



Intelligently controlled high-performance close-coupled cooling

Uniflair InRow Cooling



se.com

Life Is On

Schneider
Electric

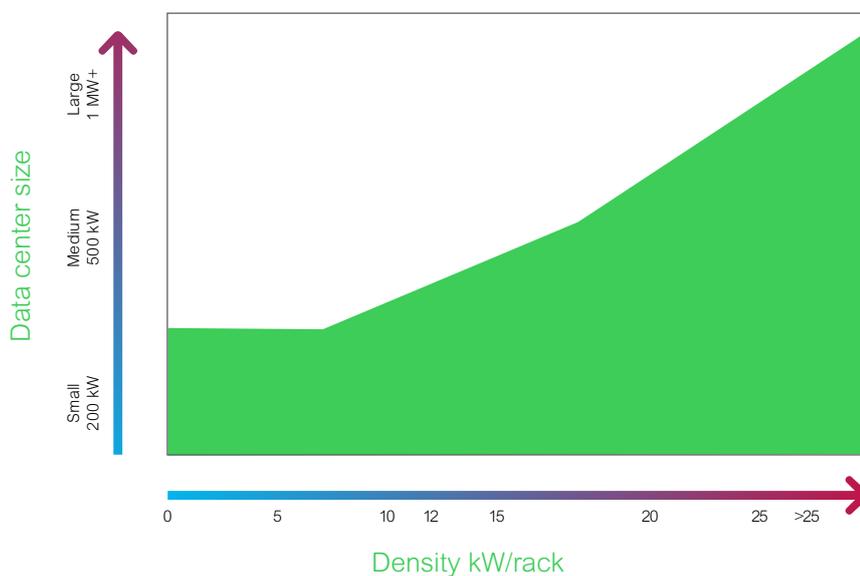
Uniflair InRow Cooling

Up to 70 kW

Close-coupled cooling for small to large data centers

The Uniflair InRow Cooling product design closely couples the cooling with the IT heat load. An unpredictable data center environment is common among IT managers. In today's data centers, traditional cooling approaches involve complex air distribution systems that tend to be unpredictable and leave many customers guessing where the cold air goes. With the Uniflair InRow cooling products, Schneider Electric has taken the guesswork out of data center cooling. Placing the unit in the row of racks moves the source of cooling closer to the heat load. This minimizes air mixing and provides a predictable cooling architecture.

- Scalability
- Predictability at the rack and row level
- High density zones in larger data centers



Total cost of ownership: Uniflair InRow units are ideally suited for small and medium data centers as well as high density zones in data centers of any size.



“Choosing Between Room, Row, and Rack-based Cooling for Data Centers”
Check out [White Paper #130](#)



Flexibility

Modular and tailored solutions
for any application

Availability

Continuous operation to safeguard
the customer's business

Energy saving

Technological excellence for
efficient performance

Close-coupled architecture

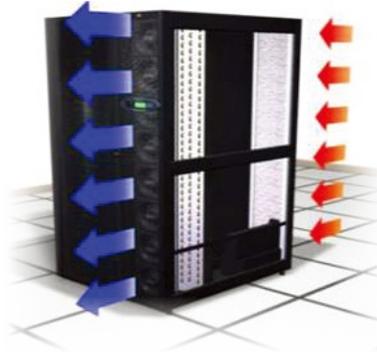
Flexible, reliable, standardized solutions

- Modular unit design allows a pod/zone expansion as IT needs change and grow
- Greenfield/brownfield environments
- Raised/slab floor
- Room neutral
- Non-conventional IT spaces/office space
- Worldwide availability.

Predictable solution for the unpredictable environment

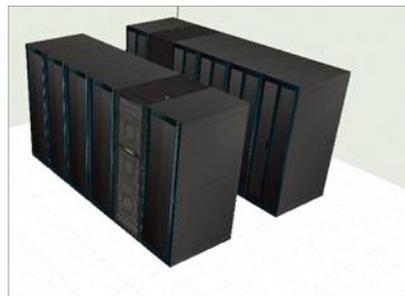
A close-coupled cooling architecture moves the cooling unit from a traditional perimeter placement to a location that is in the row or above the IT racks.

