



Reversible heat pump

R290



Semi-hermetic

piston compressor



Axial fan

Inverter



Brazed plate heat exchanger

200-2-2 PV → 380-2-2 PV

Air to water heat pumps for comfort applications Solution B - Base P - Base with Pump Version LN - Low Noise SL - Super Low Noise 2365 400 XL - Extra Low Noise 3520 5230 Equipment AS - Standard equipment **DS** - Desuperheater Heating capacity 197 - 377 kW 2090 Cooling capacity 182 - 326 kW 4985 To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan. The sensor, Safety system with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit. Structure Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; Compressor with inverter integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified EC Fan Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4. Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a Air heat exchanger high exchange surface area Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and Water heat exchanger thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate Electrical board troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage. The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to Control connect to BMS Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high **Refrigerant circuit** pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Low pressure switch

Double safety valve

Low pressure safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

HERA BS R290		200-2-2 PV	240-2-2 PV	305-2-2 PV	335-2-2 PV	380-2-2 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	201	239	297	333	377
Total power input ⁽¹⁾	[kW]	69,9	84,1	96,2	108,0	126
COP	[-]	2,88	2,84	3,09	3,08	2,99
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	197	236	293	329	375
Total power input ⁽¹⁾	[kW]	68,8	82,9	95,2	106,0	125
	[-]	2,86	2,85	3,08	3,10	3,00
Water flow ⁽¹⁾	[m ³ /h]	34,9	41,5	51,5	57,8	65,4
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	49,9	59,3	52,1	46,4	50,5
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	33,2 / 41,9	39,4 / 49,8	48,9 / 61,8	54,9 / 69,4	62,1 / 78,5
Applications for seasonal efficiency for heating according to Commissio						
SCOP (LN/SL - XL)	[W/W]	3,417 - 3,443	3,384 - 3,386	3,512 - 3,558	3,535 - 3,344	3,201 - 3,234
η _{s,h} (LN/SL - XL)	[%]	133,7 - 134,7	132,3 - 132.5	137,5 - 139,3	138,4 - 130,8	125 - 126,4
Applications for seasonal efficiency for heating according to Commissio						2 0 2 0 2 0 2 0
SCOP (LN/SL - XL)	[W/W]	3,053 - 2,849	2,824 - 2,83	2,976 - 3,011	2,996 - 3,032	2,928 - 2,939
$\eta_{s,h}$ (LN/SL - XL)	[%]	119,1 - 111	110 - 110,2	116,1 - 117,4	116,9 - 118,3	114,1 - 114,5
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	183	214	260	290	326
Total power input ⁽²⁾	[kW]	75,1	90,4	106	118	137
EER	[-]	2,44	2,37	2,45	2,46	2,38
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	182	214	258	291	324
Total power input ⁽²⁾	[kW]	73,8	89,5	102	115	134
EER	[-]	2,47	2,39	2,53	2,53	2,42
Water flow ⁽²⁾	[m ³ /h]	31,4	36,8	44,7	49,9	56,0
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	43,5	50,1	43,2	40,8	40,9
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	25,1 / 37,7	29,4 / 44,2	35,8 / 53,6	39,9 / 59,9	44,8 / 67,2
Technical data	r	1				
Refrigerant / GWP	-			R290 / 3		
Charge of refrigerant	[Kg]			> 12		
Number of refrigerant circuits	N°			2		
Compressor type / quantity	-/N°	Semihe	rmetic reciprocat		iable Frequency D	rive) / 2
Expansion valve type	-			Electronic		
Fans quantity / type	-		kial EC		8 / Axial EC	1
Fans power input ⁽¹⁾ (total)	[kW]	1,54	1,67	2,28	2,45	2,62
Total air flow ⁽¹⁾	[m³/h]	50.050	51.600	89.800	92.150	94.400
Electrical data	1	1			-	
Power supply (main - gas detector)	-		1	0/3+N/50 - 230/1		1
Maximum absorbed power	[kW]	87,9	97,9	138	141	151
Locked rotor current - LRA	[A]	153	168	238	245	261
Maximum absorbed current (full load)	[A]	153	168	238	245	261
Solution BASE-P - with Hydronic Kit	-	1		Contrifugal		
Pump type Standard pump (1,5 bar)	-			Centrifugal		
Motor efficiency	-	1		IE3		
Pump motor nominal power input	- [kW]	3,0	3,0	4,0	5,5	5,5
Pump motor nominal absorbed current	[A]	6,4	6,4	8,7	10,6	10,6
Increased pump (3,0 bar)	[7]	0,4	0,4	0,7	10,0	10,0
Motor efficiency	-			IE3		
Pump motor nominal power input	[kW]	5,5	7,5	7,5	9,2	9,2
Pump motor nominal absorbed current	[A]	10,6	13,6	13,6	17,2	17,2
Water connections	1 63				,_	,_
Size (nominal external diameter)	[inch]	3" (DN 80)	3" (DN 80)	4" (DN 100)	4" (DN 100)	4" (DN 100)
Noise levels ⁽³⁾						
Total sound power (LN version)	[db(A)]	86	87	91	92	93
Total sound pressure (LN version) - at 1 m distance	[db(A)]	67	68	71	72	73
Total sound pressure (LN version) - at 10 m distance	[db(A)]	54	55	59	60	61
Total sound power (SL version)	[db(A)]	85	86	90	91	92
Total sound pressure (SL version) - at 1 m distance	[db(A)]	66	67	70	71	72
Total sound pressure (SL version) - at 10 m distance	[alla (A)]	53	54	58	59	60
	[db(A)]			88	89	90
Total sound power (XL version)	[db(A)]	83	84			
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance	[db(A)] [db(A)]	64	65	68	69	70
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance	[db(A)]					70 58
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit	[db(A)] [db(A)] [db(A)]	64 51	65 52	68 56	69 57	58
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght	[db(A)] [db(A)] [db(A)] [mm]	64 51 3.665	65 52 3.665	68 56 5.230	69 57 5.230	58 5.230
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width	[db(A)] [db(A)] [db(A)] [mm] [mm]	64 51 3.665 2.280	65 52 3.665 2.280	68 56 5.230 2.280	69 57 5.230 2.280	58 5.230 2.280
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[db(A)] [db(A)] [db(A)] [mm] [mm] [mm]	64 51 3.665 2.280 2.550	65 52 3.665 2.280 2.550	68 56 5.230 2.280 2.550	69 57 5.230 2.280 2.550	58 5.230 2.280 2.550
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL) Height (XL)	[db(A)] [db(A)] [db(A)] [mm] [mm] [mm] [mm]	64 51 3.665 2.280 2.550 2.610	65 52 3.665 2.280 2.550 2.610	68 56 5.230 2.280 2.550 2.610	69 57 5.230 2.280 2.550 2.610	58 5.230 2.280 2.550 2.610
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL) Height (XL) Shipment weight - BP/LN/AS/EC/II version	[db(A)] [db(A)] [db(A)] [mm] [mm] [mm] [mm] [Kg]	64 51 3.665 2.280 2.550 2.610 2.800	65 52 3.665 2.280 2.550 2.610 2.840	68 56 2.230 2.550 2.610 3.970	69 57 5.230 2.280 2.550 2.610 3.990	58 5.230 2.280 2.550 2.610 4.180
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL) Height (XL)	[db(A)] [db(A)] [db(A)] [mm] [mm] [mm] [mm]	64 51 3.665 2.280 2.550 2.610	65 52 3.665 2.280 2.550 2.610	68 56 5.230 2.280 2.550 2.610	69 57 5.230 2.280 2.550 2.610	58 5.230 2.280 2.550 2.610

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve



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Reversible heat pump

R290 | GWP=3



Semi-hermetic

piston compressor



Inverter

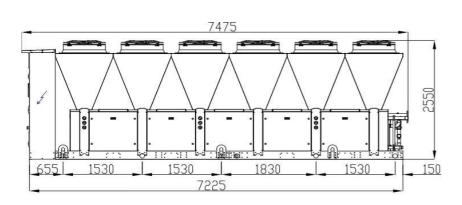


Axial fan



455-3-3 PV ←► 565-3-3 PV

Air to water heat pumps for comfort applications



Solution

B - Base

P - Base with Pump

Version

LN - Low Noise

SL - Super Low Noise

XL - Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 445 - 566 kW Cooling capacity 389 - 486 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the time the time to the term of the machine and the centrifugal extraction fan is where find where the term of the machine and the centrifugal extraction fan is where find where the term of the term of the machine and the centrifugal extraction fan is where find where the term of
Structure	 ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit. Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

