

Uniflair LE TDER-TUER

Energy-saving units with backward-curved fans

20-100kW



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

> Refrigerant R-410A

Available Versions:

- > Downflow (TDER)
- > Upflow (TUER)

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 precision of the cooling
- Increased energy efficiency of the cooling cycle

Fans

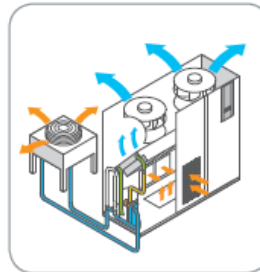
- High-efficiency backward-curved
- Directly-coupled asynchronous motor



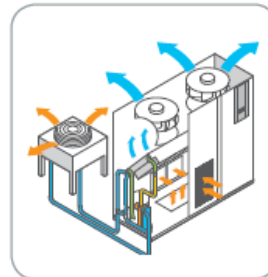
Downflow unit with backward-curved fans

Indirect free cooling

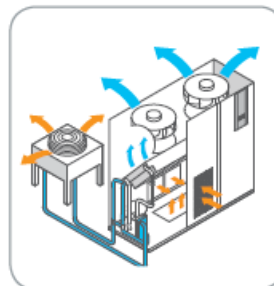
- Provides the required cooling capacity when the external temperature is lower than the internal ambient.
- Compressor power consumption is minimized while internal and external environments are kept separate.



Mechanical cooling operation



Mixed cooling operation



Free-cooling operation

Main Technical Features

Cooling coil

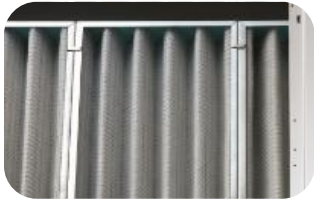
- Elevated SHR and reduced pressure drops in the air section
- Made from copper tubes mechanically expanded on aluminum fins
- Hydrophilic treatment
- Interlaced chilled water and direct expansion circuits to increase the efficiency in all running conditions

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

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
- Condensation control on refrigerant side with constant water flow

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

TDER-TUER Model		0511A	0611A	0721A	0722A	0921A	0922A	1021A	
Fan Type		Backward-curved centrifugal motor fan							
Power supply		V/ph/Hz	400/3/50Hz						
Fans		Nr.	1	1	1	1	1	1	
Airflow		m3/h	5827	5827	8541	8541	8541	8541	
N° of compressors			1	2	2	2	2	2	
Refrigerating Circuits			1	1	1	2	1	2	
DX	Gross Total Cooling Cap.(1) (2)	kW	19,2	23,8	27,0	28,5	30,4	32,1	34,6
	Gross Sensible Cooling Cap.(1) (2)	kW	19,2	21,1	27,0	28,5	28,5	27,9	30,3
CW	Gross Total Cooling Cap.(1) (3)	kW	20,5	20,5	28,3	28,3	28,3	28,3	28,3
	Gross Sensible Cooling Cap.(1) (3)	kW	20,4	20,4	28,2	28,2	28,2	28,2	28,2
DIMENSIONS									
Height		mm	1960	1960	1960	1960	1960	1960	
Length		mm	1010	1010	1310	1310	1310	1310	
Depth		mm	750	750	865	865	865	865	
TDER -TUER Model		1022A	1121A	1122A	1321A	1322A	1422A	1622A	
Fans		Nr.	1	1	2	2	2	2	
Airflow		m3/h	8541	13277	13277	13277	13277	15906	
N° of compressors			2	2	2	2	2	2	
Refrigerating Circuits			2	1	2	1	2	2	
DX	Gross Total Cooling Cap.(1) (2)	kW	37,1	37,3	39,3	47,0	50,2	49,6	55,9
	Gross Sensible Cooling Cap.(1) (2)	kW	30,3	37,3	39,3	42,3	41,5	49,6	55,9
CW	Gross Total Cooling Cap.(1) (2)	kW	28,3	41,9	41,9	41,9	41,9	54,0	54,0
	Gross Sensible Cooling Cap.(1) (2)	kW	28,2	41,7	41,7	41,7	41,7	53,7	53,7
DIMENSIONS									
Height		mm	1960	1960	1960	1960	1960	1960	
Length		mm	1010	1720	1720	1720	1720	2170	
Depth		mm	750	750	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

TDER Model		1822A	2222A(4)	2242A(4)	2522A(4)	2542A(4)	2842A(4)
Fan Type		Backward-curved centrifugal motor fan					
Power supply		V/ph/Hz	400/3/50Hz				
Fans		Nr.	2	3	3	3	3
Airflow		m3/h	15906	21809	21809	21809	21809
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	78,4	83,6	86,2	87,9
	Gross Sensible Cooling Cap.(1) (2)	kW	55,8	72,0	78,3	75,0	75,5
CW	Gross Total Cooling Cap.(1) (3)	kW	54,0	97,6	97,6	97,6	97,6
	Gross Sensible Cooling Cap.(1) (3)	kW	53,7	96,7	96,7	96,7	96,7
Dimensions							
Height		mm	1960	2150	2150	2150	2150
Length		mm	2170	2580	2580	2580	2580
Depth		mm	750	750	865	865	865
TUER Model			2222A	2242A	2522A	2542A	2842A
Fans		Nr.	3	3	3	3	3
Airflow		m3/h	22160	22160	23194	23194	23194
N° of compressors			2	4	2	4	4
Refrigerating Circuits			2	2	2	2	2
DX	Gross Total Cooling Cap.(1) (2)	kW	78,5	83,8	86,8	88,7	96,8
	Gross Sensible Cooling Cap.(1) (2)	kW	72,7	79,2	77,8	78,3	80,4
CW	Gross Total Cooling Cap.(1) (2)	kW	98,8	98,8	102,3	102,3	102,3
	Gross Sensible Cooling Cap.(1) (2)	kW	97,9	97,9	101,3	101,3	101,3
DIMENSIONS							
Height		mm	1960	1960	1960	1960	1960
Length		mm	2580	2580	2580	2580	2580
Depth		mm	750	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

4. Data refers to Downflow unit.