

# Julabo

■ Innovative Temperature Technology

-20 °C ... +130 °C

## SemiChill

Recirculating Coolers / Chillers

### Labo Baza

nowoczesne wyposażenie laboratorium

ul. Topolowa 5

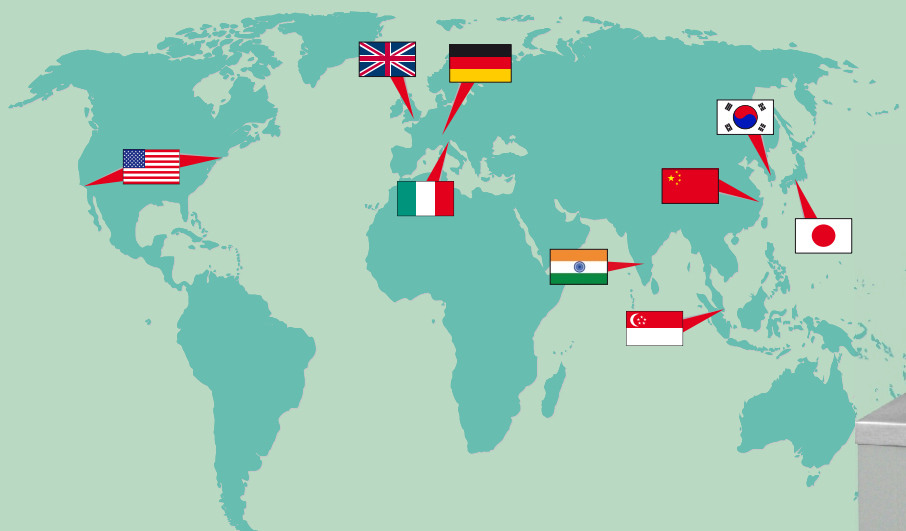
62-002 Jelonek k/Poznania

tel.: 061 812 57 45

fax: 061 812 57 25

e-mail: [biuro@labobaza.pl](mailto:biuro@labobaza.pl)

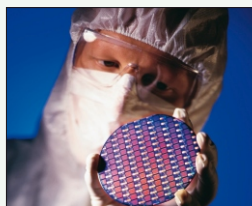
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### Applications

#### for semiconductor

- Etching tools
- Stainless steel chucks
- PVD
- Sputtering
- Wet benches
- Probers



#### for industrial

- Rotary evaporators
- Reaction vessels
- Lasers
- Distillation apparatus
- Spectrometers
- Dosing & glueing technique
- Diffusion pumps
- Mass spectrometers
- Pilot plants
- AAS (Atomic Absorption Spectroscopy)
- NMR (Nuclear Magnetic Resonance)
- Electron scanning microscope



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## Recirculating Coolers for more demanding industrial applications

Also ideal for use in semiconductor applications

### Top quality and reliability

Maximum reliability during continuous operation in rough environmental conditions is achieved by using components and materials of the highest quality only. All wetted parts are made of stainless steel or high grade plastic.

### Benefits

- Convenient keypad operation and bright temperature display (see page 54)
- Industrial grade mains switch and emergency cut-off switch
- High cooling and pump capacities
- Highly efficient gasket-free immersing pumps ensuring maintenance-free continuous operation
- Electronically adjustable pump pressure in stages
- Pressure indicator
- Filling level indicator
- Overload protection for pump motor and compressor
- Filling port (70 mm dia.), sealed
- Handles and castors
- IP class according to IEC529 : IP21
- Operation in ambient temperatures up to +40 °C!

## NEW and OUTSTANDING: The modular concept

Customize your recirculating cooler according to YOUR requirements and select from 5 basic models:

- Keypad and control electronics
- Working temperature range, e.g. -20 to +35 °C, or up to +130 °C
- Adjustable pump type / pump capacity
- Integrated heater
- Process integration (e.g. devicenet)
- Micro-filters and DI-filters

### Model descriptions:

Designation 'a' = ventilation-air-cooling  
Designation 'w' = water-cooled models

