



Julabo FL Series Datasheet

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Product data sheet

FL300 Recirculating Coolers for installation below a lab bench



The compact FL models are suited for a wide variety of cooling tasks. Installation under a lab bench saves valuable space. 2 variants: Air-cooled (FL) and water-cooled (FLW).



Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line +80°C
- Easy filling and Drain tap easily accessible
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable ventilation grid
- Front drain
- No side vents, instruments can be placed right next to other equipment
- RS232 interface for PC connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)

Technical data

Available voltage versions		Bath	
Order No.	9 660 003	Bath tank	Stainless steel
Available voltage versions:			
9 660 003.01	100V/50-60Hz (Nema N5-15 Plug)		
9 660 003.13	230V/60Hz (Schuko Plug - CEE 7/4 Plug Type F)		
9 660 003.02	115V/60Hz (Nema N5-15 Plug)		
9 660 003.03	230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)		
9 660 003.04	230V/50Hz (UK Plug Type BS1363A)		
9 660 003.05	230V/50Hz (CH Plug Type SEV 1011)		
Cooling		Other	
Cooling of compressor	1-stage Air	Sound pressure level dbA	55
		Classification	Classification I (NFL)
		IP Code	IP 21
		Pump type	Centrifugal Pump
Electronics		Dimensions and volumes	
Temperature control	PID1	Weight lbs	77.2
Temperature display	LED	Barbed fittings inner diameter	8/12 mm
Temperature setting	Keypad	Dimensions in. (W x L x H)	9.8 x 19.7 x 23.6
		Filling volume l	3 ... 4.5
		Pump connections	M16x1 male
Temperature values			
Setting the resolution of the temperature display °C	0.1		
Return flow temperature max. °C	80		

Working temperature range °C	-20 ... +40
Temperature stability °C	±0.5
Ambient temperature °C	5 ... 40
Temperature display resolution °C	0.1



Performance values

100V/50-60Hz (Nema N5-15 Plug)

100V/50Hz						100V/60Hz					
Cooling capacity (Water Glycol)						Cooling capacity (Water Glycol)					
°C	20	10	0	-10	-20	°C	20	10	0	-10	-20
kW	0.3	0.25	0.2	0.15	0.1	kW	0.3	0.25	0.2	0.15	0.1
Refrigerant	R134a					Refrigerant	R134a				
Filling volume g	140					Filling volume g	140				
Global Warming Potential for R134a	1430					Global Warming Potential for R134a	1430				
Carbon dioxide equivalent t	0.2					Carbon dioxide equivalent t	0.2				
Pump capacity flow rate l/min	15					Pump capacity flow rate l/min	15				
Pump capacity flow pressure bar	5.1					Pump capacity flow pressure bar	5.1				

230V/60Hz (Schuko Plug - CEE 7/4 Plug Type F)

220V/60Hz					
Cooling capacity (Water Glycol)					
°C	20	10	0	-10	-20
kW	0.3	0.25	0.2	0.15	0.1
Refrigerant	R134a				
Filling volume g	160				
Global Warming Potential for R134a	1430				
Carbon dioxide equivalent t	0.229				
Pump capacity flow rate l/min	15				
Pump capacity flow pressure bar	5.1				

115V/60Hz (Nema N5-15 Plug)

115V/60Hz					
Cooling capacity (Water Glycol)					
°C	20	10	0	-10	-20
kW	0.3	0.25	0.2	0.15	0.1
Refrigerant	R134a				
Filling volume g	155				
Global Warming Potential for R134a	1430				
Carbon dioxide equivalent t	0.222				
Pump capacity flow rate l/min	15				
Pump capacity flow pressure bar	5.1				

230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)

230V/50Hz

Cooling capacity (Water Glycol)

°C	20	10	0	-10	-20
kW	0.3	0.25	0.2	0.15	0.1

Refrigerant R134a

Filling volume g 133

Global Warming Potential for R134a 1430

Carbon dioxide equivalent t 0.19

Pump capacity flow rate l/min 15

Pump capacity flow pressure bar 5.1



230V/50Hz (UK Plug Type BS1363A)

