

HIGH DENSITY COOLING SOLUTIONS

by knürr

[www.knuerr.com](http://www.knuerr.com)

# CoolAdd®



The universal  
retrofit solution against  
overheating in server racks



**knürr**  
environments for electronics

# CoolAdd® – When cold air is no longer enough!

Data centers are subject to constant changes: new server technologies, changing IT-requirements and economic pressures mean that modifications form an inevitable part of day-to-day life in data centers.

At the same time, rapid technological advances combined with continuously rising expectations for data center technology place existing infrastructures under further pressure. It is not always possible to build from scratch in order to meet these increased

demands. In most cases, planning must be restricted within the confines of existing structures.

The migration of new servers within existing data centers places great demands on existing infrastructures. In most cases, technical limitations are met and overcome through retrofitting. However, even if it is possible to adjust the network infrastructure and electrical supply at reasonable operating expense, current air conditioning technology reaches its limitations very quickly. Overheating within such installations is thus inevitable. Hotspots within the entire data center inevitably lead to the slow-down of data processors until complete shut-down.

CoolAdd® represents the ideal retrofit solution for data centers and IT-rooms. It safeguards against the risk of hotspots and helps to avoid overheating of the server racks. A special feature of this quick and highly effective solution is that the existing server rack remains within the data center. In addition, the entire wiring may remain as it is, without the need for any alterations!

Therefore, CoolAdd® is an easy-to-use replacement for the server's rear door. It operates on the following technical principle: safe cooling of the servers' emitted air temperature in order to meet the required supply air temperature.

CoolAdd® consists of three basic components:

- connection adaptor for the existing server rack
- air-water-heat-exchanger (fixed to the rack)
- backdoor with fans

The server's thermal power loss is transferred into the data center's cold water installation by means of the air-water-heat-exchanger. Powerful fans ensure optimum cooling-out.

Convenient installation: CoolAdd® may be mounted on all currently available server racks. The installation is mounted onto an adaptor frame. As a second step, the heat-exchanger is fixed onto the existing rack. It is recommended that the cold water supply is connected through the base. Fans are positioned at the door in order to maintain perfect access to the entire installation within the rack.

CoolAdd® - the quick and economic solution against hotspots in data centers and IT-rooms. Available in power classes 6 and 8 kW.



**CoolAdd®** made by Knürr defines criteria in data centers that are valid today and continue to increase in significance.

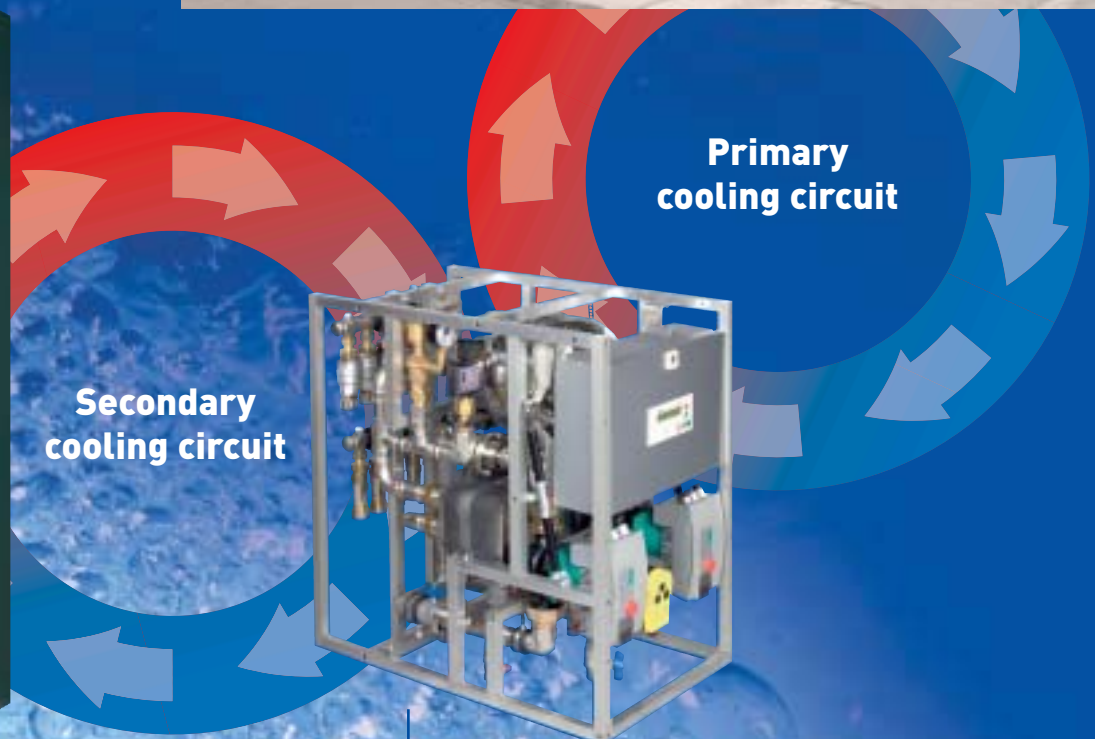
Thanks to sophisticated, innovative systems – based on the highest quality – and further developments within the thermal management “High Density Cooling Solutions”, CoolAdd® sets completely new standards, even in terms of profitability, as the universal retrofit solution.

Assure yourself of its performance in real terms and its proven reliability in the day-to-day operation of IT-rooms and data centers.

**Knürr. Competence  
in data centers.**



**CoolAdd®**



**CoolTrans®**



## Features

- Adaptor kit for mount-on installation
- Cold water supply 3/4"
- Minimum cold water flow temperature: 14°C
- Shuttle valve for regulation of cooling performance
- Heat exchanger is firmly fixed to the existing rack (neither pipes nor other connections are accessible within the data center)
- Redundant design of fan n+1

## Benefits

- CoolAdd is suitable for all currently available server racks
- Existent racks may remain in use
- No alterations of existent wiring required
- Quick mount-on installation
- Only a few parts of CoolAdd need adjustment
- Cooling of the rack's heated exhaust air panel
- Safeguards full access to all installations
- Releases the data center's air-condition system



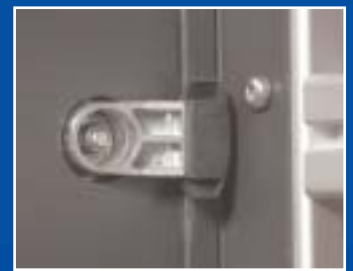
Shouldered thermostat relay with extensible component (without auxiliary power)



Optimal fans, including casings



Easy fan exchange



Robust and safe 3 pt.-interlock

Cooling capacity	Width	Height	Depth	Weight	Water content	Fans ø 250 mm	Volume flow
<b>6 kW</b> <b>8 kW</b>	from 600 mm	1800 mm from 2000 mm	160 mm	Approx 37 kg Approx 41 kg	1,6 kg	3 fans 4 fans	1800 m³/h 2500 m³/h

Spread chilled water: 14 / 20°C  
 Exhaust temperature after heat exchanger: 22°C  
 Connection heat exchanger: 3/4" male thread  
 Connection condensate tray: 10 mm  
 Pressure loss (heat exchanger): 400 mbar

Max. operating pressure heat exchanger: 10 bar  
 Max. absolute humidity on site: 8 g / kg  
 Standard colours: RAL 7021 (black grey)  
 Elt. Connection (fans / fan control): 230 V / 50 Hz 725 W  
 Protection class: IP 20

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to the  
customer



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