 mm dia.		C, CD	

#### Heat exchangers/Cooling installations

<ul> <li>Into the existing assembly frame</li> <li>Installation cooling coil for counter-cooling with tap water for mounting</li> <li>on circulator head and for use with the universal bath attachment clamp</li> <li>C, C-BT5/9/19/27, C-B5/13/17/19/27, CD</li> </ul>	Order No.	Description	Suitable for
<ul> <li>9 970 100 Assembly cooling coil for counter-cooling with tap water for installation into the existing assembly frame</li> <li>9 970 101 Installation cooling coil for counter-cooling with tap water for mounting on circulator head and for use with the universal bath attachment clamp</li> <li>C. C-BT5/9/19/27, C-B5/13/17/19/27, CD</li> </ul>	9 970 240	Bath cover with built-in heat exchanger	BC4, BC6
<ul> <li>9 970 100 into the existing assembly frame</li> <li>Installation cooling coil for counter-cooling with tap water for mounting</li> <li>9 970 101 on circulator head and for use with the universal bath attachment clamp</li> <li>C, C-BT5/9/19/27, C-B5/13/17/19/27, CD</li> </ul>	9 970 242	Bath cover with built-in heat exchanger	BC12
9 970 101 on circulator head and for use with the universal bath attachment clamp C, C-BT5/9/19/27, C-B5/13/17/19/27, CD	9 970 100		CD-BT5/19/27,CD-B5/13/17/19/27/33/39
(without assembly name)	9 970 101		C, C-BT5/9/19/27,C-B5/13/17/19/27, CD





#### **CR® tubing** (-30 °C ... +120 °C)

Order No.	Description	Suitable for
8 930 008	1 m, 8 mm inner dia.	CD
8 930 010	1 m, 10 mm inner dia.	CD
8 930 012	1 m, 12 mm inner dia.	CD

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#### Viton<sup>®</sup> tubing (-35 °C ... +200 °C)

Order No.	Description	Suitable for	-
8 930 108	1 m, 8 mm inner dia.	CD	
8 930 110	1 m, 10 mm inner dia.	CD	
8 930 112	1 m, 12 mm inner dia.	CD	



#### Tubing insulation (-50 °C ...+100 °C)

Order No.	Description	Suitable for
8 930 410	1 m, for tubing 8 - 10 mm inner dia.	CR <sup>®</sup> /Viton <sup>®</sup> Tubing
8 930 412	1 m, for tubing 12 mm inner dia.	CR <sup>®</sup> /Viton <sup>®</sup> Tubing



#### Tube clamps

Order No.	Description	State State	Suitable for
8 970 480	2 Tube clamps, size 1		CR <sup>®</sup> /Viton <sup>®</sup> Tubing 8 mm inner dia.
8 970 481	2 Tube clamps, size 2		CR <sup>®</sup> /Viton <sup>®</sup> Tubing 10 - 12 mm inner dia.



#### Metal tubing flexible, insulated, -50 °C ... +200 °C

Order No.	Description	Suitable for
8 930 220	0.5 m Metal tubing, 2 fi ttings M16x1 female	CD
8 930 221	1.0 m Metal tubing, 2 fittings M16x1 female	CD
8 930 222	1.5 m Metallschlauch, 2 Anschlüsse M16x1 innen	CD
8 930 223	3.0 m Metallschlauch, 2 Anschlüsse M16x1 innen	CD

