DYNEO DD refrigerated circulators

for working temperatures from -50 °C to +200 °C

The DYNEO circulator range focuses on your needs and offers innovative temperature control technology as well as functional solutions for demanding internal and external temperature applications. Either in basic research, in material testing or in technical systems – the DYNEO refrigerated circulators offer functional solutions for every requirement and budget.

- Models suitable for internal and external applications
- Optimized cooling coil design provides more space in the bath
- Continuously adjustable, powerful pressure pump
- Flow rate 27 l/min, supply pressure 0.7 bar
- Easy change-over from internal to external circulation and vice versa
- Large color TFT display, multi-lingual user interface
- Ease of use via central rotary knop
- Integrated programmer
- External Pt100 sensor connection
- USB data port
- RS232 interface or analog interfaces (optional)
- Built-in drain tap for easy and safe drainage

DYNEO™ DD-200F

Order No.	9 021 701	
Working temperature range °C	-20 … +200	
Temperature stability °C	± 0.01	
Heating capacity kW	2	
	+20 °C	**0 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.2	0.15
	-10 °C	**-20 °C**
	0.1	0.02
Pump capacity Flow rate / Pressure	l / min	bar
	8 … 27	0.1 … 0.7
Bath opening / Bath depth cm	W × L / D 13 × 15 / 15	
Filling volume liters	3 … 4	
Dimensions cm	W × L × H 23 × 39 × 65	

DYNEO™ DD-201F

Order No.	9 021 702	
Working temperature range °C	-20 … +200	
Temperature stability °C	±0.01	
Heating capacity kW	2	
	+20 °C	**0 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.2	0.15
	-10 °C	**-20 °C**
	0.1	0.02
Pump capacity Flow rate / Pressure	l / min	bar
	8 … 27	0.1 … 0.7
Bath opening / Bath depth cm	W × L / D 13 × 15 / 15	
Filling volume liters	3 … 4	
Dimensions cm	W × L × H 44 × 41 × 44	

DYNEO. Intelligent, simple control.

The DYNEO series offers a simple, modern control option with the unique rotary knob. The entire menu, all functions and settings are controlled directly via the central rotary knob on the front of the circulator.

The user receives tactile feedback on his inputs via the rotary knob. DYNEO's new, sophisticated operating concept allows easier, faster and more convenient access to all functions.

DYNEO™ DD-300F

Order No.	9 021 703	
Working temperature range °C	-25 … +200	
Temperature stability °C	±0.01	
Heating capacity kW	2	
	+20 °C	**0 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.3	0.27
	-10 °C	**-20 °C**
	0.19	0.08
Pump capacity Flow rate / Pressure	l / min	bar
	8 … 27	0.1 … 0.7
Bath opening / Bath depth cm	W × L / D 13 × 15 / 15	
Filling volume liters	3 … 4	
Dimensions cm	W × L × H 24 × 42 × 66	

DYNEO™ DD-310F

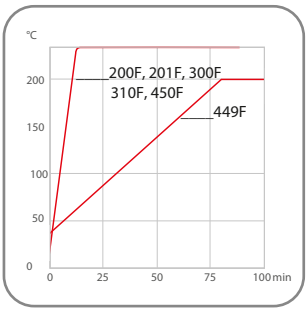
Order No.	9 021 713.N1*	
Working temperature range °C	-30 … +200	
Temperature stability °C	±0.01	
Heating capacity kW	2	
	+20 °C	**0 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.3	0.27
	-10 °C	**-20 °C**
	0.21	0.12
Pump capacity Flow rate / Pressure	l / min	bar
	8 … 27	0.1 … 0.7
Bath opening / Bath depth cm	W × L / D 13 × 15 / 15	
Filling volume liters	3 … 4	
Dimensions cm	W × L × H 23 × 40 × 65	

