RACKCHILLER IN-ROW COOLER

INDUSTRY STANDARDS

Intertek ETL (C/US) - Conforms to UL STD No. 61010-1 and CSA STD C22.2 No. 61010-1

APPLICATION

RackChiller In-Row Coolers (IRC) are designed to deliver localized/ supplemental energy efficient cooling in data centers. RackChiller IRC is a modular and scalable precision cooling solution that can replace or supplement traditional data center cooling infrastructure. RackChiller may also be utilized as an integrated cooling solution for high-density edge computing and Micro Data Center (MDC) applications

FEATURES

- Air / water heat exchanger with housing
- Available in 300mm (11.81) or 600mm (23.62) configurations
- Cooling capacity up to 55 KW (300 mm (11.81)) and 75 kW (600 mm (23.62)) in optimal operating conditions
- Based on sensible dual power connection - 208 VAC or 230 VAC
- Water connection from the back, top or bottom must be specified before ordering
- Monitoring via Modbus or Ethernet interface
- Integrated Controller with internal and external sensors
- Built-in redundancy EC Fan Technology
- Integrates with Aisle Containment - may require optional ganging and blanking kit

SPECIFICATIONS

GENERAL

- 42U 2000 mm (79.00) tall (48U option available – consult factory)
- 300 mm (12.00) wide
  - Unit Weight (Dry), 140 kg (309 lb.)
  - Unit Weight (Wet), 155 kg (342 lb.)
  - Water volume 9.8 liters (2.6 gallons)
- 600 mm (24.00) wide
  - Unit Weight (Dry), 200 kg (441 lb.)
  - Unit Weight (Wet), 211 kg (464 lb.)
  - Water volume 11.0 liters (3.0 gallons)
- 1200 mm (47.24) deep
- Power requirement Options:
  Phase-to-Phase 208V, 50/60Hz
  Phase-to-Neutral 230V, 50/60Hz

FANS

- Six backward-curved centrifugal EC fans, IP44 rated 0 to 6 Fans
- Current consumption, each fan 0.8A maximum
- Airflow, each fan 1200 m^3/hr. (706 CFM)
- Decibels @ 80% fan speed: 50.7dB

COOLING PERFORMANCE (optimal operating conditions)

- Maximum duty at 22-24 C (72-75 F)
  300mm (11.81): 55 kW
  600mm (23.62): 75kW
- Fluid flow 4.6 m^3/hr (20.25 gal/min)
- Pressure drop 15 kPa (2.17 psi)
- Water supply 14 C (57 F)
- 8400 m^3/hr (4944 CFM) at 100% fan airflow

IRC PIPE CONNECTIONS

- 28 mm (1.10) copper pipe flow and return tails
- Recommended fittings:
- To suit negative pressure circuit – 28mm (1.10) compression
- To suit positive pressure circuit – 28mm (1.10) compression
- NB Site pipework connections normally 25 mm (1.00) female cone or female 25mm (1.00) BSP
- Water connections top and bottom

Delivery includes

1 - In-Row Cooler with integrated air-water heat exchanger
1 - Removable front panel with status display LED
1 - Controller and monitoring Interface with Display
1 - SNMP and ModBus RS485 compatibility for local/remote monitoring
2 - Water connection hoses (3 meter x 25mm)
1 - Side panel earthing kit
1 - rack front air temperature probe
1 - rear door, perforated with single point latching
1 - Control valve and actuator
1 - User Manual (internet download)
2 - Transport castors