### Suitable bath fluids:

- Water, water-glycol
- Silicon oils
- 3M-Fluorinert®
- Galden®



SC2500a, SC2500w

SC5000a, SC5000w, SC10000w

## 'SemiChill' Recirculating Coolers (Order numbers: see pages 54 & 55)

JULABO Basic model	Working temp. range <sup>1)</sup> °C	Temp. stab. °C	Cooling capacity kW			Pump type/pump capacity	Filling volume liters	Dimensions W x L x H cm	Weight kg	Power requirement V / Hz
			+20	0	-10 °C					
SC2500a	-20 ... +80	±0.1	2.5	1.5	0.9	see	21...33	49 x 62 x 105	135	230 ~/50 or 208-230/60
SC2500w	-20 ... +80	±0.1	2.5	1.5	0.9		21...33	49 x 62 x 105	135	230 ~/50 or 208-230/60
SC5000a	-20 ... +130	±0.1	5.0	2.5	1.2	page 54	43...60	59 x 67 x 112	153	3 x 400~/50 or 3 x 208-230/60
SC5000w	-20 ... +130	±0.1	5.0	2.5	1.2		43...60	59 x 67 x 112	153	3 x 400~/50 or 3 x 208-230/60
SC10000w	-20 ... +130	±0.1	10.0	5.0	2.5		43...60	59 x 67 x 112	155	3 x 400~/50 or 3 x 208-230/60

<sup>1)</sup> Different working temperature ranges: see page 54 (standard working temperature range: +5 ... +35 °C)

Customize YOUR unit with the following options:

## Keypad and control electronics

'Eco'

'EcoPlus'

'Professional'



## Technical features

MULTI-DISPLAY (LED) temperature indication	●	●	
VFD COMFORT-DISPLAY with simultaneous indication of 3 values			●
Keypad, splash-proof	●	●	
PID temperature control	●	●	●
3-point calibration	●	●	●
Pump capacity adjustable in stages	●	●	●
RS232 interface	●	●	●
'Stake' connections for power supply (e.g. for a shut-off solenoid valve)	●	●	●
Early warning system for low level, high and low temperature limits	●	●	●
High temperature cut-off adjustable via display	●	●	●
Low liquid level protection with cut-off function	●	●	●
Classification III (DIN 12876-1)	●	●	●
Online diagnosis with 'Black Box' function	●	●	●
Connector for ext. Pt100 sensor for measuring and controlling the external system			●
Integrated programmer with real time clock for 1x10 program steps			●
Resistivity measurement/status display via LED: adjustable between 1 ... 5 MΩ/cm		●	
Resistivity measurement & actual value display (range: 0.5 ... 5 MΩ/cm)			●
Flow measurement and status display (factory-preset limit value)		●	●
Quantitative flow measurement and display on VFD			Option
Scalable analog interfaces (1 input, 2 outputs), standby input and alarm output			Option
Devicenet interface			Option
Ethernet interface			Option
RS485 interface			Option

See fold-out page for icon feature description

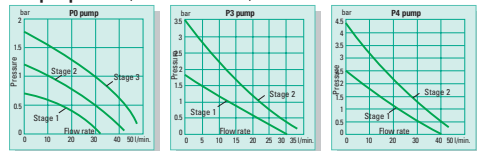
## Working temperature range

Type:	Standard	LowTemp	Low/HighTemp I	Low/HighTemp II
<b>Working temperature range:</b>	+5...+35°C	-20...+35°C	-20...+80°C	-20...+130°C
SC2500a, SC2500w	In basic model	Option	Option	---
SC5000a, SC5000w, SC10000w	In basic model	Option	Option	Option

## Circulating pumps

Pump type:	P0	P3	P4
<b>Flow rate/pressure:</b>	48 l/min. -1.8 bar	33 l/min. -3.5 bar	43 l/min. -4.3 bar
SC2500a, SC2500w	In basic model	Option <sup>1)</sup>	---
SC5000a, SC5000w SC10000w	---	In basic model	Option <sup>1)</sup>

Pump capacities (Bath fluid: Water)



<sup>1)</sup> Reduces cooling capacity by 0.2 kW · Pump connections: NPT 3/4" male

## Heaters

Type:	H1	H5
<b>Heating capacity:</b>	1 kW	5 kW
SC2500a, SC2500w	Option	---
SC5000a, SC5000w, SC10000w	---	Option

YOUR recirculating cooler can be equipped with one of the available heaters to provide an expanded working temperature range.