## Heating Circulators Accessories



### Adapters and connectors

Order No.	Description	Suitable for	100
8 970 446	2 Barbed fi ttings for tubing 8 mm inner dia.	CD	
8 970 447	2 Barbed fittings for tubing 10 mm inner dia.	CD	
8 970 445	2 Barbed fittings for tubing 12 mm inner dia	CD	
8 970 443	1 Adapter M16x1 male to M16x1 male	CD	
8 970 490	2 Collar nuts M16x1 female	CD	
8 970 442	2 Elbow fittings 90°, M16x1 female/male	CD	
8 890 004	2 Adapters M16x1 female to NPT 1/4" male	CD	
8 890 005	2 Adapters M16x1 female to NPT 1/4" female	CD	
8 890 006	2 Adapters M16x1 female to NPT 3/8" male	CD	
8 890 007	2 Adapters M16x1 female to NPT 3/8" female	CD	
8 890 008	2 Adapters M16x1 female to NPT 1/2" male	CD	
8 890 009	2 Adapters M16x1 female to NPT 1/2" female	CD	
8 890 010	2 Adapters M16x1 male to NPT 1/4" female	CD	
8 891 008	1 Adapter M16x1 male to BSP 1/2"female	CD	
8 891 009	1 Adapter M16x1 male to BSP 3/4" female	CD	
8 890 011	2 Adapters M16x1 female to tube 1/4" male	CD	
8 890 012	2 Adapters M16x1 female to tube 3/8" male	CD	
8 890 013	2 Adapters M16x1 female to tube 1/2" male	CD	
8 890 024	2 Adapters M16x1 female to M16x1 female	CD	

### Shut-off valves for loop circuit

Order No.	Description	Suitable for	A 14 14
8 970 457	Shut-off valve (-30 °C +200 °C), M16x1	CD	
8 970 456	Shut-off valve (-10 °C +100 °C), M16x1	CD	

### Twin distributing adapters with barbed fittings

Order No.	Description	Suitable for
8 970 470	Twin distributing adapter with barbed fittings	Tubing 8 mm inner dia.
8 970 471	Twin distributing adapter with barbed fittings	Tubing 12 mm inner dia.
8 970 472	Twin distributing adapter with barbed fittings	Tubing 10 mm inner dia.
8 970 473	Twin distributing adapter M16x1 female to 2 x M16x1 male	CD



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EasyTEMP Software for instrument control, data recording and visualization

Order No.	Description	Suitable for
8 901 102	EasyTEMP Software (free of charge at www.julabo.com)	CD
8 901 105	EasyTEMP Professional Software, incl. USB-Dongle	CD
9 900 110	USB interface cable 2 m, type A-B	CD
9 900 112	USB 2.0 Repeater extension cable, length = $5 \text{ m}$	CD
9 900 114	USB 2.0 Repeater extension cable, length $= 10 \text{ m}$	CD

#### Calibration and manufacturer's certificates

Order No.	Description	Suitable for
8 902 901	1-Point manufacturer's calibration certificate	C, CD
8 902 903	3-Point manufacturer's calibration certificate	C, CD
8 902 905	5-Point manufacturer's calibration certificate	C, CD
8 903 015	Manufacturer's Testing Certificate for JULABO units w/o cooling units	C, CD

#### $\label{eq:loss_loss} IQ/OQ \ Documentation \ for \ Equipment \ Qualification$

Order No.	Description	Suitable for	A . A . A.
2 310 110	IQ/OQ Documentation, Category 1	C, CD	

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#### **Preventative Maintenance Contract**

Order No.	Description	Suitable for	A 12 14
2 350 100	Preventative Maintenance Contract Standard includes the following ser- vices: Visual inspection, technical diagnostics, data analysis, BlackBox, tes- ting of tube connections and bath fl uid, thorough cleaning of condenser and other components, testing of temperature stability and sensor calibra- tion, testing/measuring of pump and cooling capacity (depending on mo- del) and firmware update (if no hardware adjustment is required)	C, CD	
2 350 110	Preventative Maintenance Contract Premium includes all services listeda- bove as well as spare parts and labor required for installation or repla- cement	CD	

# The Julaba advantages at a glance.

## JULABO temperature control – high-precision and speed

JULABO products include high-quality temperature control solutions to cover the temperature range from -95 °C to +400 °C.



#### **Refrigerated Circulators**

The JULABO refrigerated circulators are suitable for internal and external applications and can be used within the temperature range of -95 °C to +200 °C.



#### Water Baths and Shaking Water Baths

Water baths and shaking water baths from JULABO can be used for a variety of applications in the temperature range from +18 °C to +99.9 °C.



#### **Heating Circulators**

Heating circulators are available in various designs including Heating Immersion Circulators, Open Heating Bath Circulators, or Heating Circulators and cover the temperature range from +20 °C to +300 °C.



#### **Additional Products**

In addition, the JULABO product portfolio has equipment for special applications such as Calibration Baths, Visco Baths, Beer Forcing Test Bath, Immersion / Flow-Through Coolers, Temperature Controllers and Refrigerators for Chemicals.



