SMARDT AIR

Chilled Water Fan Wall



Product Overview

The chilled water fan wall is a horizontal air supply cooling device for data centres. It is usually combined with chiller units, water pumps, chilled water pipelines, etc. to form a refrigeration system, using a centralised cold source for cooling. It supports high chilled-water temperature operation and non-raised-floor installation with high airflow and high energy efficiency.

Chilled water fan walls are available in two configurations: fan wall and thin fan wall, and are installed in chiller plants and IT data centres.

Product Features

Energy Efficient

- High-efficiency VFD fans arranged in a matrix configuration
- Lower airflow resistance with even air distribution
- Large-area copper-tube aluminium fin coil for superior heat transfer performance

Environmentally Friendly and Reliable

- Eco-friendly cooling medium: water
- High-reliability components for non-stop year-round operation
- Precise flow regulation via electric water valve for stable operation

Convenient Maintenance

- The control system is isolated from the airflow and allows complete front-side maintenance
- Modular design for quick installation and easy maintenance

Intelligent Control

- Intelligent PID control with a regulation accuracy of ±1°C real-time component status display
- Equipped with a standard RS485 communication interface

Specifications

Chilled water fan wall

Model		TFW0155AC	TFW0210AC	TFW0350AC	TFW0500AC
Cooling Capacity	kW	155	210	350	500
Return/Supply AT	℃	34/22	34/22	34/22	34/22
Inlet/Outlet WT	℃	15/22	15/22	15/22	15/22
Media	/	Water	Water	Water	Water
Power Supply	/	380~415V/3Ph/50Hz			
Input Power	kW	9.5	12.8	22.4	28.8
Air Flow	m³/h	44000	50000	75000	125000
Num of Fans	/	4	4	8	12
ESP	Pa	150	150	150	150
Water Pressure Drop	kPa	≤80	≤80	≤80	≤100
Connection Type	/	Flange	Flange	Flange	Flange
Pipe Diameters	/	DN80	DN80	DN80	DN100
Net Weight	kg	1500	1400	2100	4780
Dimension(WxDxH)	mm	2100x1600x3400	2200x1400x2500	4000x1900x2540	4000x4650x4150

Chilled water thin fan wall

Model	TNW0085AC	
Cooling Capacity	kW	85
Return/Supply AT	℃	37/23
Inlet/Outlet WT	℃	17/23
Media	/	Water
Power Supply	/	380V/3Ph/50Hz
Input Power	kW	2.9
Air Flow	m³/h	18800
Num of Fans	/	24
ESP	Pa	20
Water Pressure Drop	kPa	≤90
Connection Type	/	Grooved coupling
Pipe Diameters	/	DN50
Net Weight	kg	600
Dimension(WxDxH)	mm	1200 x 400 x 2800

Notes: Unit performance is highly dependent on operating conditions. The above data is for reference only. For other operating conditions or altitudes exceeding 1,000 m, please contact Smardt technicians.

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Subject to design conditions and selected refrigerants.

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Dual Cooling Source Fan Wall



Product Overview

The dual-source fan wall uses a medium-temperature water-cooling source and features an integrated water-cooled and refrigerant system. It prioritises free cooling to keep power consumption low. The outdoor primary cooling source can be selected from the open-type or closed-type cooling tower, or the dry cooler. The indoor secondary side is equipped with dual-source fan walls, which enable complete free cooling for liquid-cooled systems and partial free cooling for air-cooled systems.
The dual-source fan walls are available in two configurations: fan wall and thin fan wall, and are installed in equipment rooms and IT data centres. The fan wall is suitable for scenarios with a power density of 10–20 kW, while the thin fan wall can support power densities of 40 kW or even higher.

Product Features

Dual Source & Flexible Application

- Dual-mode air/liquid cooling, adaptable to a wide range of applications
- Enable fast and flexible installation

Environmentally Friendly and Reliable

- Use environmentally-friendly refrigerants: R410A
- High-reliability component design
- The cool source design increases safety significantly

High Efficiency & Energy Saving

- Equipped with EC fan
- Variable-frequency scroll compressor, significantly improving the efficiency ratio at part loads
- The units uses copper tube hydrophilic aluminium fin heat exchanger with higher efficiency

Modular Design & Fast Delivery

- Flexible IT power configurations, support fan wall and thin fan wall
- Modular design enables fast delivery

Intelligent Control & Precise Adjustment

- PID intelligent control adjustment with control accuracy of ±1°C, creating a more stable operating environment for the equipment in the computer room
- RS485 communication interface is configured as standard

Easy Maintenance & Stable Operation

- The control system is isolated from the airflow and allows complete front-side maintenance
- Maintenance of the unit can be carried out during operation

Specifications

Dual-source fan wall

Model		TFW0150AD	TFW0200AD	TFW0220AD	TFW0250AD
Cooling Capacity	kW	150	200	220	250
Return/Supply AT	℃	38/25	38/25	38/25	38/25
Inlet/Outlet WT	℃	34.5/40.5	34.5/40.5	34.5/40.5	34.5/40.5
Power Supply	/	380~415V/3Ph/50Hz			
Input Power	kW	25	34.2	36.2	42.5
Air Flow	m³/h	36000	48000	52000	60000
Num of Fans	/	4	4	4	6
ESP	Pa	150	150	150	150
Water Pressure Drop	kPa	≤120	≤120	≤120	≤120
Connection Type	/	Flange	Flange	Flange	Flange
Pipe Diameters	/	DN100	DN100	DN100	DN100
Dimension(WxDxH)	mm	2600×1400×2600	2600×1400×2700	3000×1400×2700	3500×1430×2500

Dual-source thin fan wall

Model		TFW0045AD-A	TFW0045AD	TFW0060AD	TFW0090AD
Cooling Capacity	kW	45	45	60	90
Return/Supply AT	℃	37/25	37/25	37/25	37/25
Inlet/Outlet WT	℃	34/43	34/43	34/43	34/43
Power Supply	/	380~415V/3Ph/50Hz	DC540V	DC540V	DC540V
Input Power	kW	8.8	9.12	12.5	18.7
Air Flow	m³/h	12000	12000	15200	23000
Num of Fans	/	3	15	20	30
ESP	Pa	30	30	30	30
Water Pressure Drop	kPa	≤70	≤70	≤70	≤70
Connection Type	/	Clamp	Clamp	Clamp	Clamp
Pipe Diameters	/	DN40	DN40	DN40	DN65
Dimension(WxDxH)	mm	1200×600×2700	1200×400×3300(Including top connecting box, 600mm high)		1800×600×2700

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