The Uniflair InRow unit targets the heat that is generated by the IT equipment by pulling the hot air directly from the hot aisle where the heat is generated. The unit removes the heat and supplies cool air into the cold aisle/environment, which is the source of cool air for the IT equipment.

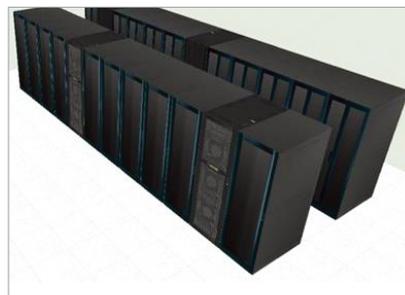


Uniflair InRow cooling products are designed by combining cutting-edge technology with extensive tests for energy efficiency and continuous availability.

Energy savings, complete reliability, and total flexibility guarantee TCO reduction.



Initial deployment



Expansion



Final deployment

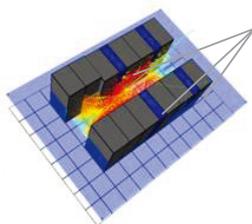
30 kW

per rack with minimum floor space

+80%

of additional capacity* by capturing the heat at the source

*29.4 °C (85 °F) vs. 22.2 °C (72 °F) return air temperature



Cooling units

Close coupling keeps the hot air in the hot aisle



Uniflair InRow cooling with EcoAisle containment maximizes efficiency and predictability

Active response controls

Increase availability by actively responding to thermal changes

- Built into the microprocessor controller
- Provides visibility into the unit's operation, health, and capacity