#### Highly Dynamic Temperature Control Systems

The highly dynamic temperature control systems from JULABO can be used for demanding temperature applications ranging from -92 °C to +400 °C. The new PRESTO line offers unique high performance specifications to meet these requirements.



# Wireless Communication & Software Solutions

JULABO facilitates the automation of applications. The temperature control units can be comfortably controlled and monitored via PC.



#### **Recirculating Coolers**

JULABO recirculating coolers are highly efficient and therefore offer an environmentally friendly and economic alternative to tap water cooling in the range of -25 °C to +130 °C.



#### Accessories

The extensive range of accessories for all our instruments allows the flexible use of JULABO products in research and industry.

#### Comprehensive service and on-site support

JULABO takes pride in offering customers expert advice for pairing the proper JULABO temperature control solution to their specific application. JULABO service and support options include installation and calibration, equipment qualification documentation and application training. These invaluable services ensure customer confidence in the operation and maintenance of their JULABO unit.

#### Individual requirements - individual products

The wide range of JULABO offers a solution for almost any application. However, if a specific application needs more than a standard product is able to offer, the JULABO specialists will work out an individual solution with you.





JULABO. Quality.

Highest standards of quality for a long product life.



Green technology.

Deliberately engineered with environmentally friendly materials and technologies.



#### Satisfied customers.

11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.



#### 100% checked.

100 % testing. 100 % quality. Every JULABO product is shipped to customers after successful final inspection.



**Quick start.** Individual JULABO consultation and comprehensive manuals at your disposal.



**Services 24/7.** Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies and more at www.julabo.com.

## **Technical Specifications**

### CORIO

Model	Order No.	Working tempera- ture range	Display	Display resolution	Temperature control	Temperature stability	Heating capacity	Cooling unit	
		°C				°c	kW		+20
CD-200F	9 012 701	-20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	0.22
CD-201F	9 012 702	-20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	0.22
CD-300F	9 012 703	-25 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	0.31
CD-600F	9 012 704	-35 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	0.6
CD-601F	9 012 705	-40 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	0.6
CD-900F	9 012 706	-40 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	0.9
CD-1000F	9 012 707	-40 +150	LED	0.01 - 0.1	PID1	± 0.03	2	Air	1
CD-1001F	9 012 708	-38 +100	LED	0.01 - 0.1	PID1	± 0.03	2	Air	1
С	9 011 000	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD	9 012 000	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-BT5	9 011 305	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-BT9	9 011 309	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-BT19	9 011 319	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-BT27	9 011 327	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-B5	9 011 405	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-B13	9 011 413	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-B17	9 011 417	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-B19	9 011 419	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
C-B27	9 011 427	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BT5	9 012 305	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BT19	9 012 319	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BT27	9 012 327	+20 +100	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B5	9 012 405	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B13	9 012 413	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B17	9 012 417	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B19	9 012 419	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B27	9 012 427	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B33	9 012 433	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-B39	9 012 439	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BC4	9 012 504	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BC6	9 012 506	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BC12	9 012 512	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-
CD-BC26	9 012 526	+20 +150	LED	0.01 - 0.1	PID1	± 0.03	2	-	-

Unless otherwise indicated, all data relates to the operation at nominal voltage and frequency and +20 °C ambient temperature. Cooling capacity measured according to DIN 12876-2.