DYNEO™ DD-450F

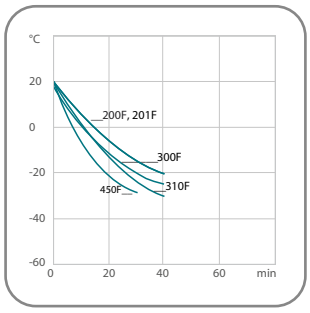
Order No.	9 021 714.N1*	
Working temperature range °C	-30 … +200	
Temperature stability °C	±0.01	
Heating capacity kW	2	
	+20 °C	**0 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.44	0.37
	-10 °C	**-20 °C**
	0.27	0.16
Pump capacity Flow rate / Pressure	l / min	bar
	8 … 27	0.1 … 0.7
Bath opening / Bath depth cm	W × L / D 13 × 15 / 15	
Filling volume liters	3 … 4	
Dimensions cm	W × L × H 23 × 40 × 65	

*also available with synthetic refrigerant (replace .N1 with .S1 in order number)

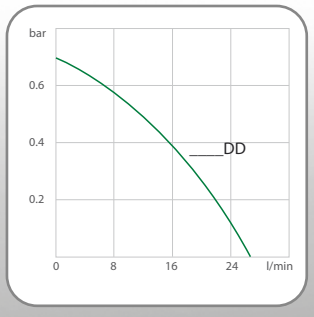
Heat-up time
Bath fluid: Thermal



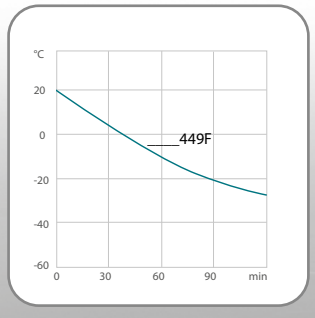
Cool-down time
Bath fluid: Ethanol



Pump capacity
Bath fluid: Water



Cool-down time
Bath fluid: Ethanol



DYNEO™ DD-449F

Order No.	9 021 716.N1	
Working temperature range °C	-32 … +200	
Temperature stability °C	±0.01	
Heating capacity kW	2	
	+20 °C	**0 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.44	0.27
	-10 °C	**-20 °C**
	0.35	0.2
Pump capacity Flow rate / Pressure	l / min	bar
	8 … 27	0.1 … 0.7
Bath opening / Bath depth cm	W × L / D 28 × 35 / 20	
Filling volume liters	21 … 30	
Dimensions cm	W × L × H 37 × 59 × 69	

DYNEO™ DD-600F

Order No.	**9 021 704**		
Working temperature range °C	-35 … +200		
Temperature stability °C	±0.01		
Heating capacity kW	2		
	+20 °C	**0 °C**	**-10 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.6	0.44	0.27
	-20 °C	**-30 °C**	**-40 °C**
	0.16	0.04	-
Pump capacity Flow rate / Pressure	l/min	bar	
	8 … 27	0.1 … 0.7	
Bath opening / Bath depth cm	W × L / D 22 × 15 / 15		
Filling volume liters	5 … 7.5		
Dimensions cm	W × L × H 33 × 47 × 69		

DYNEO™ DD-601F

Order No.	**9 021 705**		
Working temperature range °C	-35 … +200		
Temperature stability °C	±0.01		
Heating capacity kW	2		
	+20 °C	**0 °C**	**-10 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.6	0.44	0.27
	-20 °C	**-30 °C**	**-40 °C**
	0.16	0.04	-
Pump capacity Flow rate / Pressure	l/min	bar	
	8 … 27	0.1 … 0.7	
Bath opening / Bath depth cm	W × L / D 22 × 15 / 20		
Filling volume liters	8 … 10		
Dimensions cm	W × L × H 33 × 47 × 74		

