

Data Center Cooling Series – InRow Cooling

In-Room Smart Cooling Data Center

IRC10, IRC25, IRC30, IRC40, IRC50, IRC60 Direct Expansion

Introduction

InRow Cooling Direct Expansion (DX) is a precision cooling solution designed specifically for high-density data center environments. Unlike traditional room-based air conditioning, the InRow system is installed directly between server racks, bringing cooling closer to the heat source for maximum efficiency and performance.

InRow DX systems are ideal for modern data centers requiring scalable, modular, and high-efficiency cooling. With features such as intelligent controls, variable speed fans, and precise humidity management, they provide reliable thermal management while optimizing operational costs.

Application

Single rack with power larger than 3kW
High Density Server
Modular DC
Container type DC
DC with low PUE
Hot spot reconstruction

Features

Advanced team work function, Up to 16 remote temperature/humidity sensors Standard RS485 communication interface, optional SNMP and TCP/IP interfaces
Saving 20%-30% energy compared to traditional AC motor Soft-startup function, Low startup current
Adjust rotary speed automatically according to cooling requirements and airflow pressure, and provide airflow required
N+1 redundancy configuration of fans, ensure the airflow in case of any fan fault
Easy-maintenance designed
Adjust the throttle of valve smoothly to save the energy
Wide range of operations, which can help reduce the superheat degree and improve EER
Realize cooling capacity and heat load precise matching
Quick response, realize the precise cooling



Type	IRC10	IRC25	IRC30	IRC60
Cooling Specification :				
Cooling Capacity (kw)	13.2	26.7	32.5	63.9
Sensible Cooling (kw)	13.2	26.7	32.5	63.9
Maximum Operation Current	24	41	41	59
Compressor :				
Model	Inverter Compressor	Inverter Compressor	Inverter Compressor	Inverter Compressor
Refrigerant	R410A	R410A	R410A	R410A
Fan :				
Type	EC Centrifugal Fan	EC Centrifugal Fan	EC Centrifugal Fan	EC Centrifugal Fan
Total Fan	4	5	2	3
Air Volume (m3/h)	3200	5000	6600	12500
Heater :				
Type	PTC	PTC	PTC	PTC
Capacity (kw)	2	3	6	6
Class	1	1	1	1
Humidification :				
Type	Electrode type	Electrode type	Electrode type	Electrode type
Capacity (kg/h)	1.5	3	3	3
Air Filter	G4	G4	G4	G4
Connection Size :				
Humidifier inlet pipe (in)	G1/2	G1/2	G1/2	G1/2
Drain Pipe Φ (mm)	19	19	19	19
Gas Pipe Φ(mm)	15.88	19.05	19.05	22
Liquid Pipe Φ (mm)	9.52	15.88	15.88	19.05
Weight & Dimension :				
Weight	190 kg	230 kg	280 kg	330 kg
Dimension	300*1200*2000	300*1200*2000	600*1200*2000	600*1200*2000

Note:
Standard working conditions: indoor return air dry bulb temperature 37°C, relative humidity 24%, outdoor dry bulb temperature 35°C;

Air Cooled Condensor :

Power Supply	220Vac/1Ph/50Hz	220Vac/1Ph/50Hz	220Vac/1Ph/50Hz
Fan	2	2	2
Speed Mode	Stepless Speed	Stepless Speed	Stepless Speed
Dimension Condensor	930*385*1260	2025*1015*520	2625*1165*545
Weight Condensor	65kg	156kg	252kg

