

The 'Economy' Series
for working temperatures from -30 °C to +100 °C

- Temperature control applications to external systems
- Simultaneous operation in the circulator bath
- Low noise level



• Active Cooling Control throughout the entire temperature range



• Removable venting grid: Hassle-free cleaning of the condenser

• Drain port easily accessible on the front

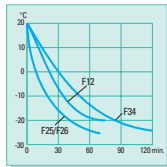
- No side ventilation slots
- Compact design

The 'ED' model combinations are appealing with respect to price/performance. They are suitable for non-flammable bath fluids.

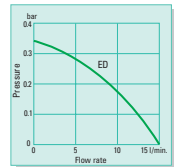
Applications
for the models on pages 20 to 23

- Routine laboratory applications, such as temperature application to samples in the circulator bath
- External temperature control applications to
 - Measuring cells
 - Refractometers
 - Polarimeters
 - Photometers
 - Viscosimeters
 - Fermenters
 - Electrophoresis chambers
 - Chromatography columns
 - Rotary evaporators
 - Rheometers

Cool-down times
Bath fluid: Ethanol



Pump capacity
Bath fluid: Water



Harmony of
Ecology + Economy



JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW ¹⁾	Cooling capacity kW (Bath fluid: Ethanol) 20 0 -20°C	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ Filling volume WxL/D cm liters	Dimensions W x L x H cm	Weight kg
9 115 612	F12-ED	-20 ... 100	±0.03	2 / 1	0.16 0.1 0.02	15 0.35	13 x 15 / 13 4.5	20 x 36 x 56	22
9 115 625	F25-ED	-28 ... 100	±0.03	2 / 1	0.26 0.2 0.06	15 0.35	12 x 14 / 14 4.5	23 x 42 x 61	30
9 115 626	F26-ED	-28 ... 100	±0.03	2 / 1	0.26 0.2 0.06	15 0.35	12 x 14 / 14 4.5	42 x 42 x 42	30
9 115 634	F34-ED	-30 ... 100	±0.03	2 / 1	0.45 0.32 0.14	15 0.35	24 x 30 / 15 2.0	38 x 58 x 62	41

Refrigerated/Heating Circulators

Technical features (see fold-out page)



JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW ¹⁾	Cooling capacity kW (Bath fluid: Ethanol) 20 0 -20°C	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ Filling volume WxL/D cm liters	Dimensions W x L x H cm	Weight kg
9 115 612	F12-ED	-20 ... 100	±0.03	2 / 1	0.16 0.1 0.02	15 0.35	13 x 15 / 13 4.5	20 x 36 x 56	22
9 115 625	F25-ED	-28 ... 100	±0.03	2 / 1	0.26 0.2 0.06	15 0.35	12 x 14 / 14 4.5	23 x 42 x 61	30
9 115 626	F26-ED	-28 ... 100	±0.03	2 / 1	0.26 0.2 0.06	15 0.35	12 x 14 / 14 4.5	42 x 42 x 42	30
9 115 634	F34-ED	-30 ... 100	±0.03	2 / 1	0.45 0.32 0.14	15 0.35	24 x 30 / 15 2.0	38 x 58 x 62	41

Included with each unit: 2 each barbed fittings for tubing 8 and 10 mm inner dia. (pump connections M10x1 female)

¹⁾ At voltage 230V/50Hz / 115V/60Hz
F12/F25-ED: At voltage 230V/50Hz or 230V/60Hz / 115V/60Hz

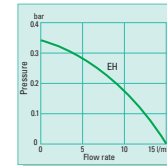
The 'Economy' Series
for working temperatures from -35 °C to +150 °C

Benefits of the 'EH' model combinations:

- Extended working temperature ranges
- Suitable for use with flammable bath fluids
- Classification III according to DIN 12876-1
- Refrigeration unit cut-off in case of a disturbance
- Large model selection

The F38-EH provides an extra large bath tank with large bath depth and is particularly suitable for temperature control applications for large volume objects which require temperature application in the bath.