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HERA BS R290	17 · · · ·	455-3-3 PV	500-3-3 PV	535-3-3 PV	565-3-3 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	446	499	533	566
Total power input ⁽¹⁾	[kW]	144	162	172	189
COP (1) the second se	[-]	3,10	3,08	3,10	2,99
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	445	492	528	562
Total power input ⁽¹⁾	[kW]	142	160	171	188
COP	[-]	3,13	3,08	3,09	2,99
Water flow ⁽¹⁾	[m ³ /h]	77,3	86,5	92,4	98,2
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	66,7	75,3	67,8	72,9
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	73,4 / 92,8	82,2 / 104	87,8 / 111	93,3 / 118
Applications for seasonal efficiency for heating according to Commission Regulation (EU)					3,203 - 3,25
SCOP (LN/SL - XL) n _{sh} (LN/SL - XL)	[W/W]	3,558 - 3,617	3,515 - 3,371 137,6 - 131,8	3,375 - 3,407	3,203 - 3,25 125,1 - 127
Applications for seasonal efficiency for heating according to Commission Regulation (EU)	[%]	139,3 - 141,7		132 - 133,3	125,1 - 127
SCOP (LN/SL - XL)	[W/W]	2,986 - 3,03	3,001 - 3,022	3,03 - 3,055	2,93 - 2,94
$n_{s,h}$ (LN/SL - XL)	[%]	116,5 - 118,2	117 - 117,9	118,2 - 119,2	<u>2,93 - 2,94</u> 114,2 - 114,6
Cooling Capacity ⁽²⁾ (LN/SL versions)			-	467	
	[kW]	391	434		486
Total power input ⁽²⁾	[kW]	159	176	189	205
EER Cooling Capacity ⁽²⁾ (XL versions)	[-]	2,46	2,47	2,47	2,49
	[kW]	389	430	467	484
Total power input ⁽²⁾	[kW]	154	171	185	200
EER	[-]	2,53	2,51	2,52	2,42
Water flow ⁽²⁾	[m ³ /h]	67,2	74,6	80,3	83,6
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	53,5	59,8	54,5	56,5
Min / Max water flow (heat exchanger, user side)	[m³/h]	53,8 / 80,6	59,7 / 89,5	64,2 / 96,4	66,9 / 100
Technical data				. / .	
Refrigerant / GWP	-			0/3	
Charge of refrigerant	[Kg]			12 3	
Number of refrigerant circuits Compressor type / quantity	N° -/N°	Semihermetic	reciprocating with		ency Drive) / 3
Expansion valve type	-/ 1	Seminermetic		ronic	ency brive) / 5
Fans guantity / type	-			xial EC	
Fans power input ⁽¹⁾ (total)	[kW]	3,43	3,68	3,89	3,93
Total air flow ⁽¹⁾	[m ³ /h]	134.800	138.300	141.100	141.700
Electrical data	[111 / 11]	134.000	150.500	141.100	141.700
Power supply (main - gas detector)	-		400/3+N/50) - 230/1/50	
Maximum absorbed power	[kW]	207	211	217	227
Locked rotor current - LRA	[A]	357	368	381	391
Maximum absorbed current (full load)	[A]	357	368	381	391
Solution BASE-P - with Hydronic Kit					
Pump type	-		Centr	ifugal	
Standard pump (1,5 bar)		T			
Motor efficiency	-			3	
Pump motor nominal power input	[kW]	5,5	5,5	7,5	7,5
Pump motor nominal absorbed current	[A]	10,6	10,6	13,6	13,6
Increased pump (3,0 bar)				3	
Motor efficiency Pump motor nominal power input	- [kW]	9,2	11,0	11,0	11,0
Pump motor nominal absorbed current	[A]	17,2	21,3	21,3	21,3
Water connections	[7]	17,2	21,5	21,5	21,5
Size (nominal external diameter)	[inch]	5" (DN 125)	5" (DN 125)	5" (DN 125)	6" (DN 150)
Noise levels ⁽³⁾					
Total sound power (LN version)	[db(A)]	93	93	93	95
Total sound pressure (LN version) - at 1 m distance	[db(A)]	72	72	72	74
Total sound pressure (LN version) - at 10 m distance	[db(A)]	60	60	60	62
Total sound power (SL version)	[db(A)]	92	92	92	94
Total sound pressure (SL version) - at 1 m distance	[db(A)]	71	71	71	73
Total sound pressure (SL version) - at 10 m distance	[db(A)]	59	59	59	61
Total sound power (XL version)	[db(A)]	90	90	90	92
Total sound pressure (XL version) - at 1 m distance	[db(A)]	69	69	69	71
Total sound pressure (XL version) - at 10 m distance	[db(A)]	57	57	57	59
Dimensions and weights - unit		P (==			
Lenght	[mm]	7.475	7.475	7.475	7.475
Width	[mm]	2.280	2.280	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550	2.550	2.550
Height (XL)	[mm]	2.610	2.610	2.610	2.610
Shipment weight - BP/LN/AS/EC/II version Shipment weight - BP/SL/AS/EC/II version	[Kg]	5.960 6.060	5.960 6.060	6.250 6.350	6.290 6.390
Shiphent Weight - Dr/SL/AS/EC/II Version	[Kg]				
Shipment weight - BP/XL/AS/EC/II version	[Kg]	6.150	6.150	6.440	6.480

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve

SCOP

Reversible heat pump

R290

Refrigerant

R290 | GWP=3



Semi-hermetic

piston compressor



Inverter

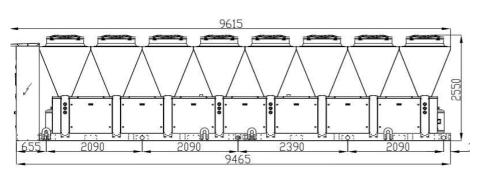


Axial fan



665-4-4 PV ← 720-4-4 PV

Air to water heat pumps for comfort applications



Solution

- **B** Base
- ${\bf P}$ Base with Pump

Version

- LN Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 658 - 710 kW Cooling capacity 581 - 630 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL).
	The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness.
	All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low
	Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich
	and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
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	provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is
	mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in
	protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a
	high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and
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	and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
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	connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high
-	pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
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Technical data

HERA BS R290		665-4-4 PV	720-4-4 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	666	710
Total power input ⁽¹⁾	[kW]	215	230
СОР	[-]	3,10	3,09
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	658	670
Total power input ⁽¹⁾	[kW]	213	229
СОР	[-]	3,09	2,93
Water flow ⁽¹⁾	[m ³ /h]	116	123
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	50,9	50,2
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	110 / 139	117 / 148
Applications for seasonal efficiency for heating according to Commission R	egulation (EU) No 813/201		
SCOP (LN/SL - XL)	[W/W]	3,576 - 3,374	3,396 - 3,429
Ŋ _{s.h} (LN/SL - XL)	[%]	140 -132	132,8 - 134,2
Applications for seasonal efficiency for heating according to Commission R		3 - Medium Temperature - Aver	
SCOP (LN/SL - XL)	[W/W]	3,029 - 3,064	3,057 - 3,081
Ŋ _{s,h} (LN/SL - XL)	[%]	118,2 - 119,6	119,3 - 120,3
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	581	630
Total power input ⁽²⁾	[kW]	235	253
ER	[-]	2,47	2,49
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	581	624
Total power input ⁽²⁾	[kW]	229	247
	[.]	2,54	2,53
Nater flow ⁽²⁾	[m ³ /h]	99,9	108
User circuit pressure drop ⁽²⁾ - Base version	[////] [kPa]	44,3	42,4
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	79,9 / 120	86,4 / 130
Technical data	[m /n]	, 3, 3 / 120	00,47 100
Refrigerant / GWP	-	R2C	00/3
Charge of refrigerant	[Kg]		12
Number of refrigerant circuits	N°		4
Compressor type / quantity	-/N°	Semihermetic reciprocating with	VFD (Variable Frequency Drive) / 4
Expansion valve type	-		tronic
Fans quantity / type	-	16 / A	Axial EC
Fans power input ⁽¹⁾ (total)	[kW]	4,90	5,17
Fotal air flow ⁽¹⁾	[m ³ /h]	184.300	187.900
Electrical data	[,.,.]		-
Power supply (main - gas detector)	-	400/3+N/5	0 - 230/1/50
Maximum absorbed power	[kW]	281	289
ocked rotor current - LRA	[A]	490	508
Maximum absorbed current (full load)	[A]	490	508
Solution BASE-P - with Hydronic Kit			
Pump type	-	Cent	rifugal
Standard pump (1,5 bar)			
Motor efficiency	-		E3
Pump motor nominal power input	[kW]	11	11
Pump motor nominal absorbed current	[A]	21,3	21,3
Increased pump (3,0 bar)			E3
Motor efficiency Pump motor nominal power input	- [kW]	15,0	15,0
Pump motor nominal power input Pump motor nominal absorbed current	[KW] [A]	27,7	27,7
Water connections	[A]	۷,۱	21,1
Size (nominal external diameter)	[inch]	6" (DN 150)	6" (DN 150)
Noise levels ⁽³⁾	[inci]	0 (011 100)	0 (511150)
Total sound power (LN version)	[db(A)]	95	96
Fotal sound pressure (LN version) - at 1 m distance	[db(A)]	74	74
Fotal sound pressure (LN version) - at 10 m distance	[db(A)]	62	63
Fotal sound power (SL version)	[db(A)]	94	95
Fotal sound pressure (SL version) - at 1 m distance	[db(A)]	73	73
otal sound pressure (SL version) - at 10 m distance	[db(A)]	61	62
otal sound power (XL version)	[db(A)]	92	93
otal sound pressure (XL version) - at 1 m distance	[db(A)]	71	71
Total sound pressure (XL version) - at 10 m distance	[db(A)]	59	60
Dimensions and weights - unit			
enght	[mm]	9.615	9.615
Nidth	[mm]	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550
Height (XL)	[mm]	2.610	2.610
Shipment weight - BP/LN/AS/EC/II version	[Kg]	7.880	8.340
Shipment weight - BP/SL/AS/EC/II version	[Kg]	7.980	8.440
Shipment weight - BP/XL/AS/EC/II version	[Kg]	8.100	8.560

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (3) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (4) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve





