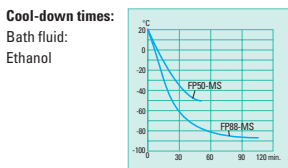


Combinatorial chemistry, reaction systems, petro-analysis

For temperature control of systems requiring strong pumps and high flow rates

- Energy-saving proportional cooling control
- Active Cooling Control throughout the entire temperature range
- Removable venting grid
- Front drain accessibility
- Heated bath cover plate on FP88-MS



JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW	Cooling capacity kW (Bath fluid: Ethanol)	Pump capacity Flow rate/Press. l/min. bar	Bath opening/ bath depth WxL/ D cm	Filling vol. liters	Dimensions W x L x H cm	Weight kg
9 238 650	FP50-MS	-50 ... +100	±0.02	1.3	0.9 0.8 0.5 0.16 -- --	22 0.9	18 x 12 / 15	5.5 ... 8	42 x 49 x 74	57
9 238 688	FP88-MS	-88 ... +100	±0.05	1.3	1.1 0.96 0.92 0.73 0.59 0.15	22 0.9	13 x 15 / 16	5.5 ... 8	55 x 61 x 92	121

Refrigerated/Ultra-Low Refrigerated Circulators

Technical features (see fold-out page)

JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW	Cooling capacity kW (Bath fluid: Ethanol)	Pump capacity Flow rate / Pressure l/min. bar	Bath opening/ bath depth W x L / D cm	Filling volume liters	Dimensions W x L x H cm	Weight kg
9 238 650	FP50-MS	-50 ... +100	±0.02	1.3	0.9 0.8 0.5 0.16 -- --	22 0.9	18 x 12 / 15	5.5 ... 8	42 x 49 x 74	57
9 238 688	FP88-MS	-88 ... +100	±0.05	1.3	1.1 0.96 0.92 0.73 0.59 0.15	22 0.9	13 x 15 / 16	5.5 ... 8	55 x 61 x 92	121

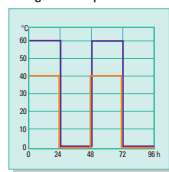
Included with each unit: 2 each barbed fittings for tubing 8 and 12 mm inner dia. (pump connections M16x1 male)
Voltage: Available in 230V/50Hz or 230V/60Hz

Beer Forcing Test Refrigerated/Heating Circulating Bath

For simulating the beer aging process to determine the 'best before' date

- Temperature and time-dependent test ramps according to forcing test already pre-programmed
- Program modification possible any time
- Built-in counter for temperature cycles
- Large bath opening with insert for 20 bottles of beer each 0.5 liters
- Removable Plexiglas® cover

Forcing test Program steps



JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW	Cooling capacity kW (Bath fluid: Ethanol)	Pump capacity Flow rate / Pressure l/min. bar	Bath opening/ bath depth W x L / D cm	Filling volume liters	Dimensions W x L x H cm	Weight kg
9 160 638	F38-ME	-38 ... 80	±0.05	2	0.92 0.66 0.32	11-16 0.23-0.45	35 x 41 / 27	45	46 x 70 x 89	72

Technical features

9 198 500	9 198 500	9 198 500	9 198 500	9 198 500	9 198 500	9 198 500	9 198 500	9 198 500	9 198 500	9 198 500
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Voltage: Available in 230V/50Hz or 230V/60Hz

For MOCVD applications

for temperature control of bubblers in the circulator bath

Benefits:

- Ventilation-air-cooling, instead of water-cooling
- Bath openings for one or two bubblers
- Active Cooling Control throughout the entire temperature range
- Removable venting grid
- Front drain accessibility



Model selection:	Usable bath depth:
FS20-MA / FW20-MA:	180 mm
FS30-MA / FW30-MA:	230 mm

JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW ¹⁾	Cooling capacity kW (Bath fluid: Ethanol)	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ bath depth W x L / D cm	Fill. vol. liters	Dimensions W x D x H cm	Weight kg
9 150 622	FS20-MA	-25 ... +80	±0.02	2 / 1	0.26 0.2 0.06	11-16 0.45	11 x 11 / 20	5 ... 7	23 x 42 x 66	34
9 150 636	FS30-MA	-30 ... +80	±0.02	2 / 1	0.46 0.34 0.15	11-16 0.45	22 x 14 / 25	12 ... 15	31 x 42 x 75	42

Refrigerated/Heating Circulators

Technical features (see fold-out page)

JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW	Cooling capacity kW (Bath fluid: Ethanol)	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ bath depth W x L / D cm	Fill. vol. liters	Dimensions W x D x H cm	Weight kg
9 150 622	FS20-MA	-25 ... +80	±0.02	2 / 1	0.26 0.2 0.06	11-16 0.45	11 x 11 / 20	5 ... 7	23 x 42 x 66	34
9 150 636	FS30-MA	-30 ... +80	±0.02	2 / 1	0.46 0.34 0.15	11-16 0.45	22 x 14 / 25	12 ... 15	31 x 42 x 75	42

water-cooled models

JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW	Cooling capacity kW (Bath fluid: Ethanol)	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ bath depth W x L / D cm	Fill. vol. liters	Dimensions W x D x H cm	Weight kg
9 150 623	FW20-MA	-25 ... +80	±0.02	2 / 1	0.26 0.2 0.06	11-16 0.45	11 x 11 / 20	5 ... 7	23 x 42 x 66	34
9 150 635	FW30-MA	-30 ... +80	±0.02	2 / 1	0.46 0.34 0.15	11-16 0.45	22 x 14 / 25	12 ... 15	31 x 42 x 75	42

¹⁾ At voltage: 230V/50Hz / 115V/60Hz

Refrigerators for Chemicals with explosion-proof interior

Storing and cooling of hazardous substances

- Self-protecting control circuit
- Digital temperature indication (LED)
- Overload protection for cooling compressor with test button
- Working and safety sensors are protected against short-circuit and disconnection
- Cut-off in case of disturbance with optical signal



JULABO Order No.	JULABO Model	Working temp. range °C	Temperature selection / Temp. display	Temp. stability °C	Volumetric capacity liters	Inner dimensions W x L x H cm	Outer dimensions W x L x H cm	Weight kg
8 800 705	KRC50	-2 ... +12	Analog / LED	±1	50	42 x 31 x 39	53 x 63 x 54	23
8 800 718	KRC180	-2 ... +12	Analog / LED	±1	180	52 x 40 x 70	60 x 64 x 86	35

Voltage: Available in 230V/50Hz