## DI-filter housings and micro-filter housings

All models can be fitted with filter housings (right side mounting). Please specify when placing an order. Filter housings cannot be retrofitted.

**D1** DI-filter housing, plastic (to +35 °C max.), with cartridge  
**D2** DI-filter housing, stainless steel (bis +90 °C max.), with cartridge

**M1** Micro-filter housing, plastic (to +35 °C max.), without cartridge  
**M2** Micro-filter housing, stainless steel (to +130 °C max.), without cartridge

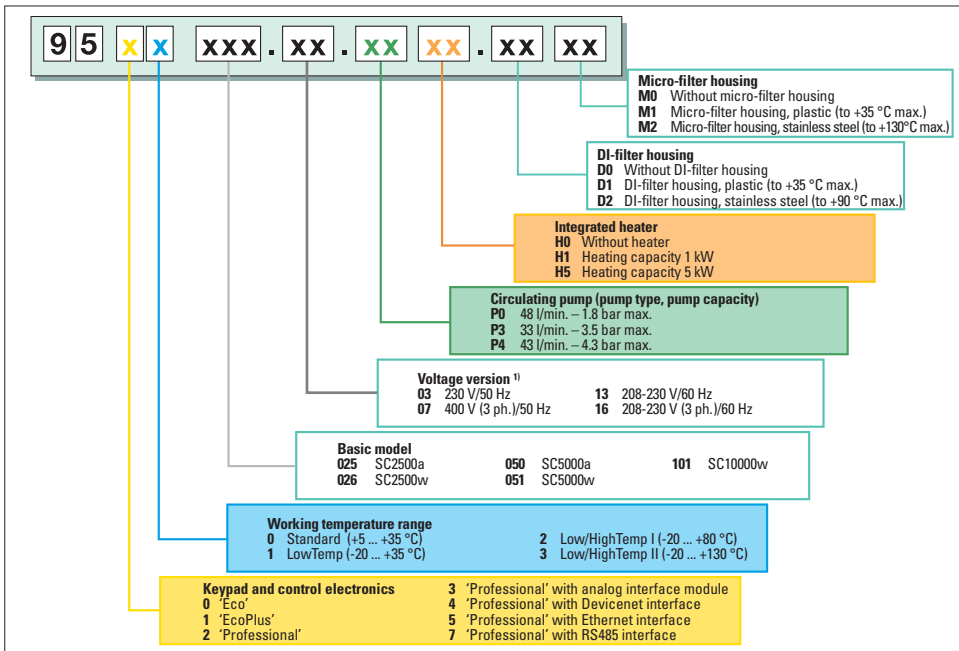
# 'SemiChill' Recirculating Coolers



## Order Information

Compose the order number of YOUR recirculating cooler (Example: for model SC5000a):

9 5 2 1 050 07 P3 H0 D0 M1



<sup>1)</sup> Voltage versions: SC2500a, SC2500w: 230V/50Hz or 208-230V/60Hz SC5000a, SC5000w, SC10000w: 400V(3ph.)/50Hz or 208-230V(3ph.)/60Hz

## Accessories 'SemiChill'

Order No.	Description	Suitable for
8 920 016	Micro-filter cartridge 10 micron	Micro-filter housings plastic
8 920 017	Micro-filter cartridge 25 micron	Micro-filter housings plastic
8 920 018	Micro-filter cartridge 40 micron	Micro-filter housings plastic
8 920 019	Micro-filter cartridge 100 micron	Micro-filter housings plastic
8 920 020	Micro-filter cartridge 250 micron	Micro-filter housings plastic
8 920 036	Micro-filter cartridge 10 micron	Micro-filter housings stainless steel
8 920 037	Micro-filter cartridge 25 micron	Micro-filter housings stainless steel
8 920 038	Micro-filter cartridge 40 micron	Micro-filter housings stainless steel
8 920 039	Micro-filter cartridge 100 micron	Micro-filter housings stainless steel
8 920 040	Micro-filter cartridge 250 micron	Micro-filter housings stainless steel
8 920 005	DI-filter cartridge	DI-filter housings, plastic/stainl. steel
8 920 030	Touch and condensation cover	DI-filter and micro-filter housings
8 920 060	Air-filter package, washable	SC2500a
8 920 061	Air-filter package, washable	SC5000a
8 920 050	Earthquake anchors	SC2500a, SC2500w
8 920 051	Earthquake anchors	SC5000a, SC5000w, SC10000w
8 920 100	Drain port, stainless steel, to empty the unit	All models
8 890 036	2 Barbed fittings for tubing 1/2" inner dia. to NPT 3/4" female	All models
8 890 037	2 Barbed fittings for tubing 5/8" inner dia. to NPT 3/4" female	All models
8 890 038	2 Adapters NPT 3/4" female to M16x1 male	All models
8 980 073	RS232 interface cable, 2,5 m	All models
8 900 110	USB Interface adapter cable	All models
8 980 030	PBI Profibus Interface Box	All models