Reversible heat pump



Semi-hermetic

piston compressor



Axial fan

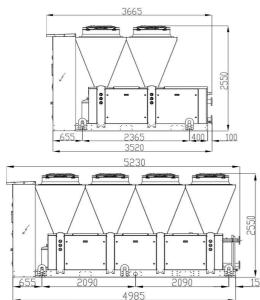
Inverter



Brazed plate heat exchanger

195-2-2 PV ←→ 355-2-2 PV

Air to water heat pumps for comfort applications



Solution

- B Base
- **P** Base with Pump

Version

- **LN** Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 167 - 300 kW Cooling capacity 150 - 267 kW

470J
To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan. The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Low pressure switch

• Double safety valve

• Low pressure safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

HERA HE R290		195-2-2 PV	230-2-2 PV	270-2-2 PV	300-2-2 PV	355-2-2 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	167	202	250	272	300
Total power input ⁽¹⁾	[kW]	52,5	63,8	78,9	85,6	96
СОР	[-]	3,18	3,17	3,17	3,18	3,14
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	165	189	249	270	300
Total power input ⁽¹⁾	[kW]	52,0	63,1	78,3	84,9	95
СОР	[-]	3,17	3,00	3,18	3,18	3,16
Water flow ⁽¹⁾	[m ³ /h]	28,9	35,0	43,4	47,1	52,0
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	36,8	45,0	39,5	33,6	35,0
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	27,5 / 34,7	33,3 / 42	41,2 / 52,1	44,7 / 56,5	49,4 / 62,4
Applications for seasonal efficiency for heating according to Co			1			
SCOP (LN/SL - XL)	[W/W]	3,729 - 3,523	3,614 - 3,521	3,735 - 3,796	3,777 - 3,834	3,682 - 3,692
η _{s,h} (LN/SL - XL)	[%]	146,1 - 137,9	141,5 - 137,8	146,4 - 148,9	148,1 - 150,3	144,3 - 144,7
Applications for seasonal efficiency for heating according to Co		1	1	() () () () () () () () () ()	T	2 00 2 070
SCOP (LN/SL - XL)	[W/W]	3,101 - 3,134	3,118 - 3,141	3,08 - 3,118	3,088 - 3,133	3,08 - 3,078
$\eta_{s,h}$ (LN/SL - XL)	[%]	121 - 122,3	121,7 - 122,6	120,2 - 121,7	120,5 - 122,3	120,2 - 120,1
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	150	176	218	237	267
Total power input ⁽²⁾	[kW]	57,9	69,8	85,9	93,4	106
EER (2) to a set of the set of th	[-]	2,59	2,52	2,54	2,54	2,52
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	150	175	216	237	267
Total power input ⁽²⁾	[kW]	56,3	68,5	82,9	89,9	104
EER	[-]	2,66	2,55	2,61	2,64	2,57
	[m ³ /h]	25,8	30,4	37,5	40,8	45,9
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	31,6	36,5	32,5	29,5	29,8
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	20,6 / 31	24,3 / 36,5	30 / 45	32,6 / 49	36,7 / 55,1
Technical data Refrigerant / GWP	-			P200 / 2		
Charge of refrigerant				R290 / 3 > 12		
Number of refrigerant circuits	[Kg] N°			2		
Compressor type / quantity	-/N°	Semihe	ermetic reciprocat	ing with VFD (Vari	iable Frequency D	Drive) / 2
Expansion valve type	-			Electronic		
Fans quantity / type	-	4 / A	xial EC		8 / Axial EC	
Fans power input ⁽¹⁾ (total)	[kW]	1,27	1,37	2,00	2,10	2,21
Total air flow ⁽¹⁾	[m ³ /h]	45.800	47.100	84.500	85.900	87.500
Electrical data	1 . , ,	ł	+		1	+
Power supply (main - gas detector)	-		40	0/3+N/50 - 230/1	/50	
Maximum absorbed power	[kW]	76,2	85,6	110	110	138
Locked rotor current - LRA	[A]	127	141	188	188	238
Maximum absorbed current (full load)	[A]	127	141	188	188	238
Solution BASE-P - with Hydronic Kit						
Pump type	-			Centrifugal		
Standard pump (1,5 bar)				IE3		
Motor efficiency Pump motor nominal power input	- [kW]	2,2	3	3	3	4
Pump motor nominal absorbed current	[A]	4,7	6,4	6,4	6,4	8,7
Increased pump (3,0 bar)	[/]	4,7	0,4	0,4	0,4	8,7
Motor efficiency	-			IE3		
Pump motor nominal power input	[kW]	4	5,5	7,5	7,5	7,5
Pump motor nominal absorbed current	[A]	8,7	10,6	13,6	13,6	13,6
Water connections						
Size (nominal external diameter)	[inch]	3" (DN 80)	3" (DN 80)	3" (DN 80)	4" (DN 100)	4" (DN 100)
Noise levels ⁽³⁾				-		
Total sound power (LN version)	[db(A)]	86	87	91	92	93
Total sound pressure (LN version) - at 1 m distance	[db(A)]	67	68	71	72	73
Total sound pressure (LN version) - at 10 m distance	[db(A)]	54	55	59	60	61
Total sound power (SL version)	[db(A)]	85	86	90	91	92
Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance	[db(A)]	66 53	67 54	70 58	71 59	72 60
Total sound pressure (SL version) - at 10 m distance	[db(A)] [db(A)]	83	84	88	89	90
Total sound pressure (XL version) - at 1 m distance	[db(A)]	64	65	68	69	70
Total sound pressure (XL version) - at 10 m distance	[db(A)]	51	52	56	57	58
Dimensions and weights - unit	[0.0(), ()]					
Lenght	[mm]	3.665	3.665	5.230	5.230	5.230
Width	[mm]	2.280	2.280	2.280	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550	2.550	2.550	2.550
Height (XL)	[mm]	2.610	2.610	2.610	2.610	2.610
Shipment weight - BP/LN/AS/EC/II version	[Kg]	2.800	2.840	3.970	3.990	4.180
Shipment weight - BP/SL/AS/EC/II version	[Kg]	2.900	2.940	4.070	4.090	4.280
Shipment weight - BP/XL/AS/EC/II version	[Kg]	2.930	2.970	4.130	4.150	4.340

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve









Axial fan

Inverter

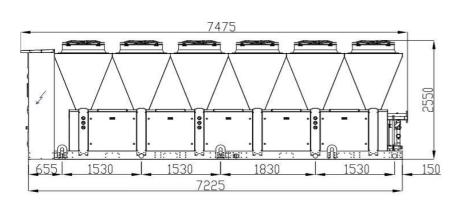


Refrigerant R290 | GWP=3





Air to water heat pumps for comfort applications



Solution

B - Base

P - Base with Pump

Version

- $\ensuremath{\mathsf{LN}}\xspace$ Low Noise
- **SL** Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 376 - 500 kW Cooling capacity 326 - 440 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

					44.64
HERA HE R290		405-3-3 PV	450-3-3 PV	505-3-3 PV	530-3-3 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	376	407	450	500
Total power input ⁽¹⁾	[kW]	118	129	143	161
COP	[-]	3,19	3,16	3,15	3,11
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	374	401	444	496
Total power input ⁽¹⁾	[kW]	117	127	141	159
COP	[-]	3,20	3,16	3,15	3,12
Water flow ⁽¹⁾	[m ³ /h]	65,1	70,6	78,1	86,7
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	56,7	61,1	57,3	63,5
Min / Max water flow (heat exchanger, user side) Applications for seasonal efficiency for heating according to Commission Regulation (El	[m ³ /h]	61,8 / 78,1	67,1 / 84,7	74,2 / 93,7	82,4 / 104
SCOP (LN/SL - XL)	[W/W]	3,76 - 3,818	3,763 - 3,8	3,684 - 3,71	3,665 - 3,67
n _{s,h} (LN/SL - XL)	[%]	147,4 - 149,7	147,5 - 149	144,4 - 145,4	143,6 - 143,8
Applications for seasonal efficiency for heating according to Commission Regulation (El					110/0 110/0
SCOP (LN/SL - XL)	[W/W]	3,082 - 3,117	3,078 - 3,108	3,08 - 3,078	3,075 - 3,078
n _{s,h} (LN/SL - XL)	[%]	120,3 - 121,7	120,1 - 121,3	120,2 - 120,1	120 - 120,1
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	326	352	398	440
Total power input ⁽²⁾	[kW]	129	139	159	177
EER	[-]	2,53	2,53	2,50	2,49
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	325	350	396	441
Total power input ⁽²⁾	[kW]	124	135	154	172
EER	[-]	2,62	2,59	2,57	2,56
Water flow ⁽²⁾	[m ³ /h]	56,1	60,5	68,4	75,7
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	44,7	47,9	46,6	51,4
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	44,9 / 67,3	48,4 / 72,6	54,7 / 82,1	60,6 / 90,8
Technical data		1		_ / _	
Refrigerant / GWP	-			0/3	
Charge of refrigerant	[Kg] N°			12 3	
Number of refrigerant circuits Compressor type / quantity	-/N°	Semihermeti	c reciprocating with	-	ency Drive) / 3
Expansion valve type	-/1	Semilernet		ronic	
Fans quantity / type	-			xial EC	
Fans power input ⁽¹⁾ (total)	[kW]	3,01	3,15	3,33	3,70
Total air flow ⁽¹⁾	[m ³ /h]	126.800	128.800	131.200	136.300
Electrical data	+ • • •				
Power supply (main - gas detector)	-		400/3+N/5	0 - 230/1/50	-
Maximum absorbed power	[kW]	165	165	207	211
Locked rotor current - LRA	[A]	281	281	357	368
Maximum absorbed current (full load)	[A]	281	281	357	368
Solution BASE-P - with Hydronic Kit Pump type	-	1	Cent	rifugal	
Standard pump (1,5 bar)		1	cent	Indgal	
Motor efficiency	-		I	E3	
Pump motor nominal power input	[kW]	5,5	5,5	5,5	5,5
Pump motor nominal absorbed current	[A]	10,6	10,6	10,6	10,6
Increased pump (3,0 bar)		1			
Motor efficiency	-			53	
Pump motor nominal power input	[kW]	9,2	9,2	9,2	11,0
Pump motor nominal absorbed current Water connections	[A]	17,2	17,2	17,2	21,3
Size (nominal external diameter)	[inch]	4" (DN 100)	4" (DN 100)	5" (DN 125)	5" (DN 125)
Noise levels ⁽³⁾	[inci]	- (5/(100)	- (514100)	5 (51(125)	5 (51(125)
Total sound power (LN version)	[db(A)]	93	93	93	95
Total sound pressure (LN version) - at 1 m distance	[db(A)]	72	72	72	74
Total sound pressure (LN version) - at 10 m distance	[db(A)]	60	60	60	62
Total sound power (SL version)	[db(A)]	92	92	92	94
Total sound pressure (SL version) - at 1 m distance	[db(A)]	71	71	71	73
Total sound pressure (SL version) - at 10 m distance	[db(A)]	59	59	59	61
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance	[db(A)]	90 69	90	90 69	92
Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance	[db(A)] [db(A)]	57	69 57	57	71 59
Dimensions and weights - unit		57	57		55
Lenght	[mm]	7.475	7.475	7.475	7.475
Width	[mm]	2.280	2.280	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550	2.550	2.550
Height (XL)	[mm]	2.610	2.610	2.610	2.610
Shipment weight - BP/LN/AS/EC/II version	[Kg]	5.960	5.960	6.250	6.290
Shipment weight - BP/SL/AS/EC/II version Shipment weight - BP/SL/AS/EC/II version	[Kg] [Kg]	6.060 6.150	6.060 6.150	6.350 6.440	6.390 6.480

