



YORK Heat Pump Extended Portfolio

4-Pipe Systems and High Temperature Water Heat Pumps



The power behind **your mission**







Content

What is the E.V.I. Technology (Enhanced vapour injection)	4
Noise Reduction.....	5
P4U Version	6
P4S Version	6
YHA High efficiency air to water heat pumps	8
YLZ High efficiency air to water heat pumps with E.V.I. compressors	10
YCZ High efficiency air to water heat pumps ductables with E.V.I. compressors	12
YWH Super-high temperature water to water heat pumps	14

What is the E.V.I. Technology (Enhanced vapour injection)

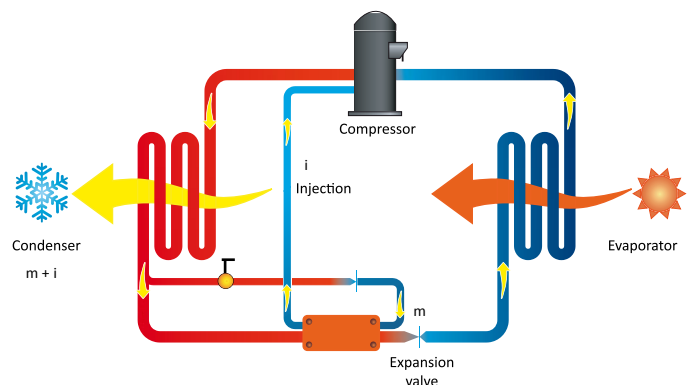
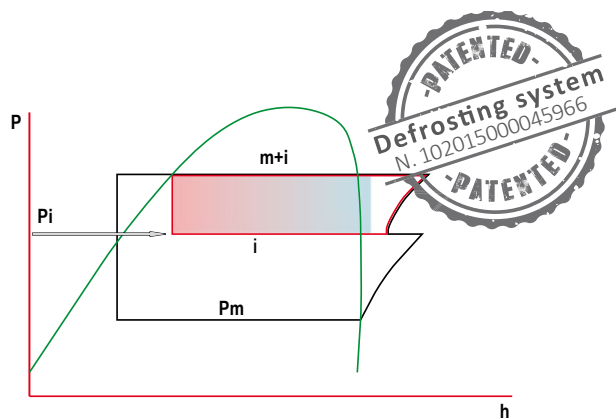
YORK YLZ and YCZ heat pumps utilise scroll compressors that are equipped with E.V.I. technology, a versatile method of improving system capacity and efficiency. EVI stands for "Economised Vapour Injection."

The technology involves injecting refrigerant vapour into the middle of the compression process, a procedure that significantly boosts capacity and efficiency. Each scroll compressor used in these units is similar to a two-stage compressor with built-in inter-stage cooling. The process begins when a portion of the condenser liquid is extracted and expanded through an expansion valve.

The low temperature liquid/gas mixture produced is injected into a heat exchanger that operates as a sub cooler. Any liquid is evaporated and the vapour produced is superheated.

The superheated vapour is then injected into an intermediate port in the scroll compressor. This cold vapour reduces the temperature of the compressed gas thus enabling the compressor to raise the pressure to levels (and temperatures) beyond that possible with a single stage scroll.

The additional sub cooling of the main volume of liquid refrigerant increases the evaporator capacity. This compressor technology generates a larger pressure ratio between condensing and evaporating pressures, with significant performance improvement. Using this technology enables YORK units to produce hot water up to 65°C and the ability to operate down to -20°C ambient temperature.

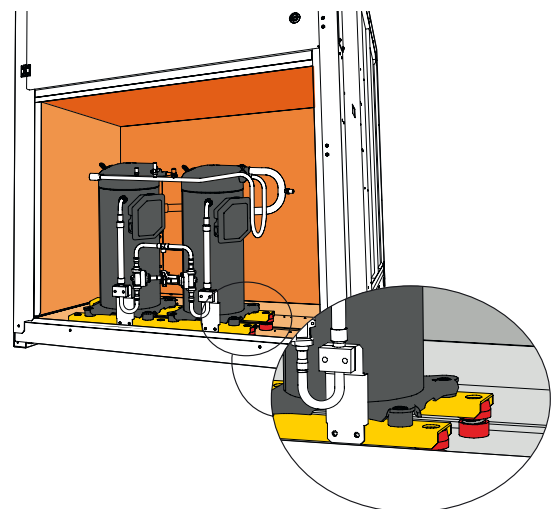


Noise Reduction

All units in XL version are supplied, as standard, with the latest 'Floating Frame' technology that completely isolates the compressors from the main casing, thereby eliminating vibration and noise from this source.

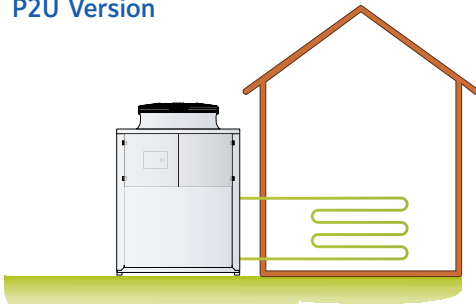
The 'Floating Frame' is a special vibration and acoustic damping system that consists of a base plate and acoustic enclosure that houses the compressors. The base plate is separated from the supporting frame of the unit by soft steel springs that have a high damping power.

The entire arrangement provides a double damping system and acoustic attenuation. The compressor refrigerant pipes are connected to the 'fridge circuit' via "anaconda" flexible connections. Flexible connections are also used on the water pipework within the unit. The combination of these systems results in an overall noise reduction in the region of 10-12 dB(A).