Cooling ca	pacity (kW) a	t bath temper	ature in °C		Pump			Pump connections Refrigerant		Filling	
(Medium: Ethanol)			Туре	Pressure	Flow rate			volume			
					<ul> <li>OPPESSURE pump</li> </ul>						
0	-10	-20	-30	-40	⊖ Circulation pump	bar	l/min	male		liters	
0.17	0.13	0.06	-	-	$\otimes$	0.35	15	M16x1	R134a	3 4	
0.16	0.12	0.06	-	-	$\otimes$	0.35	15	M16x1	R134a	3 4	
0.28	0.2	0.11	-	-	$\otimes$	0.35	15	M16x1	R134a	3 4	
0.53	0.35	0.22	0.1	-	$\otimes$	0.35	15	M16x1	R404a	5 7.5	
0.5	0.35	0.2	0.07	0.01	$\otimes$	0.35	15	M16x1	R452a	8 10	
0.8	0.55	0.35	0.15	0.02	$\otimes$	0.35	15	M16x1	R452a	21 30	
0.9	0.73	0.5	0.25	0.1	$\otimes$	0.35	15	M16x1	R452a	5 7.5	
0.9	0.63	0.35	0.13	-	$\otimes$	0.35	15	M16x1	R452a	42 56	
-	-	-	-	-	⊜	0.1	6	-	-	-	
-	-	-	-	-	$\otimes$	0.35	15	-	-	-	
-	-	-	-	-	∍	0.1	6	-	-	3.5 5	
-	-	-	-	-	⊜	0.1	6	-	-	6 9	
-	-	-	-	-	⊜	0.1	6	-	-	14 19	
-	-	-	-	-	9	0.1	6	-	-	20 27	
-	-	-	-	-	⊜	0.1	6	-	-	3.5 5	
-	-	-		-	⊜	0.1	6	-	-	9 13	
-	-	-	-	-	<b>=</b>	0.1	6	-		13 17	
-	-	-		-	8	0.1	6	-	-	14 19	
-	-	-	-	-	⊜	0.1	6	-		17 27	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	3.5 5	
-	-	-	-	-	$\otimes$	0.35	15	M16x1		14 19	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	20 27	
-	-	-	-	-	$\otimes$	0.35	15	M16x1		3.5 5	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	9 13	
-	-	-	-	-	$\otimes$	0.35	15	M16x1		13 17	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	14 19	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	17 27	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	26 39	
-	-	-	-	-	$\otimes$	0.35	15	M16x1		35 41	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	3 4.5	
-	-	-	-	-	$\otimes$	0.35	15	M16x1		4.5 6	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	8.5 12	
-	-	-	-	-	$\otimes$	0.35	15	M16x1	-	19 26	

3.81



Classification acc. to DIN 12876-1	Power requirement	USB interface	Permissible ambient temperature	Usable bath opening W x L / D	Dimensions W x L x H	Weight net	Model
	V / Hz / A		°C	cm	cm	kg	
III (FL)	230/50/12	yes	5 40	13 x 15 / 15	23 x 39 x 65	26	CD-200F
III (FL)	230/50/12	yes	5 40	13 x 15 / 15	44 x 41 x 44	25	CD-201F
III (FL)	230/50/12	yes	5 40	13 x 15 / 15	24 x 42 x 66	28	CD-300F
III (FL)	230/50/14	yes	5 40	22 x 15 / 15	33 x 47 x 69	36	CD-600F
III (FL)	230/50/14	yes	5 40	22 x 15 / 20	36 x 46 x 74	38.5	CD-601F
III (FL)	230/50/14	yes	5 40	26 x 35 / 20	39 x 62 x 75	52	CD-900F
III (FL)	230/50/14	yes	5 40	22 x 15 / 15	42 x 49 x 70	51.5	CD-1000F
III (FL)	230/50/14	yes	5 40	35 x 41 / 30	45 x 64 x 95	74	CD-1001F
I (NFL)	230/50-60/9	-	5 40	-	13.2 x 16 x 36.2	1.9	с
III (FL)	230/50/10	yes	5 40	-	13.2 x 16 x 36.2	2.6	CD
I (NFL)	230/50-60/9	-	5 40	15 x 15 / 15	23 x 38 x 38	4.8	C-BT5
I (NFL)	230/50-60/9	-	5 40	23 x 15 / 15	32 x 38 x 38	3.9	C-BT9
I (NFL)	230/50-60/9	-	5 40	30 x 35 / 15	38 x 58 x 38	7	C-BT19
I (NFL)	230/50-60/9	-	5 40	30 x 35 / 20	38 x 58 x 43	7.2	C-BT27
I (NFL)	230/50-60/9	-	5 40	15 x 15 / 15	23 x 38 x 41	7.3	C-B5
I (NFL)	230/50-60/9	-	5 40	30 x 18 / 15	38 x 40 x 42	8.2	C-B13
I (NFL)	230/50-60/9	-	5 40	30 x 18 / 20	38 x 40 x 47	9.3	C-B17
I (NFL)	230/50-60/9	-	5 40	30 x 35 / 15	38 x 58 x 42	10.5	C-B19
I (NFL)	230/50-60/9	-	5 40	30 x 35 / 20	38 x 58 x 47	12	C-B27
III (FL)	230/50/10	yes	5 40	15 x 15 / 15	23 x 38 x 38	5.7	CD-BT5
III (FL)	230/50/10	yes	5 40	30 x 35 / 15	38 x 58 x 38	8	CD-BT19
III (FL)	230/50/10	yes	5 40	30 x 35 / 20	38 x 58 x 43	8.1	CD-BT27
III (FL)	230/50/10	yes	5 40	15 x 15 / 15	23 x 38 x 41	8.2	CD-B5
III (FL)	230/50/10	yes	5 40	30 x 18 / 15	38 x 40 x 42	9.1	CD-B13
III (FL)	230/50/10	yes	5 40	30 x 18 / 20	38 x 40 x 47	9.3	CD-B17
III (FL)	230/50/10	yes	5 40	30 x 35 / 15	38 x 58 x 42	11.5	CD-B19
III (FL)	230/50/10	yes	5 40	30 x 35 / 20	38 x 58 x 47	13	CD-B27
III (FL)	230/50/10	yes	5 40	66 x 32 / 15	91 x 36 x 43	21	CD-B33
III (FL)	230/50/10	yes	5 40	33 x 30 / 30	54 x 34 x 57	18	CD-B39
III (FL)	230/50/10	yes	5 40	13 x 15 / 15	23 x 41 x 42	8.8	CD-BC4
III (FL)	230/50/10	yes	5 40	13 x 15 / 20	24 x 44 x 47	10	CD-BC6
III (FL)	230/50/10	yes	5 40	22 x 15 / 20	33 x 49 x 47	12.2	CD-BC12
III (FL)	230/50/10	yes	5 40	26 x 35 / 20	39 x 62 x 48	19	CD-BC26

