

Awa Enersave

Air cooled water chillers and reverse cycle air/water heat pumps units with axial fans and hermetic scroll compressors.

Unit description

- **Compressor** scroll hermetic types R407C.
- **Evaporator** direct expansion, stainless steel AISI 316 brazed plate type with double circuit.
- **Air side heat exchangers** consist of high efficiency finned coils with seamless copper tubes expanded into corrugated aluminium fins, with sub-cooling circuit.
- **Fans** of the axial type.
- **Structure and panels** in galvanised steel with powder paint anti-corrosive (RAL 9007).

Versions

ZC air cooled water chillers
ZH reverse cycle air/water heat pumps
ZCM cooling only condensing units

Energy applications setting-up (ie: factory fitted)

D : setting-up with de-superheater (partial recovery) mounted in factory.
R : setting-up with heat recovery (total recovery) mounted in factory.

Applications for different geographical areas

NT : standard setting-up with 2 unloading steps (outdoor temperature max 42°C).
HT : high temperature setting-up with oversized coils (outdoor temperature max 45°C).

Data referred to:

CHILLERS: outdoor temperature 35°C - chilled water 12/7°C.
HEAT PUMPS: Outdoor temperature 7°C, 90%R.H.-hot water 40/45°C.

NOTE: The data in the table are referred to the NT set up.
For SLN setting up: decrease 3% of the cooling capacity and increase 5% of the compressors input.

Acoustic applications

- LN : Low Noise setting-up (with insulated compressors housing and two speed fan motors).
- SLN : Super Low Noise setting-up (with insulated compressors housing, oversized coils and variable fan speed regulation).
Applications with packaged hydraulic kit (only C version)
- SE A : setting-up with packaged hydraulic kit complete of capacity tank, 150 kPa external head pressure water pump and expansion vessel.
- SE B : setting-up with packaged hydraulic kit complete of capacity tank, 250 kPa external head pressure water pump and expansion vessel.
- SE C : setting-up with packaged hydraulic kit complete of capacity tank, 450 kPa external head pressure water pump and expansion vessel.

Accessories on request:

- Low ambient ON-OFF condensing control (up to +5°C outdoor temperature);
- Low ambient variable fan speed control device (down to -10°C outdoor temperature);
- Compressors power factor correction to $\cos \varnothing 0,91$;
- Over/under voltage + phase failure protection relay;
- Control panel electric heater with thermostat;
- Condensing coil protection grille;
- Epoxy coated condensing coils;
- Copper/copper condensing coil;
- Liquid receivers (for condensing units only);
- Double set point operation;
- Stand-by water pump for setting up SE (150/250 or 450 kPa);
- Automatic water pump changeover;
- Electronic expansion valve;
- Automatic switches for compressors;
- Low outdoor temperature kit (for ZC);
- Ammeter and voltmeter;
- Remote control display;
- Network control through a remote PC with dedicated software under Windows, manufacturer communication protocol and local supervision controller with built-in modem;
- Connection to supervision systems with MODBUS protocol on standard RS232;
- Network control through a local PC, with dedicated software under Windows, with manufacturer communication protocol and by serial interface RS232;
- Flow switch;
- Water strainer;
- Water gauges;
- Automatic filling group;
- Rubber or spring anti-vibration set.

Sizes		2110Z	2130Z	2140Z	2160Z	2170Z	2200Z	2220Z	2250Z	2270Z	2310Z	2340Z	2370Z	2410Z	2440Z	2490Z	4550Z	4610Z	4680Z	4740Z	4820Z	
C	Cooling Capacity	kW	109	122	136	152	169	192	218	245	271	303	337	367	407	437	490	543	606	674	735	814
	Compressors input	kW	34,2	38,3	42,4	46,5	50,6	61,4	68,4	76,6	84,8	93	101,2	114,9	127,8	136,8	153,2	169,6	186	202,4	229,8	254,4
H	Heating capacity	kW	122	138	154	169	187	216	244	276	307	338	374	413	461	488	581	615	676	N/A	N/A	N/A
(1)	Sound pressure levels	dB(A)	60	60	61	62	62	62	62	63	65	65	65	65	66	66	67	68	68	68	68	69

DIMENSIONS		length	mm	2920	2920	3530	3530	3530	2920	2920	2920	3530	3530	3530	3530	5410	5410	6630	6630	6630	6630	6630
	width	mm	1760	1760	1760	1760	1760	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
	height	mm	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350
SHIPPING WEIGHTS & EXTRA WEIGHTS FOR SE	C	kg	1510	1530	1647	1931	1983	2563	2686	2724	2923	3268	3489	3680	3938	5934	6050	6132	6622	7010	7477	7577
	H	kg	1610	1581	1747	2031	2083	2742	2886	2729	3123	3468	3689	3710	3958	6341	6443	6525	7053	N/A	N/A	N/A
	SE (1)	+kg	180	180	180	180	180	180	180	180	180	180	180	180	180	N/A	N/A	N/A	N/A	N/A	N/A	N/A

C Chiller H Heat pump N/A - Not available

(1) Sound pressure level condensing coil side at 10m distance from the unit surface and 1m height from the ground.



Thermal Engineering Systems Ltd
Uffculme Cullompton Devon EX15 3AJ England
Telephone: 01884 840216
Fax: 01884 840197
Email: sales@thermal-eng.co.uk
Web: www.thermal-eng.co.uk



Designed for economy and efficiency

TES AWA ENERSAVE 0305