DYNEO™ DD-900F

Order No.	**9 021 706**		
Working temperature range °C	-38 … +200		
Temperature stability °C	±0.01		
Heating capacity kW	2		
	+20 °C	**0 °C**	**-10 °C**
Cooling capacity kW (Bath fluid: Ethanol)	0.9	0.8	0.52
	-20 °C	**-30 °C**	**-40 °C**
	0.31	0.11	-
Pump capacity Flow rate / Pressure	l/min	bar	
	8 … 27	0.1 … 0.7	
Bath opening / Bath depth cm	W × L / D 26 × 35 / 20		
Filling volume liters	21 … 30		
Dimensions cm	W × L × H 39 × 62 × 75		

Applications

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

DYNEO™ DD-1000F

Order No.	**9 021 707**		
Working temperature range °C	-50 … +200		
Temperature stability °C	±0.01		
Heating capacity kW	2		
	+20 °C	**0 °C**	**-10 °C**
Cooling capacity kW (Bath fluid: Ethanol)	1	0.96	0.73
	-20 °C	**-30 °C**	**-40 °C**
	0.51	0.25	0.11
Pump capacity Flow rate / Pressure	l/min	bar	
	8 … 27	0.1 … 0.7	
Bath opening / Bath depth cm	W × L / D 18 × 13 / 15		
Filling volume liters	5 … 7.5		
Dimensions cm	W × L × H 42 × 49 × 74		

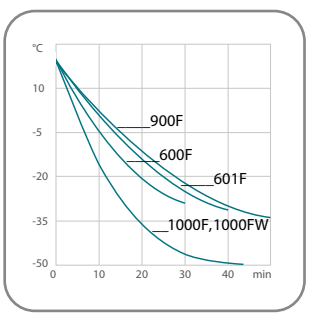
DYNEO™ DD-1000FW

Order No.	**9 021 727**		
Working temperature range °C	-50 … +200		
Temperature stability °C	±0.01		
Heating capacity kW	2		
	+20 °C	**0 °C**	**-10 °C**
Cooling capacity kW (Bath fluid: Ethanol)	1	0.96	0.73
	-20 °C	**-30 °C**	**-40 °C**
	0.51	0.25	0.11
Pump capacity Flow rate / Pressure	l/min	bar	
	8 … 27	0.1 … 0.7	
Bath opening / Bath depth cm	W × L / D 18 × 13 / 15		
Filling volume liters	5 … 7.5		
Dimensions cm	W × L × H 42 × 49 × 74		

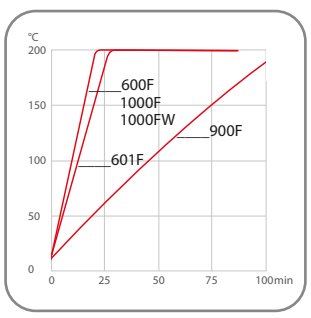
DYNEO™ DD-1001F

Order No.	**9 021 708**		
Working temperature range °C	-38 … +100		
Temperature stability °C	±0.01		
Heating capacity kW	2		
	+20 °C	**0 °C**	**-10 °C**
Cooling capacity kW (Bath fluid: Ethanol)	1	0.85	0.6
	-20 °C	**-30 °C**	**-40 °C**
	0.32	0.12	-
Pump capacity Flow rate / Pressure	l/min	bar	
	8 … 27	0.1 … 0.7	
Bath opening / Bath depth cm	W × L / D 35 × 41 / 30		
Filling volume liters	42 … 56		
Dimensions cm	W × L × H 45 × 64 × 95		

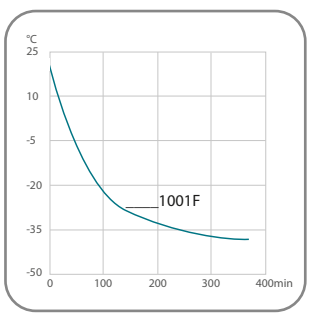
Cool-down time
Bath fluid: Ethanol



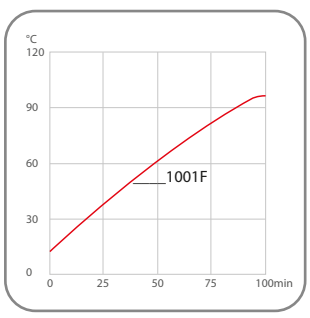
Heat-up time
Bath fluid: Thermal



Cool-down time
Bath fluid: Ethanol



Heat-up time
Bath fluid: Thermal



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 and heat conductivity of the Thermal fluids are specifically selected for use with JULABO DYNEO temperature control instruments.

