BIOSPECTRIX

ADVANCED LABORATORY SOLUTIONS

CCA-420

LOW-TEMPERATURE COOLING LIQUID CIRCULATING PUMP

Precision circulating cooling for reactors, rotary evaporators and condensation systems.



-20°C	±0.1°C	1550 W	8–16 L/min
Usage range	Control accuracy	Refrigerating capacity	Circulation flow

Built for stable, indirect cooling

The CCA-420 uses a totally enclosed compressor, internal cooling coils and a built-in circulation pump to circulate cooling liquid through connected equipment. The supplied document describes use with double-layer glass reactors, rotary evaporators and condensation systems.

Cooling that integrates inti your process

The CCA-420 is designed as a low-temperature cooling liquid circulating pump for indirect process cooling and condensation duties.

DOUBLE-LAYER GLASS REACTOR	ROTARY EVAPORATOR	CONDENSATION COIL
Connect to the reactor interlayer for indirect cooling of process material.	Circulate cooling liquid through the evaporator's cooling connection.	Cool and liquefy steam in contact with the condensation tube.

Working Principle

A totally enclosed compressor mechanically cools the system. Refrigerant continuously circulates through copper coils on the inner wall of the cooling tank. The cooled circulating liquid is then delivered to the interlayer of supporting equipment or to a condensation coil through the built-in pump and external circulation pipeline.

01	**COOL** Compressor removes heat from the circulating system.
02	**CIRCULATE** Built-in pump drives the cooling liquid through the external loop.
03	**CONNECT** Cooling liquid reaches the reactor interlayer or condenser.
04	**RETURN** Liquid returns through the circulation line to complete the loop.

Connection concept

The supplied document specifies that the outlet pipe connects to the lower inlet of the kettle or condenser; circulating liquid exits from the upper circulation port and returns to the CCA-420 inlet, forming a complete circulation loop.

Suitable for

- Laboratory reactors
- Rotary evaporation
- Condensation applications
- Direct bath cooling of objects or containers

Technical Specifications

Model CCA-420

- **Low Temperature Cooling Liquid Circulating Pump**

Name	Low temperature cooling liquid circulating pump
Model	CCA-420
Usage temperature range	-20°C to room temperature
Environment temperature	5–35°C
Environment humidity	£70% ventilation
Power supply	220V/50Hz, 110V/60Hz
Safety protection	Delay, over-current
Display	LCD display, key operation
Temperature control accuracy	±0.1°C
Sensor	PT100
Total power	640 W
Compressor specification	Small 1P
Compressor quantity	1
Compressor power	500 W
Refrigerating capacity	1550 W
Circulation pump power	100 W
Circulation pump lift	1.5–2.7 M
Circulation pump flow	8–16 L/min
Circulation pump pressure	£0.4 MPa
Air-cooling condenser power	40 W
Heat exchange area	3.8 m²
Air volume	584 m³/h
Refrigerant	R134A
Condensation coil	F8 nickel-plated copper tube
Equipment material	Cold plate anti-corrosive spray
Water tank dimension & volume	220 × 155 × 120 mm; about 4 L
Cover opening	155 × 105 mm
External circulation interface	Pagoda joint with F12 mm outer diameter
Overall dimension (W×D×H)	250 × 520 × 560 mm
Net weight	28 kg
Packing dimension	580 × 310 × 560 mm; wooden package 0.1 m³
Packing weight	30 kg

All specifications above are transcribed from the supplied CCA-420 document. Final configuration and electrical requirements should be confirmed at quotation stage.

CCA-420 at a glance



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Control accuracy	±0.1°C
Refrigerating capacity	1550 W
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Tank volume	About 4 L
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- PROCESS COOLING
- REACTOR TEMPERATURE CONTROL
- ROTARY EVAPORATION
- CONDENSATION