

> RHV

AIR COOLED WATER CHILLERS



Units Series

Type	
IR	chiller
BR	chiller brine

Available version

VB	Basic
VD and VR	on request

Available configuration

AB	Basic
AS	Low noise

VB unit specifications

The RHV units are air-cooled water chillers using R407C ecological gas.

When developing the unit, special attention was paid to the issue of noise, in order to comply with increasingly strict laws on noise pollution. In fact, two noise attenuation levels are available (Basic, Low noise).

The range is completed with numerous accessories and options, including the possibility of having units equipped with pumping modules with 2 pumps 2 poles (for Basic Version) and 4 poles (for low noise Version).

The units are carefully built and tested, therefore installation only requires the electrical and hydraulic

Basic Version (VB) and Basic Configuration (AB)

- COMPRESSOR: 2 TWIN-SCREW semihermetic compressors able to modulate the COOLING capacity from 12,5 to 100%, mounted on rubber vibration dampers.
- REFRIGERANT CIRCUIT: 2 independent refrigerant circuits, complete with maximum and minimum pressure switches, PED safety valves, dehydrator filter, liquid/humidity indicator, compressor delivery and liquid shut-off valves, high and low pressure transducers electronic expansion valve which optimises the unit efficiency.
- PLANT SIDE HEAT EXCHANGER: shell and tube evaporator, fitted inside a shell of thermal insulation material to prevent condensation and heat exchange with the outside, protected to a minimum air temperature of -10°C by means of a water differential pressure switch and an antifreeze heater.
- SOURCE SIDE HEAT EXCHANGER: finned coils with large heat exchange surface, made with copper pipes and notched aluminium fins,
- FANS: helical fans with crescent-shaped blades to limit noise
- ELECTRICAL PANEL: control electrical panel with a main door lock disconnecting switch, sequence meter, microprocessor controller with display (4 lines of 20 characters) containing the electrical equipment and all the components with minimum protection rating IP54.

Basic Version (VB) and Low noise Configuration (AS)

In addition to the specification in Basic version (AB), the Low Noise version (AS) provides for the following configurations:

- FANS: reduced speed
- COMPRESSORS: positioned inside a soundproofed cabin, made with profiles and panels insulated with optimum sound-absorbing material.

Main accessories/Options

Integrated Pumping Modules with 2 pumps, supplied in 4 different configurations:

- Pumps 2 poles standard head
- Pumps 2 poles high head
- Pumps 2 poles extra high head
- Pumps 4 poles standard head

Condensation Control Device (standard for AS), enables unit operation to outside air temperatures =-10°C

Unit external Storage and Pumping Module complete with insulated tank, single or twin pump and all hydronic components.

Remote Control,
Compressor Soft-starter,
Compressor retiming condensers,
Compressor and fan thermal magnet switches

USER INTERFACING

The controller on the unit is designed to ensure energy-saving and efficiency.

It enables the setting of:

- Double Set Point
- Demand Limit
- Noise control
- Heating in integration
- ATC function to protect in high ambient air conditions
- Function climate control evolved (temperature scrolling)



Common Data	360.2	410.2	460.2	520.2	580.2	630.2	680.2	780.2	900.2	1000.2	1150.2	1300.2	1450.2	
Supply	400 V – 3 ph – 50Hz													V-ph-Hz
Quantity-type compressor.	2 - TWIN SCREW - 2 - 13/100%													-
N° circ-Part load														-
Quantity type evaporator	1 - SHELL & TUBE													-
Water content evaporator	106	103	153	148	262	262	262	248	241	413	398	405	543	l
Water connection IN/OUT	4" DN100			5" DN125			6" DN150			8" DN200				DN
Quantity fan AB - AS	8	8	8	8	10	10	10	12	14	14	16	20	24	n°
Fan speed AB - AS	900	900	900	900	900	900	900	900	900	900	900	900	900	rpm
Operation weight AB	3570	3580	3992	4328	4894	5089	5284	5826	6823	7928	8260	9216	9922	kg
AS	3769	3779	4206	4557	5123	5318	5513	6055	7087	8192	8524	9480	10186	kg
F.L.A. Full load ampere	298	336	371	406	458	492	526	534	702	792	878	978	994	A

Basic Configuration (AB)

