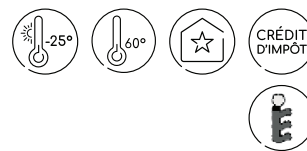


HITACHI

Yritysratkaisut 2020



Cooling & Heating



Yutaki M

Lämmitys, jäähdytys ja käyttövesi ilman kylmäaineliitäntöjä



Ideaaliratkaisu pieniin tiloihin

Monobloc-yksiköt ovat ideaaliratkaisu pieniin tiloihin, koska se sisältää vain yhden ulkotiloihin asennettavan yksikön. Tämän ansiosta kiinteistön sisätilat säilyvät muuttumattomina.

Helppo asennus

Monobloc-yksikön asentaminen on nopeaa ja edullista, koska kaikki järjestelmän komponentit on tehtaalla valmiiksi kytketty, eikä asentamisen aikana jouduta tekemään kylmäainekytkentöjä.

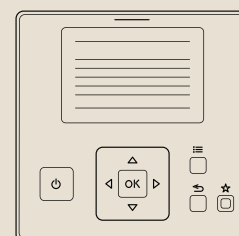
Jäähdytys ja lämmitys yhdellä järjestelmällä

Yhdistämällä Yutaki M Monobloc-yksikköön kääntösarja, yksiköllä voidaan myös jäähdyttää, jolloin sisäilman lämpötila pysyy miellyttävänä vuoden jokaisena päivänä.

Helppo ja älykäs ohjaus

LCD-säätimeen voidaan ohjelmoida päivä- ja viikkoajastukset, säätää tuotetun veden lämpötilaa, yksikön toimintatilaa, yms. (Kuva 1).

Kuva 1



PC-ARFH1E säädin

Ohjauspaneelit



Langallinen säädin
PC-ARFH1E
(Hankitaan erikseen)

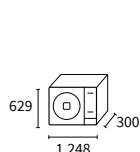


Langaton säädin
ATW-RTU-07

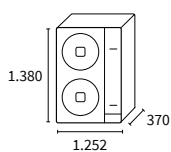
Muut*:

- 2. verkon asennussarja jossa 3-tieventtiili ja seinäasenteinen kiertovesipumppu ATW-2TK-07
- Hi-Box AHP-SMB-01
- Hi Kumo sovitin Hi-Box ATW -TAG-02:lle