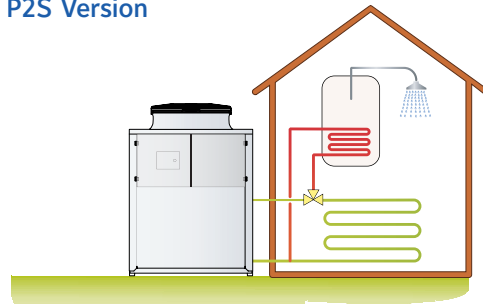
Versions

P2U Version



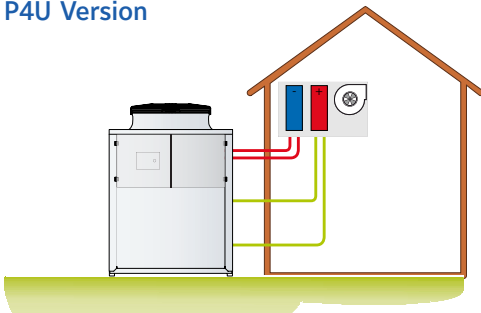
This is a two pipe version that can produce hot water for heating (HH heating only) and hot or cold water in the RV version. The RV is used with two pipe water based change-over systems. It is not able to produce domestic hot water.

P2S Version



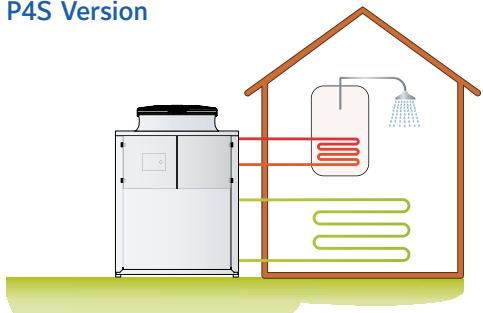
This is a two pipe version that can, in addition to producing hot water for heating (HH version) and hot and cold water in the RV version can also generate domestic hot water. The controller has dual heating set points (heating and DHW) and can also control a three port diverting valve that directs the DHW to the cylinder. DHW production has priority irrespective of the mode of operation of the unit. The unit is normally used with two pipe water based change-over systems.

P4U Version



The P4U units use 4 hydraulic connections and are used in modern 4-pipe systems. In these systems, cold and hot water is always available (in every period of the year) and present in the specific hydraulic circuit. These systems allow the simultaneous production of cold water and hot water using 4 hydraulic connections, 2 connections are related to the hot water circuit, 2 connections are related to the cold water circuit. The plant thus conceived is able to heat and, at the same time, if required, to cool with very high energy efficiencies.

P4S Version

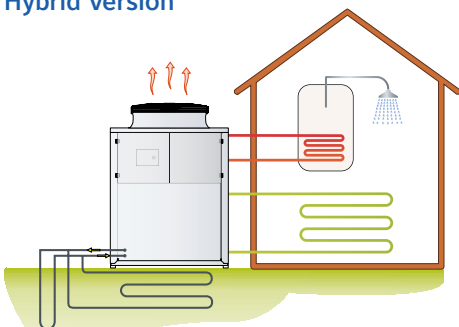


The P4S units have been designed to meet the needs of 2 + 2 pipe systems (2 user side pipes, 2 domestic hot water pipes) throughout the year.

The units are supplied with 2 exchangers, one dedicated to the production of the user cold and hot water and one dedicated to the production of domestic hot water only (D.H.W.).

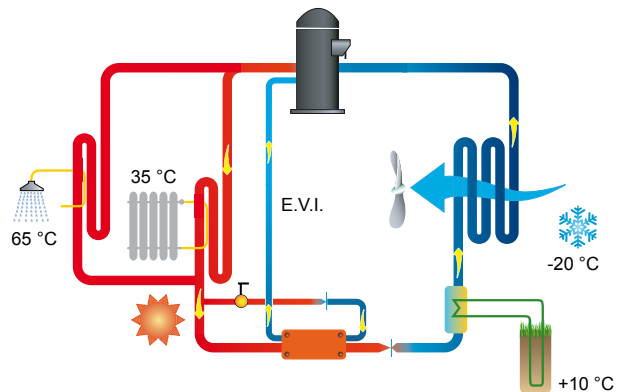
The production of domestic hot water always has priority.

Hybrid version



The use of the water source heat exchanger only in harsh environmental conditions, allows the unit to operate with the air source for most of the time, integrating the power missing with the water but also ensuring an extreme reduction of water consumption. The applications of hybrid heat pumps are absolutely interesting in those cases where supplementary sources of different nature are available at lower cost. The integrated power from the water heat exchanger to water is about 30% of the power unit, in this way there are not needed high cost of adduction.

Hybrid version principle of operation



Some water sources used:

- Integrative source through the use of well water
- Integrative source through the use of geothermal
- Integrative source through the use of wastewater
- Integrative source through the use of solar panels.