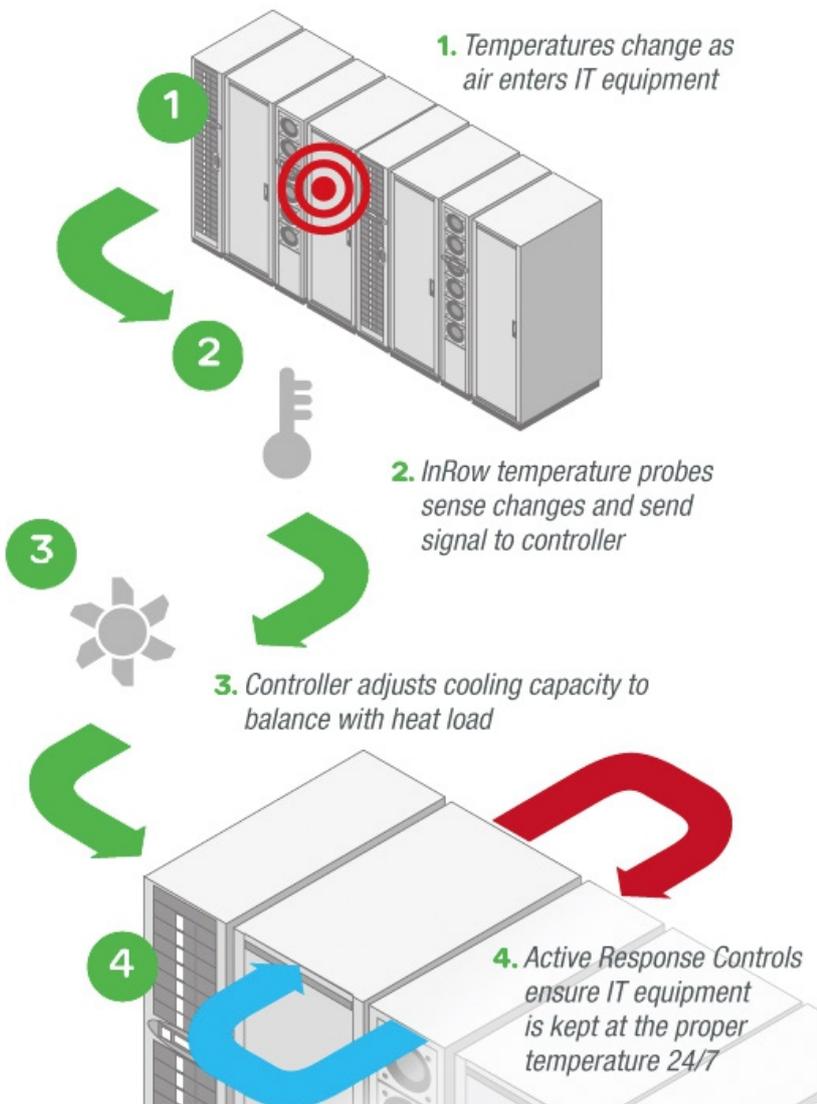
40%

energy savings when paired with active flow controller

100%

predictable redundancy per pod/cluster*

*Each cluster is designed for N+1 redundancy



Uniflair Chilled Water InRow Cooling

Up to 70 kW



Standard features

Water side economization

- Allows maximum capacity at elevated water temperatures

Dual power inputs

- Offers redundancy and protection

Top/bottom piping and power connection

- Flexibility of installation
- Field configurable

Variable speed fans

- Reduce energy consumption during off-peak hours

Intelligent control

- Network manageability, real-time capacity monitoring, predictive failure notification, and rack inlet temp control.

Air filter

- Removes airborne particles and protects cooling coil

Casters and leveling feet

- Easily adjustable leveling from top down

Integrated baying brackets

- 24 in. or 600 mm spacing options
- Bays with other APC rack and power products

Field configurable two-way or three-way chilled water flow operation

Remote temperature probe to control rack inlet temperature

Factory-installed condensate pump (except models with optional dew point control)

Dew point control pump

Technical data

Model	300 mm (12 in.) wide		600 mm (24 in.) wide
Capacity	Up to 40 kW	Up to 60 kW	Up to 70 kW
Input voltage	100 – 240 V, 1 ph, 50/60 Hz	208 – 230 V, 1 ph, 50/60 Hz	200 V – 240 V, 3 ph, 50/60 Hz 380 V – 415 V, 3 ph, 50/60 Hz 460 V – 480 V, 3 ph, 60 Hz
Fans	Variable speed EC propeller fans (hot swappable)		Variable speed EC plug fans
Condensate management	Dual-float condensate pump	Dew point control (optional)	Dual-float condensate pump
Options	Cable water detector		Electric reheat humidification cable water detector
Controls	4.3 in. touch-screen display with active response controls		Four-Line Alpha Numeric Display with Active Response Controls
Communications	Network transport layer security protocols: SNMP, Telnet, HTTP, HTTPS, Modbus TCP/IP, FTP Serial Protocols: RS-232 Console, RS-485 Modbus RTU remote monitoring		
Dimensions			
Height	1991 mm (78.4 in.)		1991 mm (78.4 in.)
Length	300 mm (11.8 in.)		600 mm (23.6 in.)
Depth	1095 mm (43.1 in.)		1070 mm (42.1 in.)

Options/accessories



Flexible piping



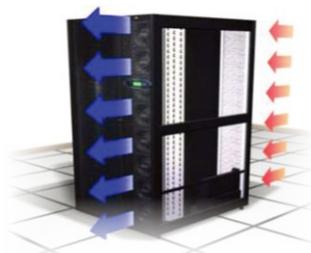
Active flow controller



Height adapters



Uniflair chillers



Rack air containment



Thermal containment

Chilled water distribution unit

Up to 12 InRow RC (ACRC301S) cooling units



Standard features

Top/bottom piping connection

- Flexibility of installation
- Field configurable

Isolation and balancing valve

- Allows isolation and coolant flow adjustments for installation and service

Casters and leveling feet

- Easily adjustable leveling from top down

Insulated piping headers

- Prevents condensation in the unit

Options/accessories



Flexible piping

Technical data

Model	ACFD12
Capacity	Up to 10.1 lps (160 GPM)
Dimensions	
Height	1991 mm (78.4 in.)
Length	1070 mm (42.1 in.)
Depth	750 mm (29.5 in.)

Uniflair Direct Expansion InRow Cooling

Up to 42 kW



Standard features

Highest energy efficiency

- Integrated economizer coil to maximize free cooling

Variable capacity control

- Allows for low load handling capabilities

Top/bottom piping and power connection

- Flexibility of installation
- Field configurable

Variable speed fans

- Reduce energy consumption during off-peak hours

Intelligent control

- Network manageability, real-time capacity monitoring, predictive failure notification, and rack inlet temp control.