Ulkoyksiköt



RASM-2VRE
RASM-3VRE



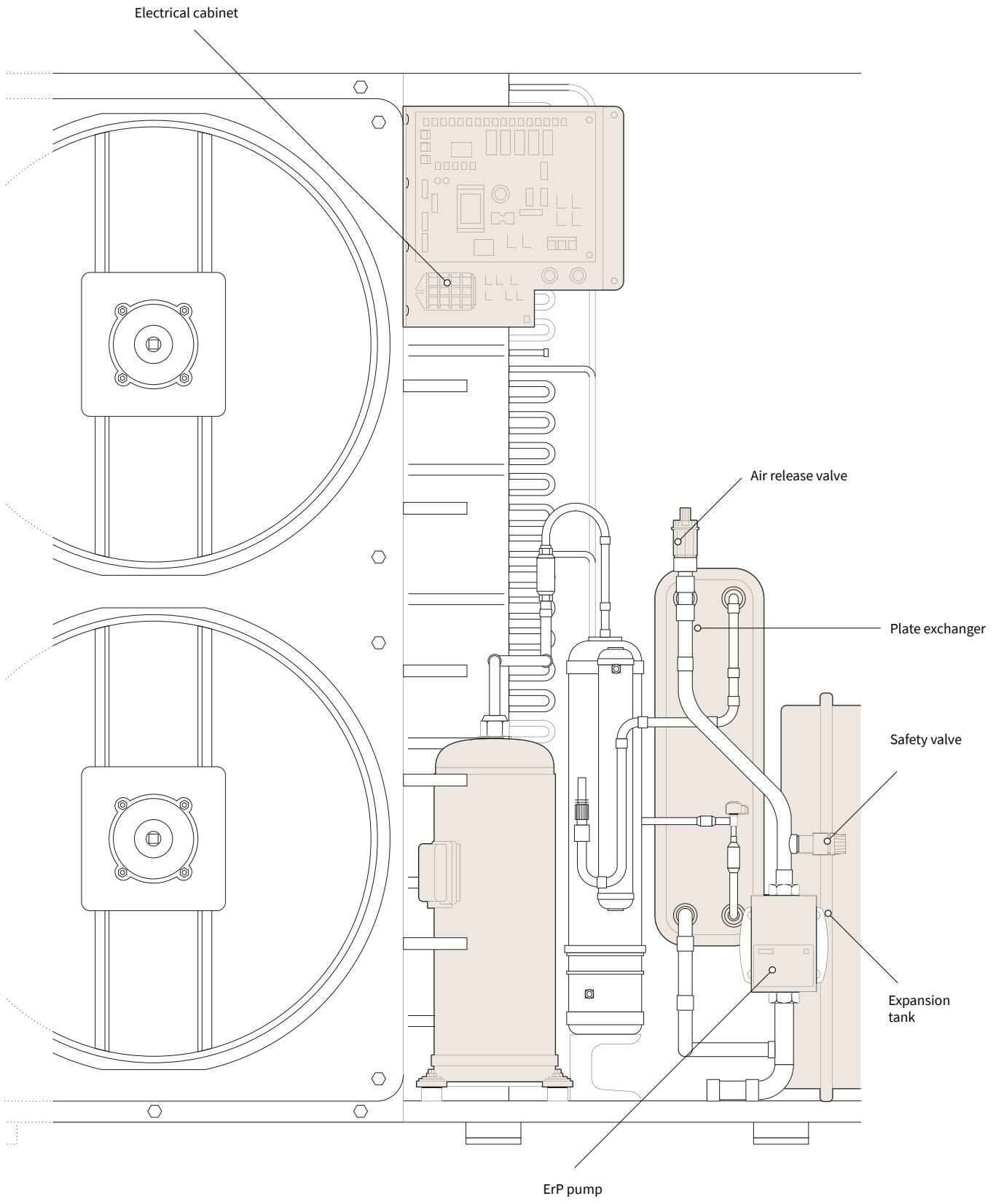
RASM-4(V)NE
RASM-5(V)NE
RASM-6(V)NE

Malli	R32		R410A			
	YUTAKI M 4.3KW	YUTAKI M 8KW	YUTAKI M 11KW	YUTAKI M 14KW	YUTAKI M 16KW	
Suorituskyky lämmityksellä						
Min./nim./maks. lämmitysteho (7°C ulko/35°C vesi)	kW	1.85/4.3/6.5	2.1/8/11	11/15.2	14/16.7	16.0/17.8
Nim./Maks. lämmitysteho (-7°C ulko/35°C vesi)	kW	4.5/5.3	5.8/7.5	9.7/10.6	11.5/12	12/13
Nim./Maks. lämmitysteho (-7°C ulko/45°C vesi)	kW	/5	/6.67	10/10.3	11/11.6	11.5/12.5
Nim./Maks. lämmitysteho (-7°C ulko/55°C vesi)	kW	4/4.2	5/5.5	8.7/9.8	9.7/11.2	10.5/12
Ottoteho lämmityksellä (7°C ulko/35°C vesi)	kW	1	1.94	2.2	2.97	3.5
COP (7°C ulko/35°C vesi) standardin EN14511 mukaisesti		5.25	4.6	5	4.71	4.57
SCOP keskiarvo ilmasto 35°C/55°C standardin EN14825 mukaisesti		4.73/3.48	4.55/3.25	4.8/3.5	4.48/3.43	3.9/3.23
Kausitason energiatehokkuus ηs (35°C) 1-v 3-v ⁽¹⁾	%	181	177	187/186	175/174	153/152
Kausitason energiatehokkuus ηs (55°C) 1-v/3-v ⁽¹⁾	%	133	125	136/135	133/133	125/125
Energialuokka 35°C/55°C		A+++/A+++		A+++/A++		A++/A++
Lähtevän veden lämpötila-alue (lämmityksellä)	°C	20/60 °C		20/60 °C		
Lähtevän veden maksimilämpötila	°C	60°C / -5 °C ulkolämpötilaan saakka		60°C / -10 °C ulkolämpötilaan saakka		
Suorituskyky jäähdytyksellä						
Nim./Maks. jäähdytysteho (35°C ulko/7°C vesi)(jäähdytys-malli)	kW	4/5	6.5/7	7.2/11.8	9.5/12.6	10.5/13.7
Ottoteho jäähdytyksellä (35°C ulko/7°C vesi)	kW	0.8	1.7	2.18	2.95	3.72
EER (jäähdytys-malli)		4	3.35	3.3	3.22	2.82
Kausitason energiatehokkuus ηs (35°C) 1-v 3-v ⁽¹⁾	%	186	179	189	176	153
Kausitason energiatehokkuus ηs (55°C) 1-v 3-v ⁽¹⁾	%	136	127	137	134	126