Unless otherwise indicated, all data relates to the operation at nominal voltage and frequency and +20 °C ambient temperature. Cooling capacity measured according to DIN 12876-2.



#### CORIO

		Available voltage options / Heating capacity kW							
Model	Order No.	230 V 50 Hz	208-230 V 60 Hz	208-230 V 50-60 Hz	100-115 V 50-60 Hz	115 V 60 Hz	100 V 50 - 60 Hz	200 V 50 - 60 Hz	
CD-200F	9 012 701	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-201F	9 012 702	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-300F	9 012 703	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-600F	9 012 704	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-601F	9 012 705	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-900F	9 012 706	2.0	1.6 - 2.0	-	-	1.0	-	1.5	
CD-1000F	9 012 707	2.0	1.6 - 2.0	-	-	1.0	-	1.5	
CD-1001F	9 012 708	2.0	1.6 - 2.0	-	-	-	-	1.5	
с	9 011 000	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
CD	9 012 000	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
C-BT5	9 011 305	-	-	1.6 - 2.0	0.8 - 1-0	-	-	-	
C-BT9	9 011 309	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-BT19	9 011 319	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-BT27	9 011 327	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-B5	9 011 405	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-B13	9 011 413	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-B17	9 011 417	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-B19	9 011 419	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
C-B27	9 011 427	-	-	1.6 - 2.0	0.8 - 1.0	-	-	-	
CD-BT5	9 012 305	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-BT19	9 012 319	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-BT27	9 012 327	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B5	9 012 405	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B13	9 012 413	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B17	9 012 417	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B19	9 012 419	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B27	9 012 427	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B33	9 012 433	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-B39	9 012 439	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-BC4	9 012 504	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-BC6	9 012 506	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-BC12	9 012 512	2.0	1.6 - 2.0	-	-	1.0	0.8	-	
CD-BC26	9 012 526	2.0	1.6 - 2.0	-	-	1.0	0.8	-	

Unless otherwise indicated, all data relates to the operation at nominal voltage and frequency and +20 °C ambient temperature. Cooling capacity measured according to DIN 12876-2.



## GERMAN Headquarters

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