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve

SCOP

Reversible heat pump

R290

Refrigerant

R290 | GWP=3



Semi-hermetic

piston compressor



Inverter

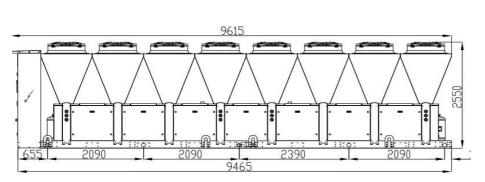


Axial fan



600-4-4 PV ← 710-4-4 PV

Air to water heat pumps for comfort applications



Solution

- **B** Base
- ${\bf P}$ Base with Pump

Version

- $\ensuremath{\mathsf{LN}}\xspace$ Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 540 - 666 kW Cooling capacity 474 - 596 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan. The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is
Control	equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage. The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

HERA HE R290		600-4-4 PV	675-4-4 PV	710-4-4 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	543	600	666
Total power input ⁽¹⁾	[kW]	171	191	213
COP (1) to a set of the set of th	[-]	3,18	3,14	3,13
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	540	591	656
Total power input ⁽¹⁾	[kW]	170	189	211
COP	[-]	3,18	3,13	3,11
Water flow ⁽¹⁾	[m ³ /h]	94	104	115
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	38,1	39,4	40,1
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	89,5 / 113	98,8 / 125	109 / 138
Applications for seasonal efficiency for heating according to Commission Regulation (E				2 ((2, 2, 00)
SCOP (LN/SL - XL)	[W/W]	3,81 - 3,869	3,67 - 3,687	3,663 - 3,699
Π _{s,h} (LN/SL - XL) Applications for seasonal efficiency for heating according to Commission Regulation (E	[%]	149,4 - 151,8	143,8 - 144,5	143,5 - 145
SCOP (LN/SL - XL)	[W/W]	3,116 - 3,158	3,079 - 3,085	3,081 - 3,095
n _{sh} (LN/SL - XL)	[%]	121,7 - 123,3	120,2 - 120,4	120,2 - 120,8
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	474	534	596
Total power input ⁽²⁾	[kW]	187	213	237
EER	[-]	2,53	2,51	2,51
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	474	530	591
Total power input ⁽²⁾	[kW]	179	206	231
EER	[-]	2,65	2,57	2,56
Water flow ⁽²⁾	[m ³ /h]	81,6	91,8	102
User circuit pressure drop ⁽²⁾ - Base version	[m /n] [kPa]	33,0	33,4	34,3
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	65,3 / 97,9	73,4 / 110	81,6 / 122
Technical data	[[n /n]	6,18 6,00	/ 3,4 / 110	01,0 / 122
Refrigerant / GWP	-		R290 / 3	
Charge of refrigerant	[Kg]		> 12	
Number of refrigerant circuits	N°		4	
Compressor type / quantity	-/N°	Semihermetic recipro	cating with VFD (Variab	le Frequency Drive) / 4
Expansion valve type	-		Electronic	
Fans quantity / type	-		16 / Axial EC	
Fans power input ⁽¹⁾ (total)	[kW]	4,21	4,43	5,01
Total air flow ⁽¹⁾	[m ³ /h]	171.800	174.900	182.700
Electrical data		1		
Power supply (main - gas detector)	-		400/3+N/50 - 230/1/5	
Maximum absorbed power	[kW]	220	276	281
Locked rotor current - LRA	[A]	375	476	490
Maximum absorbed current (full load) Solution BASE-P - with Hydronic Kit	[A]	375	476	490
Pump type	-		Centrifugal	
Standard pump (1,5 bar)			Centinugai	
Motor efficiency	-		IE3	
Pump motor nominal power input	[kW]	7,5	7,5	11
Pump motor nominal absorbed current	[A]	13,6	13,6	21,3
Increased pump (3,0 bar)			· · ·	· · ·
Motor efficiency	-		IE3	
Pump motor nominal power input	[kW]	11,0	15,0	15,0
Pump motor nominal absorbed current	[A]	21,3	27,7	27,7
Water connections	1	E!! (D.) (
Size (nominal external diameter)	[inch]	5" (DN 125)	5" (DN 125)	6" (DN 150)
Noise levels ⁽³⁾	E.U. (A)2	65	05	
Total sound power (LN version)	[db(A)]	95	95	96
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance	[db(A)] [db(A)]	74 62	74 62	74 63
Total sound pressure (LN Version) - at 10 m distance	[db(A)]	94	94	95
Total sound pressure (SL version) - at 1 m distance	[db(A)]	73	73	73
Total sound pressure (SL version) - at 10 m distance	[db(A)]	61	61	62
Total sound power (XL version)	[db(A)]	92	92	93
Total sound pressure (XL version) - at 1 m distance	[db(A)]	71	71	71
Total sound pressure (XL version) - at 10 m distance	[db(A)]	59	59	60
Dimensions and weights - unit	·	1	1	
Lenght	[mm]	9.615	9.615	9.615
Width	[mm]	2.280	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550	2.550
Height (XL)	[mm]	2.610	2.610	2.610
Shipment weight - BP/LN/AS/EC/II version	[Kg]	7.880	8.250	8.340
Shipment weight - BP/SL/AS/EC/II version	[Kg]	7.980	8.350	8.440
Shipment weight - BP/XL/AS/EC/II version	[Kg]	8.100	8.470	8.560

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (3) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (4) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve





Reversible heat pump



Semi-hermetic

piston compressor



Axial fan

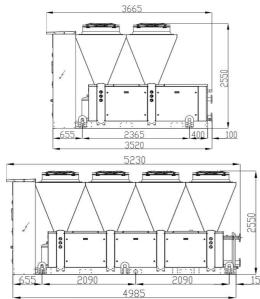
Inverter



Brazed plate heat exchanger

160-2-2 PV ← 270-2-2 PV

Air to water heat pumps for comfort applications



Solution

- **B** Base **P** - Base with Pump
- _____

Version

- LN Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 159 - 269 kW Cooling capacity 139 - 241 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure soure transducers, high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Low pressure switch

• Double safety valve

• Low pressure safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
 - Inverter driven compressor
 - Advanced control c.pCo