Monobloc -yksikkö		RASM-2VRE	RASM-3VRE	RASM-4(V)NE	RASM-5(V)NE	RASM-6(V)NE
Lisälämmitysvastus (valinnainen)	kW	6 (2 + 2 + 2)	6 (2 + 2 + 2)	6 (2 + 2 + 2)		
Paino	kg	76	78	131	133	133
Mitat (KxLxS)	mm	704 x 1248 x 300			1380 x 1252/370	
Äänenpaine/Äänitehotaso	dB(A)	46/61	54/67	-/64	-/65	-/67
Ilmanvirtaus	m ³ /h	2682	4800	4800	5400	6000
Toiminta-alue Jäähdytys/Lämmitys/Käyttövesi	°C	+10~+46 // -20~+25 // -20~+35		+10~+46 // -25~+25 // -20~+35		
Säädin		Hankitaan erikseen		Hankitaan erikseen		
Vesipiiri						
Paisuntasäiliö	L	6		6		
Vedenvirtaus (min/nim/maks)	m ³ /h	0.5/0.77/1.9	0.6/1.29/2.1	1/1.89/2.8	1.1/2.41/3	1.2/2.75/3
Vesipiirin liittimet (uros-uros venttiilit sisältyvät toimitukseen)	tuuma	1"		1" 1/4		
Lämmityspiirin minimilitavuus	L	28		38	46	55
Sähkö tiedot						
Virransyöttö		230V/1-v/50Hz		230V/1-v/50Hz tai 400V/3-v/50Hz		
YKSI VAIHE 230V	Maksimivirta lämmitysvastuksen kanssa	A	10.6	16	30.8	30.8
	Kaapelin poikkipinta-ala (mm ²)/maks.pituus (m)		3 x 2.5/14	3 x 4/16	3 x 6/	30.8
	Maksimivirta lämmitysvastuksen + varaajan vastuksen kanssa/ Yutaki S -optio	A	23.1	28.5	43.3	43.3
	Kaapelin poikkipinta-ala (mm ²)/maks.pituus (m)		3 x 6/28		3 x 10	
KOLMI VAIHE 400V	Maksimivirta lämmitysvastuksen kanssa		-	-	14.3	14.3
	Kaapelin poikkipinta-ala (mm ²)/maks.pituus (m)		-	-	5 x 6	
	Maksimivirta lämmitysvastuksen + varaajan vastuksen kanssa/ Yutaki S -optio		-	-	26.8	26.8
	Kaapelin poikkipinta-ala (mm ²)/maks.pituus (m)		-	-	5 x 10	
Kylmäaine piiri						
Tehtaan kylmäainetäytös	kg	1.2	1.3	2.8	3.1	3.1
Kylmäaine		R32		R410A		
Kompressori		SCROLL	ROTARY	SCROLL	SCROLL	SCROLL