Pump capacity
Bath fluid: Water



JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW ¹⁾	Cooling capacity kW (Bath fluid: Ethanol) 20 0 -20°C	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ Filling volume W x L / D cm liters	Dimensions W x L x H cm	Weight kg
9 117 612	F12-EH	-20 ... 150	±0.03	2 / 1	0.16 0.1 0.02	15 0.35	13 x 15 / 13 4.5	20 x 36 x 56	22
9 117 625	F25-EH	-28 ... 150	±0.03	2 / 1	0.26 0.2 0.06	15 0.35	12 x 14 / 14 4.5	23 x 42 x 61	30
9 117 632	F32-EH	-35 ... 150	±0.03	2 / 1	0.45 0.38 0.15	15 0.35	18 x 12 / 15 8	31 x 42 x 64	36
9 117 633	F33-EH	-30 ... 150	±0.03	2 / 1	0.5 0.32 0.12	15 0.35	23 x 14 / 20 16	36 x 46 x 69	43
9 117 634	F34-EH	-30 ... 150	±0.03	2 / 1	0.45 0.32 0.14	15 0.35	24 x 30 / 15 20	38 x 58 x 62	41
9 117 638	F38-EH	-35 ... 80	±0.05	2 / 1	0.92 0.66 0.32	15 0.35	35 x 41 / 27 45	46 x 70 x 89	67

Refrigerated/Heating Circulators

Technical features (see fold-out page)



JULABO Order No.	JULABO Model	Working temp. range °C	Temp. stab. °C	Heat. cap. kW ¹⁾	Cooling capacity kW (Bath fluid: Ethanol) 20 0 -20°C	Pump capacity Flow rate/Pressure l/min. bar	Bath opening/ Filling volume W x L / D cm liters	Dimensions W x L x H cm	Weight kg
9 117 612	F12-EH	-20 ... 150	±0.03	2 / 1	0.16 0.1 0.02	15 0.35	13 x 15 / 13 4.5	20 x 36 x 56	22
9 117 625	F25-EH	-28 ... 150	±0.03	2 / 1	0.26 0.2 0.06	15 0.35	12 x 14 / 14 4.5	23 x 42 x 61	30
9 117 632	F32-EH	-35 ... 150	±0.03	2 / 1	0.45 0.38 0.15	15 0.35	18 x 12 / 15 8	31 x 42 x 64	36
9 117 633	F33-EH	-30 ... 150	±0.03	2 / 1	0.5 0.32 0.12	15 0.35	23 x 14 / 20 16	36 x 46 x 69	43
9 117 634	F34-EH	-30 ... 150	±0.03	2 / 1	0.45 0.32 0.14	15 0.35	24 x 30 / 15 20	38 x 58 x 62	41
9 117 638	F38-EH	-35 ... 80	±0.05	2 / 1	0.92 0.66 0.32	15 0.35	35 x 41 / 27 45	46 x 70 x 89	67

Included with each unit: 2 each barbed fittings for tubing 8 and 10 mm inner dia. (pump connections M10x1 female)

¹⁾ At voltage 230V/50Hz / 115V/60Hz
F12/F25-EH: At voltage 230V/50Hz or 230V/60Hz / 115V/60Hz

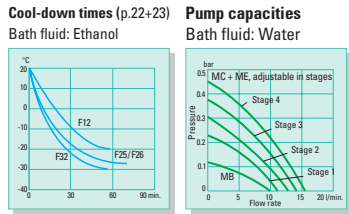
The 'TopTech' Series
for working temperatures from -28 °C to +200 °C

The units of the 'TopTech' series are designed for more demanding applications. They provide increased functionality with menu functions, warning and safety functions, such as

- **early detection system with audible signal** in case of fluid losses or if the setpoint temperature is exceeded.
- **All models with RS232 interface.**

- Active Cooling Control throughout the entire temperature range
- Removable venting grid: Hassle-free cleaning of condenser
- Drain port easily accessible on the front
- Energy-saving proportional cooling control on 'FP' models (page 23)

Please note the technical benefits and differences for the 3 basic models MB, MC and ME.