Technical data

HERA HE+ R290		160-2-2 PV	180-2-2 PV	210-2-2 PV	235-2-2 PV	270-2-2 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	159	178	210	234	269
Total power input ⁽¹⁾	[kW]	52,8	63,6	69,5	75,4	87,7
СОР	[-]	3,01	2,80	3,02	3,10	3,07
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	159	177	211	231	267
Total power input ⁽¹⁾	[kW]	52,6	63,1	69,1	74,7	87,1
СОР	[-]	3,02	2,81	3,05	3,09	3,07
Water flow ⁽¹⁾	[m ³ /h]	27,6	30,9	36,3	40,5	46,6
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	45,8	55,0	59,7	27,8	34,5
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	26,2 / 33,1	29,4 / 37,1	34,5 / 43,6	38,5 / 48,6	44,3 / 55,9
Applications for seasonal efficiency for heating according to Comm			1	-		1
SCOP (LN/SL - XL)	[W/W]	4,033 - 4,087	3,821 - 3,73	3,876 - 3,964	4,024 - 4,122	3,964 - 4,05
η _{s,h} (LN/SL - XL)	[%]	158,3 - 160,5	149,9 - 146,2	152 - 155,6	158 - 161,9	155,6 - 159
Applications for seasonal efficiency for heating according to Comm						2 24 4 2 264
SCOP (LN/SL - XL)	[W/W]	3,391 - 3,433	3,355 - 3,387	3,317 - 3,374	3,355 - 3,412	3,314 - 3,364
$\eta_{s,h}$ (LN/SL - XL)	[%]	132,6 - 134,3	131,2 - 132,5	129,7 - 132	131,2 - 133,5	129,6 - 131,6
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	140	162	186	208	238
Total power input ⁽²⁾	[kW]	56,6	67,4	77,8	87,2	101
EER	[-]	2,47	2,40	2,39	2,39	2,36
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	139	161 65.0	185	207	241
Total power input ⁽²⁾	[kW]	55,2	65,9	74,4	83,9	98,5
EER	[-]	2,52	2,44	2,49	2,47	2,45
Water flow ⁽²⁾	[m ³ /h]	24,1	27,8	32,0	35,8	40,9
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	38,5	48,7	50,6	24,0	29,5
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	19,3 / 28,9	22,2 / 33,4	25,6 / 38,4	28,6 / 43	32,7 / 49,1
Technical data Refrigerant / GWP	-			R290 / 3		
Charge of refrigerant	- [Kg]			> 12		
Number of refrigerant circuits	N°			2		
Compressor type / quantity	-/N°	Semihe	ermetic reciprocat	ing with VFD (Var	iable Frequency D	rive) / 2
Expansion valve type	-			Electronic		
Fans quantity / type	-	4 / A:	xial EC		8 / Axial EC	
Fans power input ⁽¹⁾ (total)	[kW]	1,28	1,35	2,11	2,12	2,28
Total air flow ⁽¹⁾	[m ³ /h]	46.800	47.700	87.000	87.300	89.700
Electrical data						
Power supply (main - gas detector)	-		40	0/3+N/50 - 230/1	/50	
Maximum absorbed power	[kW]	68,4	82,4	96,8	109	127
Locked rotor current - LRA	[A]	122	143	167	186	231
Maximum absorbed current (full load)	[A]	122	143	167	186	231
Solution BASE-P - with Hydronic Kit Pump type				Centrifugal		
Standard pump (1,5 bar)	-			Centinugai		
Motor efficiency	-			IE3		
Pump motor nominal power input	[kW]	2,2	2,2	3,0	3,0	3,0
Pump motor nominal absorbed current	[A]	4,7	4,7	6,4	6,4	6,4
Increased pump (3,0 bar)			,	,	,	, ,
Motor efficiency	-			IE3		
Pump motor nominal power input	[kW]	4,0	4,0	7,5	7,5	7,5
Pump motor nominal absorbed current	[A]	8,7	8,7	13,6	13,6	13,6
Water connections						
Size (nominal external diameter)	[inch]	3" (DN 80)	3" (DN 80)	3" (DN 80)	3" (DN 80)	4" (DN 100)
Noise levels ⁽³⁾	[96	07	01	02	02
	[db(A)]	86 67	87 68	91	92	93
Total sound power (LN version)	[dh/A)]		nă.	71	72	73
Total sound pressure (LN version) - at 1 m distance	[db(A)]			50	60	61
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance	[db(A)]	54	55	59 90	60 91	61 92
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version)	[db(A)] [db(A)]	54 85	55 86	90	91	92
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance	[db(A)]	54	55			
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance	[db(A)] [db(A)] [db(A)]	54 85 66	55 86 67	90 70	91 71	92 72
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance	[db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53	55 86 67 54	90 70 58	91 71 59 89 69	92 72 60
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53 83	55 86 67 54 84	90 70 58 88	91 71 59 89	92 72 60 90
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53 83 64 51	55 86 67 54 84 65 52	90 70 58 88 68 56	91 71 59 89 69 57	92 72 60 90 70 58
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53 83 64 51 3.665	55 86 67 54 84 65 52 3.665	90 70 58 88 68 56 5.230	91 71 59 89 69 57 5.230	92 72 60 90 70 58 5.230
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Dimensions and weights - unit Lenght Width	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53 83 64 51 3.665 2.280	55 86 67 54 84 65 52 3.665 2.280	90 70 58 88 68 56 5.230 2.280	91 71 59 89 69 57 57 5.230 2.280	92 72 60 90 70 58 5.230 2.280
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53 83 64 51 3.665 2.280 2.550	55 86 67 54 84 65 52 3.665 2.280 2.550	90 70 58 88 68 56 5.230 2.280 2.550	91 71 59 89 69 57 5.230 2.280 2.550	92 72 60 90 70 58 5.230 2.280 2.550
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound power (XL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL) Height (XL)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [mm] [mm] [mm]	54 85 66 53 83 64 51 3.665 2.280 2.550 2.610	55 86 67 54 84 65 52 3.665 2.280 2.550 2.610	90 70 58 88 68 56 5.230 2.280 2.550 2.610	91 71 59 89 69 57 5.230 2.280 2.550 2.610	92 72 60 90 70 58 5.230 2.280 2.550 2.610
Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	54 85 66 53 83 64 51 3.665 2.280 2.550	55 86 67 54 84 65 52 3.665 2.280 2.550	90 70 58 88 68 56 5.230 2.280 2.550	91 71 59 89 69 57 5.230 2.280 2.550	92 72 60 90 70 58 5.230 2.280 2.550

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve









Axial fan

Inverter



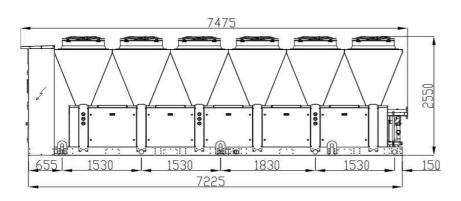
Refrigerant R290 | GWP=3





315-3-3 PV ← +405-3-3 PV

Air to water heat pumps for comfort applications



Solution

B - Base

P - Base with Pump

Version

- $\ensuremath{\mathsf{LN}}\xspace$ Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 316 - 403 kW Cooling capacity 279 - 366 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanice shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
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Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

HERA HE+ R290		315-3-3 PV	350-3-3 PV	405-3-3 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	316	351	403
Total power input ⁽¹⁾	[kW]	104	113	132
СОР	[-]	3,04	3,11	3,05
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	316	348	400
Total power input ⁽¹⁾	[kW]	103	112	131
COP	[-]	3,07	3,11	3,05
Water flow ⁽¹⁾	[m ³ /h]	54,8	60,8	69,9
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	59,0	55,0	63,0
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	52,1 / 65,8	57,8 / 73	66,4 / 83,9
Applications for seasonal efficiency for heating according to Commission Regulation (EU	I) No 813/20	13 - Low Temperature	- Average Climate	
SCOP (LN/SL - XL)	[W/W]	4,000 - 4,076	4,018 - 4,107	3,951 - 4,007
η _{s,h} (LN/SL - XL)	[%]	157 - 160	157,7 - 161,3	155 - 157,3
Applications for seasonal efficiency for heating according to Commission Regulation (EU	I) No 813/20	13 - Medium Tempera		-
SCOP (LN/SL - XL)	[W/W]	3,328 - 3,388	3,341 - 3,399	3,301 - 3,343
η _{s,h} (LN/SL - XL)	[%]	130,1 - 132,5	130,6 - 133	129,1 - 130,7
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	281	318	366
Total power input ⁽²⁾	[kW]	116	132	153
EER	[-]	2,42	2,41	2,39
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	279	317	366
Total power input ⁽²⁾	[kW]	111	127	148
EER	[-]	2,51	2,50	2,47
Water flow ⁽²⁾	[m ³ /h]	48,3	54,8	62,9
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	48,1	45,9	52,5
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	38,6 / 58	43,8 / 65,8	50,3 / 75,5
Technical data				
Refrigerant / GWP	-		R290 / 3	
Charge of refrigerant	[Kg]		> 12	
Number of refrigerant circuits	N°		3	
Compressor type / quantity	-/N°	Semihermetic recip	rocating with VFD (Variable	e Frequency Drive) / 3
Expansion valve type	-		Electronic	
Fans quantity / type	-	2.02	12 / Axial EC	2.44
Fans power input ⁽¹⁾ (total)	[kW]	3,03	3,16	3,41
Total air flow ⁽¹⁾	[m³/h]	128.700	130.800	134.400
Electrical data			400/3+N/50 - 230/1/50)
Power supply (main - gas detector) Maximum absorbed power	- [kW]	145	163	190
Locked rotor current - LRA	[A]	251	279	346
Maximum absorbed current (full load)	[A]	251	279	346
Solution BASE-P - with Hydronic Kit	1 101	201	275	0.0
Pump type	-		Centrifugal	
Standard pump (1,5 bar)	• • •			
Motor efficiency	-		IE3	
Pump motor nominal power input	[kW]	4,0	5,5	5,5
Pump motor nominal absorbed current	[A]	8,7	10,6	10,6
Increased pump (3,0 bar)				
Motor efficiency	-		IE3	
Pump motor nominal power input	[kW]	7,5	9,2	9,2
Pump motor nominal absorbed current Water connections	[A]	13,6	17,2	17,2
water connections	[inch]	4" (DN 100)	4" (DN 100)	4" (DN 100)
Size (nominal external diameter)		4 (DN 100)	4 (UN 100)	4 (001 100)
	[inch]			
Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version)		Q2	03	02
Noise levels ⁽³⁾ Total sound power (LN version)	[db(A)]	93	93	93 72
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance	[db(A)] [db(A)]	72	72	72
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance	[db(A)] [db(A)] [db(A)]	72 60	72 60	72 60
Noise levels (3) Fotal sound power (LN version) Fotal sound pressure (LN version) - at 1 m distance Fotal sound pressure (LN version) - at 10 m distance Fotal sound power (SL version)	[db(A)] [db(A)] [db(A)] [db(A)]	72	72	72
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance	[db(A)] [db(A)] [db(A)]	72 60 92	72 60 92	72 60 92
Noise levels (3) Fotal sound power (LN version) Fotal sound pressure (LN version) - at 1 m distance Fotal sound pressure (LN version) - at 10 m distance Fotal sound power (SL version) Fotal sound pressure (SL version) Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 10 m distance	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71	72 60 92 71	72 60 92 71
Noise levels (3) Fotal sound power (LN version) Fotal sound pressure (LN version) - at 1 m distance Fotal sound pressure (LN version) - at 10 m distance Fotal sound power (SL version) Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 10 m distance Fotal sound power (XL version)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71 59	72 60 92 71 59	72 60 92 71 59
Noise levels (3) Fotal sound power (LN version) Fotal sound pressure (LN version) - at 1 m distance Fotal sound pressure (LN version) - at 10 m distance Fotal sound power (SL version) Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 1 m distance Fotal sound pressure (SL version) - at 10 m distance Fotal sound pressure (SL version) - at 10 m distance Fotal sound pressure (SL version) - at 10 m distance Fotal sound pressure (XL version) Fotal sound pressure (XL version) - at 1 m distance	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71 59 90	72 60 92 71 59 90	72 60 92 71 59 90
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71 59 90 69	72 60 92 71 59 90 69	72 60 92 71 59 90 69
Noise levels ⁽³⁾ Total sound power (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71 59 90 69	72 60 92 71 59 90 69	72 60 92 71 59 90 69
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [mm]	72 60 92 71 59 90 69 57 7.475 2.280	72 60 92 71 59 90 69 57 7.475 2.280	72 60 92 71 59 90 69 57 7.475 2.280
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) - at 10 m distance Total sound power (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71 59 90 69 57 7.475 2.280 2.550	72 60 92 71 59 90 69 57 7.475 2.280 2.550	72 60 92 71 59 90 69 57 7.475 2.280 2.550
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) - at 1 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance Dimensions and weights - unit Lenght Width Height (LN, SL) Height (XL)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [mm] [mm] [mm]	72 60 92 71 59 90 69 57 7.475 2.280 2.550 2.610	72 60 92 71 59 90 69 57 7.475 2.280 2.550 2.610	72 60 92 71 59 90 69 57 7.475 2.280 2.550 2.610
Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) - at 10 m distance Total sound power (XL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	72 60 92 71 59 90 69 57 7.475 2.280 2.550	72 60 92 71 59 90 69 57 7.475 2.280 2.550	72 60 92 71 59 90 69 57 7.475 2.280 2.550