Advantages

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

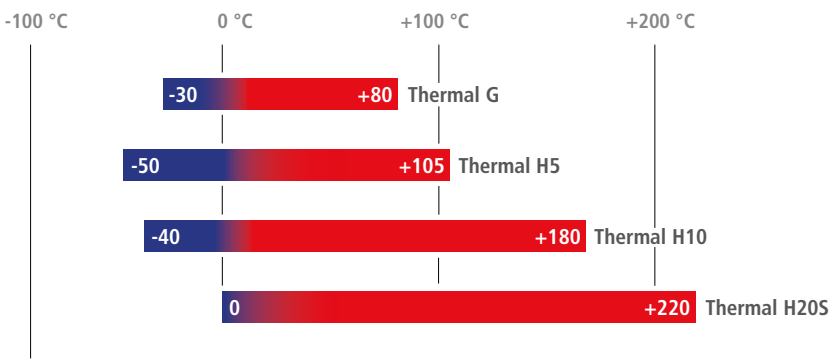
Thermal G

Order No. 5 liters	**8 940 125**
Order No. 10 liters	**8 940 124**
Working temperature range °C	-30 … +80
Flash point °C	-
Fire point °C	-
Viscosity, (kinematic at +20 °C) mm^2/s	4.13 mPas
Density (at +20 °C) g/cm^3	1.0681 g/cm^3
Pour point °C	-44
Boiling point °C	+109
Ignition temperature °C	+410
Color	light yellow

Makes routine laboratory work easier

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

Working temperature ranges



Thermal H5

Order No. 5 liters	**8 940 107**
Order No. 10 liters	**8 940 106**
Working temperature range °C	-50 … +105
Flash point °C	>+120
Fire point °C	+142
Viscosity, (kinematic at +20 °C) mm^2/s	5.66
Density (at +20 °C) g/cm^3	0.92
Pour point °C	-100
Boiling point °C	+288
Ignition temperature °C	+350
Color	clear

Thermal H10

Order No. 5 liters	**8 940 115**
Order No. 10 liters	**8 940 114**
Working temperature range °C	-40 … +180
Flash point °C	>+165
Fire point °C	+220
Viscosity, (kinematic at +20 °C) mm^2/s	10
Density (at +20 °C) g/cm^3	0.93
Pour point °C	<-60
Boiling point °C	+288
Ignition temperature °C	+370
Color	clear

