Cooling System
ATP InRow

Cooling Power: 5,6 kW – 90,1 kW

ATLANTIC POWERenergy



ATP Air Cooled, Row Mount, Split DX type, ideal for micro data center, integrated modular data center solutions.

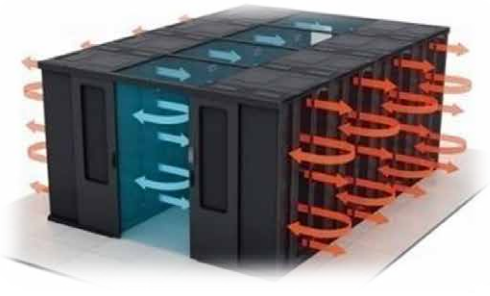
Features

- Dynamically modulated cooling capacity with inverter compressor maintains temperature within envelop and prevent compressor from cycling during low heat load period.
- Air flow modulates with EC fans to match IT equipment requirements. Each fan module is easy to change with quick couple connections.
- Precision cooling controller monitors and protects unit constantly. Easy to be integrated into BMS to display, control and manage the system.
- R410A green refrigerant is highly efficient and no ODP. Optional with R134a refrigerant for high ambient site up to 55C.
- Copper/water piping support bottom and top connections.
- Airflow direction is configurable upon order for easier integration with different types of data center layout.

Fields of application



Row Installation between the cabinets of a Data Center



Row installation between Cabinets of a confined system

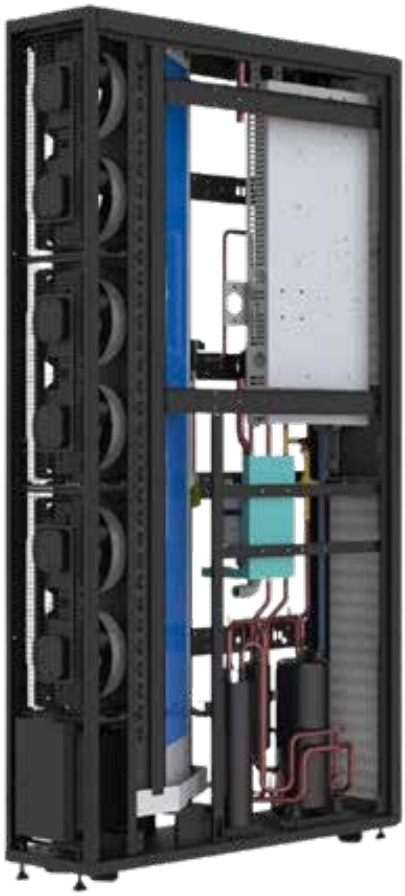


Installation in Atlantic Power Modular Micro Data Centers

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Cooling Industry top brand components

The units designed with top brands components to realize leading level reliability and efficiency.





Smart controller with microprocessor

Key components are modulated and controlled by the smart controller and accessible to the user via web, display and SNMP/Modbus protocol

Digital control of inverter compressor, EEV valve, EC fan of indoor and outdoor unit.

Auxiliary remote shutdown contact for fire suppression system.



Reliable inverter compressor

Inverter compressor adjusting capacity of whole system per heat load requirement, saving energy during part load application. Working up to 55C ambient with R134a refrigerant option.



EC Fan

EC Fan modulates airflow precisely matching heat load while saving energy by adjusting fan speed.



Evaporator components

With hydrophilic protective coating against corrosion.

The heating resistance Installed on the fins of the evaporator



Electronic Expansion Valve

EEV (electronic expansion valve) precisely maintain the refrigerant flow in the efficient way reducing the compressor/pump power consumption.



Condensate extraction pump

DC brushless pump with low noise.

Regime of 2 l/min elevation level of 5 meters.

Working temperature up to 95°C.



Air filters

21mm thick category G4 (EN779) pleated air filters, mounted on an easy-to-remove aluminum frame, with filter status monitoring from the intelligent control system.



Sliding electrical panel

The sliding electrical panel on the back of the air unit optimizes space and facilitates maintenance work. With thermomagnetic protection switches for all operating components of the air unit: Inlet, compressor, heater, humidifier, for each fan, controller and external condenser.



Sensors

High pressure HP and low-pressure LP sensors.

Standard mounting temperature and relative humidity sensors on indoor unit, option of outside mounting sensors for remote monitoring.

The system allows calibration of sensors with external sensors.

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Intelligent control with touch operation interface with three levels of access



Monitoring and management of all operating parameters of the ATP In-Row air unit.



