

# Row Mounted Cooling<sub>(dx)</sub>

Rack-based Direct Expansion cooling for optimum operating conditions



## Coolside close coupled In-Row cooling solutions

These systems are suitable for application in modern I.T. infrastructure that is typically characterised by high thermal loads, and are particularly suitable for high density racks and blade server cooling in data centres with hot-spots.

The range is able to cope with the high density of the thermal load, with minimal impact of space in the data centre. In-row technology puts the air conditioning unit directly within the rows of racks to cool the localised heat sources.

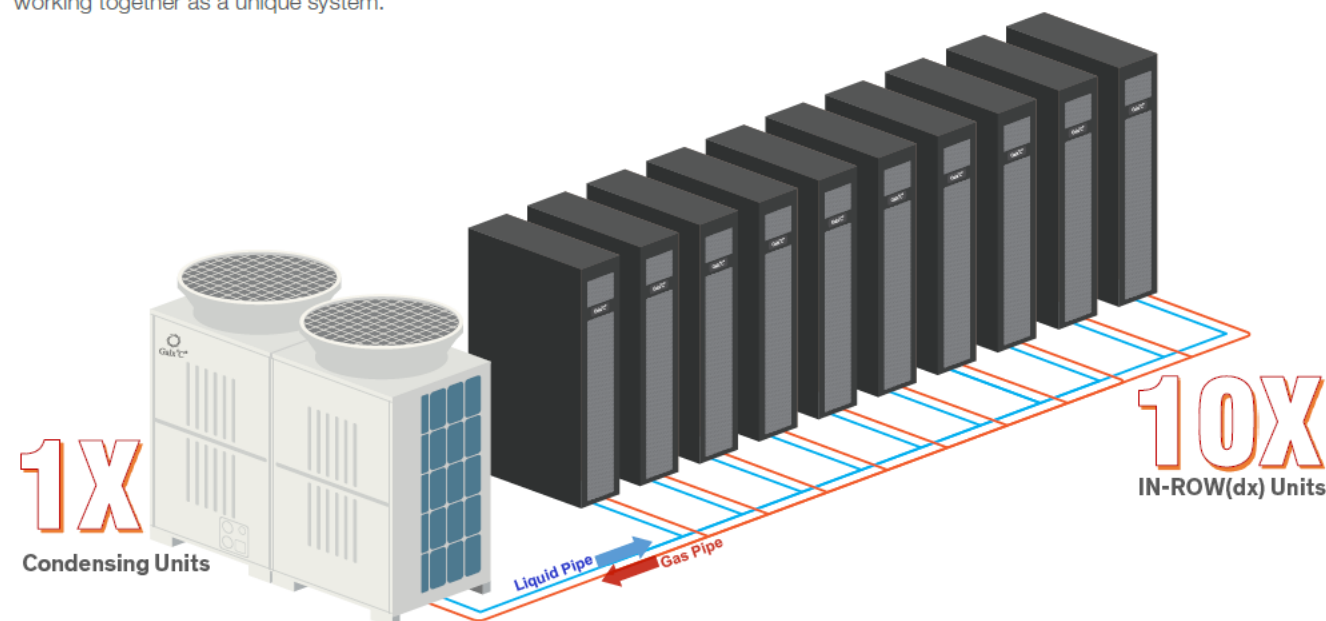
## Advantages

- Plug and play
- High efficiency
- Compact Footprint
- Self-developed BLDC compressor technology
- Long pipe runs
- Proven technology
- Wide operating range



## ■ Up to 10 close coupled In-Row units connected to one condensing unit

High density hot spots are cooled by multiple In-Row<sub>(dx)</sub> units connected to one condensing unit, working together as a unique system.



## Technical Data

IN-ROW Direct Expansion (DX)						
MODEL		AR10E	AR15E	AR20E	AR27E	AR42E AR54E
NET DX COOLING CAPACITY - MBH (Includes Motor Heat @ Rated CFM & ESP)						
Total <sup>1</sup>	MBH (kW)	34.8 (10.2)	52.2 (15.3)	71.6 (21.0)	92.1 (27.0)	143.3 (42.0) 184.2 (54.0)
Sensible <sup>1</sup>	MBH (kW)	34.8 (10.2)	52.2 (15.3)	71.6 (21.0)	92.1 (27.0)	143.3 (42.0) 184.2 (54.0)
Blower/Motor - Backward Inclined, Plenum Style Fan, with an EC Motor						
Air Flow(CFM) <sup>2</sup>		1,500	1,900	2,300	3,300	4,600 6,000
Q <sub>t</sub> (Pcs)		2	3	4	5	4 4
Physical Data						
Approx. Weight (lbs)		280	300	330	350	600 650
Dimensions (H"xW"xD")		78.4 × 11.8 × 43.1(47.2)				78.4 × 23.6 × 43.1(47.2)

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

2) External static fan pressure: 30 Pa

## ■ Compact footprint

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

## ■ System reliability

The AR series are configurable to provide customers with their desired level of reliability (configuration N, N+1, 2N).

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



## ■ Application flexibility

Match any kind of cooling requirement, from localised cooling, to hot and cold aisle cooling management.

## ■ 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.

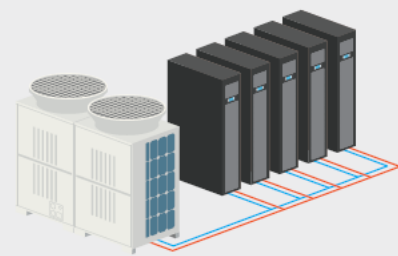
## ■ Active redundancy

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. That is perfectly set-up for this, due to its multi unit configuration.

### Configuration without redundancy (N)

#### Ideal for small to medium sized I.T. applications

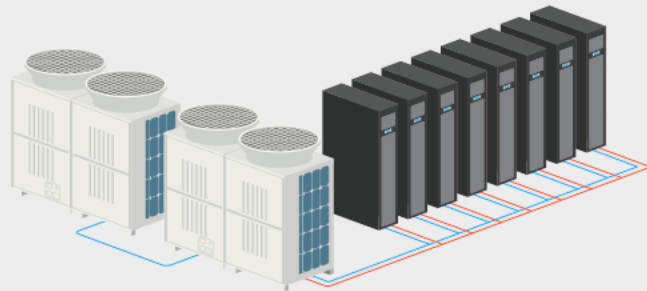
- 1 outdoor unit paired with up to 5 In-Row units
- Average system EER is approx. 3.00
- Cooling capacity up to 100kW



### Configuration with redundancy (N+1)

#### Ideal for TIER II I.T. applications

- 2 outdoor units paired with up to 10 In-Row units
- The external units operate load sharing at partial loads for higher efficiency
- In case of failure of one of the condensing units, the second one operates at full load
- Average system EER approx. 3.25
- Cooling capacity up to 100kW

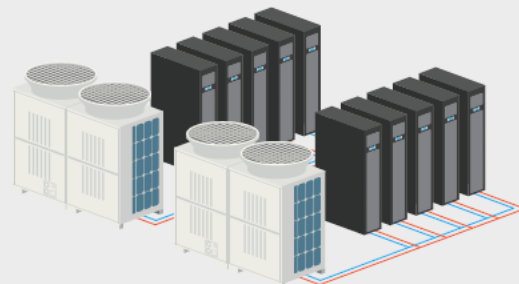


### Configuration 2N

#### Ideal for TIER III and TIER IV data centres

In accordance with the Uptime Institute's classification, this configuration offers:

- A fully redundant and mirrored system with two independent distribution systems
- 1+1 condensing units paired with 5+5 indoor units



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