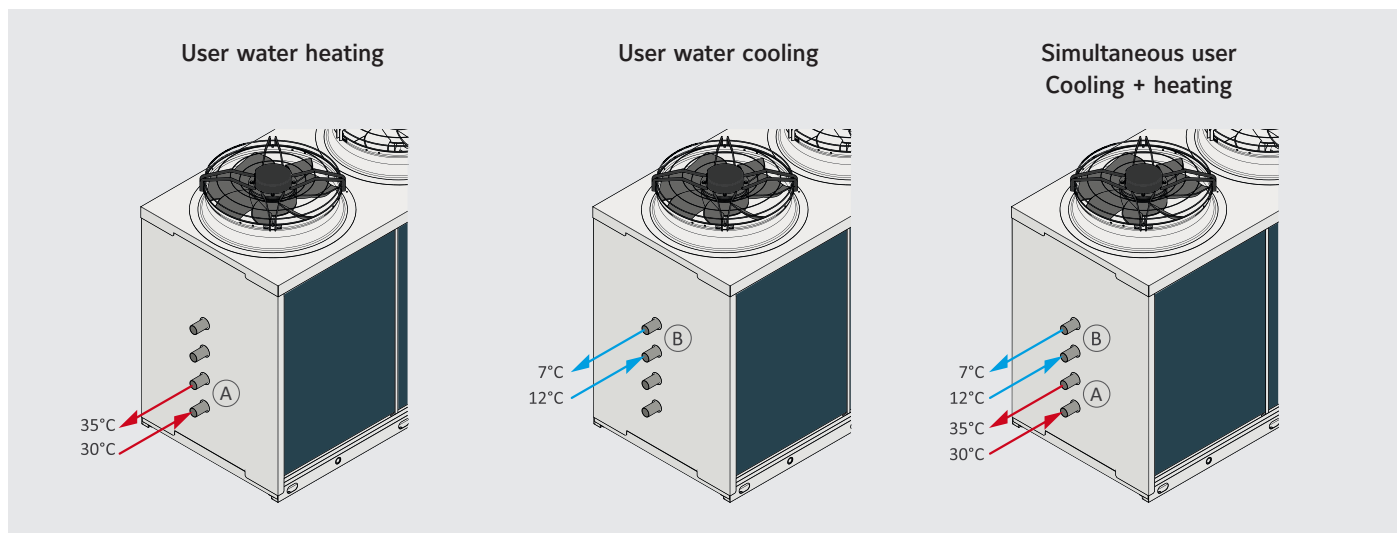
P4U Version

The operating modes are:

1. User water heating: The unit behaves like a normal air/water heat pump in heating mode, using the finned heat exchanger as the source and the A plate heat exchanger as user.

2. User water cooling: The unit behaves like a normal air/water chiller in cooling mode, using the finned exchanger as the source and the B plate heat exchanger as user.

3. Simultaneous user Cooling + heating: The unit behaves like a water / water heat pump, using the plate heat exchanger B as the cold user and the plate heat exchanger A as hot user.



P4S Version

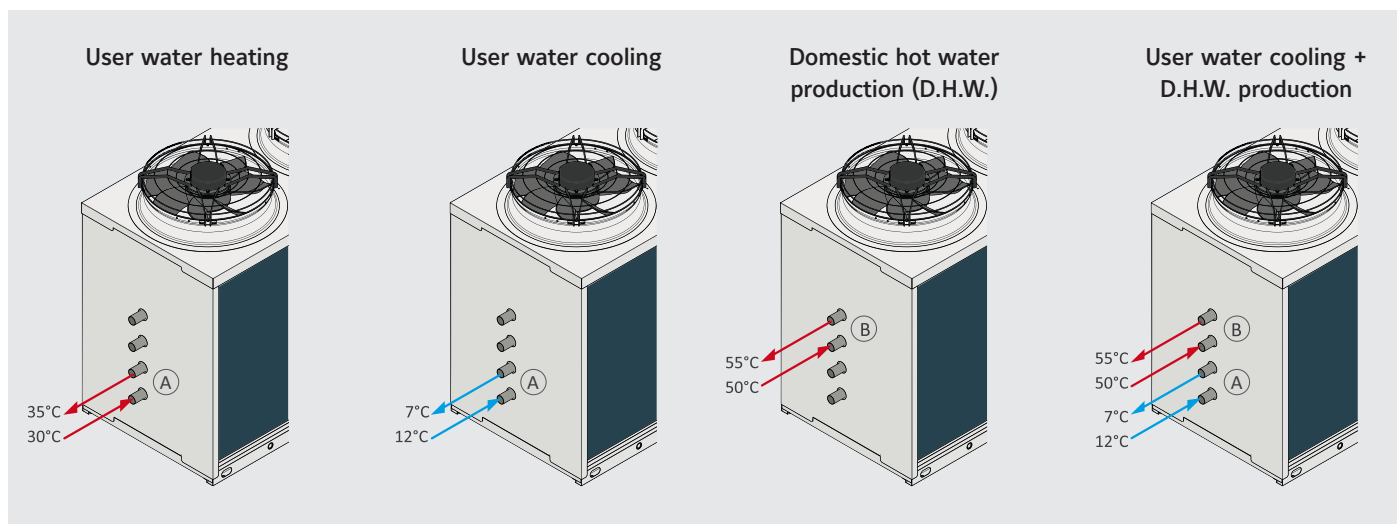
The operating modes are:

1. User water heating: The unit behaves like a normal air/ water heat pump in heating mode, using the finned heat exchanger as the source and the A plate heat exchanger as user.

2. User water cooling: The unit behaves like a normal air/water chiller in cooling mode, using the finned heat exchanger as the source and the A plate heat exchanger as user.

3. Domestic hot water production (D.H.W.): The unit behaves like a normal air / water heat pump in heating mode, using the finned heat exchanger as the source and as a user the plate heat exchanger B (a special D.H.W. heat exchanger that works with a higher set point).

4. User water cooling + D.H.W. production: The unit behaves like a water / water heat pump, using the plate heat exchanger A as the cold



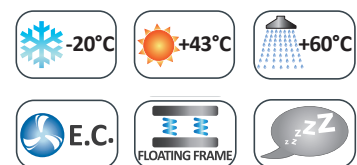


YHA

High efficiency air to water heat pumps

Cooling capacities from 18.1 kW to 416 kW

Heating capacities from 22.2 kW to 463.7 kW



Features

The **YHA** series of high efficiency heat pumps has been specifically designed for use with radiant floor heating systems or those applications where it is necessary to have maximum efficiency when heating.

They have been optimized on heating mode, are able to produce water up to 60°C and can operate down to -20°C ambient temperature.

All versions are supplied with reverse cycle valve used for winter defrost; the **HH** version is suitable for use in those countries that have support schemes for use of heat pump technology for heating. The **RV** versions are also able to produce cold water. The **HH** heating only versions is factory set and locked to operate only in heating mode whilst.

The noise is extremely low thanks to the use of a special floating vibration damping system which allows a noise reduction of about 10-12 dB(A) (Optional).