230V/50Hz

Cooling capacity (Water Glycol)

°C	20	10	0	-10	-20
kW	0.3	0.25	0.2	0.15	0.1

Refrigerant R134a

Filling volume g 133

Global Warming Potential for R134a 1430

Carbon dioxide equivalent t 0.19

Pump capacity flow rate l/min 15

Pump capacity flow pressure bar 5.1

230V/50Hz (CH Plug Type SEV 1011)

230V/50Hz

Cooling capacity (Water Glycol)

°C	20	10	0	-10	-20
kW	0.3	0.25	0.2	0.15	0.1

Refrigerant R134a

Filling volume g 133

Global Warming Potential for R134a 1430

Carbon dioxide equivalent t 0.19

Pump capacity flow rate l/min 15

Pump capacity flow pressure bar 5.1

All Benefits



Precise
PID Temperature control with set control parameters, temperature stability $\pm 0.02 \dots \pm 0.2$ °C



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FL1703 Recirculating Cooler

Recirculating Cooler/Chiller for environmentally friendly cooling

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The temperature stability of the PID control is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removable venting grid allows an easy cleaning of the condenser, the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).



Made in Germany

Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Filling level indicator
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line $+80^{\circ}\text{C}$
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable venting grid for cleaning of the condenser
- Front drain
- No side vents
- RS232 interface for PC-connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure

Technical Data

Order No.	9663017				
Model series	FL Series				
Category	Recirculating Coolers				
Working temperature range ($^{\circ}\text{C}$)	-20 ... +40				
Temperature stability ($^{\circ}\text{C}$)	± 0.5				
Setting / display resolution	0.1 $^{\circ}\text{C}$				
Temperature Display	LED				
Cooling capacity (Medium Ethanol)	$^{\circ}\text{C}$	20	0	-10	-20
	kW	1.7	1	0.75	0.3
Pump capacity flow rate (l/min)	40				

Pump capacity flow pressure (psi)	7.25...43.51
Pump connections	G3/4"
Barbed fittings diameter (inner dia. / mm)	3/4"
Filling volume liters	12 ... 17
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	690
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	1.477
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	19.7 x 29.9 x 25.2
Weight (LBS)	201
Included with each unit	2 barbed fittings for tubing 3/4" inner dia. (pump connections G3/4" male)
Cooling of compressor	Air
Power requirement V / Hz / A	230/60/11
Available voltage versions	230 V / 50 Hz 230 V / 60 Hz

Suitable fluids: water, water-glycol mixture, JULABO Thermal bath fluids
Kältemittelangaben gelten für die 50 Hz-Version.

Characteristics

Display



Easy to read

Large LED temperature display for actual value and setpoint (resolution 0.1 °C)

Refrigeration Technology



Consistent cooling capacity

Easily removable venting grid for quick and easy cleaning

Operation



Simple and fast

Convenient 3-key setpoint adjustment (FL models)

Technical Features



Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

Temperature Control



Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02 \dots \pm 0.2$ °C

FL2503 Recirculating Cooler

Recirculating Cooler/Chiller for environmentally friendly cooling

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The temperature stability of the PID control is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removable venting grid allows an easy cleaning of the condenser, the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).



Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Filling level indicator
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line $+80^{\circ}\text{C}$
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable venting grid for cleaning of the condenser
- Front drain
- No side vents
- RS232 interface for PC-connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure

Technical Data

Order No.	9663025				
Model series	FL Series				
Category	Recirculating Coolers				
Working temperature range ($^{\circ}\text{C}$)	-20 ... +40				
Temperature stability ($^{\circ}\text{C}$)	± 0.5				
Setting / display resolution	0.1 $^{\circ}\text{C}$				
Temperature Display	LED				
Cooling capacity (Medium Ethanol)	$^{\circ}\text{C}$	20	0	-10	-20
	kW	2.5	1.5	1.2	0.55
Pump capacity flow rate (l/min)	40				

