

Uniflair LE TDEV-TUEV

Energy-saving 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 (TDEV)
- > Upflow (TUEV)

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.

Electronic Expansion Valve

- Controlled by the microprocessor and a dedicated software
- Increased cooling precision
- Increased energy efficiency of the cooling cycle

Condenser

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

Fans

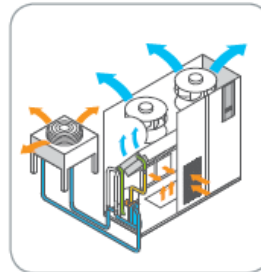
- Electronically Commuted
- Fan speed adjustment via microprocessor control
- High partial load efficiency



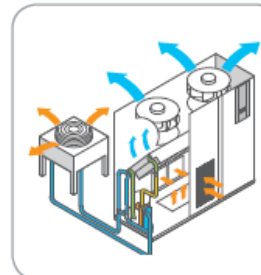
Backward-curved blades fan with EC motor

Indirect free cooling

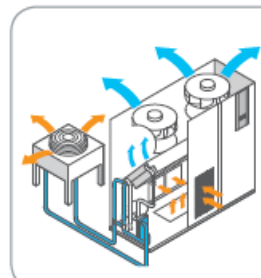
- Provides the required cooling capacity when the external temperature is lower than the internal ambient
- Compressor power consumption is minimized while internal and external environments are kept separate



Mechanical cooling operation



Mixed cooling operation



Free-cooling operation

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

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

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

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

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/1

TDEV –TUEV Model			0511A	0611A	0721A	0722A	0921A	0922A	1021A	
Fan Type		EC Backward-curved centrifugal motor fan								
Power supply		V/ph/Hz	400/3/50Hz							
Fans		Nr.	1	1	1	1	1	1	1	
Airflow		m3/h	5700	5700	8600	8600	8600	8600	8600	
N° of compressors			1	1	2	2	2	2	2	
Refrigerating Circuits			1	1	1	2	1	2	1	
DX	Gross Total Cooling Cap.(1) (2)	kW	19,1	23,7	27,0	28,4	30,4	32,2	34,6	
	Gross Sensible Cooling Cap.(1) (2)	kW	19,1	20,8	27,0	28,4	28,7	28,0	30,5	
CW	Gross Total Cooling Cap.(1) (3)	kW	20,2	20,2	28,5	28,5	28,5	28,5	28,5	
	Gross Sensible Cooling Cap.(1) (3)	kW	20,1	20,1	28,3	28,3	28,3	28,3	28,3	
DIMENSIONS										
Height		mm	1960	1960	1960	1960	1960	1960	1960	
Length		mm	1010	1010	1310	1310	1310	1310	1310	
Depth		mm	750	750	865	865	865	865	865	
TDEV –TUEV Model			1021A	1121A	1122A	1321A	1322A	1422A	1622A	
Fans		Nr.	1	1	2	2	2	2	2	
Airflow		m3/h	8600	12320	12320	12320	12320	16000	16000	
N° of compressors			2	2	2	2	2	2	2	
Refrigerating Circuits			2	1	2	1	2	2	2	
DX	Gross Total Cooling Cap.(1) (2)	kW	37,1	36,9	39,2	46,6	49,7	49,7	55,9	
	Gross Sensible Cooling Cap.(1) (2)	kW	30,4	36,9	37,4	40,3	39,9	49,7	55,9	
CW	Gross Total Cooling Cap.(1) (2)	kW	28,5	40,1	40,1	40,1	40,1	54,1	54,1	
	Gross Sensible Cooling Cap.(1) (2)	kW	28,3	39,9	39,9	39,9	39,9	53,9	53,9	
DIMENSIONS										
Height		mm	1960	1960	1960	1960	1960	1960	1960	
Length		mm	1010	1720	1720	1720	1720	2170	2170	
Depth		mm	750	750	865	865	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.

Technical Data/2

TDEV Model		1822A	2222A(4)	2242A(4)	2522A(4)	2542A(4)	2842A(4)
Fan Type		EC Backward-curved centrifugal motor fan					
Power supply		V/ph/Hz	400/3/50Hz				
Fans		Nr.	2	3	3	3	3
Airflow		m3/h	16000	21500	21500	21500	21500
N° of compressors			2	2	4	2	4
Refrigerating Circuits			2	2	2	2	2
DX	Gross Total Cooling Cap.(1) (2)	kW	60,5	78,2	83,5	86,1	87,7
	Gross Sensible Cooling Cap.(1) (2)	kW	56,0	71,3	77,6	74,4	74,9
CW	Gross Total Cooling Cap.(1) (3)	kW	54,1	96,6	96,6	96,6	96,6
	Gross Sensible Cooling Cap.(1) (3)	kW	53,9	95,7	95,7	95,7	95,7
Dimensions							
Height		mm	1960	1960	1960	1960	1960
Length		mm	1010	1010	1310	1310	1310
Depth		mm	750	750	865	865	865
TUEV Model			2222A	2242A	2522A	2542A	2842A
Fans		Nr.	3	3	3	3	3
Airflow		m3/h	22000	22000	22000	22500	22500
N° of compressors			2	4	2	4	4
Refrigerating Circuits			2	2	2	2	2
DX	Gross Total Cooling Cap.(1) (2)	kW	78,4	83,7	86,3	88,3	96,4
	Gross Sensible Cooling Cap.(1) (2)	kW	72,4	78,8	75,4	76,9	79,0
CW	Gross Total Cooling Cap.(1) (3)	kW	98,3	98,3	98,3	100,0	100,0
	Gross Sensible Cooling Cap.(1) (3)	kW	97,4	97,4	97,4	99,0	99,0
DIMENSIONS							
Height		mm	1960	1960	1960	1960	
Length		mm	2580	2580	2580	2580	
Depth		mm	750	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.