Available versions

- HH** Heating only.
- RV** Reversible heating/cooling.
- LS** Low noise.
- XL** Super low noise.
- P2U** 2 pipe systems without domestic hot water production.
- P2S** 2 pipe systems with domestic hot water production by external 3 way valve.
- P4U** 4 pipe systems heating/cooling.
- P4S** 2+2 pipe systems.

High efficiency air to water heat pumps

YHA 252 to 5004



Nominal capacity

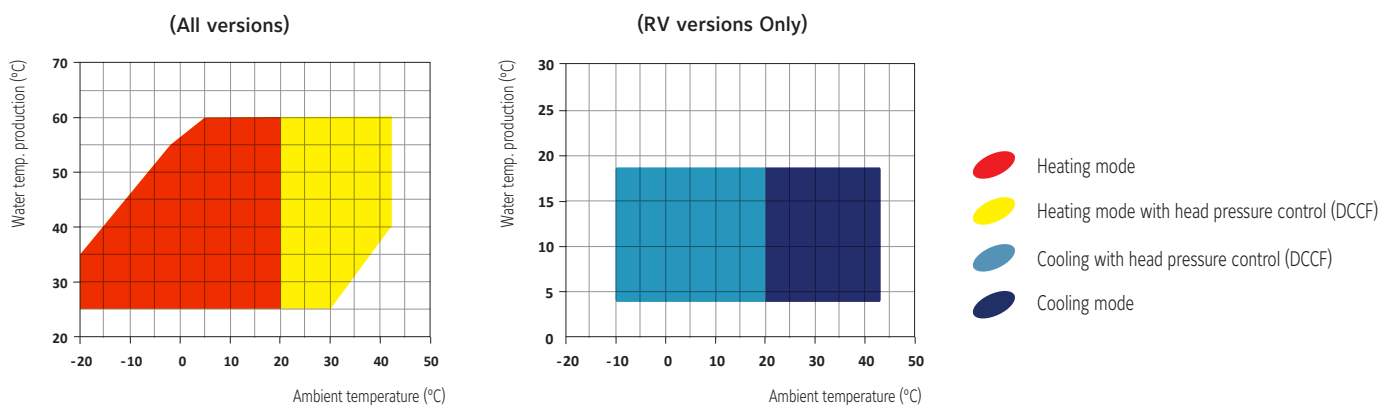
YHA/LS/RV - Low noise Reversible version	252	302	402	452	502	602	702	802	902	1002	1202	1402
Energy Class in low temp. - According to EU reg. 811/2013	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Heating capacity (EN14511) (1) kW	22,2	29,6	37,6	47,7	52,2	61,2	67,3	74,9	93,2	104,9	114,9	137,1
COP (EN14511) (1)	4,10	4,16	4,45	4,28	4,55	4,61	4,46	4,36	4,40	4,29	4,13	4,44
Cooling capacity (EN14511) (2) kW	18,1	24,6	30,9	40,6	45,4	52,4	57,5	63,4	80,5	90,2	100,5	117,4
EER (EN14511) (2)	2,62	2,59	2,92	2,82	2,94	2,87	2,70	2,65	3,03	2,89	2,86	3,04

YHA/LS/RV - Low noise Reversible version	1602	1802	2002	2302	2502	2504	3004	3204	3504	4004	4504	5004
Energy Class in low temp. - According to EU reg. 811/2013	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Heating capacity (EN14511) (1) kW	151	167,9	182,8	210,6	241,3	229,4	271,4	296,7	339	364,9	407	463,7
COP (EN14511) (1)	4,39	4,18	4,02	4,26	4,4	4,11	4,25	4,15	4,05	4,11	3,91	4,03
Cooling capacity (EN14511) (2) kW	129,5	146,8	159,2	180,4	202,1	198,5	231	259,7	289,4	322,6	368,5	416
EER (EN14511) (2)	2,94	2,89	2,71	2,73	2,76	2,73	2,87	2,91	2,75	2,73	2,73	2,69

(1) Heating: Ambient temperature 7°C DB, 6°C WB, water temperature 30/35°C.

(2) Cooling: ambient temperature 35°C, water temperature 12/7°C.

Operation limits

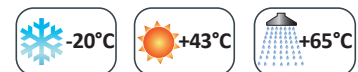


Manufacturer reserves the rights to change specifications without prior notice.

YLZ

High efficiency air to water heat pumps with E.V.I. compressors

Cooling capacities from 22.4 kW to 186 kW
Heating capacities from 25.5 kW to 210 kW



Features

The **YLZ** series of high efficiency heat pumps has been specifically designed for use with radiant floor heating systems or those applications where it is necessary to have maximum efficiency when heating.

They have been optimized on heating mode, are able to produce water up to 65°C and can operate down to -20°C ambient temperature.

All versions are supplied with reverse cycle valve used for winter defrost; the **HH** version is suitable for use in those countries that have support schemes for use of heat pump technology for heating. The **RV** versions are also able to produce cold water. The **HH** heating only versions is factory set and locked to operate only in heating mode whilst.

The noise in **XL** and **NN** versions is extremely low thanks to the use of a special floating vibration damping system which allows a noise reduction of about 10-12 dB(A).