FINISH

Black RAL 9005

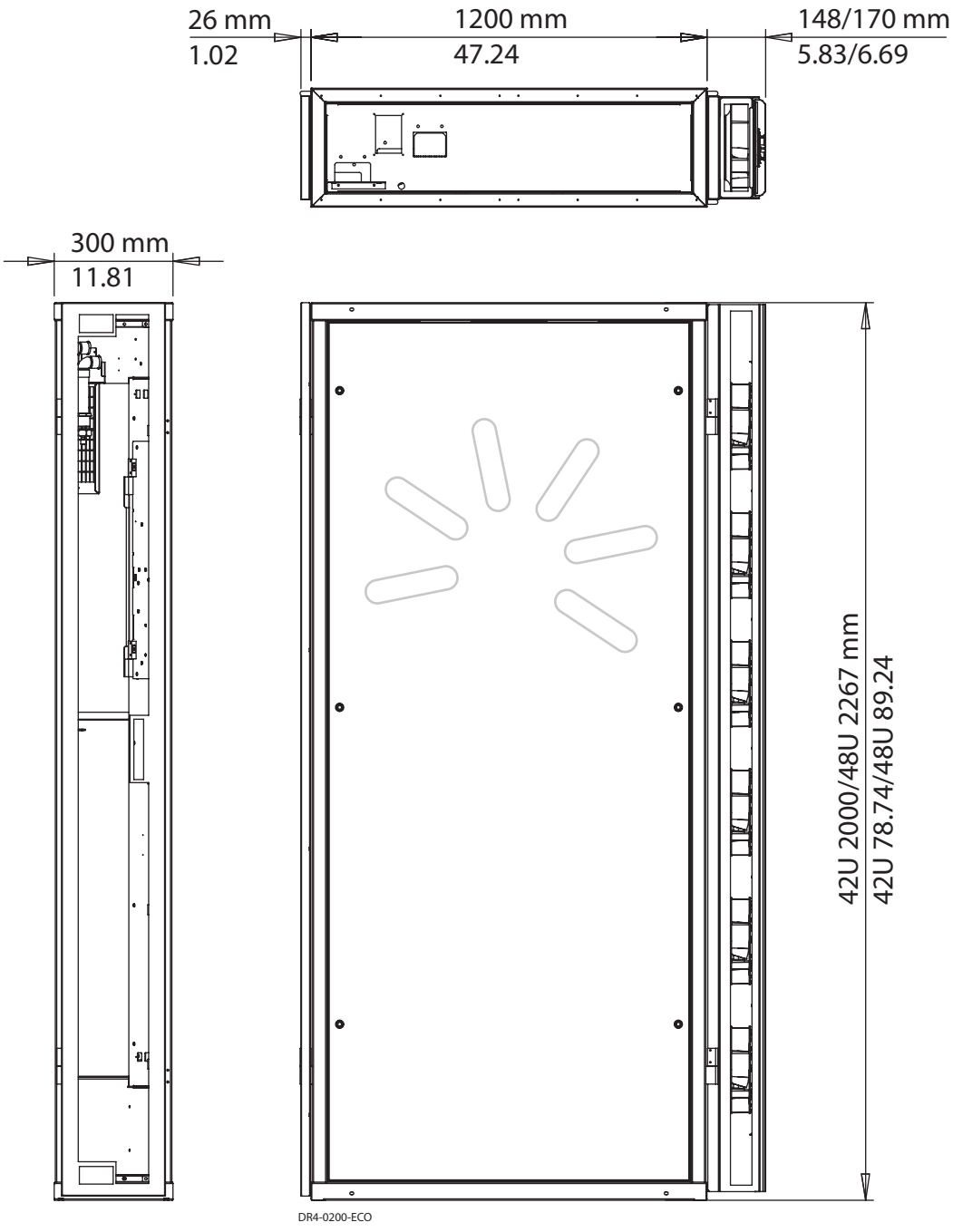
Standard Product

Catalog No.	Height x Width x Depth mm	Height x Width x Depth in.	Input Voltage
60714079	2000 x 300 x 1200	78.74 x 11.81 x 47.24	230V Phase to Neutral
60714080	2000 x 600 x 1200	78.74 x 23.62 x 47.24	230V Phase to Neutral
60714081	2000 x 300 x 1200	78.74 x 11.81 x 47.24	208V Phase to Phase
60714082	2000 x 600 x 1200	78.74 x 23.62 x 47.24	208V Phase to Phase