Pump capacity flow pressure (psi)	7.25...43.51
Pump connections	G3/4"
Barbed fittings diameter (inner dia. / mm)	3/4"
Filling volume liters	24 ... 30
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	1510
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	3.231
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	23.6 x 29.9 x 45.3
Weight (LBS)	271
Sound pressure level (distance 1 m) max. (dBA)	64
Included with each unit	2 barbed fittings for tubing 3/4" inner dia. (pump connections G3/4" male) /4" Außengewinde)
Cooling of compressor	Air
Power requirement V / Hz / A	230/60/13
Available voltage versions	230 V / 50 Hz 230 V / 60 Hz

Suitable fluids: water, water-glycol mixture, JULABO Thermal bath fluids
Kältemittelangaben gelten für die 50 Hz-Version.

Characteristics

Display



Easy to read

Large LED temperature display for actual value and setpoint (resolution 0.1 °C)

Refrigeration Technology



Consistent cooling capacity

Easily removable venting grid for quick and easy cleaning

Operation



Simple and fast

Convenient 3-key setpoint adjustment (FL models)

Technical Features



Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

Temperature Control



Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02... \pm 0.2$ °C



FL2506 Powerful model in tower version

The FL models shown here have higher cooling capacity, powerful circulating pumps, and internal bath volumes of up to 30 liters. 2 variants: Air-cooled (FL) and water-cooled (FLW).



- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Precise PID temperature control
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line +80°C
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable ventilation grid
- Front drain
- No side vents, instruments can be placed right next to other equipment
- RS232 interface for PC connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure

Technical data

Available voltage versions		Bath	
Order No.	9 666 025	Bath tank	Stainless steel
Available voltage versions:			
9 666 025.13	230V/60Hz (Nema N6-20 Plug)		
9 666 025.03	230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)		
Cooling		Other	
Cooling of compressor	1-stage Air	Sound pressure level dbA	64
		Classification	Classification I (NFL)
		IP Code	IP 21
		Pump type	Immersion Pump
Electronics		Dimensions and volumes	
Temperature control	PID1	Weight lbs	348.3
Temperature display	LED	Barbed fittings inner diameter	1"
Temperature setting	Keypad	Dimensions in. (W x L x H)	23.6 x 29.9 x 45.3
		Filling volume l	24 ... 30
		Pump connections	G1¼" male
Temperature values			
Setting the resolution of the temperature display °C	0.1		
Return flow temperature max. °C	80		
Working temperature range °C	-15 ... +40		
Temperature stability °C	±0.5		
Ambient temperature °C	5 ... 40		

Temperature display resolution °C	0.1
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Performance values

230V/60Hz (Nema N6-20 Plug)

208V/60Hz					230V/60Hz				
Cooling capacity (Water Glycol)					Cooling capacity (Water Glycol)				
°C	20	10	0	-10	°C	20	10	0	-10
kW	2.5	1.9	1	0.3	kW	2.5	1.9	1	0.3
Refrigerant	R404A				Refrigerant	R404A			
Filling volume g	1400				Filling volume g	1400			
Global Warming Potential for R404A	3922				Global Warming Potential for R404A	3922			
Carbon dioxide equivalent t	5.491				Carbon dioxide equivalent t	5.491			
Pump capacity flow rate l/min	60				Pump capacity flow rate l/min	60			
Pump capacity flow pressure psi	7.3 ... 87				Pump capacity flow pressure psi	7.3 ... 87			

230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)

230V/50Hz				
Cooling capacity (Water Glycol)				
°C	20	10	0	-10
kW	2.5	1.9	1	0.3
Refrigerant	R452A			
Filling volume g	1510			
Global Warming Potential for R452A	2140			
Carbon dioxide equivalent t	3.231			
Pump capacity flow rate l/min	60			
Pump capacity flow pressure psi	7.3 ... 87			

All Benefits



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Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02 \dots \pm 0.2$ °C

Product data sheet



FL4003 Powerful model in tower version

The FL models shown here have higher cooling capacity, powerful circulating pumps, and internal bath volumes of up to 30 liters. 2 variants: Air-cooled (FL) and water-cooled (FLW).



Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Precise PID temperature control
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line +80°C
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable ventilation grid
- Front drain
- No side vents, instruments can be placed right next to other equipment
- RS232 interface for PC connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure

Technical data

Available voltage versions		Bath	
Order No.	9 663 040	Bath tank	Stainless steel
Available voltage versions:			
9 663 040.16	230V/3PPE/60Hz (Without Plug)		
9 663 040.07	400V/3PNPE/50Hz (Plug 16A CEE)		
Cooling		Other	
Cooling of compressor	1-stage Air	Sound pressure level dbA	67
		Classification	Classification I (NFL)
		IP Code	IP 21
		Pump type	Immersion Pump
Electronics		Dimensions and volumes	
Temperature control	PID1	Weight lbs	326.3
Temperature display	LED	Barbed fittings inner diameter	¾"
Temperature setting	Keypad	Dimensions in. (W x L x H)	23.6 x 29.9 x 45.3
		Filling volume l	24 ... 30
		Pump connections	G¾" male
Temperature values			
Setting the resolution of the temperature display °C	0.1		
Return flow temperature max. °C	80		
Working temperature range °C	-20 ... +40		
Temperature stability °C	±0.5		
Ambient temperature °C	5 ... 40		

Temperature display resolution °C	0.1
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Performance values

230V/3PPE/60Hz (Without Plug)

230V/3PPE/60Hz					
Cooling capacity (Water Glycol)					
°C	20	10	0	-10	-20
kW	4	3.4	2.4	1.5	0.6
Refrigerant	R449A				
Filling volume g	1800				
Global Warming Potential for R449A	1397				
Carbon dioxide equivalent t	2.515				
Pump capacity flow rate l/min	40				
Pump capacity flow pressure psi	7.3 ... 43.5				

400V/3PNPE/50Hz (Plug 16A CEE)

400V/3PNPE/50Hz					
Cooling capacity (Water Glycol)					
°C	20	10	0	-10	-20
kW	4	3.4	2.4	1.5	0.65
Refrigerant	R452A				
Filling volume g	2220				
Global Warming Potential for R452A	2140				
Carbon dioxide equivalent t	4.751				
Pump capacity flow rate l/min	40				
Pump capacity flow pressure psi	7.3 ... 43.5				

All Benefits



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Precise
PID Temperature control with set control
parameters, temperature stability $\pm 0.02 \dots \pm 0.2$
°C



FL4006 Recirculating Cooler

Recirculating Cooler/Chiller for environmentally friendly cooling

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The temperature stability of the PID control is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removable venting grid allows an easy cleaning of the condenser, the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).

Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Filling level indicator
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line $+80^{\circ}\text{C}$
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable venting grid for cleaning of the condenser
- Front drain
- No side vents
- RS232 interface for PC-connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure



Made in Germany

Technical Data

Order No.	9666040				
Model series	FL Series				
Category	Recirculating Coolers				
Working temperature range ($^{\circ}\text{C}$)	-20 ... +40				
Temperature stability ($^{\circ}\text{C}$)	± 0.5				
Setting / display resolution	0.1 $^{\circ}\text{C}$				
Temperature Display	LED				
Cooling capacity (Medium Ethanol)	$^{\circ}\text{C}$	20	0	-10	-20
	kW	4	1.9	0.9	0.05
Pump capacity flow rate (l/min)	60				

Pump capacity flow pressure (psi)	7.25...87.02
Pump connections	G1 1/4"
Barbed fittings diameter (inner dia. / mm)	1"
Filling volume liters	24 ... 30
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	2220
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	4.751
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	23.6 x 29.9 x 45.3
Weight (LBS)	346
Sound pressure level (distance 1 m) max. (dBA)	67
Included with each unit	2 barbed fittings for tubing 1" inner dia. (pump connections G1 1/4" male)
Cooling of compressor	Air
Power requirement V / Hz / A	3x 230/60/16
Available voltage versions	400 V / 3 Ph. / 50 Hz 230 V / 3 Ph. / 60 Hz

Suitable fluids: water, water-glycol mixture, JULABO Thermal bath fluids
Kältemittelangaben gelten für die 50 Hz-Version.