Available versions

- HH** Heating only.
- RV** Reversible heating/cooling.
- XL** Super low noise.
- NN** Ultra low noise.
- P2U** 2 pipe systems without domestic hot water production.
- P2S** 2 pipe systems with domestic hot water production by external 3 way valve.
- P4U** 4 pipe systems heating/cooling.
- P4S** 2+2 pipe systems with domestic hot water production

High efficiency air to water heat pumps with E.V.I. compressors

YLZ 252 to 2404



Nominal capacity

YLZ/RV - Reversible version	252	302	452	502	602	752	852
Energy Class in low temp. - According to EU reg. 811/2013	A+	A+	A+	A+	A+	A+	A+
Energy Class in high temp. - According to EU reg. 811/2013	A+	A+	A+	A+	A+	A+	A+
Heating capacity (EN14511) (1) kW	25,5	32,1	41,8	52,8	63,7	72,8	83
COP (EN14511) (1)	4,25	4,21	4,18	4,16	4,29	4,27	4,15
Cooling capacity (EN14511) (2) kW	22,4	27,7	36,7	46,2	54,7	62,8	71,0
EER (EN14511) (2)	3,06	3,05	3,07	3,05	3,07	3,05	3,05

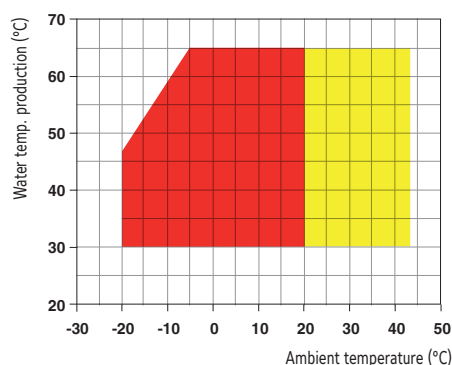
YLZ/RV - Reversible version	1002	1202	1504	1704	2004	2404
Energy Class in low temp. - According to EU reg. 811/2013	A+	A+	A++	A++	A+	A+
Energy Class in high temp. - According to EU reg. 811/2013	A+	A+	A+	A+	A+	A+
Heating capacity (EN14511) (1) kW	93,2	110,5	149	161	183	210
COP (EN14511) (1)	4,14	4,20	4,30	4,23	4,28	4,20
Cooling capacity (EN14511) (2) kW	79,4	90	126	140	165	186
EER (EN14511) (2)	2,95	2,93	3,01	2,85	3,14	2,90

(1) Heating: Ambient temperature 7°C DB, 6°C WB, water temperature 30/35°C.

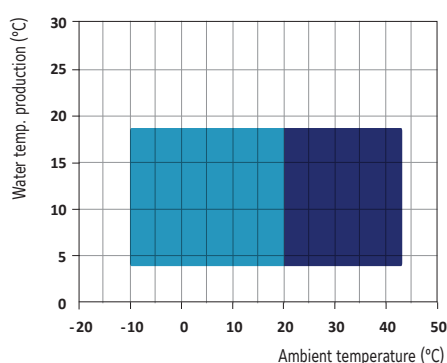
(2) Cooling: ambient temperature 35°C, water temperature 12/7°C.

Operation limits

(All versions)



(RV versions Only)



- Heating mode
- Heating mode with head pressure control (DCCF)
- Cooling with head pressure control (DCCF)
- Cooling mode



Manufacturer reserves the rights to change specifications without prior notice.

YCZ

High efficiency air to water heat pumps ductables with E.V.I. compressors

Cooling capacities from 22.4 kW to 62.5 kW

Heating capacities from 25.7 kW to 72.8 kW



Features

The high efficiency **YCZ** series heat pumps has been specifically designed for use with radiant floor heating systems or those applications where it is necessary to have maximum efficiency when heating.

They have been optimized on heating mode, are able to produce water up to 65°C and can operate down to -20°C ambient temperature.

The units have been designed for internal installation in plant rooms and are fitted with E.C. fans suitable for connection to ductwork.

YCZ units are available in 2 pipe, 2+2 pipe and 4 pipe versions.

Some versions can produce domestic hot water, in the **P2S** version through the activation of an external 3-way-valve and in the **P4S** version by means of a separate heat exchanger and hydraulic circuit for the domestic hot water.

All versions are supplied with reverse cycle valve used for winter defrost; the **HH** version is suitable for use in those countries that have support schemes for use of heat pump technology for heating. The **RV** versions are also able to produce cold water. The **HH** heating only versions is factory set and locked to operate only in heating mode whilst.

The noise is extremely low thanks to the use of a special floating vibration damping system which allows a noise reduction of about 10-12 dB(A).

Available versions

- HH** Heating only.
- RV** Reversible heating/cooling.
- XL** Super low noise.
- P2U** 2 pipe systems without domestic hot water production.
- P2S** 2 pipe systems with domestic hot water production by external 3 way valve.
- P4U** 4 pipe systems heating/cooling.
- P4S** 2+2 pipe systems with domestic hot water production.

High efficiency air to water heat pumps ductables with E.V.I. compressors

YCZ 252 to 752



Nominal capacity

YCZ/RV - Reversible version	252	302	452	502	602	752
Energy Class in low temp. - According to EU reg. 811/2013	A+	A+	A+	A+	A+	A+
Energy Class in high temp. - According to EU reg. 811/2013	A+	A+	A+	A+	A+	A+
Heating capacity (EN14511) (1) kW	25,7	32,2	43,1	54,9	63,0	72,8
COP (EN14511) (1)	4,15	4,12	4,10	4,15	4,12	4,11
Cooling capacity (EN14511) (2) kW	22,4	27,7	36,5	46	54,5	62,5
EER (EN14511) (2)	2,93	2,85	2,75	2,70	2,95	2,94

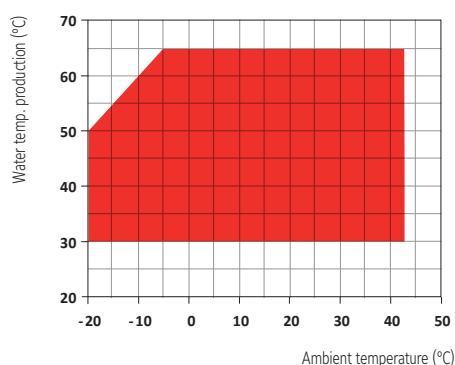
Performances are obtained with available static pressure 50 Pa, at the following conditions:

(1) Heating: Ambient temperature 7°C DB, 6°C WB, water temperature 30/35°C.