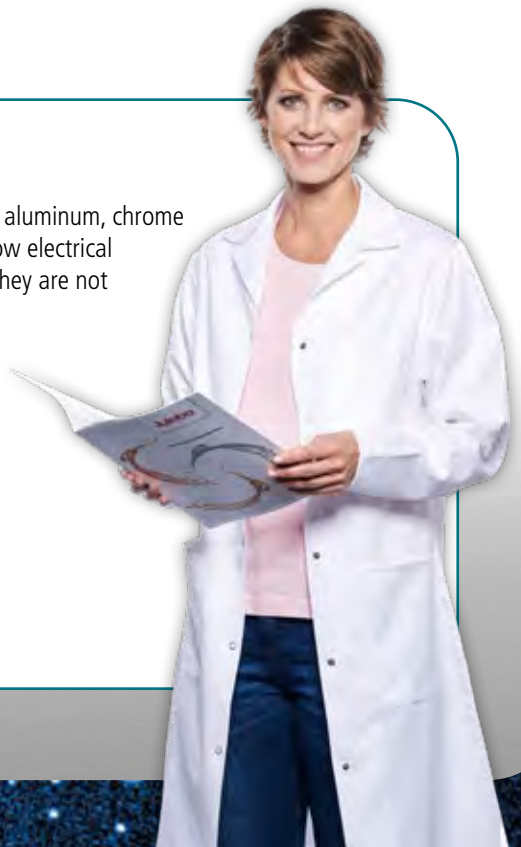
Thermal H20S

Order No. 5 liters	**8 940 109**
Order No. 10 liters	**8 940 108**
Working temperature range °C	0 … +220
Flash point °C	>+200
Fire point °C	+264
Viscosity, (kinematic at +20 °C) mm^2/s	20
Density (at +20 °C) g/cm^3	0.95
Pour point °C	-70
Boiling point °C	+424
Ignition temperature °C	+385
Color	light brown

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 low electrical conductivity. 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.



Water bath protective media to prevent the formation of algae and bacteria and descaling agent

Order no.	Description	Suitable for
8 940 006	Aqua Stabil, 6 bottles, 100 ml each	DYNEO
8 940 012	Aqua Stabil, 12 bottles, 100 ml each	DYNEO
9 940 200	Descaling agent, 1 liter	DYNEO

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

Order no.	Description	Suitable for
8 970 010	Hollow balls, Polypropylene®, 20 mm dia., 1000 pcs (up to +100 °C, for water only)	DYNEO

Heat exchangers / Cooling installations

Order no.	Description	Suitable for
9 970 240	Bath lid with built-in heat exchanger	DD-200F, DD-201F, DD-300F, DD-310F, DD-450F
9 970 242	Bath lid with built-in heat exchanger	DD-600F, DD-601F, DD-1000F

Lockable bath cover / Condensation trap

Order No.	Description	Suitable for
9 970 243	Lockable bath cover	DD-200F, DD-201F, DD-300F, DD-310F, DD-450F
9 970 700	Condensation trap with bath lid	DD-600F, DD-601F, DD-1000F, DD-1000FW

CR® tubing (-30 °C ... +120 °C)

Order no.	Description	Suitable for
8 930 008	1 m, 8 mm ID	DYNEO
8 930 010	1 m, 10 mm ID	DYNEO
8 930 012	1 m, 12 mm ID	DYNEO

Viton® tubing (-35 °C ... +200 °C)

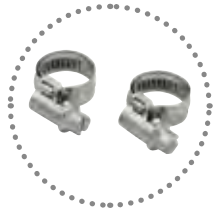
Order no.	Description	Suitable for
8 930 108	1 m, 8 mm ID	DYNEO
8 930 110	1 m, 10 mm ID	DYNEO
8 930 112	1 m, 12 mm ID	DYNEO

PTFE tubing (-60 °C ... +180 °C)

Order no.	Description	Suitable for
8 930 140	PTFE tubing 8 mm ID × 10 mm OD per meter	DYNEO
8 930 142	PTFE tubing 12 mm ID × 14 mm OD per meter	DYNEO

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

Order no.	Description	Suitable for
8 930 410	1 m, for tubing 8-10 mm ID	CR® / Viton® tubing
8 930 412	1 m, for tubing 12 mm ID	CR® / Viton® tubing



Tube clamps

Order no.	Description	Suitable for
8 970 480	2 Tube clamps, size 1	CR® / Viton® tubing 8 mm ID
8 970 481	2 Tube clamps, size 2	CR® / Viton® tubing 10 - 12 mm ID

Metal tubing flexible, insulated, (-50 °C … +200 °C)

Order no.	Description	Suitable for
8 930 220	0.5 m metal tubing, 2 fittings M16×1 female	DYNEO
8 930 221	1 m metal tubing, 2 fittings M16×1 female	DYNEO
8 930 222	1.5 m metal tubing, 2 fittings M16×1 female	DYNEO
8 930 223	3 m metal tubing, 2 fittings M16×1 female	DYNEO
8 930 224	2 m metal tubing, 2 fittings M16×1 female	DYNEO