Options: DI-filter housings and micro-filter housings mounted on the unit



## Julabo

### Headquarters:

JULABO LABORTECHNIK GMBH  
77960 Seelbach / Germany

☎ +49 7823 51 0  
📠 +49 7823 2491  
✉ info@julabo.de  
🌐 www.julabo.de



## Julabo North America



JULABO EAST, Inc.  
754 Roble Road, Suite 180  
ALLENTOWN, PA 18109

☎ +1 610 231 0250  
📠 +1 610 231 0260  
✉ info@julabo.com  
🌐 www.julabo.com

JULABO WEST, Inc.  
2575 Pioneer Ave, Suite 102  
VISTA, CA 92083

☎ +1 760 842 8010  
📠 +1 760 842 8015  
✉ info@julabo.com  
🌐 www.julabo.com

JULABO EAST, Inc. and JULABO WEST, Inc.  
are subsidiaries of JULABO USA, Inc.

## Julabo JAPAN



JULABO JAPAN Co., Ltd.  
Via Ritz Ibaraki  
8-18 Sonoda-cho, Ibaraki  
OSAKA 567-0825

☎ +81 72 638 7200  
📠 +81 72 638 7201  
✉ info@julabo-japan.co.jp  
🌐 www.julabo-japan.co.jp

## Julabo SINGAPORE



JULABO SINGAPORE Pte., Ltd.  
16, Ayer Rajah Crescent # 04-05G  
Tempco Technominium  
SINGAPORE 139965

☎ +65 6775 1516  
📠 +65 6775 1627  
✉ info@julabo-singapore.com  
🌐 www.julabo-singapore.com

## Julabo UK



JULABO UK, Ltd.  
Garrick House, High Street  
GLINTON  
PETERBOROUGH PE6 7JP

☎ +44 1733 252711  
📠 +44 1733 253649  
✉ info@julabo.co.uk  
🌐 www.julabo.co.uk

## Julabo CHINA



JULABO Technology (Beijing) Co., Ltd.  
Room 503C, Building 106, Wangjing  
New Industrial Zone, Lize Zhongyuan  
Chaoyang District, BEIJING 100102

☎ +86 10 6428 9002  
📠 +86 10 6427 9434  
✉ info@julabo.com.cn  
🌐 www.julabo.com.cn

## Julabo ITALIA S.R.L.



JULABO ITALIA Srl  
Via M. Prestinari, 2  
20158 MILANO

☎ +39 02 3932 5483  
📠 +39 02 3931 7064  
✉ info@julaboitalia.it  
🌐 www.julaboitalia.it

## Julabo KOREA



JULABO KOREA Co., Ltd.  
3 F, #57, Pyongchon-Dong  
Dongan-Gu, Anyang-City  
KYONGGI-DO 431 070

☎ +82 31 426 5315  
📠 +82 31 426 5317  
✉ info@julabo-korea.co.kr  
🌐 www.julabo-korea.co.kr

**PLUS more than 100 partner  
distributors worldwide.**

## Julabo INDIA



SISKIN Instruments Co. (P) Ltd.  
5/5, Il Cross  
MSREC Road  
BANGALORE 560054

☎ +91 802 3602560  
📠 +91 802 3603679  
✉ info@julabo.in  
🌐 www.julabo.in