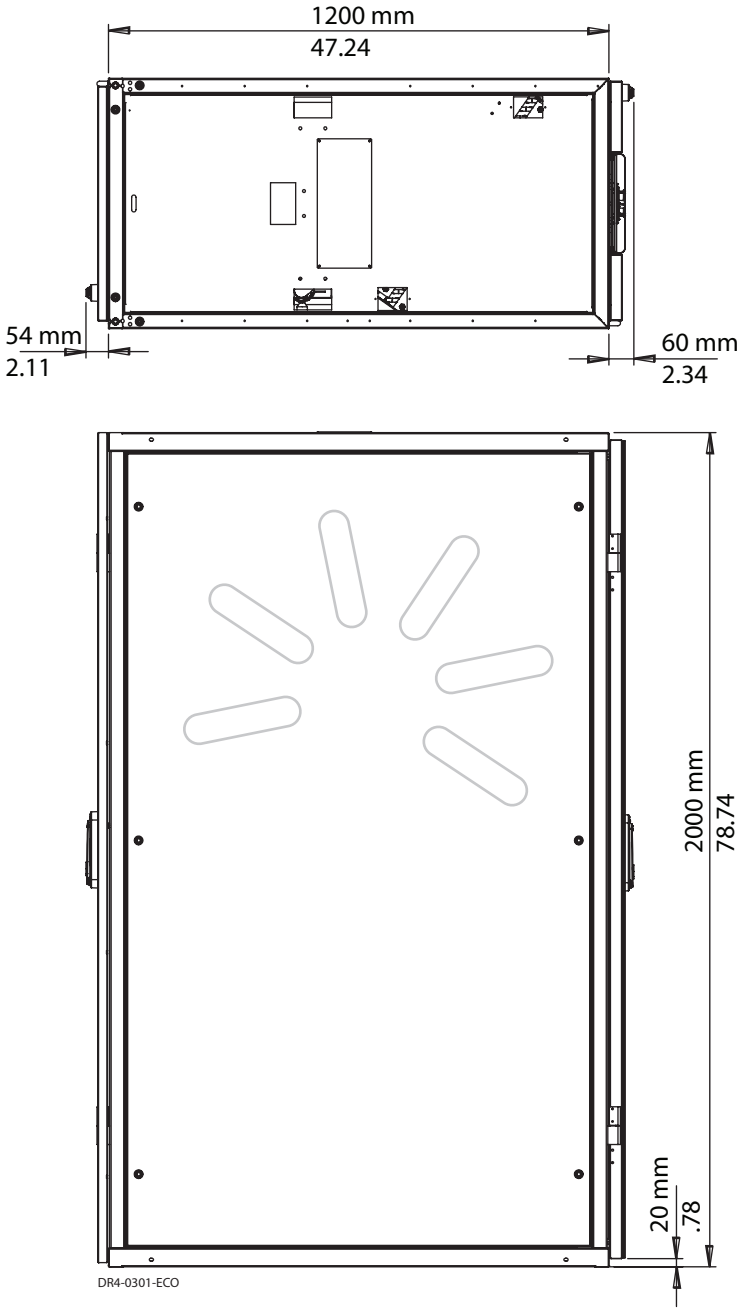
RackChiller In-Row Accessories

Catalog No.	Description
60714083	Hose Kit 3Mx25MM
60714084	Flow Control Valve
60714085	Controller Carel Pgde nVent
20714007	Ganging and Blanking Kit – Proline, 45U, 300mm
20714008	Ganging and Blanking Kit – Proline, 45U, 600mm
20714009	Ganging and Blanking Kit – Proline, 51U, 300mm
20714010	Ganging and Blanking Kit – Proline, 51U, 600mm
21130594	Aisle Containment adapter Kit – Top cover mount

IRC 300w x 1200d



IRC 600w x 1200d



Technical Data

Connection	Water connection at top or bottom
Maximum airflow volume	8400 m^3/h (4944 CFM)
Dimensions heat exchanger	Height 2000 mm (78.74) Width 300 mm (11.81), depth 1200 (47.24) Width 600 mm (23.62), Depth 1200 mm (47.24) plus 170 mm (6.69) radial fan overhang
Supply voltage (1-phase nominal voltage)	Dual supply with C19 connection - 230VAC (50/60 Hz) Phase to Neutral 208VAC (50/60 Hz) Phase to Phase
Input / sensor	Connection for external termerature sensor
Adjustment reange air outlet temperature	18-30 C (64-86 F) in 0.1 C (32.18 F) steps
Cooling capacity at 14 C water inlet flow 4.2 m^3/h (2.47 CFM); Room temperature 22-24 C (72-75 F)	300 mm (11.81) width, 55 kW 600 mm (23.62) width, 75 kW
Cooling medium*	Water, water-glycol mixture (Maximum 33%)
Water inlet temperature**	Greater than 14 C (57 F)
Water flow volume	Up to 4.6 m^3/h (2.70 CFM)
Water conduit	Copper
Water connection inlet / outlet	Female cone / BSP 1 inch
Control valve	1-in. Rp, 24 VAC, connected to the central monitoring system
Water volume	300mm 9.8 liters (2.6 gallons) 600mm 11.0 liters (3.0 gallons)
Maximum current consumption	12 Amps
Prefuse (on building side)	D10 A
RJ 45 Interface	Monitoring via modbus or Ethernet interface
Ambient temperature during transport	Transport, storage when fully emptied / when containing 35% glycol / in operation outside cabinet; -25-70 C / 5-70 C (77-158 F / 41-158 F)
Relative humidity	5-95%
General Data	
Ambient temperature outside the cabinet during operation	5-70 C (41-158 F)
Sound pressure level with cabinet closed at 80% fan power	50.7 dB(A)

