



# Uniflair Indirect Free Cooling Room Cooling LDEV

Uniflair Indirect Free Cooling Room Cooling with Fixed Speed scroll compressors  
60 – 140 kW

**Uniflair Indirect Free Cooling Room Cooling LDEV precision air conditioners for IT and mission critical applications.**

- Cooling capacity: 60 ÷ 140 kW
- Energy saving
- Fixed speed scroll compressors
- Downflow configuration
- Refrigerant R410A
- EC fans



# System Architecture: standard features

## Air filters

- Standard high efficiency EU4-pleated air filters housed in a dedicated plenum box
- Dirty filter differential pressure switch
- Low airflow differential pressure switch

## Cooling coil

- Heat exchanger coils designed for high sensible heat ratio (SHR) and reduced pressure drops
- Made from copper tubes mechanically expanded on aluminum fins
- Hydrophilic coil coating

## New microprocessor controller

- 7-inch, touch-screen LCD display interface
- Integrated management of the EEV and refrigerating circuit parameters
- Full management of the condenser status including single fan status
- Grouping logic integrated
- RS485 and TCP/IP card bus integrated targeting the main communication protocols
- Native communication with StruxureWare system, NetBotz remote sensors
- USB and Service port integrated in the display interface



## Frame

- Self-supporting frame in galvanized steel with panels
- External panels coated with RAL9003 epoxy-polyester paint
- Internal panels with captive screws
- Internally lined with heat and sound-proofing insulation
- Refrigeration circuit inspection with unit active
- Side panels with coil inspection opening

## Fixed speed scroll compressor

- High energy efficiency in full load conditions
- Extended operating conditions
- Equipped with Intermediate Discharge Valves (IDVs)

## Electrical panel

- Three-phase power supply 400 V/3 Ph+N/50 Hz for all the units with a single or a double power supply
- Low voltage secondary circuit 24 Vac with isolation transformer
- Metal isolating screen for protection from live components
- General isolator with mechanical interlock
- Thermo magnetic circuit-breakers for protection
- Terminal board for no-voltage signal and control contacts

## Electronically Commuted Radical fans

- High-tech compound material impellers with optimized flow control
- High efficiency Green Tech EC motors
- Low power consumption
- High part-load efficiency
- Fan speed regulation by Modbus signal
- Regulate airflow based on actual thermal load
- Easy serviceability with quick removal kit

# Main configurable options

## Additional accessories

- Suction from the top and front discharge plenums: they can be equipped with soundproofed insulation or with high efficiency air filters
- Back and top suction direct free-cooling plenum
- Floor stands (200mm height)
- Floor stands with motorized damper (500mm height)
- Motorized damper
- Adjustable baseframe (200 – 600 mm)
- Fire and smoke sensors
- Water leak detector
- Room air temperature / humidity sensor

## Power supply

- Single power supply
- Double power supply with automatic commutation to provide redundancy and ensure a constant power supply

## Construction options

- Top air return with bottom or front discharge for downflow units (without additional floor stands)
- Standard, cleanable or low conductivity humidifier (cooling + humidification configuration)
- Condensate drain pump (cooling only and cooling + dehumidification configurations)
- Standard electrical heaters with extended fins, complete with double safety thermostat and manual resetting
- EU4 (standard) or EU5 air filters with or without motorized damper
- Power phase capacitors
- Energy meter and CO<sub>2</sub> emission calculator
- Automatic Floor Pressurization System through Active Floor Control (AFC)

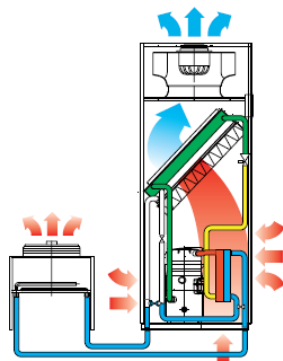
# Indirect Free Cooling system

The Indirect Free Cooling operation leverage on free cooling effect when the outdoor temperature is low enough to minimize energy consumption and it is not dependent on the quality of the outdoor air since it does not enters directly the data center.

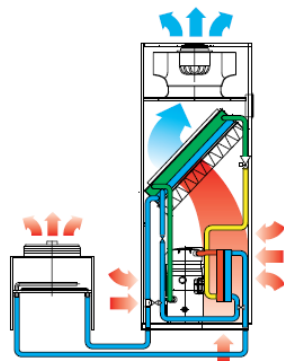
The patented system is composed by three flow control valves (that replace a 3-way valve) to stabilize the pressure of heat transfer fluid between different operating modes (only mechanical, hybrid, total free-cooling) and minimize pressure drops

Free Cooling is provided without the need to operate compressors and does not depend upon pulling outside air into the space (Indirect Free Cooling). This guarantees stable humidity and air quality in the space.

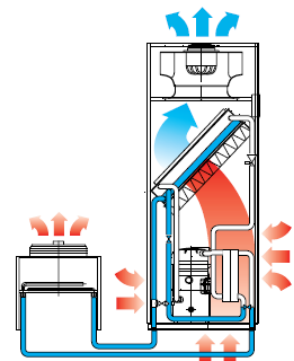
Uniflair Indirect Free Cooling Room Cooling units are designed to operate in three different modes (Fig. a, b and c)



a) Mechanical mode



b) Hybrid mode



c) Free-cooling / Economization mode

# Technical data – LDEV

LDEV models		2422A	2722A
Fan type		EC backward-curved centrifugal motor fan	
Power supply	V/ph/Hz	400 / 3ph / 50 Hz	
Fans	nr.	2	2
Air flow	m3/h	20000	26000
Gross total cooling capacity <sup>1,2</sup>	kW	108.9	133.7
Gross sensible cooling capacity <sup>1,2</sup>	kW	108.9	133.7
Fan power consumption <sup>1,2</sup>	kW	3.8	5.0
Compressor Power Consumption	kW	14.9	17.0

1: Gross cooling capacities; fans must be deducted to obtain net cooling data

2: Data refer to nominal conditions: Room at 35 °C – 30% RH, outlet/inlet water temperature 35/30 °C, 20% glycol, cooling capacities in Hybrid mode (DX+FC)



## Dimensions

LDEV models		2422A	2722A
Height	mm	2150	2150
Length	mm	2082	2650
Depth	mm	900	900

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[se.com/cooling](http://se.com/cooling)

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