

# Uniflair LE TDAR-TUAR

Direct Expansion air-cooled units  
with backward-curved fans

20-100kW



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

> Refrigerant R-410A

**Available Versions:**

- > Downflow (TDAR)
- > Upflow (TUAR)

# Main Technical Features

## Microprocessor control

- Local or remote user terminal
- Regulation logic of cooling capacity and airflow integration
- 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

## Fans

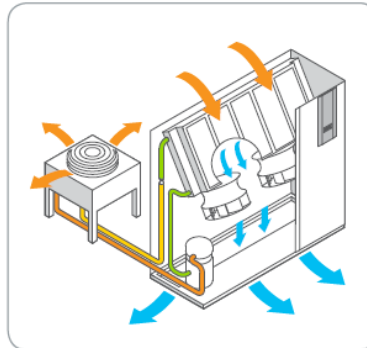
- High-efficiency backward-curved
- Directly-coupled asynchronous motor



Downflow unit with backward-curved fans

## Air-cooled Direct Expansion system

- Heat is extracted from the room and transferred to the outside air using air-cooled refrigerant heat exchangers (condensers)
- The room unit and external condenser form an autonomous sealed circuit
- A wide range of configurations available



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

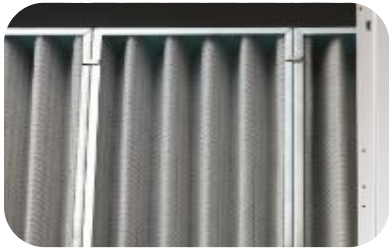
# Main Technical Features

## Cooling coil

- Elevated SHR and reduced pressure drops in the air section
- Made from copper tubes mechanically expanded on aluminum fins
- Hydrophilic treatment

## 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

## 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
- Suction from the top or front discharge plenums
- Adjustable floor stands

# Technical Data/1

TDAR-TUAR 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	5833	5833	7933	7933	7933	7933	7933
N° of compressors		1	1	2	2	2	2	2
Refrigerating Circuits		1	1	1	2	1	2	1
Gross Total Cooling Cap.(1) (2)	kW	20,4	25,0	25,8	25,6	34,1	33,9	37,1
Gross Sensible Cooling Cap.(1) (2)	kW	19,8	22,2	25,2	23,9	28,1	27,2	28,7
<b>DIMENSIONS</b>								
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
TDAR-TUAR Model		1022A	1121A	1122A	1321A	1322A	1422A	1622A
Fans	Nr.	1	1	2	2	2	2	2
Airflow	m3/h	7933	12267	12267	12267	12267	16406	16406
N° of compressors		2	2	2	2	2	2	2
Refrigerating Circuits		2	1	2	1	2	2	2
Gross Total Cooling Cap.(1) (2)	kW	36,9	37,8	37,9	47,7	47,7	51,6	57,5
Gross Sensible Cooling Cap.(1) (2)	kW	28,0	36,8	36,2	39,3	38,0	51,0	56,8
<b>DIMENSIONS</b>								
Height	mm	1960	1960	1960	1960	1960	1960	1960
Length	mm	1010	1720	1720	1720	1720	2170	2170
Depth	mm	865	865	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 , 45°C condensing temperature, and ESP = 20Pa.

# Technical Data/2

TDAR-TUAR Model		1822A	2222A(3)	2242A(3)	2522A(3)	2542A(3)	2842A(3)	3342A(3)
Fan Type	EC Backward-curved centrifugal motor fan							
Power supply	V/ph/Hz	400/3/50Hz						
Fans	Nr.	2	3	3	3	3	3	3
Airflow	m3/h	16406	21656	21656	21656	22046	22055	22055
N° of compressors		2	2	4	2	4	4	4
Refrigerating Circuits		2	2	2	2	2	2	2
Gross Total Cooling Cap.(1) (2)	kW	63,9	75,1	81,2	86,7	88,1	97,4	107,6
Gross Sensible Cooling Cap.(1) (2)	kW	57,3	75,1	80,3	83,3	84,5	90,8	92,9
<b>DIMENSIONS</b>								
Height	mm	1960	2150	2150	2150	2150	2150	2150
Length	mm	2170	2580	2580	2580	2580	2580	2580
Depth	mm	865	865	865	865	865	865	865
<b>TUAR Model</b>		<b>2222A</b>	<b>2242A</b>	<b>2522A</b>	<b>2542A</b>	<b>2842A</b>	<b>3342A</b>	
Fans	Nr.	3	3	3	3	3	3	
Airflow	m3/h	22154	22154	23467	22467	23068	23068	
N° of compressors		2	4	2	4	4	4	
Refrigerating Circuits		2	2	2	2	2	2	
Gross Total Cooling Cap.(1) (2)	kW	75,4	82,7	86,6	87,5	97,9	108,2	
Gross Sensible Cooling Cap(1) (2)	kW	75,4	81,8	85,5	86,4	93,8	95,6	
<b>DIMENSIONS</b>								
Height	mm	1960	1960	1960	1960	1960	1960	
Length	mm	2580	2580	2580	2580	2580	2580	
Depth	mm	865	865	865	865	865	865	

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data

2. Data refer to nominal conditions : room at 24°C- 50% RH , 45°C condensing temperature, and ESP = 20Pa.

3. Data refer to downflow unit