Characteristics

Display



Easy to read

Large LED temperature display for actual value and setpoint (resolution 0.1 °C)

Refrigeration Technology



Consistent cooling capacity

Easily removable venting grid for quick and easy cleaning

Operation



Simple and fast

Convenient 3-key setpoint adjustment (FL models)

Technical Features



Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

Temperature Control



Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02... \pm 0.2$ °C



FL7006 Recirculating Cooler

Recirculating Cooler/Chiller for environmentally friendly cooling

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The temperature stability of the PID control is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removable venting grid allows an easy cleaning of the condenser, the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).

Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Filling level indicator
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line $+80^{\circ}\text{C}$
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable venting grid for cleaning of the condenser
- Front drain
- No side vents
- RS232 interface for PC-connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure



Made in Germany

Technical Data

Order No.	9666070				
Model series	FL Series				
Category	Recirculating Coolers				
Working temperature range ($^{\circ}\text{C}$)	-20 ... +40				
Temperature stability ($^{\circ}\text{C}$)	± 0.5				
Setting / display resolution	0.1 $^{\circ}\text{C}$				
Temperature Display	LED				
Cooling capacity (Medium Ethanol)	$^{\circ}\text{C}$	20	0	-10	-20
	kW	7	5.1	3	1.55
Pump capacity flow rate (l/min)	60				

Pump capacity flow pressure (psi)	7.25...87.02
Pump connections	G1 1/4"
Barbed fittings diameter (inner dia. / mm)	1"
Filling volume liters	39 ... 47
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	3920
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	8.389
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	30.7 x 33.5 x 58.3
Weight (LBS)	556
Sound pressure level (distance 1 m) max. (dBA)	74
Included with each unit	2 barbed fittings for tubing 1" inner dia. (pump connections G1 1/4" male)
Cooling of compressor	Air
Power requirement V / Hz / A	3x 230/60/23
Available voltage versions	400 V / 3 Ph. / 50 Hz 230 V / 3 Ph. / 60 Hz

Suitable fluids: water, water-glycol mixture, JULABO Thermal bath fluids
Kältemittelangaben gelten für die 50 Hz-Version.

Characteristics

Display



Easy to read

Large LED temperature display for actual value and setpoint (resolution 0.1 °C)

Refrigeration Technology



Consistent cooling capacity

Easily removable venting grid for quick and easy cleaning

Operation



Simple and fast

Convenient 3-key setpoint adjustment (FL models)

Technical Features



Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

Temperature Control



Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02... \pm 0.2$ °C



FL11006 Recirculating Cooler

Recirculating Cooler/Chiller for environmentally friendly cooling

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The temperature stability of the PID control is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removable venting grid allows an easy cleaning of the condenser, the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).

Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Filling level indicator
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line $+80^{\circ}\text{C}$
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable venting grid for cleaning of the condenser
- Front drain
- No side vents
- RS232 interface for PC-connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure



Made in Germany

Technical Data

Order No.	9666110				
Model series	FL Series				
Category	Recirculating Coolers				
Working temperature range ($^{\circ}\text{C}$)	-20 ... +40				
Temperature stability ($^{\circ}\text{C}$)	± 0.5				
Setting / display resolution	0.1 $^{\circ}\text{C}$				
Temperature Display	LED				
Cooling capacity (Medium Ethanol)	$^{\circ}\text{C}$	20	0	-10	-20
	kW	11	7.5	5	3
Pump capacity flow rate (l/min)	60				

