



TopTech Series

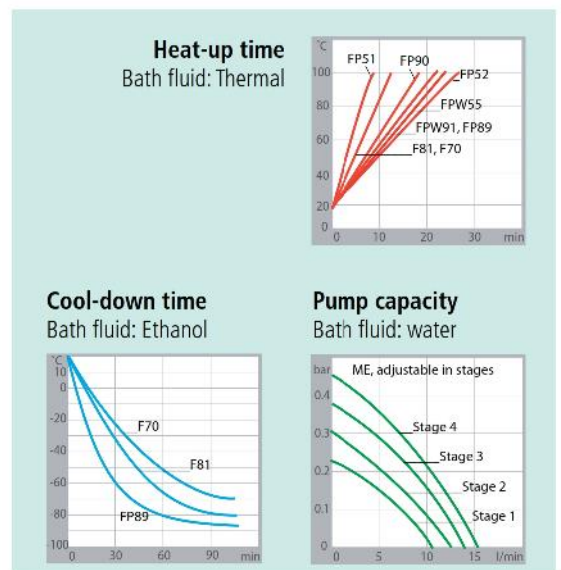
for working temperatures from -90 °C to +100 °C
with bath openings for internal/external applications

The TopTech Ultra-Low circulators are equipped with a dual-stage compressor refrigeration system for continuous operation of internal and external applications.

Models with ME circulators

- Heated bath cover plate to prevent condensation and ice build-up
- Pressure pump up to 0.45 bar, electronically adjustable
- ACC Active Cooling Control across the entire temperature range
- Compact design

Note: FP models feature an energy-saving proportional cooling control



JULABO Order No.	JULABO Model	Working temperature range °C	Temp. stab. °C	Heat. cap. kW	Cooling capacity kW (Bath fluid: Ethanol)						Pump cap./Flow rate		Fill. vol. liters	Dimensions W x L x H cm
					+20	0	-20	-40	-60	-80 °C	l/min.	Pressure bar		
9 162 670	F70-ME	-70 ... +100	±0.02	1.3	0.34	0.22	0.17	0.13	0.07	--	11-16	0.23-0.45	4.5	42 x 54 x 71
9 162 681	F81-ME	-81 ... +100	±0.02	1.3	0.45	0.38	0.36	0.32	0.27	0.07	11-16	0.23-0.45	6.5	50 x 58 x 88
9 162 689	FP89-ME	-90 ... +100	±0.02	1.3	1.0	0.92	0.88	0.75	0.58	0.20	11-16	0.23-0.45	8	55 x 60 x 90

Included with each unit: 2 each barbed fittings for tubing 8 and 12 mm inner dia. (pump connections M16x1 male)





| FP51-SL

| FP89-HL

Applications

Freezing point determination, calibration at low temperatures, Petroleum testing, ultra-low temperature cell culture storage

HighTech Series

for working temperatures from -91 °C to +200 °C
with large bath openings for internal/external applications

The top-of-the-line HighTech ultra-low refrigerated circulators HL, SL feature a powerful pressure and suction pump. The instruments provide sophisticated technology and maximum functionality for the most demanding applications.

Models with HL, SL circulators

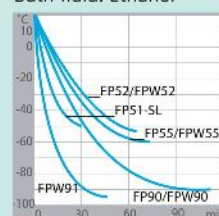
- Energy saving proportional cooling control
- ACC Active Cooling Control for the entire temperature range
- Heated bath cover to prevent condensation and ice build-up
- Pressure and suction pump up to 1.1 bar, electronically adjustable
- SL models with a heating capacity of 3 kW for rapid heat-up

Bath opening

JULABO Model	Dimensions bath opening W x L / Bath depth
F70	12 x 12 / 13 cm
FP51	18 x 12 / 20 cm
F81, FP89	13 x 15 / 16 cm
FP(W)52/55/90/91	28 x 23 / 22 cm

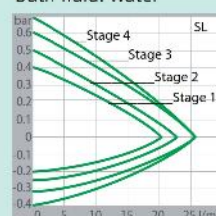
Cool-down time

Bath fluid: Ethanol



Pump capacity

Bath fluid: water



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					+20	0	-20	-40	-60	-80 °C	Pressure l/min.	Suction bar	bar		
9 352 751	FP51-SL	-51 ... +200	±0.05	3	2.0	1.5	1.0	0.26	--		22-26	0.4-0.7	0.2-0.4	11	46 x 55 x 89
9 352 752	FP52-SL	-60 ... +100	±0.05	3	3.0	2.8	1.6	0.65	0.1		22-26	0.4-0.7	0.2-0.4	24	59 x 76 x 116
9 352 755	FP55-SL	-60 ... +100	±0.05	3	5.2	4.1	2.2	0.70	0.13		22-26	0.4-0.7	0.2-0.4	27	85 x 76 x 116
9 312 681	F81-HL	-81 ... +100	±0.02	1.3	0.45	0.38	0.36	0.32	0.27	0.07	22-26	0.4-0.7	0.2-0.4	6.5	50 x 58 x 89
9 312 689	FP89-HL	-90 ... +100	±0.02	1.3	1.0	0.92	0.88	0.75	0.58	0.20	22-26	0.4-0.7	0.2-0.4	8	55 x 60 x 92
9 352 790	FP90-SL	-90 ... +100	±0.05	3	1.8	1.7	1.6	1.35	0.75	0.15	22-26	0.4-0.7	0.2-0.4	22	59 x 76 x 116
water-cooled models															
9 352 753	FPW52-SL	-60 ... +100	±0.05	3	3.0	2.8	1.6	0.65	0.1		22-26	0.4-0.7	0.2-0.4	24	59 x 76 x 116
9 352 756	FPW55-SL	-60 ... +100	±0.05	3	5.5	4.1	2.2	1.0	0.13		22-26	0.4-0.7	0.2-0.4	27	59 x 76 x 116
9 352 791	FPW90-SL	-90 ... +100	±0.05	3	1.8	1.7	1.6	1.35	0.75	0.15	22-26	0.4-0.7	0.2-0.4	22	59 x 76 x 116
9 352 793	FPW91-SL	-91 ... +100	±0.2	3	4.5	4.1	3.7	3.1	2.0	0.75	22-26	0.4-0.7	0.2-0.4	22	85 x 76 x 116

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