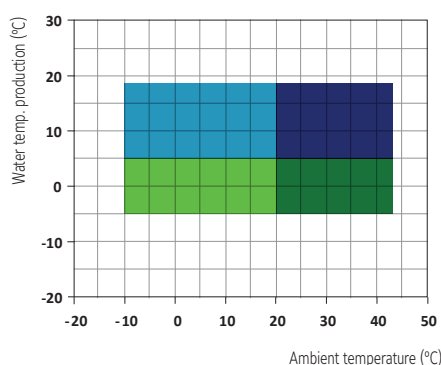
(2) Cooling: ambient temperature 35°C, water temperature 12/7°C.






Operation limits

(All versions)

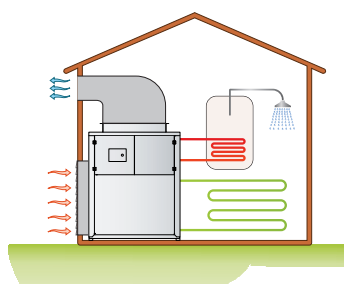


(RV versions Only)



-  Heating mode
-  Cooling with head pressure control
-  Cooling with head pressure control
-  Cooling with head pressure control and glycol
-  Cooling with head pressure control and glycol

Plant scheme



Manufacturer reserves the rights to change specifications without prior notice.

YWH

Super-high temperature water to water heat pumps

Heating capacities from 37.6 kW to 273.2 kW



Features

YWH heat pumps are particularly suitable for applications that use source energy at medium or high temperatures.

These units have been designed to produce water at high or very high temperature for applications where it is necessary to have maximum efficiency in heating. The units are available in heating only mode and can produce water up to 78°C (HT version).

A wide range of accessories allows you to choose the optimal solution.

Available versions

- HH** Standard, heating only.
- LT** Low source/user temperature.
- HT** High source/user temperature.
- LS** Low noise.
- XL** Super low noise.
- P2U** 2 pipe systems without domestic hot water production.

Super-high temperature water to water heat pumps

YWH 302 to 2604



Nominal capacity

YWH LT/XL/HH - P2U		302	402	602	702	902	1202	1402	1804	2304	2604
Heating capacity (EN14511) (1)	kW	38,8	46	58,4	70,3	88,4	109,9	136,5	176,9	219,5	273,2
Input power (EN14511) (1)	kW	8,2	9,4	11,8	14,8	18,8	23,1	27,9	37,2	45,7	55,3
COP (EN14511) (1)	W/W	4,73	4,85	4,93	4,76	4,7	4,75	4,88	4,75	4,8	4,94
Energy Class in low temperature (2)		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP low temperature (2)	kWh/kWh	4,85	5	5,16	5	5,08	5,17	5,36	5,29	5,38	5,56
$\eta_{s,h}$ low temperature (2)	%	185,9	192,1	198,2	191,8	195,3	198,9	206,3	203,4	207	214,4
Energy Class in medium temperature (2)		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP medium temperature (2)	kWh/kWh	4,07	4,19	4,28	4,18	4,16	4,22	4,35	4,27	4,34	4,47
$\eta_{s,h}$ medium temperature (2)	%	154,8	159,6	163	159	158,3	160,9	165,9	162,8	165,6	170,7
Power supply	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Maximum input current	A	128,7	137,6	168	209	266	324	372,5	348	428	497,5
Peak current	A	35,4	39,2	56	70	82	104	125	164	208	250
Compressors / Circuits	n°/n°	2-ene	2-ene	2-ene	2-ene	2-ene	2-ene	2-ene	4-feb	4-feb	4-feb
Capacity steps	n°	2	2	2	2	2	2	2	4	4	4
Refrigerant		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Global warming potential (GWP)		1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Refrigerant charge	Kg	2	2	3	3	4	5	6	8,5	10,5	13
Equivalent CO2 charge	t	2,9	2,9	4,3	4,3	5,7	7,2	8,6	12,2	15	18,6
Sound power LS version (3)	dB(A)	--	--	--	--	--	--	--	88	89	91
Sound pressure LS version (4)	dB(A)	--	--	--	--	--	--	--	72	73	75
Sound power XL version (3)	dB(A)	65	65	70	73	74	76	78	--	--	--
Sound pressure XL version (4)	dB(A)	49	49	54	57	58	60	62	--	--	--

(1) Heating: user water temperature 30/35°C, source water temperature 10/7°C.

(2) Average conditions, variable - Reg EU 811/2013

(3) Sound power level in accordance with ISO 3744.

(4) Sound pressure level at 1 mt from the unit in free field conditions in accordance with ISO 3744.

Nominal capacity

YWH HT/XL/HH - P2U		302	402	602	702	902	1202	1402	1804	2304	2604
Heating capacity (EN14511) (1)	kW	37,6	43,6	64,1	75,1	97,8	121,7	150,5	195,6	243,9	301,2
Input power (EN14511) (1)	kW	6,7	7,5	11,1	13,7	17,6	21,7	26,2	35	43,1	52,2
COP (EN14511) (1)	W/W	5,65	5,83	5,79	5,48	5,56	5,62	5,74	5,59	5,65	5,77
Energy Class in low temperature (2)		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP low temperature (2)	kWh/kWh	5,71	5,83	5,91	5,81	5,85	5,94	6,09	5,95	6,01	6,2
$\eta_{s,h}$ low temperature (2)	%	220,2	225,3	228,2	224,5	226	229,4	235,6	230	232,4	239,9
Energy Class in medium temperature (2)		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP medium temperature (2)	kWh/kWh	4,62	4,73	4,78	4,76	4,67	4,74	4,85	4,73	4,79	4,91
$\eta_{s,h}$ medium temperature (2)	%	176,9	181,1	183,2	182,2	178,7	181,5	186,1	181	183,6	188,3
Power supply	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Maximum input current	A	111,4	128,7	167,1	208,3	267,9	324,8	372,9	353,7	430,4	498,7
Peak current	A	32,8	35,4	54,2	68,6	85,8	105,6	125,8	171,6	211,2	251,6
Compressors / Circuits	n°/n°	2-ene	2-ene	2-ene	2-ene	2-ene	2-ene	2-ene	4-feb	4-feb	4-feb
Capacity steps	n°	2	2	2	2	2	2	2	4	4	4
Refrigerant		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Global warming potential (GWP)		1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Refrigerant charge	Kg	4	4	5	6	8	10	10	21	26	33
Equivalent CO2 charge	t	5,7	5,7	7,2	8,6	11,4	14,3	14,3	30	37,2	47,2
Sound power LS version (3)	dB(A)	--	--	--	--	--	--	--	88	89	91
Sound pressure LS version (4)	dB(A)	--	--	--	--	--	--	--	72	73	75
Sound power XL version (3)	dB(A)	65	65	70	73	74	76	78	--	--	--
Sound pressure XL version (4)	dB(A)	49	49	54	57	58	60	62	--	--	--