Rapid cool-down time
even at +200 °C



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	Filling volume liters	Dimensions W x L x H cm	Weight kg
9 140 612	F12-MB	-20 ... 100	±0.02	2 / 1	0.16 0.1	0.02 10	13 x 15 / 13	4.5	20 x 36 x 56	22
9 140 625	F25-MB	-28 ... 100	±0.02	2 / 1	0.26 0.2 0.06	10	12 x 14 / 14	4.5	23 x 42 x 61	30

Refrigerated/Heating Circulators

Technical features (see fold-out page):

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	Filling volume liters	Dimensions W x L x H cm	Weight kg
9 150 612	F12-MC	-20 ... 200	±0.02	2 / 1	0.16 0.1 0.02	11-16 0.23-0.45	13 x 15 / 13	4.5	20 x 36 x 56	23
9 150 625	F25-MC	-28 ... 200	±0.02	2 / 1	0.26 0.2 0.06	11-16 0.23-0.45	12 x 14 / 14	4.5	23 x 42 x 61	31

Technical features (see fold-out page):

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	Filling volume liters	Dimensions W x L x H cm	Weight kg
9 150 612	F12-MC	-20 ... 200	±0.02	2 / 1	0.16 0.1 0.02	11-16 0.23-0.45	13 x 15 / 13	4.5	20 x 36 x 56	23
9 150 625	F25-MC	-28 ... 200	±0.02	2 / 1	0.26 0.2 0.06	11-16 0.23-0.45	12 x 14 / 14	4.5	23 x 42 x 61	31

Technical features: The red framed icons signify the differences to the 'MC' model

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	Filling volume liters	Dimensions W x L x H cm	Weight kg
9 160 625	F25-ME	-28 ... 200	±0.01	2 / 1	0.26 0.2 0.06	11-16 0.23-0.45	12 x 14 / 14	4.5	23 x 42 x 61	31
9 160 626	F26-ME	-28 ... 200	±0.01	2 / 1	0.26 0.2 0.06	11-16 0.23-0.45	12 x 14 / 14	4.5	42 x 42 x 42	31

Included with each unit: 2 each barbed fittings for tubing 8 and 10 mm inner dia. (pump connections M10x1 female)

¹⁾ At voltage 230V/50Hz / 115V/60Hz
F12/F25 combinations: At voltage 230V/50Hz or 230V/60Hz / 115V/60Hz

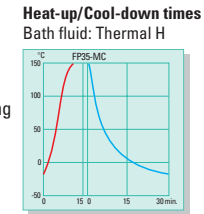
The 'TopTech' Series
for working temperatures from -50 °C to +200 °C

The major benefit of these models is the increased cooling performance. Optionally available with the MC or ME basic circulator:

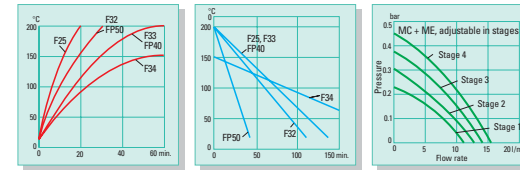
FP35-MC
This refrigerated/heating circulator is designed for

- external temperature applications requiring fast temperature changes (in combination with rheometers for example).

- Benefits**
- Small bath volume
 - Rapid heating and cooling
- Also available as 'HighTech' circulator (page 25)



Heat-up times (p. 22-24) Bath fluid: Thermal H
Cool-down times (p. 21-24) Bath fluid: Thermal H
Pump capacities Bath fluid: Water