Condensing unit design

- Available both in water cooled and air-cooled condensing unit options
- Minimizes service in the whitespace and easy service access for ACRD300

Air filter

- Removes airborne particles and protects cooling coil

Casters and leveling feet

- Easily adjustable leveling from top down

Integrated baying brackets

- 24 in. or 600 mm spacing options
- Bays with other APC rack and power products

Lead/lag functionality

Remote temperature probe to control rack inlet temperature

Factory-installed condensate pump

Options

Precision control

- Humidifier and re-heater

Low ambient

- -40C ambient application

Technical data

Model	300 mm (12 in.) wide		600 mm (24 in.) wide
Capacity	Up to 10 kW	Up to 30 kW	Up to 42 kW
Input voltage	208 – 230 V, 1 ph, 60 Hz 220 – 240 V, 1 ph, 50 Hz		200 V – 240 V, 3 ph, 50/60 Hz 380 V – 415 V, 3 ph, 50/60 Hz 460 V – 480 V, 3 ph, 60 Hz
Heat rejection	Air-cooled Fluid-cooled Self-contained	Air-cooled condensing unit Fluid-cooled condensing unit	Water-cooled
Fans	Variable speed EC propeller fans (hot swappable)		Variable speed EC plug fans
Condensate management	Dual-float condensate pump		Dual-float condensate pump
Options	Electric reheat Humidification Cable water detector		Electric reheat Humidification Cable water detector
Controls	Four-Line Alpha Numeric Display with Active Response Controls	4.3 in. touch-screen display with active response controls	4.3 in. touch-screen display with active response controls
Communications	Network transport layer security protocols: SNMP, Telnet, HTTP, HTTPS, Modbus TCP/IP, FTP Serial Protocols: RS-232 Console, RS-485 Modbus RTU remote monitoring		
Dimensions			
Height	1991 mm (78.4 in.)		1991 mm (78.4 in.)
Length	300 mm (11.8 in.)		600 mm (23.6 in.)
Depth	1095 mm (43.1 in.)		1070 mm (42.1 in.)

Options/accessories



Heat rejection



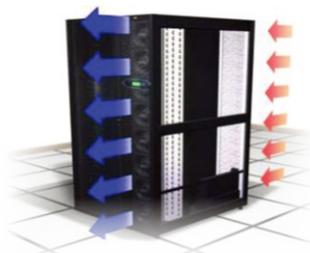
Active flow controller



Height adapters



Data and power troughs



Rack air containment



Thermal containment

Uniflair Economizer Cooling

Up to 27 kW



Standard features

Integrated Economizer Coil

- Ensure highest energy efficient and lowest carbon footprint in Data Center.
- Provide 100% mechanical cooling or hybrid or 100% freecooling.

Fluid / Water cooled condensing unit design

- Avoid water inside the white / IT space.
- All critical parts are away from the InRow to ensure Hassle-free operation.
- Easy to deploy and easy to service.

Dual Power Inputs

- InRow unit has dual input power with ATS, this ensures the reduced power infrastructure cost.
- Offers redundancy and protection.

Variable speed hot swappable fans

- Reduce energy consumption during off-peak load.
- In case of fan failure unit will deliver continuous cooling and quick replacement.

Variable speed compressor

- Reduce energy consumption during off-peak load.

Intelligent control

- Network manageability, real-time capacity monitoring, predictive failure notification and rack inlet temp control.

Air filter

- Removes airborne particles and protects cooling coil.

Casters and leveling feet

- Easily adjustable leveling from top down.

Integrated baying brackets

- 24 in. or 600 mm spacing options.
- Bays with other APC rack and power products.

Lead/lag functionality

Remote temperature probe to control rack inlet temperature

Factory-installed condensate pump

Options

Precision control

- Humidifier and re-heater.

Low ambient

- -40C ambient application.

Technical data

Model	300 mm (24 in.) wide	
Capacity	Up to 27 kW	
Input voltage	200 V – 240 V, 1 ph, 50/60 Hz (InRow unit) 200 V – 240 V, 3 ph, 50/60 Hz (Condensing unit) 380 V – 415 V, 3 ph, 50/60 Hz (Condensing unit) 460 V – 480 V, 3 ph, 60 Hz (Condensing unit)	
Heat rejection	Fluid / Water - cooled	
Fans	Variable speed EC plug fans	
Condensate management	Dual-float condensate pump	
Options	Electric reheat Humidification	Dual Feeder (Condensing unit) Cable water detector
Controls	4.3 in. touch-screen display with active response controls	
Communications	Network transport layer security protocols: SNMP, Telnet, HTTP, HTTPS, Modbus TCP/IP, FTP Serial Protocols: RS-232 Console, RS-485 Modbus RTU remote monitoring	
Dimensions		
Height	1991 mm (78.4 in.)	
Length	600 mm (23.6 in.)	
Depth	1070 mm (42.1 in.)	

