



Uniflair Water Cooled Room Cooling LDWV

Uniflair Direct Expansion Water Cooled Room
Cooling with Fixed Speed scroll compressors
60 – 140 kW



**Uniflair Water Cooled Room Cooling precision
air conditioners for IT and mission critical
applications.**

- Cooling capacity: 60 ÷ 140 kW
- Water-cooled
- 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

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

Fixed speed scroll compressor

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

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

Brazed plate condenser

- Design for maximizing energy efficiency
- Made of stainless steel

Main configurable options

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 CO₂ emission calculator
- Automatic Floor Pressurization System through Active Floor Control (AFC)

Condensing control valves

- Pressostatic valve to vary the water flow through the brazed plate heat exchanger to control the condensing temperature and let the compressor operate within its own operating envelope with the highest efficiency
- Condensing pressure regulation valve (flooding valve) to maintain a minimum condensing pressure even with low water inlet temperature. The flooding 3-way valve is installed at the outlet of the condenser

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

Technical data – LDVV

LDVV models		2422A	2522A	2722A	3822A
Fan type		EC backward-curved centrifugal motor fan			
Power supply	V/ph/Hz	400 / 3ph / 50 Hz			
Fans	nr.	2	2	2	3
Air flow	m3/h	20000	24300	26000	27000
Gross total cooling capacity ^{1,2}	kW	101.0	109.9	119.4	160.7
Gross sensible cooling capacity ^{1,2}	kW	101.0	109.9	119.4	160.7
Fan power consumption ^{1,2}	kW	3.00	3.48	4.15	4.24
Compressor Power Consumption	kW	14.8	14.4	17.1	27.2

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, 0% glycol



Dimensions

LDVV models		2422A	2522A	2722A	3822A
Height	mm	2150	2150	2150	2150
Length	mm	2082	2650	2650	2650
Depth	mm	900	900	900	900

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