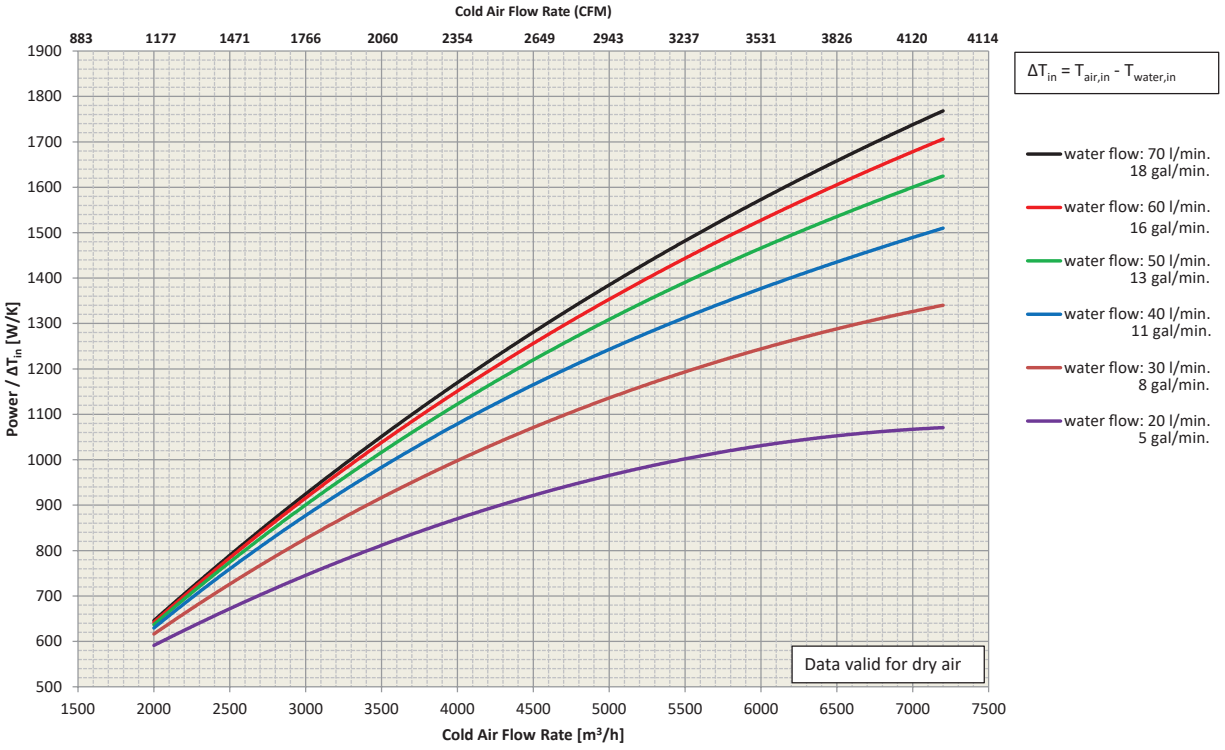
*To avoid problems while operating the air/water heat exchanger, the quality requirements of the water must be maintained. The appropriate anti-corrosion and frost protection agents are dependent on the environment in which the unit is used and on the external chiller (VDI 3803, reference user manual).

**At water inlet temperatures of less than 14 C (57 F), there is also a resk of condensation. Re recommend to request a unit with integrated condensate management.