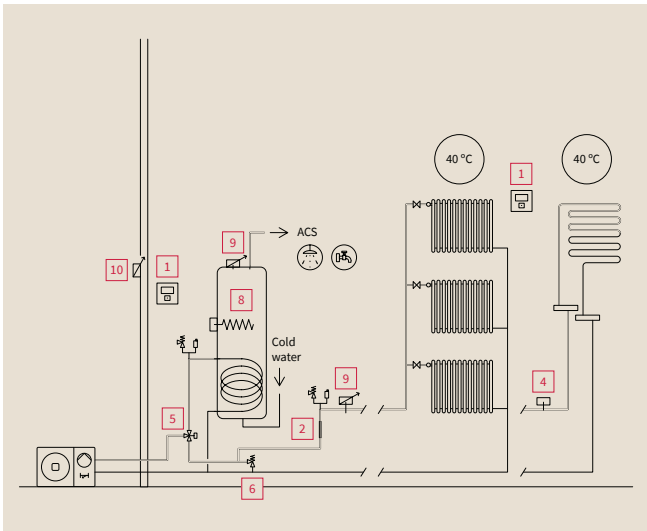
⁽¹⁾ Seasonal energy efficiency with integrated controller(V) = single.

Internal design

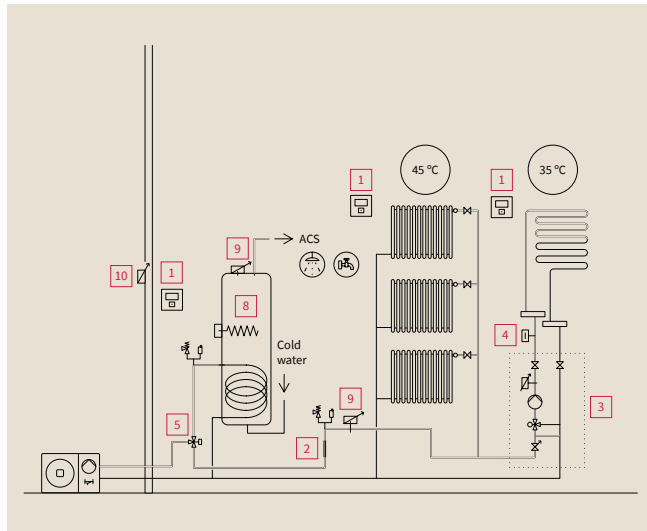
Yutaki M



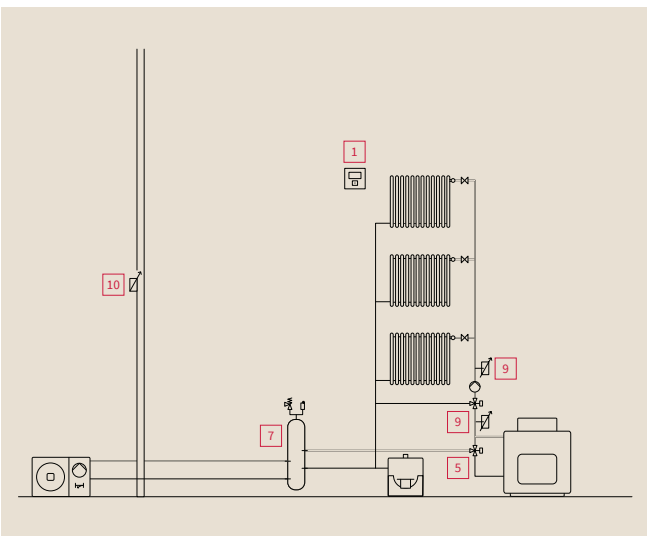
Hydraulic configurations Yutaki M



Application for new build and renovation



Application for new build and renovation



Application for renovation

1 See P. 76 for the accessories.

Hydraulic accessories and regulators Yutaki M



Wired controller
PC-ARFH1E

Pre-tax price: €



Wired ambient sensor
ATW-ITS-01

Pre-tax price: €



Wireless on/off ambient
thermostat
ATW-RTU-04

Pre-tax price: €



Ambient compensation
wireless controller
1st circuit
ATW-RTU-07

Pre-tax price: €



Ambient compensation
wireless controller
2nd circuit
ATW-RTU-06

Pre-tax price: €



Auxiliary outputs box
4 ports available: operation, alarm,
cooling, thermo-OFF.
ATW-AOS-02