Options/accessories



Heat rejection



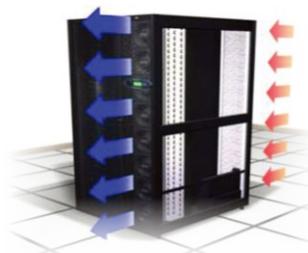
Active flow controller



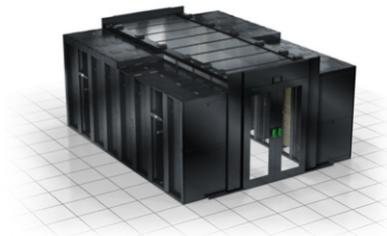
Height adapters



Data and power troughs



Rack air containment



Thermal containment

Uniflair InRow Twin Cooling

Up to 27 kW



Standard features

Integrated Twin Coil

- Ensure to have flexible and more resilience and less downtime for 'edge' and small and medium data centers.

Air- and Water-cooled condensing unit design

- Flexible to have air- or water-cooled condensing unit option as per site condition.
- Avoid water inside the white / IT space.
- All critical parts are away from the InRow to ensure Hassle-free operation.
- Easy to deploy and easy to service.

Dual Power Inputs

- InRow unit has dual input power with ATS, this ensures the reduced power infrastructure cost.
- Offers redundancy and protection.

Variable speed hot swappable fans

- Reduce energy consumption during off-peak load.
- In case of fan failure unit will deliver continuous cooling and quick replacement.

Variable speed compressor

- Reduce energy consumption during off-peak load.

Intelligent control

- Network manageability, real-time capacity monitoring, predictive failure notification and rack inlet temp control.

Air filter

- Removes airborne particles and protects cooling coil.

Castors and leveling feet

- Easily adjustable leveling from top down.

Integrated baying brackets

- 24 in. or 600 mm spacing options.
- Bays with other APC rack and power products.

Lead/lag functionality

Remote temperature probe to control rack inlet temperature

Factory-installed condensate pump

Options

Precision control

- Humidifier and re-heater.

Low ambient

- -40C ambient application.

Technical data

Model	300 mm (24 in.) wide	
Capacity	Up to 27 kW	
Input voltage	200 V – 240 V, 1 ph, 50/60 Hz (InRow unit)	
Heat rejection	Water-Cooled or Air-Cooled and CW	
Fans	Variable speed EC plug fans	
Condensate management	Dual-float condensate pump	
Options	Electric reheat Humidification	Dual Feeder (Condensing unit) Cable water detector
Controls	4.3 in. touch-screen display with active response controls	
Communications	Network transport layer security protocols: SNMP, Telnet, HTTP, HTTPS, Modbus TCP/IP, FTP Serial Protocols: RS-232 Console, RS-485 Modbus RTU remote monitoring	
Dimensions		
Height	1991 mm (78.4 in.)	
Length	600 mm (23.6 in.)	
Depth	1070 mm (42.1 in.)	

Options/accessories



Heat rejection



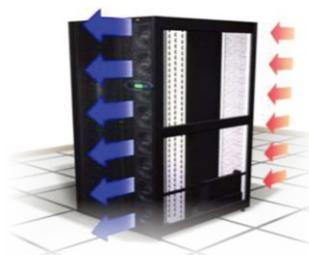
Active flow controller



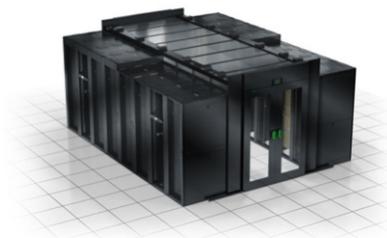
Height adapters



Uniflair chillers



Rack air containment



Thermal containment

Life Is On



To learn more about Schneider Electric cooling solutions visit
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