	360.2	410.2	460.2	520.2	580.2	630.2	680.2	780.2	900.2	1000.2	1150.2	1300.2	1450.2	
Cooling capacity	364	410	452	511	576	621	672	771	882	995	1149	1308	1430	kW
Total power input	145	168	186	205	228	247	261	293	340	391	446	509	494	kW
EER	2,51	2,44	2,43	2,49	2,53	2,51	2,57	2,63	2,60	2,55	2,57	2,57	2,90	-
ESEER	3,28	3,21	3,20	3,30	3,35	3,33	3,41	3,53	3,46	3,40	3,46	3,47	3,95	-
Water flow rate	17,4	19,6	21,6	24,4	27,5	29,7	32,1	36,8	42,1	47,5	54,9	62,5	68,3	l/s
Water pressure drop	54	50	44	50	39	45	53	43	55	57	46	56	46	kPa
Available static head	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sound level	360.2	410.2	460.2	520.2	580.2	630.2	680.2	780.2	900.2	1000.2	1150.2	1300.2	1450.2	
Totale - SWL	99	99	99	100	100	100	100	101	102	102	103	104	105	dB(A)
SPL 1 m	79	79	79	80	80	80	80	80	81	81	82	82	82	dB(A)
SPL 5 m	71	71	71	72	72	72	72	73	74	74	75	75	76	dB(A)
SPL 10 m	67	67	67	68	68	68	68	69	70	69	70	71	72	dB(A)

Low noise Configuration (AS)

	360.2	410.2	460.2	520.2	580.2	630.2	680.2	780.2	900.2	1000.2	1150.2	1300.2	1450.2	
Cooling capacity	350	396	435	494	555	601	650	743	853	963	1104	1260	1384	kW
Total power input	146	169	188	207	230	249	263	295	342	394	453	515	494	kW
EER	2,41	2,34	2,32	2,38	2,41	2,42	2,47	2,52	2,50	2,45	2,44	2,45	2,80	-
ESEER	3,15	3,08	3,06	3,16	3,20	3,20	3,27	3,37	3,33	3,26	3,28	3,30	3,82	-
Water flow rate	16,7	18,9	20,8	23,6	26,5	28,7	31,0	35,5	40,7	46,0	52,8	60,2	66,1	l/s
Water pressure drop	50	47	41	47	36	42	50	40	51	53	42	52	43	kPa
Available static head	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sound level	360.2	410.2	460.2	520.2	580.2	630.2	680.2	780.2	900.2	1000.2	1150.2	1300.2	1450.2	
Totale - SWL	94	94	94	95	95	95	95	96	97	97	98	99	100	dB(A)
SPL 1 m	74	74	74	75	75	75	75	75	76	76	77	77	77	dB(A)
SPL 5 m	66	66	66	67	67	67	67	68	69	69	70	70	71	dB(A)
SPL 10 m	62	62	62	63	63	63	63	64	64	64	65	66	67	dB(A)

NOTES:

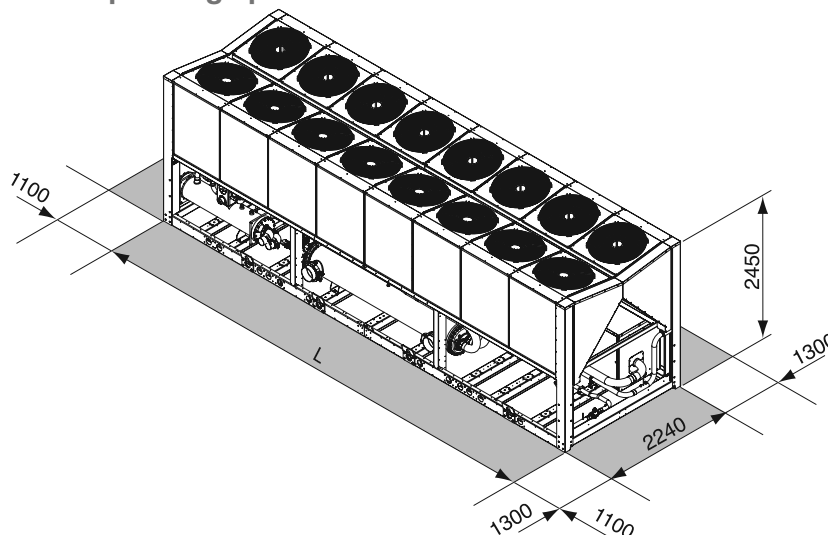
Cooling performance values measured with EWT/LWT 12/7°C - AT 35°C D.B.

ESEER : European seasonal efficiency rating in cooling.

SWL Sound power levels, with reference to 1x10⁻¹² W in dB(A) measured in compliance with ISO 9614 standards, is certified according to the Eurovent certification program. Eurovent certification (E) exclusively refers to the Total Sound Power in dB(A), which is therefore the only binding acoustic specification.

SPL Sound pressure levels, with reference to 2x10⁻⁵ Pa calculated by applying the ISO-3744 relation (Eurovent 8/1) and refer to a distance of 1/5/10 meter away from the external surface of units operating in standard condition (ambient air T=35°C, water 12/7°C) in cooling mode, in open field with directivity factor 2.

Dimensions and minimum operating space



	360.2	410.2	460.2	520.2	580.2	630.2	680.2	780.2	900.2	1000.2	1150.2	1300.2	1450.2	
L	4070	4070	4070	4070	5000	5000	5000	5950	6900	6900	7850	10000	11900	mm