

Chilled water cooling door



- **Cooling capacity of 30 kilowatts**
for high density data center applications
- **Operating weight 35kg**
low extra rack load enables both greenfield installations and retrofit upgrades
- **Microchannel evaporator**
ensures high cooling capacity and energy efficiency with EER about 400

In-Rack CW

Chilled water rack cooling door for data center applications



Can be attached to any standard 42U-48U 600mm width server rack

Compact and lightweight

The In-Rack is a compact and lightweight chilled water cooling units intended for attaching to the rear doors of rack cabinets. For the reason that In-Rack unit handles the heat load as close to the source as possible, the energy efficiency of the unit is extremely high. Equipped with a number of redundancy options like hot swappable fans, dual power supply and uninterruptible power source, In-Rack cooling door ensures the highest possible availability for mission-critical IT equipment.

1 Hot swappable axial EC fans

The In-Rack features hot swap fan assembly that allows fan replacement on running units minimising the downtime. When the fan goes offline, remaining fans will compensate by increasing rotation speed.

350mm axial fans mounted in bell mouth housings and equipped with EC motors allow In-Rack to operate at part-load and optimise the overall energy efficiency.

The new fan design from bio-polymers offer several benefits in addition to its environmental contribution: longer lifespan, better chemical resistance, low water absorption, reduced weight and less noise.



2 Microchannel evaporator

All-aluminium microchannel evaporator used in In-Rack design allows achieving a number of advantages, including low airside pressure drops, higher cooling capacity, and extremely less weight.

Low weight lifts many restrictions existed for previous generations of rack-mounted cooling doors and enables In-Rack cooling solution for both greenfield and retrofit applications.

3 Water circuit

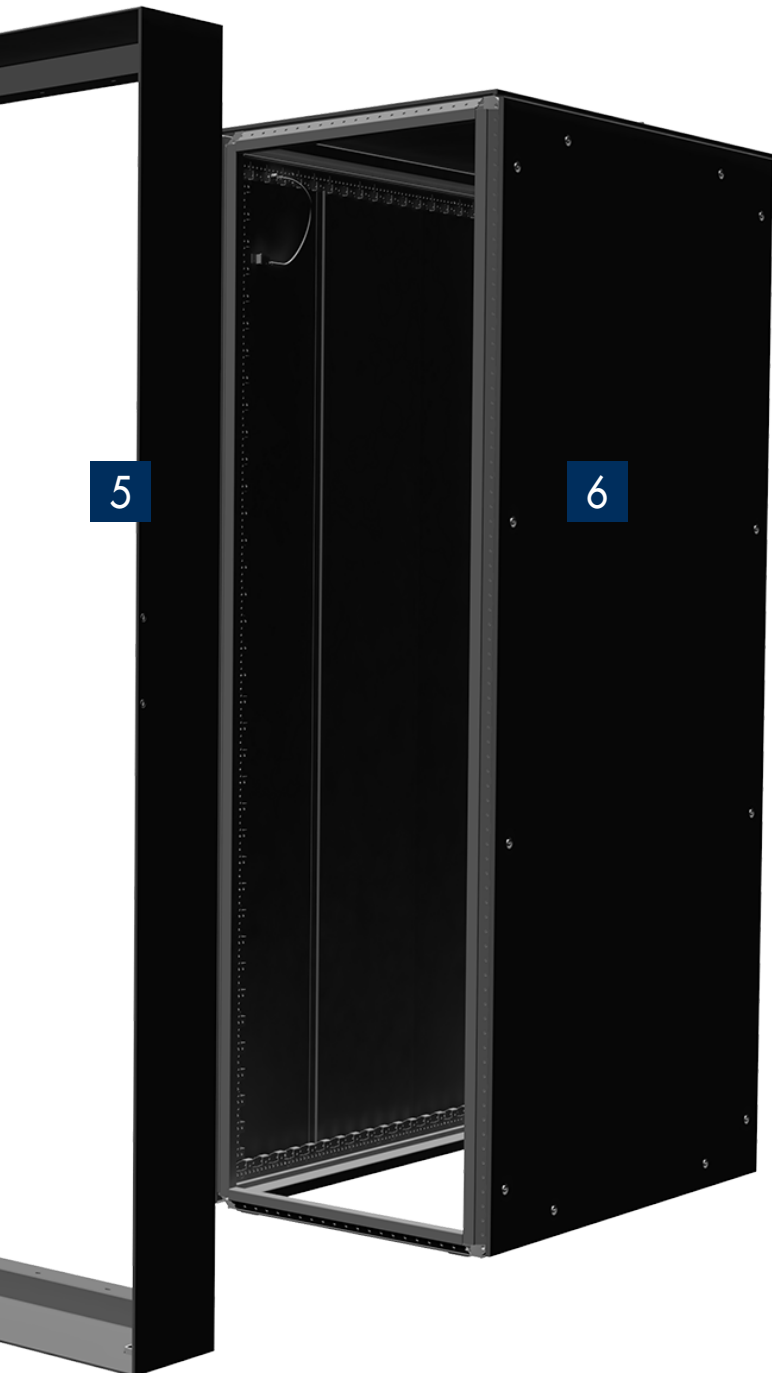
Water circuit can be equipped with either 2-way or 3-way motorized regulating valves used to control the chilled water flow thru the evaporator coil, as well as with the bypass valve to enable constant flow.