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	Filling vol. liters	Dimensions W x L x H cm	Weight kg
9 150 632	F32-MC	-35 ... 200	±0.02	2 / 1	0.45 0.39 0.15 0.05	11-16 0.23-0.45	18 x 12 / 15	8	31 x 42 x 64	37
9 150 633	F33-MC	-30 ... 200	±0.02	2 / 1	0.5 0.32 0.12 0.03	11-16 0.23-0.45	23 x 14 / 20	16	36 x 46 x 69	44
9 150 634	F34-MC	-30 ... 150	±0.02	2 / 1	0.45 0.32 0.14 0.03	11-16 0.23-0.45	24 x 30 / 15	20	38 x 58 x 62	42
9 150 618	FP35-MC	-35 ... 150	±0.02	2 / 1	0.45 0.39 0.15 0.05	11-16 0.23-0.45	18 x 12 / 5	2.5	31 x 42 x 64	37
9 150 640	FP40-MC	-40 ... 200	±0.02	2 / --	0.68 0.5 0.32 0.17 0.04	11-16 0.23-0.45	23 x 14 / 20	16	37 x 46 x 69	48
9 150 650	FP50-MC	-50 ... 200	±0.02	2 / --	0.9 0.8 0.5 0.32 0.16	11-16 0.23-0.45	18 x 12 / 15	8	42 x 49 x 70	55

Technical features (see fold-out page):

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	Filling vol. liters	Dimensions W x L x H cm	Weight kg
9 150 632	F32-MC	-35 ... 200	±0.02	2 / 1	0.45 0.39 0.15 0.05	11-16 0.23-0.45	18 x 12 / 15	8	31 x 42 x 64	37
9 150 633	F33-MC	-30 ... 200	±0.02	2 / 1	0.5 0.32 0.12 0.03	11-16 0.23-0.45	23 x 14 / 20	16	36 x 46 x 69	44
9 150 634	F34-MC	-30 ... 150	±0.02	2 / 1	0.45 0.32 0.14 0.03	11-16 0.23-0.45	24 x 30 / 15	20	38 x 58 x 62	42
9 150 618	FP35-MC	-35 ... 150	±0.02	2 / 1	0.45 0.39 0.15 0.05	11-16 0.23-0.45	18 x 12 / 5	2.5	31 x 42 x 64	37
9 150 640	FP40-MC	-40 ... 200	±0.02	2 / --	0.68 0.5 0.32 0.17 0.04	11-16 0.23-0.45	23 x 14 / 20	16	37 x 46 x 69	48
9 150 650	FP50-MC	-50 ... 200	±0.02	2 / --	0.9 0.8 0.5 0.32 0.16	11-16 0.23-0.45	18 x 12 / 15	8	42 x 49 x 70	55

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	Filling vol. liters	Dimensions W x L x H cm	Weight kg
9 160 632	F32-ME	-35 ... 200	±0.01	2 / 1	0.45 0.39 0.15 0.05	11-16 0.23-0.45	18 x 12 / 15	8	31 x 42 x 64	37
9 160 633	F33-ME	-30 ... 200	±0.01	2 / 1	0.5 0.32 0.12 0.03	11-16 0.23-0.45	23 x 14 / 20	16	36 x 46 x 69	44
9 160 634	F34-ME	-30 ... 150	±0.01	2 / 1	0.45 0.32 0.14 0.03	11-16 0.23-0.45	24 x 30 / 15	20	38 x 58 x 62	42
9 160 640	FP40-ME	-40 ... 200	±0.01	2 / --	0.68 0.5 0.32 0.17 0.04	11-16 0.23-0.45	23 x 14 / 20	16	37 x 46 x 69	48
9 160 650	FP50-ME	-50 ... 200	±0.01	2 / --	0.9 0.8 0.5 0.32 0.16	11-16 0.23-0.45	18 x 12 / 15	8	42 x 49 x 70	55

Included with each unit: 2 each barbed fittings for tubing 8 and 10 mm inner dia. (pump connections M10x1 female)

¹⁾ At voltage 230V/50Hz / 115V/60Hz
FP40, FP50 combinations: At voltage 230V/50Hz or 230V/60Hz

The 'HighTech' Series
for working temperatures from -50 °C to +200 °C

With new pump technology

Benefits of the 'HE' refrigerated circulators:

- Highest precision and display resolution
- VFD COMFORT-DISPLAY for SIMULTANEOUS indication of 3 temperature values
- 'ICC' self-optimizing control electronics
- RS232 interface
- Professional PC connection – bus capability
- Integrated programmer (1 x 10 steps) with real time clock
- Powerful pressure and suction pump with electronically adjustable pump capacity
- Adjustment of pump capacity for varying viscosity levels of bath fluids
- **Early detection system with audible signal** in case of fluid losses or if the setpoint is exceeded

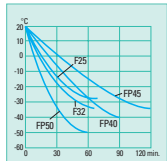


- Active Cooling Control throughout the entire temperature range
- Removable venting grid: Hassle-free cleaning of the condenser
- Drain port easily accessible on the front
- Energy-saving proportional cooling control on 'FP' models

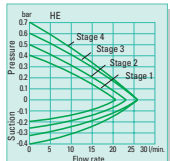


Electronic module with analog connections for all models on pages 24 and 25 (accessory).

Cool-down times (p. 24-25)
Bath fluid: Ethanol



Pump capacities
Bath fluid: Water



Heat-up and cool-down curves with bath fluid Thermal H – page 23!

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 Press. Suction bar	Bath opening/ Fill. vol. WxLxD cm liters	Dimensions W x L x H cm	Weight kg		
9 210 625	F25-HE	-28 ... 200	±0.01	2 / 1	0.26 0.2 0.06	-- --	22-26 0.4-0.7 0.2-0.4	12 x 14 / 14	4.5	23 x 42 x 64	32
9 210 632	F32-HE	-35 ... 200	±0.01	2 / 1	0.45 0.38 0.15 0.06	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 15	8	31 x 42 x 66	38
9 210 634	F34-HE	-30 ... 150	±0.01	2 / 1	0.45 0.32 0.14 0.03	-- --	22-26 0.4-0.7 0.2-0.4	24 x 30 / 15	20	38 x 58 x 64	44
9 210 640	FP40-HE	-40 ... 200	±0.01	2 / --	0.68 0.5 0.32 0.17 0.04	-- --	22-26 0.4-0.7 0.2-0.4	23 x 14 / 20	16	37 x 46 x 71	49
9 210 645	FP45-HE	-42 ... 200	±0.01	2 / --	0.85 0.7 0.42 0.28 0.08	-- --	22-26 0.4-0.7 0.2-0.4	23 x 26 / 20	26	38 x 58 x 69	53
9 210 650	FP50-HE	-50 ... 200	±0.01	2 / --	0.9 0.8 0.5 0.32 0.16	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 15	8	42 x 49 x 72	57

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

¹⁾ F25-HE: At voltage 230V/50Hz or 230V/60Hz / 115V/60Hz
F32/F34-HE: At voltage 230V/50Hz / 115V/60Hz
FP40/FP45/FP50-HE: At voltage 230V/50Hz or 230V/60Hz

The 'HighTech' Series
for working temperatures from -50 °C to +200 °C

Additional features of the top-of-the-line 'HL' circulators compared to the 'HE' combinations are:

- Backlit LCD DIALOG-DISPLAY offers interactive operation in easy-to-read text
- Integrated programmer (6 x 60 program steps) with real time clock
- RS232 / RS485 interface
- Switchable between °C / °F

Applications for the models on pages 24 & 25

- External temperature application processes particularly e.g. a distillation apparatus or a miniplant installation
- Jacketed reaction vessels
- Autoclaves
- Kilo labs

FP35-HL

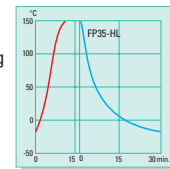
This refrigerated/heating circulator is designed for

- external temperature applications requiring fast temperature changes (in combination with rheometers for example).