Pre-tax price: €



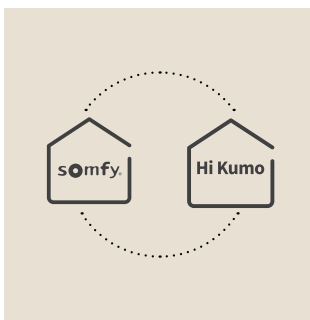
Hi - Box: Hi Kumo and
Hi Kumo PRO home
automation box
AHP-SMB-01

Pre-tax price: €



Somfy® home
automation box
1811527

Pre-tax price: €



SOMFY®/HI KUMO
GATEWAY
COMMUNICATION GATEWAY. SOMFY® OR
HI KUMO ENVIRONMENT INTEGRATION.
ATW-TAG-02

Pre-tax price: €



KNX® communication
interface
Communication gateway. KNX®
environment integration.
ATW-KNX-02

Pre-tax price: €



Modbus communication
interface
Communication gateway. Modbus®
environment integration.
ATW-MBS-02

Pre-tax price: €



Outdoor ambient
temperature sensor
ATW-2OS-02

Pre-tax price: €



Reversible kit

Equipment required for operating in cooling (included in the reversible version).

ATW-CKM-01

Pre-tax price: €



Cascade control cabinet

Cascade management of up to 8 Yutaki in the same range and with the same capacity (single/three-phase).

ATW-YCC-01

Pre-tax price: €



Control cabinet

Contains electrical connections and the controller. Controller PC-ARFHE optional.

ATW-YMM-01

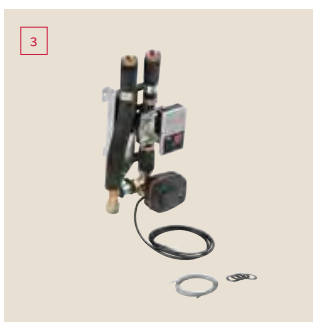
Pre-tax price: €



Electrical backup heater

WEH-6

Pre-tax price: €



2nd zone kit with a 3-way valve and wall mounted circulator

This accessory is essential when 2 separate temperature levels need to be maintained.

ATW-2TK-07

Pre-tax price: €



Safety aquastat maxi floor

This accessory is essential when the heat emitter is the underfloor type (DTU 65-14).

ATW-AQT-01

Pre-tax price: €



3-way valve

DHW and pool applications.

ATW-3WV-01

Pre-tax price: €

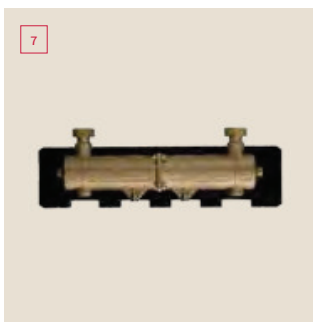


Differential pressure overflow valve

This accessory ensures constant flow to the Heat Pump condenser.

ATW-DPOV-01

Pre-tax price: €

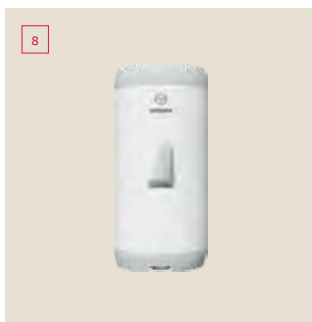


Hydraulic separator cylinder for Heat Pump

This accessory hydraulically separates the network of emitters and boiler from that of the Heat Pump.

ATW-HSK-01

Pre-tax price: €



Domestic Hot Water storage tank

Stainless steel tank
200 L: DHWT-200S-3.0H2
(H x D) 1270 x 595 mm

Pre-tax price: €

300 L: DHWT-300S-3.0H2E
(H x D) 1750 x 595 mm

Pre-tax price: €



Universal sensor

Hot water, hydraulic separator, 2nd circuit, pool, solar. (Required if the tank is not a Hitachi DHWT)

ATW-WTS-02Y

Pre-tax price: €

Indoor units

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27°C DB, 19°C WB, outside temperature 35°C DB.
- Heating: indoor temperature 20°C DB, outside temperature 7°C DB, 6°C WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.

