

WST



Water Station Hydronic kit plug & play solution for internal installation

- **FOR NXW RANGE**
- **PACKAGED PLUG & PLAY CONTAINING THE MAIN HYDRAULIC COMPONENTS**
- **IDEAL FOR INDUSTRIAL APPLICATIONS WHERE CHILLED WATER IS REQUIRED IN WINTER SEASONS**
- **FREECOOLING OPERATION**

CHARACTERISTICS

- Hydronic plug & play kit containing the main hydraulic and controls components of a hydraulic installation.
- The WST units are designed to ease the installation in systems where the production of chilled water is required all year round, in combination with a water-water chiller and a drycooler.

OPERATION

- Chiller: When the external air temperature is higher than the system return water temperature the cooling capacity is provided by the chiller. The WST controls the drycooler by modulating the fans on the basis of the chiller condensing pressure.
- Freecooling: When the external air temperature is then lower then WST turns off the chiller and uses the water from the drycooler to cool the system water through the freecooling heat exchanger.

HYDRAULIC CIRCUIT (DRYCOOLER SIDE)

- Water filter
- Flow switches
- Isolating valves
- Mixing valve
- Bypass valves
- Pumps
- Butterfly valves (enabling freecooling)
- High efficiency plate heat exchanger (freecooling)
- Water temperature sensors

HYDRAULIC CIRCUIT (CHILLER SIDE)

- Water filter
- Flow switches
- Isolating valves
- Pumps
- Water temperature sensors

NOTE: For the combination of the hydronic kit options (drycooler / chiller side), refer to the configurator.

CONTROL

- Microprocessor based electronic control with Modbus communications protocol.
- The WST comes standard with accessorio aer485p1. Accessory to predict compulsorily nell'NXW, for communication between the units.
- Advanced electronic continuous monitoring of multiple operating parameters and ambient conditions, in order to switch between the operating modes (chiller/freecooling), when available. This permits the reduction of operating costs and provides higher energy efficiency.
- Control of the drycooler fans in order to manage the chiller condensing pressure (chiller mode), or the recovered capacity (freecooling mode).
- Cold chiller starting control by modulating the drycooler fans and the mixing valve.
- Structure and base in epoxy painted hot dipped galvanised steel.

ACCESSORIES

- VT: Anti-vibration mounts.

ACCESSORIES COMPATIBILITY

WST only cooling		01	02	03	04	05	06
AVX	without pump stand-by	325	326	327	328	328	328
	with pump stand-by	325	327	327	329	329	329

Warning: NXW unit is required to use the attachment AER485P1

TAV. PAIRINGS WST

Chiller	WST	Dry coolers recommended (2)
NXW0500 NXW0550	WST01	WTR 824 EC 980
NXW 0600 NXW 0650	WST02	WTR 834 EC 980
NXW 0700 NXW 0750	WST03	WTR 844 EC 980
NXW 0800 NXW 0900	WST 04	WTR 854 EC 980
NXW 1000 NXW 1250	WST 05	WTR 864 EC 980
NXW 1400	WST 06	WTR 874 EC 980

The combinations are referred to the following conditions, to be verified in the case of particular conditions: refers to standard conditions

Cooling

System side

Water temperature (in/out) 12°C/7°C, Glycol 0%.

Dry-cooler side

Water temperature (in/out) 38°C/43°C; Glycol 35%.

(2) EC is compulsory adjustment on the fans of Dry cooler

UNIT SELECTION

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most demanding of system requirements.

Field	Description
1,2,3	WST
4,5	Size
	01-02-03-04-05-06
6	Kit freecooling
	F Freecooling
7	System water flow
	° Standard (constant water flow rate)
8	System side connected hydronic kit (3)
	P1 n° 1 Low head system pump
	P2 n° 2 Low head system pumps
	P3 n° 1 High head system pump
	P4 n° 2 High head system pumps
9	Drycooler side connected hydronic kit (3)
	D1 n° 1 Low head system pump
	D2 n° 2 Low head system pumps
	D3 n° 1 High head system pump
	D4 n° 2 High head system pumps

	P1	P2	P3	P4
D1	ok	n.d.	ok	n.d.
D2	n.d.	ok	n.d.	ok
D3	ok	n.d.	ok	n.d.
D4	n.d.	ok	n.d.	ok