ATP InRow DX Technical specifications

Indoor Unit	ATPS-005RA	ATPS-007RA	ATPS-012RA	ATPS-017RA	ATPS-020RA	ATPS-025RA	ATPS-030RA	ATPS-040RA	ATPS-050RA	ATPS-065RA	ATPS-075RA	ATPS-090RA
Total Cooling-kW	5.6	7.6	12.8	17.6	21.2	25.1	31.1	40.9	51.2	65.7	76.8	90.1
SHR-%	100	100	100	100	100	100	100	100	100	100	100	100
Air Volume-m3/h	2000	2250	2400	4500	4920	5000	5800	8000	10000	12000	13500	16000
Mount Type	Fila	Fila	Fila	Fila	Fila	Fila	Fila	Fila	Fila	Fila	Fila	Fila
Cooling Type	DX	DX	DX	DX	DX	DX	DX	DX	DX	DX	DX	DX
Height-mm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Depth-mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Width-mm	300	300	300	300	300	300	300	600	600	600	900	900
Weight-kg	210	213	233	253	258	260	320	360	420	460	540	620
Reheat-kW	3	3	3	6	6	6	6	6	6	6	6	6
Hum.(optional)-kg/h	1.5	1.5	1.5	1.5	1.5	1.5	3	3	3	3	3	3
Power Input1)	208-240V /50-60Hz /1Ph-2Ph	208-240V /50-60Hz /1Ph-2Ph	208-240V /50-60Hz /1Ph-2Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph	380-415V /50-60Hz /3Ph
FLA-A1)with heating	28.2	37.3	48.7	27	26.7	27.9	34.6	37.7	48.1	60.6	70.8	84.6
FLA-A1)with hum.	33.3	42.4	53.8	32.1	31.8	33	39.7	47.9	58.3	70.8	81	94.8
Power Input2)	-	-	380-415V /50-60Hz /3Ph	200-230V /50-60Hz /3Ph	200-230V /50-60Hz /3Ph	200-230V /50-60Hz /3Ph	200-230V /50-60Hz /3Ph	200-230V /50-60Hz /3Ph	-	-	-	-
FLA-A2)with heating	-	-	20.9	49.4	48.8	51.1	63.2	68.9	-	-	-	-
FLA-A2)with hum.	-	-	22	52.5	52	54.2	66.4	75.1	-	-	-	-
Power Input3)	-	-	-	460V /60Hz/3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph	460V /60Hz /3Ph
FLA-A3)with heating	-	-	-	22.3	22.1	23.1	28.6	31.1	39.7	50.1	58.5	69.9
FLA-A3)with hum.	-	-	-	26.5	26.3	27.3	32.8	39.6	48.2	58.6	66.9	78.4
Standard Outdoor												
Unit Model	KSF08AN	KSF12AN	KSF18AN	KSF24AN	KSF32AN	KSF38AN	KSF42AN	KSF52AN	KSF62AN	KSF85AN	KSF52AN	KSF62AN
Unit Qty	1	1	1	1	1	1	1	1	1	1	2	2

Notes:

1. Air flow is based upon standard fan speed setting. Fan modulates per real loads.
2. Cooling Capacity based on 37 °C/24%RH return air and 45 °C condensing temperature.
3. FLA of indoor unit includes FLA of outdoor unit, and outdoor unit power connected from indoor unit.
4. SNMP monitoring port, dual power input, and leaking detection are optional.
5. Standard unit works -15 °C above outdoor temperature, select low temperature kit to run for -35 °C outdoor ambient temperature.

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ATP Row Mount Package DX 5.6kW – 10.8kW

Air cooled, row mount package self-contained type, ideal for data center without space for outdoor condenser



- Dynamically modulated cooling capacity with inverter compressor maintains temperature within envelop and prevent compressor from cycling during low heat load period.
- Air flow modulates with EC fans to match IT equipment requirements. Each fan module is easy to change with quick couple connections.
- Precision cooling controller monitors and protects unit constantly. Easy to be integrated into BMS to display, control and manage the system.
- R410A green refrigerant is highly efficient and no ODP.
- Built in condenser with EC fan speed adjustable to meet tight space application. Optional with duct hose to be connecting to air vent.
- Easy to change G4 air filter and sealed doors help to build a clean and quiet MDC.
- Easy to touch electric box makes service convenient.
- Optional with SNMP communication, condensate pump, water leaking kit.

ATP InRow Mount DX Technical Specifications

Indoor Unit	ATPS-005PA	ATPS-007PA	ATPS-010PA
Total Cooling-kW	5.6	7.6	10.8
SHR-%	100	100	100
Air Volume-m3/h	2000	2250	2500
Mount Type	Fila	Fila	Fila
Cooling Type	DX Self-Contained	DX Self-Contained	DX Self-Contained
Height-mm	2000 (42U)	2000 (42U)	2000 (42U)
Depth-mm	1200	1200	1200
Width-mm	300	300	300
Weight-kg	210	213	233
Reheat-kW	3	3	3
Hum.(optional)-kg/h	1.5	1.5	1.5
Power Input1)	208-240V/50-60Hz/1Ph-2Ph	208-240V/50-60Hz/1Ph-2Ph	208-240V/50-60Hz/1Ph-2Ph
FLA - A	28.2	37.3	48.7
FLA - A1)with hum	33.3	42.4	53.8

