



# Uniflair Direct Expansion InRow Cooling

Up to 42kW



## InRow DX range

Close-coupled cooling for closets, server rooms, and data centers. The Uniflair Direct Expansion InRow products are available in a wide range of sizes and heat rejection methods.

- Self-Contained units in a 300 mm wide cabinet.
- The 300mm units are available in air cooled and fluid cooled models.
- The 600mm units are available air cooled only and have a precision cooling versions with humidifiers and reheat.

## Benefits

- Uniflair Direct Expansion InRow Cooling product design closely couples the cooling with the IT heat load.
- This design prevents hot air recirculation, while improving cooling predictability and allowing for a pay as you grow environment.
- IT operators looking to improve efficiency or deploy higher density equipment will benefit from the modular design of the Uniflair Direct Expansion InRow Cooling products.
- The intelligent controls of the Uniflair Direct Expansion InRow Cooling products actively adjust fan speed and refrigerant flow to match the IT heat load to maximize efficiency and address the dynamic demands of today's IT environments.

# Features and Benefits

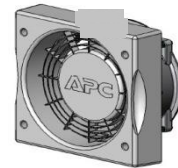
## Availability

- Active Response Controls monitor and actively adjust cooling capacity to ensure proper server inlet temperatures
- Variable Speed Compressors or Hot Gas Bypass allows for low load handling capabilities
- Placing the unit in the row of racks moves the source of cooling closer to the heat load. This eliminates air mixing and provides a predictable cooling architecture



## Total Cost of Ownership

- Close Coupled Cooling improves operational efficiency 30%-50% over traditional data center cooling approaches
- Variable Speed Fans reduce energy consumption during off-peak cooling periods and adapt to unpredictable power densities



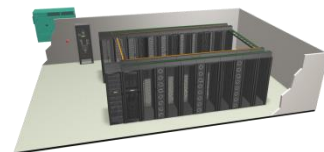
## Flexibility

- Adapts to work in both new and existing data center environments
- Multiple Heat Rejection Methods – Flexibility to deploy in a variety of configurations including air and fluid based designs



## Serviceability

- Modular components simplify replacement and reduce mean time to repair
- System remains operational during fan replacement (300mm only)
- Row based equipment allows for all serviceable components to be replaced/maintained in the hot or cold aisles
- Retractable electronics module for easy service (300mm only)
- Easy to maintain, cleanable, deep loading mesh filter removes particles from the return air stream



## Manageability

- Real time display of current and available cooling
- StruXureware DCIM compatible
- Microprocessor controller – color touch screen display
- Building management system integration



# Uniflair Direct Expansion InRow Cooling 300mm

Air cooled row-based cooling for closets, server rooms, edge and data centers.

## Up to 30kW

- **Variable speed hot swappable fans** reduce energy consumption during off-peak cooling periods. Integrates directly with the Active Flow Controller for differential pressure air flow modulation.
- **Active Flow Control (AFC) compatible.** Hands-free, automatic airflow control. Quickly adapts to any IT load changes.
- **4.3" Color touchscreen display.** Easy-to-read system status information and a simple user interface, provides realtime capacity and power monitoring.
- Top or bottom **pipng** connections
- **Modular Design.** Provides scalable solutions to add cooling as demand increases. Compatible with EcoAisle containment and HyperPod.
- **Less restricted airflow,** means lower fan energy and increased total efficiency.
- **VFD Brushless Scroll Compressor**
- **Outdoor Condensing Unit** minimizes service in the whitespace. Provide easy service access and faster response to temperature change
- **Casters** allow for easy unit movement during installation
- **Washable return air filters** remove particles and keep the facility clean.
- **Slide Out Electrical Panel** allows easy access to control connections.
- **Evaporator Coil** designed for high sensible heat ratio cooling
- **Electric reheat controls** temperature during dehumidification (ACRD301P)
- **Humidifier** maintains moisture level (ACRD301P)
- **Leak Detection.** Rope-style leak detection for peace of mind
- **Active Response Control.** Monitors adjust cooling capacity The microprocessor controller provides visibility into the operation and health of the unit.
- **Electronic Expansion Valve** provides quick response to temperature changes in the cold aisle. This maintains the setpoint within close tolerances



# Uniflair Direct Expansion InRow Cooling 600mm

Air cooled, row-based cooling for small to medium data centers.