Regulating valves supplied loose with the unit.



data center cooling solution

The conventional approach to data center cooling using room-based cooling has practical limitations in high density data centers. Rack-based cooling strategy make it possible to address high operating densities while maintaining redundancy characteristics. For users with high density server technologies, In-Rack cooling solution will provide the excellent balance of high predictability, high power density, adaptability, and the best overall TCO.



4 Dew point control

The control hub of In-Rack cooling unit constantly monitors the air temperature and humidity to avoid/minimise condensate build-up by regulating water flow thru the evaporator coil. The system fully eliminates the possibility of water entry into the rack by means of dew point control and automatic condensate discharge system.

5 Enclosure

The In-Rack cooling door can be easily attached to any standard server rack (42U to 48U) and does not impact on the access to IT equipment installed in the rack. With low weight only by 1/3 compared to competitors, In-Rack unit does not create significant rack/-floor load, thus giving the customers a highly flexible installation solution. Slim design of In-Rack units ensures minimal impact into the hot aisle.

6 Redundancy

The In-Rack rack cooling door offers a wide variety of redundancy options: besides hot swappable fans, the customer can benefit from dual power supply, either automatic or static transfer switch and uninterruptible power supply installed directly into the server rack, and use these features to improve availability of IT infrastructure.

Technical specifications

Model	Width mm	Depth mm	Height mm	Cooling capacity kW	Fans qty.	Engaged fan power kW	EER kW/kW	Airflow m³/h	Water flow m³/h	Airside pressure drop Pa	Waterside pressure drop kPa
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 45°C											
In-rack CW	600	210	2000	30.0	4	0.076	395	5240	4.32	7	42.3
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 40°C											
In-rack CW	600	210	2000	26.2	4	0.096	273	6000	3.78	7	37.6
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 35°C											
In-rack CW	600	210	2000	23.6	4	0.216	109	8400	3.36	11	33.1

Package, options and accessories

Features	Features
General	
MCHC thermoguard	<input type="checkbox"/> Condensate discharge system
MCHC electrocoat	<input type="checkbox"/> Thermal insulation
Water leak detection	<input checked="" type="checkbox"/> Touch screen HMI
Airside	
Hot swappable EC fans (4x350mm)	<input checked="" type="checkbox"/> Temperature/humidity sensor (supplied loose)
Fluidside	
2-way regulating valve (supplied loose)	<input checked="" type="checkbox"/> Water temperature sensor
3-way regulating valve (supplied loose)	<input type="checkbox"/> Bleed valve
Bypass regulating valve	<input type="checkbox"/> Drain valve
Flexible hoses - stainless steel (supplied loose)	<input checked="" type="checkbox"/> Isolation valves for inlet/outlet water connections
Threaded pipe connections	<input type="checkbox"/> Grooved pipe connections
Power and controls	
Dew point control	<input checked="" type="checkbox"/> BMS connectivity
UPS (uninterruptible power supply)	<input type="checkbox"/> SNMP connectivity
Dual power supply	<input type="checkbox"/> Automatic transfer switch (rack-mounted)
Remote monitoring software	<input type="checkbox"/> Static transfer switch (rack-mounted)

- ☒ Standard feature
☐ Option

For more information and updates about In-Rack chilled water cooling unit please visit: www.kaltra.de/in-rack



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