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve



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Reversible heat pump





Inverter



Axial fan



Refrigerant R290 | GWP=3

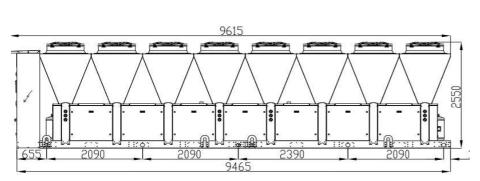
R290



piston compressor

470-4-4 PV ← 540-4-4 PV

Air to water heat pumps for comfort applications



Solution

- B Base
- **P** Base with Pump

Version

- LN Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

- AS Standard equipment
- **DS** Desuperheater

Heating capacity 462 - 538 kW Cooling capacity 414 - 482 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

HERA HE+ R290		470-4-4 PV	540-4-4 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	467	538
Total power input ⁽¹⁾	[kW]	151	175
СОР	[-]	3,09	3,07
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	462	535
Total power input ⁽¹⁾	[kW]	149	173
COP	[-]	3,10	3,09
Water flow ⁽¹⁾	[m ³ /h]	81,0	93,3
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	32,2	36,6
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	77 / 97,2	88,6 / 112
Applications for seasonal efficiency for heating according to Commission Regulation		13 - Low Temperature - Average	Climate
SCOP (LN/SL - XL)	[W/W]	4,083 - 4,175	4,035 - 4,089
η _{s,h} (LN/SL - XL)	[%]	160,3 - 164	158,4 - 160,5
Applications for seasonal efficiency for heating according to Commission Regulation	(EU) No 813/201	13 - Medium Temperature - Avei	age Climate
SCOP (LN/SL - XL)	[W/W]	3,386 - 3,44	3,355 - 3,39
η _{s,h} (LN/SL - XL)	[%]	132,5 - 134,6	131,2 - 132,6
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	416	482
Total power input ⁽²⁾	[kW]	174	202
EER	[-]	2,39	2,39
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	414	477
Total power input ⁽²⁾	[kW]	168	196
EER	[-]	2,46	2,43
Water flow ⁽²⁾	[m ³ /h]	71,6	82,9
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	27,6	29,8
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	57,3 / 85,9	66,3 / 99,5
Technical data	[/]	· · · ·	
Refrigerant / GWP	-	R29	90 / 3
Charge of refrigerant	[Kg]	>	12
Number of refrigerant circuits	N°		4
Compressor type / quantity	-/N°	Semihermetic reciprocating with	VFD (Variable Frequency Drive) / 4
Expansion valve type	-	Elec	tronic
Fans quantity / type	-	16 / /	Axial EC
Fans power input ⁽¹⁾ (total)	[kW]	4,24	4,56
Total air flow ⁽¹⁾	[m ³ /h]	174.700	179.300
Electrical data			
Power supply (main - gas detector)	-		0 - 230/1/50
Maximum absorbed power	[kW]	218	254
Locked rotor current - LRA	[A]	372	462
Maximum absorbed current (full load)	[A]	372	462
Solution BASE-P - with Hydronic Kit		Cont	rifugal
Pump type Standard pump (1,5 bar)		Cent	rifugal
Motor efficiency	-		E3
Pump motor nominal power input	[kW]	5,5	7,5
Pump motor nominal absorbed current	[A]	10,6	13,6
Increased pump (3,0 bar)	[7]	10,0	13,0
Motor efficiency	-		E3
Pump motor nominal power input	[kW]	9,2	11,0
Pump motor nominal absorbed current	[A]	17,2	21,3
Water connections		,	
Size (nominal external diameter)	[inch]	5" (DN 125)	5" (DN 125)
Noise levels ⁽³⁾			
Total sound power (LN version)	[db(A)]	95	95
Total sound pressure (LN version) - at 1 m distance	[db(A)]	74	74
Total sound pressure (LN version) - at 10 m distance	[db(A)]	62	62
Total sound power (SL version)	[db(A)]	94	94
Total sound pressure (SL version) - at 1 m distance	[db(A)]	73	73
Total sound pressure (SL version) - at 10 m distance	[db(A)]	61	61
Total sound power (XL version)	[db(A)]	92	92
Total sound pressure (XL version) - at 1 m distance	[db(A)]	71	71
Total sound pressure (XL version) - at 10 m distance	[db(A)]	59	59
Dimensions and weights - unit		0.615	0.645
Lenght	[mm]	9.615	9.615
Width	[mm]	2.280	2.280
Height (LN, SL) Height (XL)	[mm]	2.550	2.550
	[mm]	2.610	2.610
	[1/~]		
Shipment weight - BP/LN/AS/EC/II version Shipment weight - BP/SL/AS/EC/II version	[Kg] [Kg]	7.880 7.980	8.250 8.350
Shipment weight - BP/LN/AS/EC/II version			

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (3) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (4) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve





Reversible heat pump



Semi-hermetic

piston compressor



Axial fan

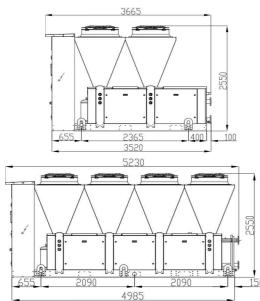
Inverter



Brazed plate heat exchanger

170-2-2 PV-310-2-2 PV

Air to water heat pumps for comfort applications



Solution

- B Base
- **P** Base with Pump

Version

- **LN** Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 173 - 307 kW Cooling capacity 154 - 275 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL)
	The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich
	and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich and insulated with rock wool. Fans are ZAplus
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater, integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed ir protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Mair isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54.
	To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure soure transducers, high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Low pressure switch

• Double safety valve

• Low pressure safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
 - Inverter driven compressor
 - Advanced control c.pCo