Pump capacity flow pressure (psi)	7.25...87.02
Pump connections	G1 1/4"
Barbed fittings diameter (inner dia. / mm)	1"
Filling volume liters	39 ... 47
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	3100
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	6.634
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	30.7 x 33.5 x 58.3
Weight (LBS)	547
Sound pressure level (distance 1 m) max. (dBA)	74
Included with each unit	2 barbed fittings for tubing 1" I.W. (pump connections with G1 1/4" male)
Cooling of compressor	Air
Power requirement V / Hz / A	3x 230/60/27
Available voltage versions	400 V / 3 Ph. / 50 Hz 230 V / 3 Ph. / 60 Hz

Suitable fluids: water, water-glycol mixture, JULABO Thermal bath fluids.
Kältemittelangaben gelten für die 50 Hz-Version.

Characteristics

Display



Easy to read

Large LED temperature display for actual value and setpoint (resolution 0.1 °C)

Refrigeration Technology



Consistent cooling capacity

Easily removable venting grid for quick and easy cleaning

Operation



Simple and fast

Convenient 3-key setpoint adjustment (FL models)

Technical Features



Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

Temperature Control



Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02 \dots \pm 0.2$ °C



FL20006 Recirculating Cooler

Recirculating Cooler/Chiller for environmentally friendly cooling

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The temperature stability of the PID control is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removable venting grid allows an easy cleaning of the condenser, the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).

Your advantages

- Ergonomic design and easy operation
- Splash-proof keypad
- Large, bright LED display
- Reliable Microprocessor PID temperature control
- Filling level indicator
- Powerful immersion pumps, suitable for continuous operation
- Permissible temperature in return line $+80^{\circ}\text{C}$
- Easy filling from the top with hinged protective lid
- Low liquid level protection with optical and audible alarm signal
- Integrated stainless steel bath tanks
- Removable venting grid for cleaning of the condenser
- Front drain
- No side vents
- RS232 interface for PC-connection
- IP class according to IEC 60529: 21
- Alarm output, potential-free change-over contact (max. 30 VA)
- Pressure Indicator
- By-pass valve to adjust pump pressure
- Air cooled



Made in Germany

Technical Data

Order No.	9666200				
Model series	FL Series				
Category	Recirculating Coolers				
Working temperature range ($^{\circ}\text{C}$)	-25 ... +40				
Temperature stability ($^{\circ}\text{C}$)	± 0.5				
Setting / display resolution	0.1 $^{\circ}\text{C}$				
Temperature Display	LED				
Cooling capacity (Medium Ethanol)	$^{\circ}\text{C}$	20	0	-10	-20
	kW	20	10	6	2.5
Pump capacity flow rate (l/min)	80				

Pump capacity flow pressure (psi)	11.6...87.02
Pump connections	G1 1/4"
Barbed fittings diameter (inner dia. / mm)	1"
Filling volume liters	15 ... 37
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	5950
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	12.733
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	37.4 x 45.3 x 63.4
Weight (LBS)	794
Sound pressure level (distance 1 m) max. (dBA)	73
Included with each unit	2 barbed fittings for tubing 1" inner dia. (pump connections G1 1/4" male) Außengewinde)
Cooling of compressor	Air
Power requirement V / Hz / A	3x 230/60/36
Available voltage versions	400 V / 3 Ph. / 50Hz / 18A 230 V / 3 Ph. / 60 Hz / 36 A

Suitable fluids: water, water-glycol mixture, JULABO Thermal bath fluids
Kältemittelangaben gelten für die 50 Hz-Version.

Characteristics

Display



Easy to read

Large LED temperature display for actual value and setpoint (resolution 0.1 °C)

Refrigeration Technology



Consistent cooling capacity

Easily removable venting grid for quick and easy cleaning

Operation



Simple and fast

Convenient 3-key setpoint adjustment (FL models)

Technical Features



Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

Temperature Control



Precise

PID Temperature control with set control parameters, temperature stability $\pm 0.02... \pm 0.2$ °C