

## FL1701 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
- 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.                                            | 9 661 017   | Bath tank                      | Stainless steel        |
| Available voltage versions:                          |             |                                |                        |
| 9 661 017.03                                         |             |                                |                        |
| 9 661 017.04                                         |             |                                |                        |
| 9 661 017.02                                         |             |                                |                        |
| 9 661 017.13                                         |             |                                |                        |
| Cooling                                              |             | Other                          |                        |
| Cooling of compressor                                | 1-stage Air | Sound pressure level dbA       | 62                     |
|                                                      |             | Classification                 | Classification I (NFL) |
|                                                      |             | IP Code                        | IP 21                  |
|                                                      |             | Pump type                      | Centrifugal Pump       |
| Electronics                                          |             | Dimensions and volumes         |                        |
| Temperature control                                  | PID1        | Weight kg                      | 78                     |
| Temperature display                                  | LED         | Barbed fittings inner diameter | 8/12 mm                |
| Temperature setting                                  | Keypad      | Dimensions cm (W x L x H)      | 50 x 76 x 64           |
|                                                      |             | Filling volume l               | 12 ... 17              |
|                                                      |             | 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

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

#### 230V/50Hz

Cooling capacity (Water Glycol)

| °C | 20  | 10  | 0   | -10  | -20 |
|----|-----|-----|-----|------|-----|
| kW | 1.7 | 1.5 | 1.1 | 0.85 | 0.4 |

Refrigerant R452A

Filling volume g 570

Global Warming Potential for R452A 2140

Carbon dioxide equivalent t 1.22

Pump capacity flow rate l/min 23

Pump capacity flow pressure bar 1

### 230V/50Hz (UK Plug Type BS1363A)

#### 230V/50Hz

Cooling capacity (Water Glycol)

| °C | 20  | 10  | 0   | -10  | -20 |
|----|-----|-----|-----|------|-----|
| kW | 1.7 | 1.5 | 1.1 | 0.85 | 0.4 |

Refrigerant R452A

Filling volume g 570

Global Warming Potential for R452A 2140

Carbon dioxide equivalent t 1.22

Pump capacity flow rate l/min 23

Pump capacity flow pressure bar 1

### 115V/60Hz (Nema N5-20 Plug)

#### 115V/60Hz

Cooling capacity (Water Glycol)

| °C | 20  | 10  | 0   | -10 | -20  |
|----|-----|-----|-----|-----|------|
| kW | 1.7 | 1.4 | 1.1 | 0.8 | 0.35 |

Refrigerant R449A

Filling volume g 560

Global Warming Potential for R449A 1397

Carbon dioxide equivalent t 0.782

Pump capacity flow rate l/min 23

Pump capacity flow pressure bar 1

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

#### 208V/60Hz

Cooling capacity

| °C | 20  | 10  | 0   | -10 | -20  |
|----|-----|-----|-----|-----|------|
| kW | 1.7 | 1.6 | 1.1 | 0.8 | 0.35 |

Refrigerant R449A

#### 230V/60Hz

Cooling capacity

| °C | 20  | 10  | 0   | -10 | -20  |
|----|-----|-----|-----|-----|------|
| kW | 1.7 | 1.6 | 1.1 | 0.8 | 0.35 |

Refrigerant R449A

|                                    |       |                                    |       |
|------------------------------------|-------|------------------------------------|-------|
| Filling volume g                   | 550   | Filling volume g                   | 550   |
| Global Warming Potential for R449A | 1397  | Global Warming Potential for R449A | 1397  |
| Carbon dioxide equivalent t        | 0.768 | Carbon dioxide equivalent t        | 0.768 |
| Pump capacity flow rate l/min      | 23    | Pump capacity flow rate l/min      | 23    |
| Pump capacity flow pressure bar    | 1     | Pump capacity flow pressure bar    | 1     |

## All Benefits



**100% Checked.**  
100% testing. 100% quality. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.



**Green technology.**  
Development consistently applied environmentally friendly materials and technologies.



**JULABO. Quality.**  
Highest standards of quality for a long product life.



**Quick start.**  
Individual JULABO consultation and comprehensive manuals at your disposal.



**Satisfied customers.**  
11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.



**Services 24/7.**  
Around the clock availability. You can find suitable accessories, data sheets, manuals.



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