

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

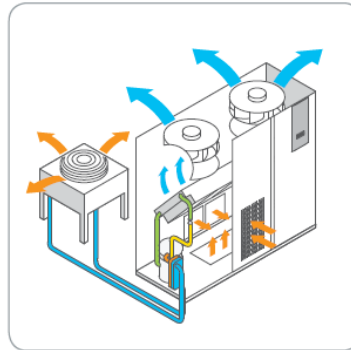
- High-efficiency backward-curved
- Directly-coupled asynchronous motor



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

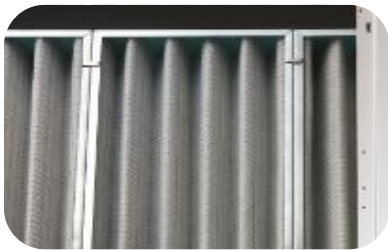
Main Technical Features

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
DIMENSIONS						
Height	mm	1960	1960	1960	1960	1960
Lenght	mm	1010	1310	1720	2170	2170
Depth	mm	750	865	865	865	865
TDWR Model		2242A	2542A	2842A	3342A	
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	
DIMENSIONS						
Height	mm	2150	2150	2150	2150	
Lenght	mm	2580	2580	2580	2580	
Depth	mm	865	865	865	865	
TUWR Model		2242A	2542A	2842A	3342A	
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	
DIMENSIONS						
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.