

# Uniflair LE TDDV-TUDV

Twin cool water-cooled units with backward-curved fans equipped with EC motor

20-100kW



**Perimeter cooling for  
medium/large data center**

- > Refrigerant R-410A
- > EC Fans

**Available Versions:**

- > Downflow (TDDV)
- > Upflow (TUDV)

# Main Technical Features

## Microprocessor control

- Local or remote user terminal
- Integrated management of the Electronic Expansion Valve and refrigerating circuit parameters
- Integrated LAN card for group connection
- Rotation and active stand-by management
- Remote on/off
- Modbus protocol interface
- Other external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform.

## Expansion Valve

- EEV Controlled by the microprocessor and a dedicated software
- Increased cooling precision
- Increased energy efficiency of the cooling cycle
- Chilled water circuit equipped with a three-way valve and an actuator integrated with the microprocessor.

## Fans

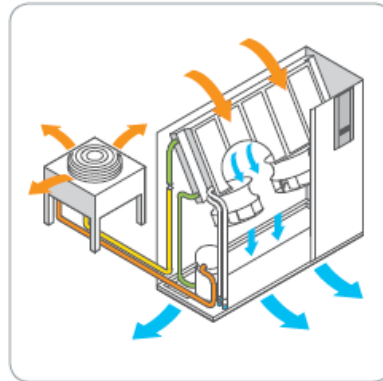
- High-efficiency backward-curved
- Directly-coupled asynchronous motor



Downflow unit with backward-curved fans

## Twin-cool air-cooled

- Two independent cooling circuits:
  - Chilled water
  - Water-cooled direct expansion
- Where an installation has a chilled water source which cannot guarantee continuous service, priority is given to the chilled water circuit, with the microprocessor control automatically starting direct expansion operation if the chilled water supply fails or if the water is not cold enough.
- Alternatively, the unit controls can prioritize direct expansion cooling, activating chilled water operation only in the event of a compressor malfunction.



*Note: This configuration is shown only as an example.*

# Main Technical Features

## Cooling coil

- Elevated SHR and reduced pressure drops in the air section
- Made from copper tubes mechanically expanded on aluminum fins
- Hydrophilic treatment
- Interlaced chilled water and direct expansion circuits to increase the efficiency in all running conditions

## Condenser

- Internal brazed water-cooled condenser
- Made from AISI 304 stainless steel

## Air filters

- EU4-pleated air filters housed in a metal frame
- Dirty filter differential pressure switch
- Low airflow differential pressure switch



*Metal frame air filter*

## Construction Options

- Immersed electrode humidifier (D/U versions)
- Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
- Hot gas and hot water reheating
- Condensation control on refrigerant side with constant water flow

## Frame

- Self-supporting frame in galvanized steel with panels
- External panels coated with RAL9003 epoxy-polyester paint
- Internally lined with heat and sound-proofing insulation

## Electrical panel

- Situated in a compartment separated from the air flow
- Complying with 2006/95/EC directive and related standard

## Directives compliance

- 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation

## Compressors

- Possibility to select units with two tandem compressors for each circuit (models with the \*\*21 or \*\*42 suffix)
- Better efficiency and regulation capacity at partial loads

## External Accessories

- Remote, semi-graphic user terminal
- RS485 serial adaptor to communicate with external BMS
- LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
- TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
- AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
- Motorized damper
- Condensate drain pump
- Suction from the top or front discharge plenums
- Adjustable floor stands

# Technical Data

TDDV Model			0611A	0921A	1321A	1622A	1822A	2242(4)	2542A(4)	2842A(4)	
Fan Type		EC Backward-curved centrifugal motor fan									
Power supply		V/ph/Hz	400/3/50Hz								
Fans		Nr.	1	1	2	2	2	3	3	3	
Airflow		m3/h	5700	8600	12320	16000	16000	21500	21500	21500	
N° of compressors			1	2	2	2	2	4	4	4	
Refrigerating Circuits			1	1	1	2	2	2	2	2	
DX	Gross Total Cooling Cap.(1) (2)	kW	23,7	30,4	46,6	55,9	60,5	90,3	87,7	95,8	
	Gross Sensible Cooling Cap.(1) (2)	kW	20,8	28,7	40,3	55,9	56,0	79,0	74,9	77,1	
CW	Gross Total Cooling Cap.(1) (3)	kW	20,2	28,5	40,1	54,1	54,1	96,6	96,6	96,6	
	Gross Sensible Cooling Cap.(1) (3)	kW	20,1	28,3	39,9	53,9	53,9	95,7	95,7	95,7	
<b>DIMENSIONS</b>											
Height		mm	1960	1960	1960	1960	1960	2150	2150	2150	
Length		mm	1010	1310	1720	2170	2170	2580	2580	2580	
Depth		mm	750	865	865	865	750	865	865	865	
TUDV Model			2242A	2542A	2842A						
Fans		Nr.	3	3	3						
Airflow		m3/h	22000	22500	22500						
N° of compressors			4	4	4						
Refrigerating Circuits			2	2	2						
DX	Gross Total Cooling Cap.(1) (2)	kW	90,6	88,3	96,4						
	Gross Sensible Cooling Cap.(1) (2)	kW	80,1	76,9	79,0						
CW	Gross Total Cooling Cap.(1) (2)	kW	98,3	100,0	100,0						
	Gross Sensible Cooling Cap.(1) (2)	kW	97,4	99,0	99,0						
<b>DIMENSIONS</b>											
Height		mm	1960	1960	1960						
Length		mm	2580	2580	2580						
Depth		mm	865	865	865						

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.
2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.
3. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.
4. Data refers to Downflow unit.