RackChiller 300 mm

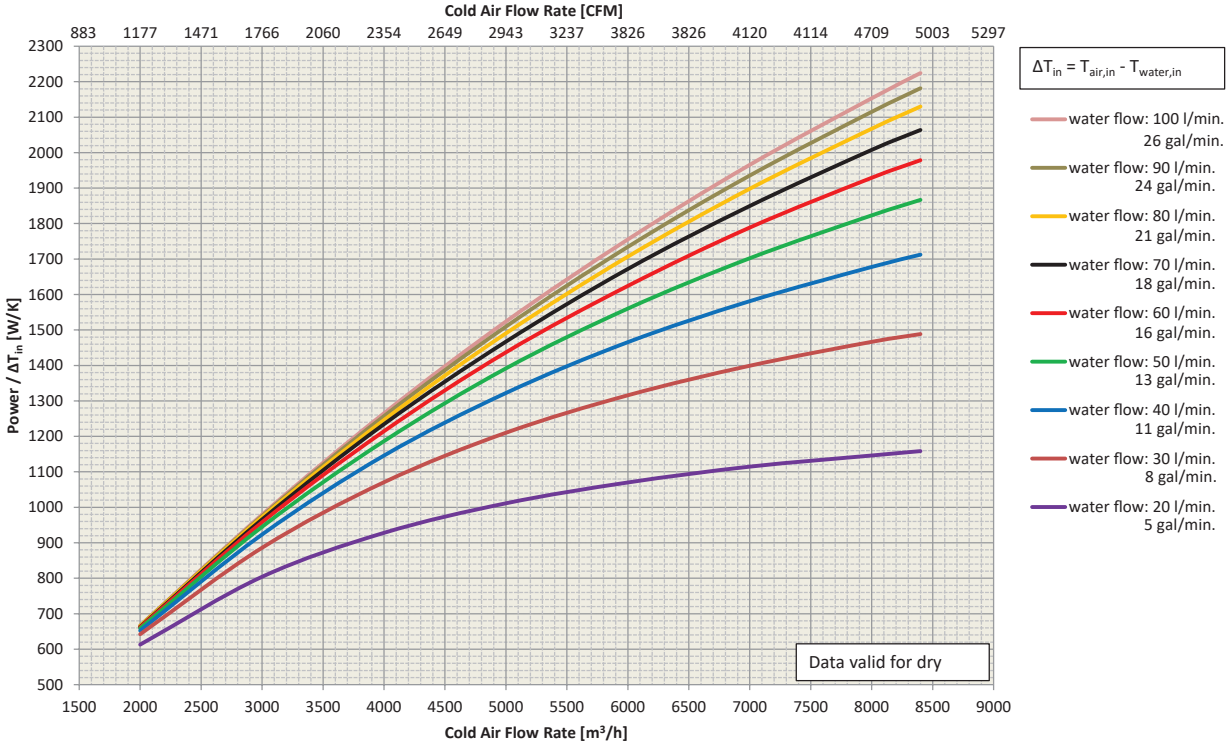
RackChiller 600 mm

RackChiller InRow 300mm 42U: Cooler Power



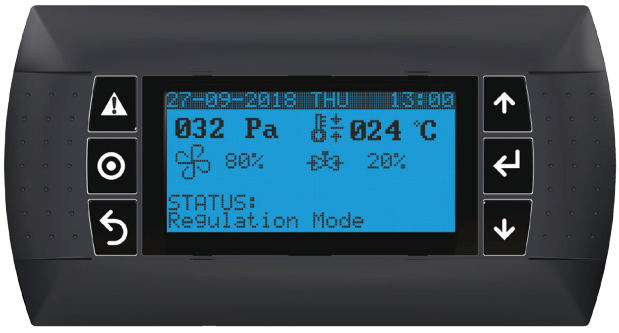
RackChiller300mmPerformanceCurve

RackChiller InRow 600mm 42U: Cooler Power



RackChiller600mmPerformanceCurve

IRC MONITOR



FEATURES

- SNMP and Modbus interface
- Coolant flow control (0 to 10V)
- 24V AC motorized valve control
- Coolant valve opening command monitoring
- Return water temperature monitoring
- Chiller regulation based on room temperature and set point
- Fan periodic functionality test
- 0 to 10V or 0 to 5V PWM EC fan control
- Single- or dual-bank fan speed control
- Individual fan monitoring
- Full status monitoring via Modbus or SNMP
- Network BMS or volt-free contact connections for room monitoring, individual fan fail alarm and a common alarm
- Local door alarm indicator – color change on door logo
- High and low temperature alarm
- User-definable preventative maintenance alarms
- User-definable time delays on alarm functions
- Full alarm log
- Dual- and single-power supply changeover
- Power fail alarm on supply changeover
- Processor monitor fail safe
- Local cabinet display screen
- Set-up/commissioning tool
- Programming key for easy transfer of commissioning data to another controller system