

# Leonardo™ TDWV-TUWV



**Direct expansion water cooled units**  
Backward curved EC fans

**Range**  
From 23 to 65 kW

Leonardo Evolution™ direct expansion precision air conditioning units designed for environments where high-tech apparatus are used: web hotels, telephone exchanges, large computer rooms, data storage and transmission rooms.

The character within: precision and reliability, high energy efficiency, versatile configurations, energy saving, compact dimensions, intelligent heart, connectivity, outstanding performance, respect for the environment.

## Main characteristics

Air conditioning units characterized by high reliability and energy saving.

Possibility to control the temperature and relative humidity of the environment. Uniguard microprocessor control system for either local or remote control management.

Version equipped with tandem compressors for high energy efficiency at partial loads.

All models equipped with electronically commutated backward curved fans with very low power consumptions.

Selection of the fan speed according to the EPS required by the aeraulic system from the microprocessor.

Total front access for unit maintenance.

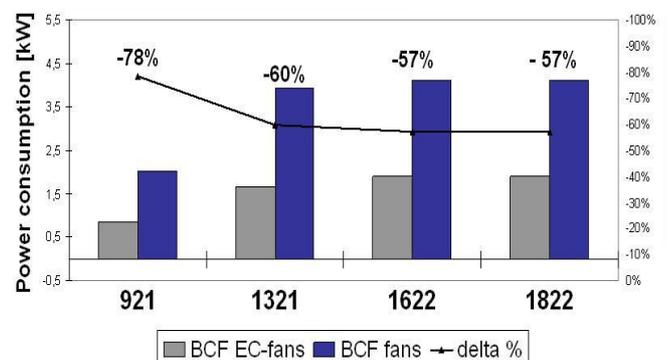
Downflow and upflow versions.

Electronic expansion valve integrated with the microprocessor and managed with exclusive Uniflair software.

Intelligent dehumidification control integrated with the electronic expansion valve.

Integrated ModBus on RS485 serial card Built-in LAN card.

Brazed plate heat exchangers.



## Technical Data

Water cooled direct expansion units with EC backward curved blades fans

Model TDWV-TUWV		921	1321	1622	1822
Height	mm	1960	1960	1960	1960
Width	mm	1310	1720	2171	2171
Depth	mm	865	865	865	865
Weight	kg	430	575	714	714
Airflow	m <sup>3</sup> /h	8220	12320	16030	16030
External static pressure	Pa	20	20	20	20
Total cooling capacity	kW*	30.3	42.0	58.9	65.5
Sensible cooling capacity	kW*	29.7	42.0	58.4	61.1
N° refrigerant circuits		1	1	2	2
N° compressors		2	2	2	2
Electric supply voltage	V	400 V / 3 ph + N / 50 Hz			

(\*) Based on 24°C @ 50%, ESP=20 Pa, condensing temperature = 48° C dewpoint with R407C

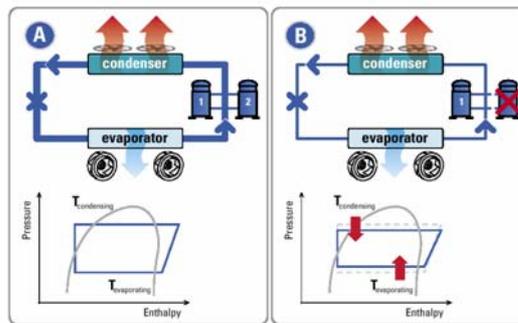
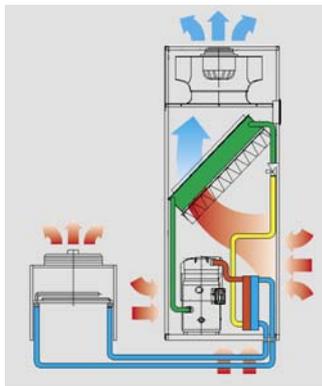


fig. A - 100% Operation

fig. B - part-load Operation

## Applications



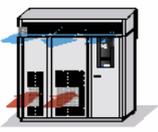
Downflow unit with discharge on the top.  
Downflow unit with discharge on the top.



Downflow unit with suction from the base.  
Downflow unit with suction from the base.



Downflow unit with mechanical floor stand and front suction.  
Downflow unit with mechanical floor stand and front suction.



Downflow unit with direct discharge plenum.  
Downflow unit with direct discharge plenum.



Downflow unit with suction from the side.  
Downflow unit with suction from the side.



Downflow unit installed on corner floor.  
Downflow unit installed on corner floor.

## Versions

The direct expansion range is available for downflow and upflow versions with the following principal accessories:

- standard and enhanced electrical reheat
- hot water reheat
- hot gas reheat
- high ESP (external static pressure) available
- condensate drain pump
- immersed-electrode humidifier
- humidifier with cleanable electrodes
- air filter installed inside the unit up to EU5 efficiency
- air filter installed outside the unit with additional plenum or floor stand up to EU8 efficiency
- fresh air module
- microprocessor semi-graphic display control
- uniguard UG40
- upflow version available with air suction from the front, the rear or the base