Benefits

- Small bath volume
 - Rapid heating and cooling
 - External Pt100 sensor (accessory)
- Also available as 'TopTech' circulator (page 23)

Heat-up/Cool-down times
Bath fluid: Thermal H10S



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 Press. Suction bar	Bath opening/ Fill. vol. WxLxD cm liters	Dimensions W x L x H cm	Weight kg		
9 310 625	F25-HL	-28 ... 200	±0.01	2 / 1	0.26 0.2 0.06	-- --	22-26 0.4-0.7 0.2-0.4	12 x 14 / 14	4.5	23 x 42 x 64	32
9 310 632	F32-HL	-35 ... 200	±0.01	2 / 1	0.45 0.39 0.15 0.05	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 15	8	31 x 42 x 66	38
9 310 633	F33-HL	-30 ... 200	±0.01	2 / 1	0.5 0.32 0.12 0.03	-- --	22-26 0.4-0.7 0.2-0.4	23 x 14 / 20	16	36 x 46 x 71	45
9 310 634	F34-HL	-30 ... 150	±0.01	2 / 1	0.45 0.32 0.14 0.03	-- --	22-26 0.4-0.7 0.2-0.4	24 x 30 / 15	20	38 x 58 x 64	44
9 310 618	FP35-HL	-35 ... 150	±0.01	2 / 1	0.45 0.39 0.15 0.05	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 5	2.5	31 x 42 x 66	38
9 310 640	FP40-HL	-40 ... 200	±0.01	2 / --	0.68 0.5 0.32 0.17 0.04	-- --	22-26 0.4-0.7 0.2-0.4	23 x 14 / 20	16	37 x 46 x 71	49
9 310 645	FP45-HL	-42 ... 200	±0.01	2 / --	0.85 0.7 0.42 0.28 0.08	-- --	22-26 0.4-0.7 0.2-0.4	23 x 26 / 20	26	38 x 58 x 69	53
9 310 650	FP50-HL	-50 ... 200	±0.01	2 / --	0.9 0.8 0.5 0.32 0.16	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 15	8	42 x 49 x 72	57

Technical features: The red framed icons signify the differences to the 'HE' model



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 Press. Suction bar	Bath opening/ Fill. vol. WxLxD cm liters	Dimensions W x L x H cm	Weight kg		
9 310 625	F25-HL	-28 ... 200	±0.01	2 / 1	0.26 0.2 0.06	-- --	22-26 0.4-0.7 0.2-0.4	12 x 14 / 14	4.5	23 x 42 x 64	32
9 310 632	F32-HL	-35 ... 200	±0.01	2 / 1	0.45 0.39 0.15 0.05	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 15	8	31 x 42 x 66	38
9 310 633	F33-HL	-30 ... 200	±0.01	2 / 1	0.5 0.32 0.12 0.03	-- --	22-26 0.4-0.7 0.2-0.4	23 x 14 / 20	16	36 x 46 x 71	45
9 310 634	F34-HL	-30 ... 150	±0.01	2 / 1	0.45 0.32 0.14 0.03	-- --	22-26 0.4-0.7 0.2-0.4	24 x 30 / 15	20	38 x 58 x 64	44
9 310 618	FP35-HL	-35 ... 150	±0.01	2 / 1	0.45 0.39 0.15 0.05	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 5	2.5	31 x 42 x 66	38
9 310 640	FP40-HL	-40 ... 200	±0.01	2 / --	0.68 0.5 0.32 0.17 0.04	-- --	22-26 0.4-0.7 0.2-0.4	23 x 14 / 20	16	37 x 46 x 71	49
9 310 645	FP45-HL	-42 ... 200	±0.01	2 / --	0.85 0.7 0.42 0.28 0.08	-- --	22-26 0.4-0.7 0.2-0.4	23 x 26 / 20	26	38 x 58 x 69	53
9 310 650	FP50-HL	-50 ... 200	±0.01	2 / --	0.9 0.8 0.5 0.32 0.16	-- --	22-26 0.4-0.7 0.2-0.4	18 x 12 / 15	8	42 x 49 x 72	57

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

¹⁾ F25-HL: At voltage 230V/50Hz or 230V/60Hz / 115V/60Hz
F32/F33/F34/FP35-HL: At voltage 230V/50Hz / 115V/60Hz
FP40/FP45/FP50-HL: At voltage 230V/50Hz or 230V/60Hz