Up to 42kW

- **Variable speed fans** reduce energy consumption during off-peak hours
- **Intelligent control** offer network manageability, real time capacity monitoring, predictive failure notification, and rack inlet temperature control
- **Electric reheat controls** temperature during dehumidification (RD60xP only)
- **Top or bottom piping connections**
- **Remote probe guarantees** inlet temperature to IT equipment.
- **Humidifier** maintains moisture level (RD60xP only)
- **Variable speed scroll compressor** using VFD control
- **Condensate management** – factory installed pump removes water from the unit, ensuring continuous operation.
- **Casters** allow for easy movement



# Uniflair Direct Expansion InRow Cooling 300mm

Air, water, and glycol cooled row-based cooling for closets, server rooms, and data centers.

## Up to 10kW

- **Variable speed, hot-swappable fans** reduce energy consumption during off-peak hours and allow system to remain operational if a replacement is required
- **Rear retractable electronics module** allows for easy service access.
- **Intelligent control** offer network manageability, real time capacity monitoring, predictive failure notification, and rack inlet temperature control.
- Top or bottom **pipng connections**
- **Remote probe** guarantees inlet temperature to IT equipment
- **Capacity Regulation** prevents compressor cycling through the use of hot gas bypass
- **Scroll compressor**
- **Condensate management** – factory installed dual pumps remove water from the unit, ensuring continuous operation
- **Casters** allow for easy movement

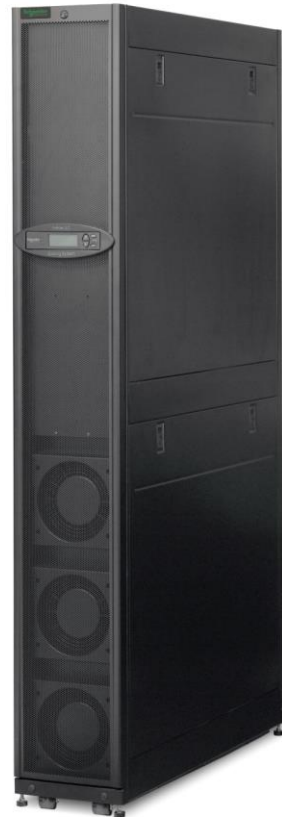


# Uniflair Direct Expansion InRow Cooling Self-Contained

Air cooled, self-contained row-based cooling for closets and server rooms.

Up to 7kW

- **PowerView** for real time capacity monitoring and easy operation. User interface is network manageable.
- **High Head Pressure Protection** – modulates fans to prevent unit from shutting down when condenser airflow is restricted or very high temperature.
- **Coil Freeze Protection** – hot gas bypass prevents evaporator coil from freezing during light load conditions
- **Remote probe** guarantees inlet temperature to IT equipment
- **Variable speed, hot-swappable fans** reduce energy consumption during off-peak hours and allow system to remain operational if a replacement is required
- **Condensate management** – factory installed pump removes water from the unit, ensuring continuous operation
- **Casters** allow for easy movement





# Performance Specifications

	ACRD60x	ACRD301x	ACRD10x	ACRD20x	ACSC10x
Net Sensible Cooling Capacity (kW)]	30.0	24.1	09.5	12.1	05.3
Nominal Airflow (m3/h)	6900	5800	3800	3800	2000
Dimensions H x W x D (mm)	1991 x 300 x 1070	1991 x 300 x 1095	1991 x 300 x 1095	1991 x 300 x 1095	1991 x 300 x 1095

*The performance calculated with air inlet temperature of 30C and ambient temperature (water inlet temp. for ACRD20x) of 35C*

Note: All values are accurate to +/- 5% and based on full fan speed with standard filters and 95F (35C) Condenser entering air. Net cooling data is published above

All tests were performed at 100% evaporator fan speed except as noted

1 Airflow reduced to 1000 CFM (1700 m3/hr) at this condition to maintain appropriate suction temperature

2 Airflow reduced to 600 CFM (1020 m3/hr) at this condition to maintain appropriate suction temperature

3 Airflow reduced to 850 CFM (1440 m3/hr) to maintain appropriate suction temperature. Represents conditions with front and rear containment

Note: Minimum recommended heat load is 3kW per Uniflair Direct Expansion InRow Cooling Self-Contained unit, depending on room conditions