Adapters and connectors

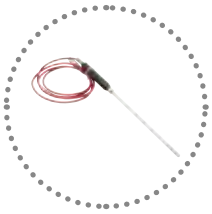
Order no.	Description	Suitable for
8 970 446	2 Barbed fittings for tubing 8 mm ID	DYNEO
8 970 447	2 Barbed fittings for tubing 10 mm ID	DYNEO
8 970 445	2 Barbed fittings for tubing 12 mm ID	DYNEO
8 970 443	1 Adapter M16×1 male to M16×1 male	DYNEO
8 970 490	2 Collar nuts M16×1 female	DYNEO
8 970 442	2 Elbow fittings 90°, M16×1 female/male	DYNEO
8 970 448	2 Elbow fittings 90°, M16×1 male/female, side length 1 × 54 mm / 1 × 120 mm	DYNEO
8 890 004	2 Adapters M16×1 female to NPT 1/4" male	DYNEO
8 890 005	2 Adapters M16×1 female to NPT 1/4" female	DYNEO
8 890 006	2 Adapters M16×1 female to NPT 3/8" male	DYNEO
8 890 007	2 Adapters M16×1 female to NPT 3/8" female	DYNEO
8 890 008	2 Adapters M16×1 female to NPT 1/2" male	DYNEO
8 890 009	2 Adapters M16×1 female to NPT 1/2" female	DYNEO
8 890 010	2 Adapters M16×1 male to NPT 1/4" female	DYNEO
8 891 008	1 Adapter M16×1 male to BSP 1/2" female	DYNEO
8 891 009	1 Adapter M16×1 male to BSP 3/4" female	DYNEO
8 890 011	2 Adapters M16×1 female to tube 1/4" male	DYNEO
8 890 012	2 Adapters M16×1 female to tube 3/8" male	DYNEO
8 890 013	2 Adapters M16×1 female to tube 1/2" male	DYNEO
8 890 024	2 Adapters M16×1 female to M16×1 female	DYNEO

Shut-off valves for loop circuit

Order no.	Description	Suitable for
8 970 456	Shut-off valve (-10 °C ... +100 °C), M16×1	DYNEO
8 970 457	Shut-off valve (-30 °C ... +200 °C), M16×1	DYNEO
8 970 850	Shut-off valve (-60...+200°C), M16×1	DYNEO

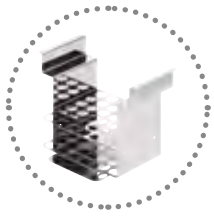
Distributing adapters

Order no.	Description	Suitable for
8 970 470	Twin distributing adapter with barbed fittings	Tubing 8 mm ID
8 970 471	Twin distributing adapter with barbed fittings	Tubing 12 mm ID
8 970 472	Twin distributing adapter with barbed fittings	Tubing 10 mm ID
8 970 473	Twin distributing adapter M16×1 female to 2 × M16×1 male	DYNEO



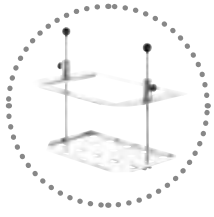
External Pt100 sensors

Order no.	Description	Suitable for
8 981 003	External Pt100 sensor, 200 × 6 mm, diameter, st. steel, 1.5 m cable	DYNEO
8 981 006	External Pt100 sensor, 20 × 2 mm, st. steel, 1,5 m cable	DYNEO
8 981 010	External Pt100 sensor, 300 × 6 mm, diameter, st. steel, 1.5 m cable	DYNEO
8 981 013	External Pt100 sensor, 600 × 6 mm, st. steel/PTFE coated, 3 m cable	DYNEO
8 981 014	External Pt100 sensor, 1200 × 6 mm, st.steel/PTFE coated, 3 m cable	DYNEO
8 981 015	External Pt100 sensor, 300 × 6 mm, st.steel/PTFE coated, 3 m cable. Usable for working temperatures from -75 °C to 250 °C. Without handle.	DYNEO
8 981 016	External Pt100 sensor, 900 × 6 mm, st.steel/PTFE coated, 3 m cable. Usable for working temperatures from -75 °C to 250 °C. Without handle.	DYNEO
8 981 017	External Pt100 sensor 200 × 6 mm, st.steel/PTFE coated, 3 m cable. Usable for working temperatures from -75 to +250 °C. Without handle	DYNEO
8 981 020	M+R in-line Pt100 sensor, 1.5 m cable (measurement and control in external system).	DYNEO
8 981 103	3.5 m Extension cable for Pt100 sensor, Lemosa-type.	DYNEO