Technical data

HERA HT R290		170-2-2 PV	205-2-2 PV	245-2-2 PV	280-2-2 PV	310-2-2 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	173	202	240	279	307
Total power input ⁽¹⁾	[kW]	55,5	64,8	75,4	87,5	97,2
СОР	[-]	3,12	3,11	3,18	3,19	3,16
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	172	188	238	278	305
Total power input ⁽¹⁾	[kW]	55,0	65,0	74,8	86,8	96,4
СОР	[-]	3,12	2,90	3,19	3,20	3,17
Water flow ⁽¹⁾	[m ³ /h]	30,0	35,0	41,5	48,5	53,3
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	39,1	44,8	36,8	35,0	36,2
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	28,5 / 35,9	33,2 / 42	39,4 / 49,8	46 / 58,1	50,6 / 63,9
Applications for seasonal efficiency for heating according to Commission		n (EU) No 813/20	13 - Low Tempera	ature - Average Cl	imate	ł
SCOP (LN/SL - XL)	[W/W]	3,618 - 3,658	3,632 - 3,667	3,936 - 4,003	4,009 - 4,068	3,983 - 4,034
η _{s,h} (LN/SL - XL)	[%]	141,7 - 143,3	142,3 - 143,7	154,4 - 157,1	157,4 - 159,7	156,3 - 158,4
Applications for seasonal efficiency for heating according to Commission	n Regulatio			perature - Avera	ge Climate	
SCOP (LN/SL - XL)	[W/W]	3,285 - 3,318	3,074 - 3,010	3,291 - 3,339	3,339 - 3,383	3,323 - 3,361
η _{s,h} (LN/SL - XL)	[%]	128,4 - 129,7	120,0 - 117,4	128,6 - 130,5	130,6 - 132,3	129,9 - 131,4
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	154	179	214	251	275
Total power input ⁽²⁾	[kW]	61,2	71,7	84,8	97,6	108
EER	[-]	2,51	2,50	2,53	2,57	2,55
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	153	178	214	250	273
Total power input ⁽²⁾	[kW]	59,6	70,3	81,5	94,5	105
EER	[-]	2,56	2,54	2,62	2,64	2,61
Water flow ⁽²⁾	[m ³ /h]	26,5	30,8	36,9	43,2	47,3
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	32,8	37,5	31,7	32,5	31,2
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	21,2 / 31,7	24,6 / 37	29,5 / 44,3	34,6 / 51,9	37,8 / 56,7
Technical data	-	T				
Refrigerant / GWP	-			R290 / 3		
Charge of refrigerant	[Kg]			> 12		
Number of refrigerant circuits	N° -/N°	Somiho	rmotic reciprocat	ing with VFD (Vari		rivo) / 2
Compressor type / quantity Expansion valve type	-/IN -	Semine	metic recipiocat	Electronic	able Frequency D	five)/2
Fans quantity / type	-	4 / 4	tial EC	Liectionic	8 / Axial EC	
Fans power input ⁽¹⁾ (total)	[kW]	1,24	1,35	1,95	2,20	2,31
Total air flow ⁽¹⁾	[m ³ /h]	45.500	46.800	83.650	87.400	88.900
Electrical data	[[[[]]]]	45.500	40.000	03.030	07.400	00.500
Power supply (main - gas detector)	-		40	0/3+N/50 - 230/1	/50	
Maximum absorbed power	[kW]	97,6	117,0	141	162	179
Locked rotor current - LRA	[A]	156	186	224	258	286
Maximum absorbed current (full load)	[A]	156	186	224	258	286
Solution BASE-P - with Hydronic Kit	1	1				
Pump type	-	ļ		Centrifugal		
Standard pump (1,5 bar)	1			150		
Motor efficiency	-	2.2	2	IE3	2	
Pump motor nominal power input	[kW]	2,2	3	3	3	4
Pump motor nominal absorbed current Increased pump (3,0 bar)	[A]	4,7	6,4	6,4	6,4	8,7
Motor efficiency	-			IE3		
Pump motor nominal power input	[kW]	4	5,5	7,5	7,5	7,5
Pump motor nominal absorbed current	[A]	8,7	10,6	13,6	13,6	13,6
Water connections		-,	-7-			- / -
Size (nominal external diameter)	[inch]	3" (DN 80)	3" (DN 80)	3" (DN 80)	4" (DN 100)	4" (DN 100)
Noise levels ⁽³⁾						
Total sound power (LN version)	[db(A)]	86	87	91	92	93
Total sound pressure (LN version) - at 1 m distance	[db(A)]	67	68	71	72	73
Total sound pressure (LN version) - at 10 m distance	[db(A)]	54	55	59	60	61
Total sound power (SL version)	[db(A)]	85	86	90	91	92
Total sound pressure (SL version) - at 1 m distance	[db(A)]	66	67	70	71	72
Total sound pressure (SL version) - at 10 m distance	[db(A)]	53	54	58	59	60
Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance	[db(A)]	83 64	84 65	88	89 69	90
Total sound pressure (XL version) - at 1 m distance	[db(A)] [db(A)]	51	52	68 56	69 57	70 58
Dimensions and weights - unit		51	52		57	56
Lenght	[mm]	3.665	3.665	5.230	5.230	5.230
Width	[mm]	2.280	2.280	2.280	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550	2.550	2.550	2.550
		2.610	2.610	2.610	2.610	2.610
Height (XL)	[mm]	2.010	2.010	21010	2.010	
Height (XL) Shipment weight - BP/LN/AS/EC/II version	[mm] [Kg]	2.800	2.840	3.970	3.990	4.180

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve



R290 | GWP=3



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Reversible heat pump



piston compressor



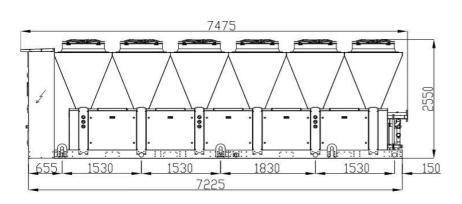
Axial fan

Inverter



365-3-3 PV ←►510-3-3 PV

Air to water heat pumps for comfort applications



Solution

B - Base

P - Base with Pump

Version

- $\ensuremath{\mathsf{LN}}\xspace$ Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 360 - 507 kW Cooling capacity 323 - 453 kW

Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
	To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
	troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
Safety system Structure	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan . The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit. Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are ZAplus

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

			1001		0000
HERA HT R290		365-3-3 PV	425-3-3 PV	465-3-3 PV	510-3-3 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	360	419	461	507
Total power input ⁽¹⁾	[kW]	113	131	146	159
СОР	[-]	3,20	3,19	3,17	3,19
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	358	416	458	502
Total power input ⁽¹⁾	[kW]	112	130	144	158
СОР	[-]	3,21	3,19	3,17	3,19
Water flow ⁽¹⁾	[m ³ /h]	62,4	72,6	79,9	87,9
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	53,7	62,1	58,3	64,0
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	59,3 / 74,9	69 / 87,1	75,9 / 95,9	83,5 / 106
Applications for seasonal efficiency for heating according to Commission Regulation (EU				1	2 704 2 700
SCOP (LN/SL - XL) n _{s.h} (LN/SL - XL)	[W/W]	3,983 - 4,048	4,009 - 4,066	3,992 - 4,045 156,7 - 158,8	3,704 - 3,769
Applications for seasonal efficiency for heating according to Commission Regulation (EU	[%]	156,3 - 158,9	157,4 - 159,6		145,1 - 147,8
SCOP (LN/SL - XL)	[W/W]	3,304 - 3,351	3,330 - 3,374	3,326 - 3,364	3,364 - 3,398
n _{s,h} (LN/SL - XL)	[%]	129,1 - 131,0	130,2 - 131,9	130,0 - 131,6	131,5 - 132,9
Cooling Capacity ⁽²⁾ (LN/SL versions)	[/0]	323	373	411	453
Total power input ⁽²⁾	[kW]	127	146	161	175
EER	[-]	2,54	2,56	2,55	2,58
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	321	372	409	450
Total power input ⁽²⁾	[kW]	122	141	157	171
EER	[-]	2,63	2,64	2,61	2,63
Water flow ⁽²⁾	[m ³ /h]	55,6	64,2	70,6	77,8
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	45,1	51,5	48,3	53,2
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	44,5 / 66,7	51,4 / 77,1	56,5 / 84,8	62,3 / 93,4
Technical data					
Refrigerant / GWP	-		R29	0/3	
Charge of refrigerant	[Kg]			12	
Number of refrigerant circuits	N°			3	
Compressor type / quantity	-/N°	Semihermetic		VFD (Variable Frequ	ency Drive) / 3
Expansion valve type Fans quantity / type	-			ronic xial EC	
Fans power input ⁽¹⁾ (total)	- [kW]	2,93	3,30	3,48	3,63
Total air flow ⁽¹⁾	[m ³ /h]	125.600	130.900	133.350	135.400
Electrical data	[[[] /[]	125.000	130.900	155.550	133.400
Power supply (main - gas detector)	-		400/3+N/50	0 - 230/1/50	
Maximum absorbed power	[kW]	211	243	269	290
Locked rotor current - LRA	[A]	337	388	430	463
Maximum absorbed current (full load)	[A]	337	388	430	463
Solution BASE-P - with Hydronic Kit		1		· · ·	
Pump type	-		Centr	rifugal	
Standard pump (1,5 bar) Motor efficiency	[1		E3	
Pump motor nominal power input	- [kW]	5,5	5,5	5,5	5,5
Pump motor nominal absorbed current	[A]	10,6	10,6	10,6	10,6
Increased pump (3,0 bar)		23,0	23,0	20,0	20,0
Motor efficiency	-		IE	E3	
Pump motor nominal power input	[kW]	9,2	9,2	9,2	11,0
Pump motor nominal absorbed current	[A]	17,2	17,2	17,2	21,3
Water connections					
Size (nominal external diameter)	[inch]	4" (DN 100)	4" (DN 100)	5" (DN 125)	5" (DN 125)
Noise levels ⁽³⁾	[db(A)]	03	03	02	05
Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance	[db(A)] [db(A)]	93 72	93 72	93 72	95 74
Total sound pressure (LN version) - at 10 m distance	[db(A)]	60	60	60	62
Total sound power (SL version)	[db(A)]	92	92	92	94
Total sound pressure (SL version) - at 1 m distance	[db(A)]	71	71	71	73
Total sound pressure (SL version) - at 10 m distance	[db(A)]	59	59	59	61
Total sound power (XL version)	[db(A)]	90	90	90	92
Total sound pressure (XL version) - at 1 m distance	[db(A)]	69	69	69	71
Total sound pressure (XL version) - at 10 m distance	[db(A)]	57	57	57	59
Dimensions and weights - unit	From 2	7 475	7 475	7 475	7 475
Lenght	[mm]	7.475	7.475	7.475	7.475
Width Height (LN, SL)	[mm] [mm]	2.280 2.550	2.280 2.550	2.280 2.550	2.280 2.550
Height (LN, SL) Height (XL)	[mm]	2.610	2.610	2.550	2.610
Shipment weight - BP/LN/AS/EC/II version	[Kg]	5.960	5.960	6.250	6.290
Shipment weight - BP/SL/AS/EC/II version	[Kg]	6.060	6.060	6.350	6.390
Shipment weight - BP/XL/AS/EC/II version	[Kg]	6.150	6.150	6.440	6.480
· · ·					