(1) Heating: user water temperature 30/35°C, source water temperature 10/7°C.

(2) Average conditions, variable - Reg EU 811/2013

(3) Sound power level in accordance with ISO 3744.

(4) Sound pressure level at 1 mt from the unit in free field conditions in accordance with ISO 3744.



Manufacturer reserves the rights to change specifications without prior notice.

Frame

All units are made from hot-galvanised sheet steel, painted with polyurethane powder enamel and stoved at 180°C to provide maximum protection against corrosion. The frame is self-supporting with removable panels. All screws and rivets used are made from stainless steel. The standard colour of the units is RAL 9018.

Refrigerant circuit

The refrigerant utilised is R134a. The refrigerant circuit is assembled using internationally recognised brand name components with all brazing and welding being performed in accordance with ISO 97/23. Each refrigerant circuit is totally independent from the other with the result that any fault or alarm condition on one circuit does not influence the other.

The refrigerant circuit includes: sight glass, filter drier, thermal expansion valve with external equalizer, Schrader valves for maintenance and control and pressure safety device (for compliance with PED regulations).

Compressors

The compressors used are a high performance scroll type that incorporates a special scroll design which enhances the efficiency of the refrigerant cycle when the source temperature is low. The compressors are all supplied with a crankcase heater and thermal overload protection by a klixon embedded in the motor winding. They are mounted in a separate enclosure thus enabling them to be maintained even if the unit is operating. Access to this enclosure is via the front panel of the unit. The crankcase heater is always powered when the compressor is in stand-by.

Source heat exchanger

Source heat exchanger are braze-welded plates and are made of stainless steel AISI 316.

The use of this type of exchangers greatly reduces the refrigerant charge of the unit compared to the conventional shell and tube evaporators, and increases the efficiency of the refrigerant loads. The heat exchangers are factory insulated with flexible close cell material and are protected by a temperature sensor used as antifreeze protection kit.

User exchanger

The user side heat exchanger is a braze welded, plate type heat exchanger, manufactured from AISI 316 stainless steel.

All units are supplied with a sub-cooler to enhance the performance of the refrigerant cycle. The user heat exchangers are factory insulated with flexible close cell material.

Microprocessors

All units are supplied as standard with microprocessor controls. The microprocessor controls the following functions:

control of the water temperature, antifreeze protection, compressor timing, compressor automatic starting sequence, alarm reset, volt free contact for remote general alarm, alarms and operation LED's. If required (available as an option), the microprocessor can be configured in order for it to connect to a site BMS system thus enabling remote control and management. The technical department can discuss and evaluate, in conjunction with the customer, solutions using MODBUS protocols.

Electric enclosure

The enclosure is manufactured in order to comply with the requirements of the electromagnetic compatibility standards CEE EN60204. Access to the enclosure is achieved by removing the front panel of the unit. The

following components are supplied as standard on all units: main switch, thermal overloads (protection of pumps and fans), compressor fuses, control circuit automatic breakers, compressor contactors, fan contactors and pump contactors. The terminal board has volt free contacts for remote ON-OFF, Summer/Winter change over (reversible type only) and general alarm. For all three phase units, a sequence relay that disables the power supply in the event that the phase sequence is incorrect (scroll compressors can be damaged if they rotate in the wrong direction), is fitted as standard.

Control and protection devices

All units are supplied with the following control and protection devices: Return and supply user heat exchanger sensors, return and supply source heat exchanger sensors, high pressure switch with manual reset, low pressure switch with automatic reset, high pressure safety valve, compressor thermal overload protection, pump thermal overload protection (when present), source heat exchanger flow switch.

Versions

YWH/HH

These units have been designed to produce water at high or very high temperature by using a source water temperature of 12°C with possibility to produce hot water up to 70°C or more.

YWH/HH/HT

This version is equipped with special compressors that allow the cooling circuit to manage high source water temperature, up to 45°C, with the consequent possibility of producing very high water temperatures on the user side up to 78°C.

YWH/HH/LT

This version is equipped with special compressors that allow the cooling circuit to manage medium source water temperature, up to 20°C, with the consequent possibility of producing very high water temperatures on the user side up to 70°C.