The cooling and heating capacity of indoor units is different in the VRF IVX and VRF Set Free systems.

For the VRF IVX system, the nominal capacity shown in the tables below relates to combinations of an indoor unit with an outdoor unit of the VRF IVX Premium series or IVX Comfort series [RAS-(2-6)HVN1(E), RAS-(4-12)H(V)NP1(E), RAS-(3-6)H(V)NC1(E) and RAS-(4-12)H(V)NC1(E)], as long as this combination is permitted.

The acoustic pressure level has been measured in an anechoic chamber, under the following conditions:

- RCI (M) and RCD indoor units: 1.5 m below the unit.
- RPI (M) indoor units: 1.5 meters below the unit (with no ceiling below the unit) with the suction duct 1 m away and the discharge duct 2 m away.
- RPC and RPK indoor units: 1 m below the unit, 1 m from the discharge outlet.
- RPF (I) indoor units: 1 m from ground level, 1 m from the front of the unit.

The acoustic power level has been measured in a reverberant room in accordance with standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.

Dx-Kit

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the relevant DX interface (EXV-0E2), and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27°C DB, 19°C WB, outside temperature 35°C DB.
- Heating: indoor temperature 20°C DB, outside temperature 7°C DB, 6°C WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.

The acoustic pressure level in outdoor units is based on the following conditions:

- The measurement point is 1.5 meters from the ground and 1 meter from the front surface of the unit.
- Units working at their nominal supply voltage.

The acoustic pressure level has been measured in an anechoic chamber, so reflected sound must be taken into account when installing the unit.

The acoustic power level has been measured in a reverberant room in accordance with standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.

Outdoor units of the "RAS-XH (V)NP1(E)" series have been designed for specific applications requiring the combination of a Series 2 DX Interface and do not have Eurovent certification. They may vary depending on each specific application.

Hydraulic mode

The nominal heating and cooling capacities are based on Standard EN 14511 and the data is represented in integrated values (including the defrost correction factor).

The acoustic data are based on the following conditions:

- Outdoor ambient temperature (DB/WB): 7/6°C.
- Water input/output temperature: 30/35°C.
- Unit's distance from the measuring point: 1 meter from the front of the unit and 1.5 meters from ground level.

The measurements have been made in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.

Units of the air renewal range – KPI and active KPI

The sound-pressure level has been measured in an anechoic chamber, with the measuring point located 1.5 m below the unit, with no ceiling above it and using a soundproof duct. Suction duct 1 m away and discharge duct 2 m away.

Reflected sound must be considered when installing the unit. The sound-pressure level measured in the installation may be higher than specified.

In the case of KPI-X4E units with a direct expansion unit, the nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511 under the following operating conditions:

- Cooling: indoor temperature 27°C DB, 19°C WB, outside temperature 35°C DB.
- Heating: indoor temperature 20°C DB, outside temperature 7°C DB, 6°C WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.
- Active KPI unit operating at its nominal air flow.

Units of the Chiller range

The capacity data are based on European Standard EN14511 in the following conditions:

Operating conditions in cooling mode:

- Cold water inlet/outlet temperature: 12/7°C.
- Condenser inlet air temperature: 35°C.

Operating conditions in heating mode:

- Hot water input/output temperature: 40/45°C.
- Condenser inlet air temperature: 6°C (WB).

All sound pressure level data are measured at a height of 1.5 m, and at 1 m from the front panel of the unit.

The low-water-temperature option requires Glycol (antifreeze mixture of ethylene glycol or propylene glycol).

Powers and performances are shown with no pump.

Seasonal energy performances (SCOP) are shown in accordance with European Standard EN14825.

For more information, see the technical manuals of each range at <https://www.hitachiircon.es/recursos>