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve



Reversible heat pump

R290

R290 | GWP=3



Semi-hermetic

piston compressor



Inverter



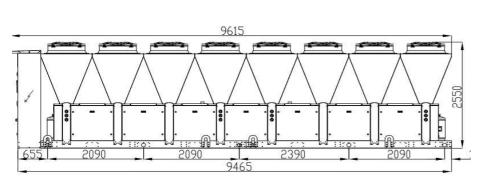
Axial fan



heat exchanger

560-4-4 PV ← 680-4-4 PV

Air to water heat pumps for comfort applications



Solution

- B Base
- **P** Base with Pump

Version

- LN Low Noise
- SL Super Low Noise
- XL Extra Low Noise

Equipment

AS - Standard equipment

DS - Desuperheater

Heating capacity 559 - 676 kW Cooling capacity 503 - 609 kW

Safety system	To ensure high-safety-level the unit is equipped with an ATEX certified gas detector and an EC centrifugal extraction fan. The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request). LN (Low Noise) version: the panels are internally lined with sound-absorbing material. SL (Super Low Noise) version: the panels are sandwich and insulated with rock wool. XL (Extra Low Noise) version: the panels are sandwich
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater; integral electronic protection and inlet plus outlet valves; flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the cooling capacity of the reciprocating compressor to the heating or cooling demand. The compressor is mechanically optimized for use with Hydrocarbons. Some components are ATEX certified.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazed plate-type heat exchanger, stainless steel AISI 316 made, complete with water differential pressure switch, air vent valve and thermally insulated with closed-cell neoprene anti-condensate material. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54.
	To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve

- Overpressure valve / automatic by-pass
- Double water pump (stand-by) Standard/ High pressure
- Inverter driven compressor
- Advanced control c.pCo

Technical data

HERA HT R290		560-4-4 PV	620-4-4 PV	680-4-4 PV
Heating Capacity ⁽¹⁾ (LN/SL versions)	[kW]	559	614	676
Total power input ⁽¹⁾	[kW]	175	194	211
СОР	[-]	3,20	3,16	3,20
Heating Capacity ⁽¹⁾ (XL versions)	[kW]	556	610	671
Total power input ⁽¹⁾	[kW]	173	193	209
СОР	[-]	3,21	3,17	3,20
Water flow ⁽¹⁾	[m ³ /h]	97	107	117
User circuit pressure drop ⁽¹⁾ - Base version	[kPa]	39,4	40,6	40,9
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	92 / 116	101 / 128	111 / 141
Applications for seasonal efficiency for heating according to Commission Regulation (EU				
SCOP (LN/SL - XL)	[W/W]	4,040 - 4,101	4,015 - 4,069	3,763 - 3,829
η _{s,h} (LN/SL - XL)	[%]	158,6 - 161,0	157,6 - 159,7	147,5 - 150,2
Applications for seasonal efficiency for heating according to Commission Regulation (EU				
SCOP (LN/SL - XL)	[W/W]	3,375 - 3,416	3,359 - 3,397	3,410 - 3,447
$\eta_{s,h}$ (LN/SL - XL)	[%]	132,0 - 133,6	131,4 - 132,9	133,4 - 134,9
Cooling Capacity ⁽²⁾ (LN/SL versions)	[kW]	503	550	609
Total power input ⁽²⁾	[kW]	195	215	235
EER	[-]	2,58	2,55	2,60
Cooling Capacity ⁽²⁾ (XL versions)	[kW]	500	547	606
Total power input ⁽²⁾	[kW]	189	209	228
EER (2)	[-]	2,65	2,61	2,65
Water flow ⁽²⁾	[m ³ /h]	86,5	94,5	105
User circuit pressure drop ⁽²⁾ - Base version	[kPa]	36,1	34,8	35,4
Min / Max water flow (heat exchanger, user side)	[m ³ /h]	69,2 / 104	75,6 / 113	83,8 / 126
Technical data			/-	
Refrigerant / GWP	-		R290 / 3	
Charge of refrigerant	[Kg]		> 12	
Number of refrigerant circuits	N° (1.10	A 1 1 1 1	4	
Compressor type / quantity	-/N°	Semihermetic recipro	cating with VFD (Variab	le Frequency Drive) / 4
Expansion valve type	-		Electronic	
Fans quantity / type	-		16 / Axial EC	4.05
Fans power input ⁽¹⁾ (total)	[kW]	4,41	4,63	4,85
Total air flow ⁽¹⁾	[m ³ /h]	174.750	177.700	180.750
Electrical data	-		400/3+N/50 - 230/1/50	<u>ר</u>
Power supply (main - gas detector) Maximum absorbed power	- [kW]	324	359	366
Locked rotor current - LRA	[A]	517	573	586
Maximum absorbed current (full load)	[A]	517	573	586
Solution BASE-P - with Hydronic Kit	1 179	517	575	
Pump type	-		Centrifugal	
Standard pump (1,5 bar)	-	ļ		
Motor efficiency				
	-		IE3	
Pump motor nominal power input	- [kW]	7,5	IE3 7,5	11
Pump motor nominal power input Pump motor nominal absorbed current		7,5 13,6		11 21,3
	[kW]		7,5	
Pump motor nominal absorbed current	[kW]		7,5	
Pump motor nominal absorbed current Increased pump (3,0 bar)	[kW] [A]		7,5 13,6	
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current	[kW] [A] -	13,6	7,5 13,6 IE3	21,3
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections	[kW] [A] - [kW] [A]	13,6 11,0 21,3	7,5 13,6 IE3 15,0 27,7	21,3 15,0 27,7
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter)	[kW] [A] - [kW]	13,6	7,5 13,6 IE3 15,0	21,3
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾	[kW] [A] [kW] [A] [inch]	13,6 11,0 21,3 5" (DN 125)	7,5 13,6 IE3 15,0 27,7 5" (DN 125)	21,3 15,0 27,7 6" (DN 150)
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version)	[kW] [A] [kW] [A] [inch] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95	21,3 15,0 27,7 6" (DN 150) 96
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74	21,3 15,0 27,7 6" (DN 150) 96 74
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62	21,3 15,0 27,7 6" (DN 150) 96 74 63
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version)	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94	21,3 15,0 27,7 6" (DN 150) 96 74 63 95
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound power (SL version) Total sound pressure (SL version) - at 1 m distance	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound power (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound power (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version)	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound power (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound power (XL version) Total sound pressure (XL version) - at 1 m distance	[kW] [A] [kW] [a] [b(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (XL version) Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 1 m distance	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71 59	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71 59	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71 60
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 1 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght	[kW] [A] [kW] [A] [inch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71 59 9.615	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71 59 9.615	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71 60 9.615
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width	[kW] [A] [kW] [A] [mch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71 59 9.615 2.280	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71 59 92 71 59 9.615 2.280	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71 60 9.615 2.280
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Distal sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[kW] [A] [kW] [A] [mch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71 59 9.615 2.280 2.550	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71 59 92 71 59 9.615 2.280 2.550	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71 60 9.615 2.280 2.550
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL) Height (XL)	[kW] [A] [kW] [A] [b(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71 59 9.615 2.280 2.550 2.610	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71 61 92 71 59 9.615 2.280 2.550 2.610	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71 60 9.615 2.280 2.550 2.610
Pump motor nominal absorbed current Increased pump (3,0 bar) Motor efficiency Pump motor nominal power input Pump motor nominal absorbed current Water connections Size (nominal external diameter) Noise levels ⁽³⁾ Total sound power (LN version) Total sound pressure (LN version) - at 1 m distance Total sound pressure (LN version) - at 10 m distance Total sound power (SL version) - at 10 m distance Total sound pressure (SL version) - at 1 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (SL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Total sound pressure (XL version) - at 10 m distance Dimensions and weights - unit Lenght Width Height (LN, SL)	[kW] [A] [kW] [A] [mch] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)] [db(A)]	13,6 11,0 21,3 5" (DN 125) 95 74 62 94 73 61 92 71 59 9.615 2.280 2.550	7,5 13,6 IE3 15,0 27,7 5" (DN 125) 95 74 62 94 73 61 92 71 59 92 71 59 9.615 2.280 2.550	21,3 15,0 27,7 6" (DN 150) 96 74 63 95 73 62 93 71 60 9.615 2.280 2.550

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser water temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.
 (2) Condenser air intake temperature = 35 °C - Evaporator water temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.
 (3) The declared cooling capacity are not taking into account the pump motor power input (where provided)
 (4) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power leve