Notes:

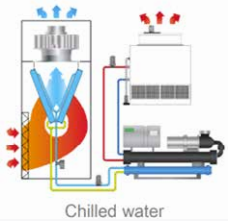
1. Air flow is based upon unit speed setting. Fan modulates per real loads.
2. Cooling Capacity based on 37 °C/24%RH return air and 35 °C outdoor temperature.
3. SNMP monitoring port, dual power input, condenser air duct and leaking detection are optional.
4. Standard unit works -15 °C above outdoor temperature, select low temperature kit to run for -35 °C outdoor ambient temperature

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ATP Row Mount Chilled Water 28.9kW – 65.8kW

Chilled water, row mount, ideal for modular data center and container data center solutions.

- Dynamically modulated cooling capacity with motorized ball valve maintains temperature within envelop and prevent water from cycling during low heat load period.
- Air flow modulates with EC fans to match IT equipment requirements. Each fan module is easy to change with quick couple connections.
- Precision cooling controller monitors and protects unit constantly. Easy to be integrated into BMS to display, control and manage the system.
- Touch type color display panel to easily view and control the units.
- Copper piping adopts quick connections and supports bottom and top connections.
- Easy to change G4 air filter and sealed doors help to build a clean and quiet MDC.









EC Fan

EC Fan modulates airflow precisely matching heat load while saving energy by adjusting fan speed.



Smart Controller

Intelligent controller automatically monitoring and adjusting the components outputs in the optimized balance.



Water Valve

Ball valve is easily installed with just one bolt. The actuator features a manual button for manual operation and has fullstroke automatic overload protection, eliminating the need for limit switches.

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Technical specifications Chilled Water ATP InRow Mount

Unidad	ATPS-025RC			ATPS-045RC			ATPS-065RC		
Water Temperature inlet/outlet - °C	12-Jul	15-Oct	13/18	12-Jul	15-Oct	13/18	12-Jul	15-Oct	13/18
Total Capacity– kW (45°C/12%RH Return Air)	47.1	43.2	39.3	76	69.6	63.2	107.6	98.6	89.6
Sensible Capacity–kW(45°C/12%RH Return Air)	47.1	43.2	39.3	76	69.6	63.2	107.6	98.6	89.6
Total Capacity–kW(40° /18%Return Air)	41	36.8	32.9	65.4	59	52.4	93.2	84	74.8
Sensible Capacity–kW(40°C/18% Return Air)	40.8	36.8	32.9	65.4	59	52.4	93	84	74.8
Total Capacity–kW(37°C /24% Return Air)	38.8	33	28.9	59.8	52.4	46	87	75	65.8
Sensible Capacity–kW(37°C/24% Return Air)	36.3	33	28.9	59.2	52.4	46	83.2	75	65.8
Total Capacity–kW(35°C /26%RH Return Air)	35.9	30.3	26.3	55.4	48.2	41.6	80.4	69	59.6
Sensible Capacity–kW(35°C/26%RH Return Air)	33.8	30.3	26.3	54.8	48.2	41.6	77.4	69	59.6
Total Capacity–kW(32°C /30%RH Return Air)	31.7	26.3	22.2	48.4	41.4	34.8	71	59.8	50.4
Sensible Capacity–kW(32°C/30%RH Return Air)	29.9	26.3	22.2	48.2	41.4	34.8	68.2	59.8	50.4
Total Capacity–kW(30°C /34%RH Return Air)	29.1	23.6	19.5	44.4	37	30.4	65.4	53.6	44.2
Sensible Capacity–kW(30°C/34%RH Return Air)	27.1	23.6	19.5	43.6	37	30.4	62	53.6	44.2
Air Volume -m3/h	4800			9000			11400		
Mount Type	Row			Row			Row		
Height –mm	2000 (42U)			2000 (42U)			2000 (42U)		
Depth –mm	1100			1100			1100		
Width –mm	300			600			600		
Weight –kg	190			330			400		
Reheat-kW	3			3			3		
Hum.(optional) -kg/h	1.5			1.5			1.5		
Power Input1)	208-240V/50-60Hz/1Ph-2Ph			380-415W/50-60Hz/3PH			380-415W/50-60Hz/3PH		
FLA –A1)with heating	22.7			13.7			16		
FLA –A1)with hum.	27.8			18.8			26.1		
Power Input2)	-			200-230W/50-60HZ/3PH			200-230W/50-60HZ/3PH		
FLA –A2)with heating	-			25.1			29.2		
FLA –A2)with hum.	-			28.1			35.5		
Power Input3)	-			460W/50-60HZ/3PH			460W/50-60HZ/3PH		
FLA –A3)with heating	-			11.3			13.2		
FLA –A3)with hum.	-			15.5			21.5		

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