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

Order no.	Description	Suitable for
9 970 320	Test tube rack for 30 tubes 100 × 17 mm dia.	DD-200F, DD-201F, DD-300F, DD-310F, DD-450F
9 970 321	Test tube rack for 42 tubes 75 × 12/13 mm dia.	DD-200F, DD-201F, DD-300F, DD-310F, DD-450F
9 970 322	Test tube rack for 42 tubes 40 × 10/11 mm dia.	DD-200F, DD-201F, DD-300F, DD-310F, DD-450F
9 970 323	Test tube rack for 10 Falcon tubes 50 ml	DD-200F, DD-201F, DD-300F, DD-310F, DD-450F



Immersion-height adjustable platforms

Order no.	Description	Suitable for
9 970 506	Immersion-height adjustable platform	DD-449F, DD-900F

Castor platform

Order No.	Description	Suitable for
8 910 040	Castor platform	DYNEO

Connection plugs

Order no.	Description	Suitable for
8 980 131	External Pt100 sensor plug	DYNEO
8 980 133	STANDBY plug, 3-pin	DYNEO with analog interfaces (option)
8 980 135	Alarm plug, 5-pin	DYNEO with analog interfaces (option)
8 980 136	REG-EPROG plug 6-pin	DYNEO with analog interfaces (option)

Software and hardware for instrument control, data recording and visualization, interfaces

Order no.	Description	Suitable for
8 901 102	EasyTEMP Software (free of charge at www.julabo.com)	DYNEO
8 901 105	EasyTEMP Professional Software, incl. USB Dongle	DYNEO
9 900 110	USB cable 2 m, type A-B	DYNEO
9 900 112	USB 2.0 repeater extension cable, length = 5 m	DYNEO
9 900 114	USB 2.0 repeater extension cable, length = 10 m	DYNEO
8 980 073	RS232 interface cable, length 2.5 m with 9-pin plug/9-pin socket	DYNEO with RS232 interface (option)
8 980 074	RS232 interface cable, length 5 m with 9-pin plug/9-pin socket	DYNEO with RS232 interface (option)
8 980 031	Ethernet / RS232 interface converter	DYNEO with RS232 interface (option)
8 980 032	Ethernet / RS232 interface converter for up to 4 JULABO instruments	DYNEO with RS232 interface (option)
8 980 033	Ethernet / RS232 interface converter for up to 8 JULABO instruments	DYNEO with RS232 interface (option)

Calibration and Manufacturer's Certificates

Order no.	Description	Suitable for
8 902 901	1-point manufacturer's calibration certificate	DYNEO
8 902 903	3-point manufacturer's calibration certificate	DYNEO
8 902 905	5-point manufacturer's calibration certificate	DYNEO
8 903 025	Manufacturer's Testing Certificate for JULABO Units, Category 2	DYNEO

IQ / OQ Documentation

Order no.	Description	Suitable for
2 310 120	IQ / OQ Documentation, Category 2	DYNEO

Maintenance

Order no.	Description	Suitable for
2 350 102	Maintenance JULABO Units, Category 2 Maintenance includes preventive measures that help to maintain functionality, to minimize downtime as well as costs. A JULABO maintenance comprises works such as visual inspection, cleaning, functional test and includes a maintenance report.	DYNEO