

# Uniflair LE TDWR-TUWR

Direct Expansion water-cooled units with  
backward-curved fans

20-100kW



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

> Refrigerant R-410A

**Available Versions:**

- > Downflow (TDWR)
- > Upflow (TUWR)

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

## Fans

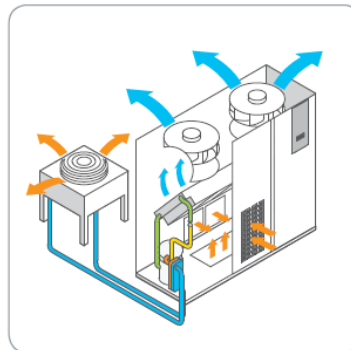
- High-efficiency backward-curved
- Directly-coupled asynchronous motor



Downflow unit with backward-curved fans

## Water-cooled Direct Expansion

- Heat extracted from the room is transferred to water via stainless steel brazed-plate heat exchangers
- Cooling water may be fed from the mains supply (where permitted), a cooling tower or a well (i.e. open circuit), or circulated in a closed loop cooled by external dry-coolers
- Refrigerant circuits pre-charged and sealed in the factory
- No need for site-installed refrigerant pipeworks



Note: This configuration is shown only as an example.

## 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

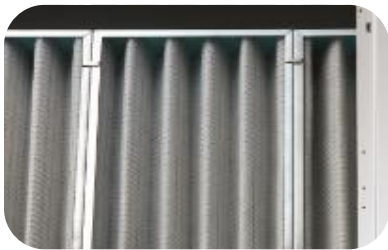
# Main Technical Features

## 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

## 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) 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

TDWR-TUWR Model		0611A	0921A	1312A	1622A	1822A
Fan Type	Backward –curved centrifugal motor fan					
Power supply	V/ph/Hz	1	1	2	2	2
Fans	400/3/50Hz					
Airflow	m3/h	5833	7933	12267	16406	16406
N° of compressors		1	2	2	2	2
Refrigerating Circuits		1	1	1	2	2
Gross Total Cooling Cap.(1) (2)	kW	24,1	32,1	45,5	56,8	62,5
Gross Sensible Cooling Cap.(1) (2)	kW	21,7	27,2	38,0	55,2	56,1
<b>DIMENSIONS</b>						
Height	mm	1960	1960	1960	1960	1960
Lenght	mm	1010	1310	1720	2170	2170
Depth	mm	750	865	865	865	865
<b>TDWR Model</b>		<b>2242A</b>	<b>2542A</b>	<b>2842A</b>	<b>3342A</b>	
Fans	Nr	3	3	3	3	
Airflow	m3/h	21656	22046	22055	22055	
N° of compressors		4	4	4	4	
Refrigerating circuits		2	2	2	2	
Gross Tot Cooling Cap.(1)(2)	kW	85,6	93,4	99,9	111,1	
Gross sensible Cooling Cap(1) (2)	kW	83,4	87,9	93,1	92,2	
<b>DIMENSIONS</b>						
Height	mm	2150	2150	2150	2150	
Lenght	mm	2580	2580	2580	2580	
Depth	mm	865	865	865	865	
<b>TUWR Model</b>		<b>2242A</b>	<b>2542A</b>	<b>2842A</b>	<b>3342A</b>	
Fans	Nr	3	3	3	3	
Airflow	m3/h	22154	23467	23068	23069	
N° of copressors		4	4	4	4	
Refrigerating circuits		2	2	2	2	
Gross Tot Cooling Cap.(1)(2)	kW	86,0	92,6	100,5	111,7	
Gross sensible Cooling Cap(1) (2)	kW	83,4	87,9	93,1	94,7	
<b>DIMENSIONS</b>						
Height	mm	1960	1960	1960	1960	
Lenght	mm	2580	2580	2580	2580	
Depth	mm	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.