Version LS

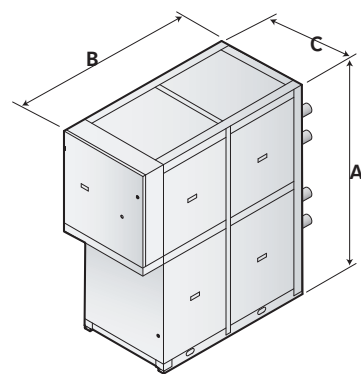
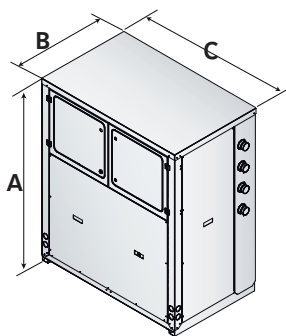
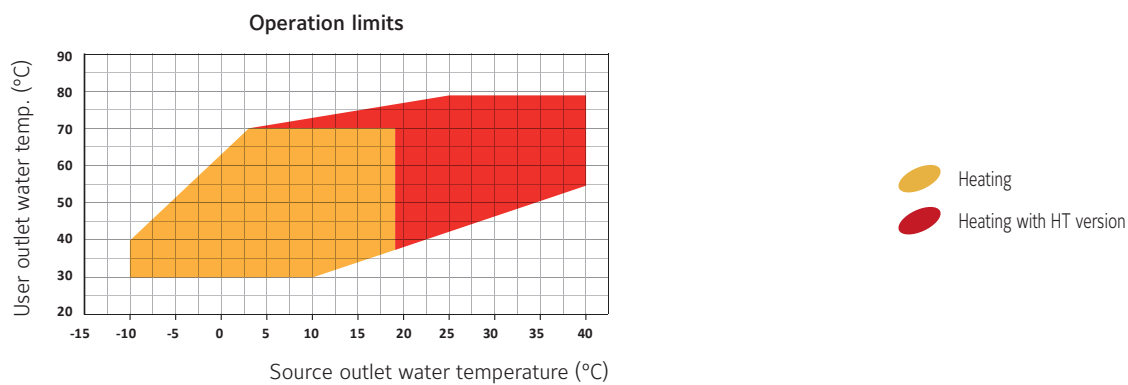
This version includes the complete acoustic insulation of the unit with compressor jackets and insulating material made with high density media and the interposition of heavy bitumen layer.

Super low noise version XL

All units in XL versions are supplied, as standard, with the latest 'Floating Frame' technology that completely isolates the compressors from the main casing, thereby eliminating vibration and noise from this source. The 'Floating Frame' is a special vibration and acoustic damping system that consists of a base plate and acoustic enclosure that houses the compressors. The base plate is separated from the supporting frame of the unit by soft steel springs that have a high damping power. Within the enclosure, the compressors are mounted on rubber shock absorbers on the floating base plate. The enclosure is manufactured from galvanized steel sandwich panels that have a micro-perforated inner skin and a core of 20 mm thick, high density (4 kg/m³) mineral wool. The entire arrangement provides a double damping system and acoustic attenuation. The compressor refrigerant pipes are connected to the refrigerant circuit through "anaconda" flexible connections. Flexible connections are also used on the water pipework within the unit. The combination of these systems results in an overall noise reduction in the region of 10-12 dB(A).

YWH		302	402	602	702	902	1202	1402	1804	2304	2604
XL Super low noise version	XL00	●	●	●	●	●	●	●	-	-	-
LS low noise version	LS00	-	-	-	-	-	-	-	●	●	●
Electronic Soft starter	DSSE	○	○	○	○	○	○	○	○	○	○
Rubber anti-vibration mountings	KAVG	○	○	○	○	○	○	○	○	○	○
Spring anti-vibration mountings	KAVM	○	○	○	○	○	○	○	○	○	○
Refrigerant circuit pressure gauges	MAML	○	○	○	○	○	○	○	○	○	○
Liquid line solenoid valve	VSLI	○	○	○	○	○	○	○	○	○	○
Remote control panel	PCRL	○	○	○	○	○	○	○	○	○	○
Serial interface card RS485 with MODBUS protocol	INSE	○	○	○	○	○	○	○	○	○	○
2 way modulating valve - source	V2M0	○	○	○	○	○	○	○	○	○	○
Electronic thermostatic valve	VTEE	○	○	○	○	○	○	○	○	○	○
Hydraulic kit with 1 pump - user circuit	A1NTU	-	-	-	-	-	-	-	○	○	○
Hydraulic kit with 1 pump - source circuit	A1NTS	-	-	-	-	-	-	-	○	○	○
Hydraulic kit with 1 pump - recovery circuit	A1NTR	-	-	-	-	-	-	-	○	○	○
Hydraulic kit with 2 pumps - user circuit	A2NTU	-	-	-	-	-	-	-	○	○	○
Hydraulic kit with 2 pumps - source circuit	A2NTS	-	-	-	-	-	-	-	○	○	○
Hydraulic kit with 2 pumps - recovery circuit	A2NTR	-	-	-	-	-	-	-	○	○	○

● Standard, ○ Optional, - Not available.



Mod.	A (mm)	B (mm)	C (mm)	Kg
302	1600	800	1150	660
402	1600	800	1150	680
602	1600	800	1150	700
702	1600	800	1150	730
902	1600	800	1150	740
1202	1600	800	1150	760
1402	1600	800	1150	790

Mod.	A (mm)	B (mm)	C (mm)	Kg
1804	1900	2170	800	1320
2304	1900	2170	800	1390
2604	1900	2170	800	1430



Johnson Controls reserve the right, in line with continuing research and development, to amend or change specifications without notice.

About Johnson Controls

Johnson Controls delivers products, services and solutions that increase energy efficiency and lower operating costs in buildings for more than one million customers.

Operating from 500 branch offices in more than 150 countries, the company is a leading provider of equipment, controls and services for heating, ventilating, air-conditioning, refrigeration and security systems. Johnson Controls is involved in more than 500 renewable energy projects including solar, wind and geothermal technologies.

Its solutions have reduced carbon dioxide emissions by 13.6 million metric tons and generated savings of \$7.5 billion since 2000. Many of the world's largest companies rely on Johnson Controls to manage 1.5 billion square feet of their commercial real estate.

For additional information, please visit www.johnsoncontrols.com or follow us [@johnsoncontrols](https://twitter.com/johnsoncontrols) on Twitter.

For additional information about YORK HVAC products, please visit www.johnsoncontrols.co.uk

© 2020 Johnson Controls · All rights reserved.