

# GRDC(dx)

Rack-based Direct Expansion cooling for optimum operating conditions

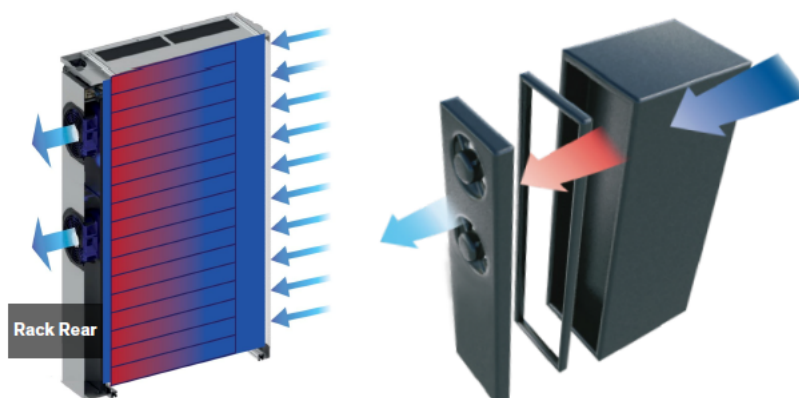


## Efficient and targeted rack cooling

The Galx°C Rear Door Cooling(direct expansion) is a heat exchanger door with EC fans for installing on the rear door of server racks.

Combined with an inverter condensing unit, the space-saving GRDC(dx) units remove the heat generated by servers right at the source. No more hot air gets into the room.

The GRDC(dx) units take up virtually no footprint and therefore ensure optimum use of available space in the data center. When there are high heat loads, hot spots and no raised floor, these units are the ideal solution.



## Advantages

### Flexibility

- Individual adapter frames for adaptation to any rack
- For cooling entire IT rooms and data centers without additional DX air conditioning systems
- Also suitable for supplementing existing precision air conditioning units
- For server racks both with and without integrated fans
- Space-saving installation as a rack door with no changes to the data center structure
- Reliable cooling even without a raised floor

### Efficiency

- Optimum operating conditions:  
No mixing of server outlet air with the room air, because no hot return air gets into the room
- As the servers are cooled directly in the server rack.
- No hot return air in the IT room
- No need to separate hot and cold aisles
- Targeted cooling of high-density racks
- For preventing hot spots
- No discharge of hot return air in the IT room

### Operational reliability

- To protect the server's own fans from excess pressure, the optional differential pressure control from Galx°C adapts the speed of the GRDC(dx) fans in line with the server airflow
- The EC fans are equipped with connectors and can be replaced during operation if necessary
- Worldwide service
- Precise control based on cooling needs
- Continuous monitoring of fan speed, server and GRDC(dx) outlet temperature
- Direct connection to BMS systems via ModBus RTU protocol or Ethernet

## Easy installation

Once the rack rear door has been replaced by the adapter frame, the GRDC(dx) can be fitted quickly and easily.

The rack-specific adapter frames are available in two different heights and widths (height: 42 U and 48 U, width: 600 mm and 800 mm).

### + Compact design

- Less than 200 mm additional rack depth
- No need to reposition the server racks
- The servers can retain all the height units in the rack

## Technical data

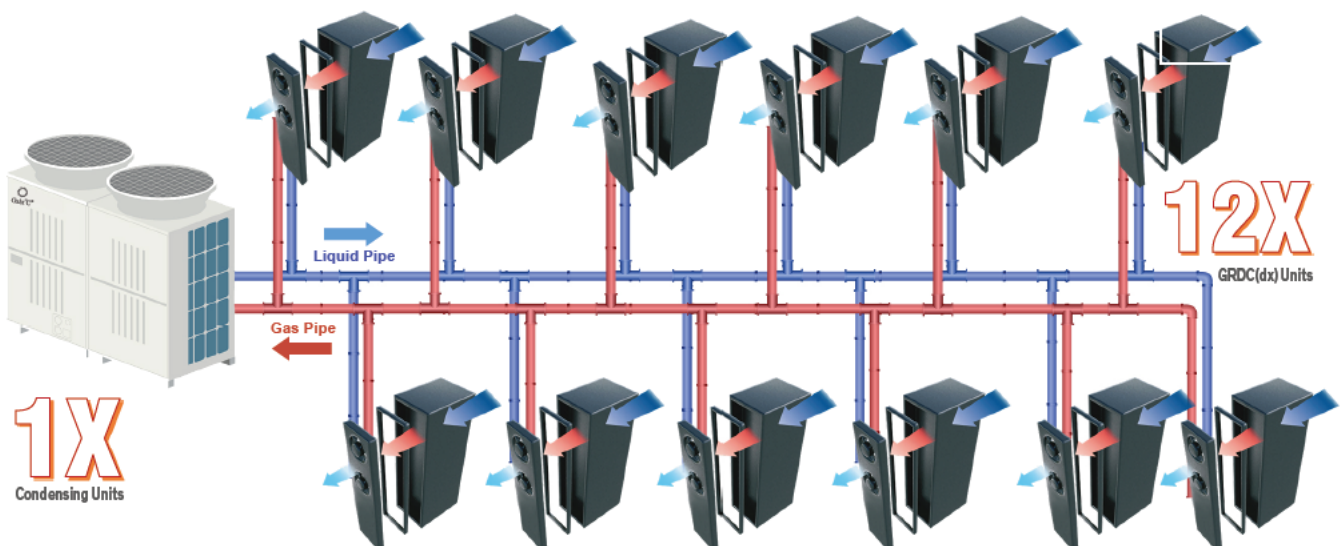
Model	GRDC	07E	11E
Cooling capacity <sup>1</sup>	kW	7.0	11.0
Airflow	m³/h	1,600	2,300
Power consumption	kW	2.0	3.14
Number of fans <sup>2</sup>		2	2
Dimensions	mm	1900-2000 × 600 × 200	
Weight	kg	45	50
Power supply	V/ph/Hz	220-240/1/50	

1) Air inlet temperature: 35 °C; r.h. 20 %

2) External static fan pressure: 30 Pa

### Up to 12 close coupled indoor units connected to one condensing unit

High density hot spots are cooled by multiple GRDC(dx) units connected to one condensing unit.



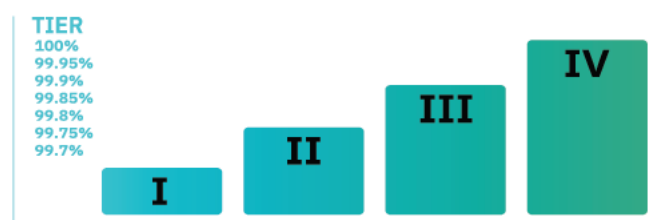
### Compact footprint

By minimising the number of condensing units, the overall footprint of the system is reduced.

### System reliability

The condensing unit is configurable to provide customers with their desired level of reliability (configuration N, N+1, 2N).

The condensing unit system is in line with TIER III and IV design topologies, based on the configuration selected.



### Plug and play installation

No additional elements such as pumps, tanks or valves are required. This helps to reduce installation time and costs, and minimise future maintenance requirements.

### Active redundancy

The Active Redundancy function ensures that heat loads are balanced amongst the units (including those units in stand-by) according to the actual system requirements of the I.T. infrastructure. The condensing unit is perfectly set-up for this, due to its multi unit configuration.

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Effective as of march 2020 / SAP No. 857943