(3) For the compatibility between hydronic kits refer to the adjacent table

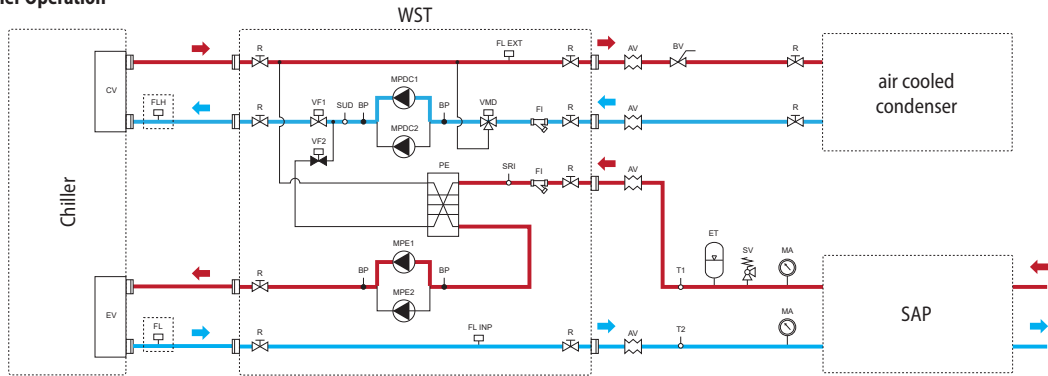
TECHNICAL DATA

Mod. WST Water Station			01	02	03	04	05	06
Cooling								
System side: Water temperature (in/out) 12°C/7°C, Glycol 0%								
Dry-cooler side: Water temperature (in/out) 38°C/43°C; Glycol 35%								
Water flow rate		l/h	17633	23458	29756	40627	51324	60613
Useful static pressure	(P1/P2)	kPa	134	133	174	164	178	119
Useful static pressure	(P3/P4)	kPa	226	217	250	235	254	198
Power input	(P1/P2)	kW	1,5	2,2	3,5	4,0	5,1	4,7
Power input	(P3/P4)	kW	2,5	3,1	4,7	5,4	6,8	6,4
Cooling in freecooling mode (100%)								
System side: Water temperature (in/out) 14°C/*; Water flow rate as in cooling operation; Glycol 0 %								
Dry-cooler side: Water temperature (in/out) 6,7°C/*; Water flow rate as in cooling operation; Glycol 35%								
Cooling capacity		kW	82,2	108,5	137,9	188,0	241,3	283,9
Water flow rate		l/h	24718	32876	41676	55673	71920	84920
Useful static pressure	(D1/D2)	kPa	71	79	109	141	144	125
Useful static pressure	(D3/D4)	kPa	125	154	180	218	202	160
Power input	(D1/D2)	kW	2,3	3,7	4,1	6,0	12,3	12,7
Power input	(D3/D4)	kW	3,0	4,9	5,4	6,7	11,8	13,9
Dry cooler side (freecooling mode)								
Water flow rate		l/h	24718	32876	41676	55673	71920	84920
Useful static pressure	(D1/D2)	kPa	119	126	138	173	187	178
Useful static pressure	(D3/D4)	kPa	172	201	209	250	245	214
Power input	(D1/D2)	kW	2,3	3,7	4,1	6,0	12,3	12,7
Power input	(D3/D4)	kW	3,0	4,9	5,4	6,7	11,8	13,9
Power input								

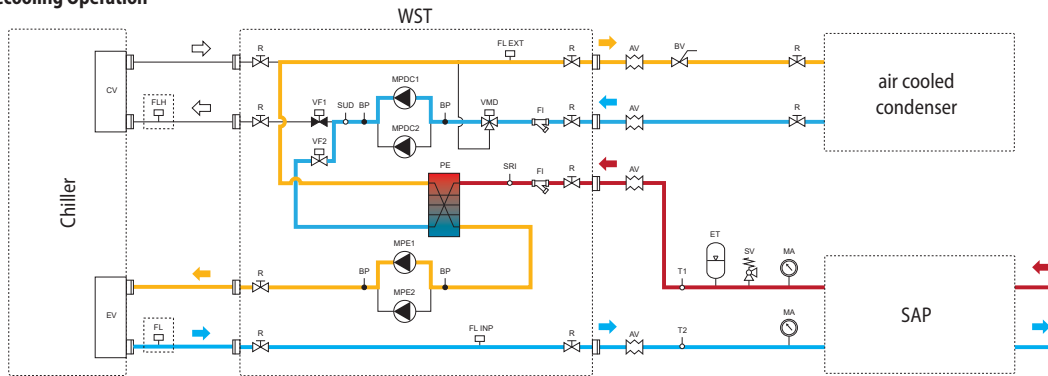
GENERAL DATA			01	02	03	04	05	06
Electrical data								
Total input current	(P1/P2)	A	2,7	3,9	5,8	6,6	8,5	7,8
	(P3/P4)	A	4,3	5,5	7,8	8,9	11,1	10,4
	(D1/D2)	A	4,0	6,0	6,6	9,9	20,8	20,3
	(D3/D4)	A	5,2	8,2	9,0	10,9	18,9	22,0
Maximum current (FLA)	P1(P2) - D1(D2)	A	8,6	13,1	16,3	19,1	31,2	37,0
	P3(P4) - D1(D2)	A	11,4	14,4	19,1	22,0	34,8	40,6
	P1(P2) - D3(D4)	A	10,0	16,0	19,1	22,7	37,0	37,0
	P3(P4) - D3(D4)	A	12,8	17,2	22,0	25,6	40,6	40,6
hydraulic connections								
hydraulic connections (in/out)	type		Victaulic	Victaulic	Victaulic	Victaulic	Victaulic	Victaulic
hydraulic connections system side	Ø		2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"
hydraulic connections (chiller)	Ø		2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"
hydraulic connections (dry cooler)	Ø		2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"

OPERATING SCHEMATICS

Chiller Operation

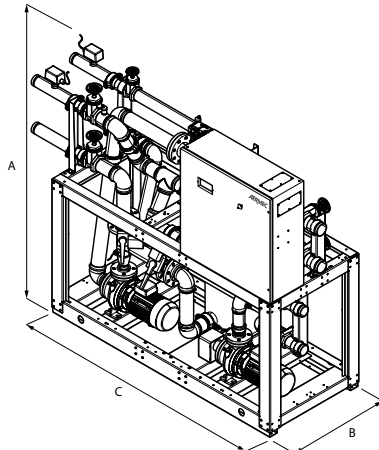


Freecooling Operation



The images and drawings contained in this document are indicative only, for the purpose of illustrating the operation

DIMENSIONAL DATA (MM)



Mod. WST water station			01	02	03	04	05	06
Height	A	mm	1835	1837	1835	1956	2206	2206
Width	B	mm	796	796	796	796	796	796
Depth	(3) C	mm	1400	1500	2010	2282	2579	2623
Weight empty	without pump stand-by	Kg	487	577	684	893	1054	1074
	with pump stand-by	Kg	579	790	941	1140	1320	1350

(3) Including protrusions of the hydraulic connections

Aermec reserves the right to make any modifications deemed necessary.
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