HERA MP

R290 Refrigerant R290 | GWP=3 · Reversible heat pump · Inverter · Axial fan · Semi-hermetic piston compresso · Brazed plate heat exchanger

035-1-1 PE ⟷ 240-2-2 PV

SCOP

Multipurpose outdoor unit with air source for applications in 4-pipe systems



Solution

B - Base
P - Base with Pump
I - INTEGRATA (only for 1 circuit units)

Version

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

Equipment

4P - Standard equipment
6P - Desuperheater

Heating capacity 29,5 - 238 kW
Cooling capacity 24,9 - 215 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 and silenced fans with bionic shaped blades.
Compressor with inverter	Reciprocating semi-hermetic type, fixed on anti-vibration system and complete with pressure lubrication system, oil crankcase heater, integral electronic protection, valves and flexible joints on suction and discharge. A VFD (Variable Frequency Drive) is provided in order to adapt the capacity of the reciprocating compressor to the demand. The compressor is mechanically optimized for use with Hydrocarbons.
EC Fan	Premium-Axial-Fans with an high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Source 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.
User 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.
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 and safety high pressure valve.

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Low pressure switch
- Low pressure safety valve
- Double safety valve
- Finned pack heat exchanger Copper/Copper
- Overpressure valve / automatic by-pass
- Double water pump (stand-by) - Standard/ High pressure
- Water filter
- Double gas detector with separate electrical supply

HERA MP

Technical data

HERA MP R290		35-1-1 PE	55-1-1 PE	65-1-1 PE	80-1-1 PE	95-1-1 PE
HEATING MODE *(LN/SL versions)*						
Heating Capacity (1)	[kW]	**29,5**	**48,2**	**58,4**	**74,2**	**86,9**
Total power input (1)	[kW]	8,93	14,9	20,0	23,0	27,3
COP	[-]	3,30	3,23	2,92	3,23	3,18
User flow (1)	[m^3/h]	5,11	8,35	10,1	12,9	15,1
User pressure drop (1) - Base version	[kPa]	31,4	40,3	42,3	22,3	24,3
Applications for seasonal efficiency for heating according to Commission Regulation (EU) No 813/2013 - Low Temperature - Average Climate						
SCOP (LN/SL - XL)	[W/W]	3,973 - 4,005	3,898 - 3,939	3,607 - 3,646	3,998 - 4,042	3,995- 4,033
$\eta_{s,h}$ (LN/SL - XL)	[%]	155,9 - 157,2	152,9 - 154,6	141,3 - 142,8	156,9 - 158,7	156,8 - 158,3
Applications for seasonal efficiency for heating according to Commission Regulation (EU) No 813/2013 - Medium Temperature - Average Climate						
SCOP (LN/SL - XL)	[W/W]	3,135 - 3,155	3,082 - 3,108	2,874 - 3,103	3,176 - 3,204	3,170 - 3,195
$\eta_{s,h}$ (LN/SL - XL)	[%]	122,4 - 123,2	120,3 - 121,3	112,0 - 121,1	124,0 - 125,2	123,8 - 124,8
Energy efficiency class according to Regulation EU no. 811/2013 – low temperature heat pumps ≤ 70kW						
Seasonal space heating energy efficiency class	-	**A++/A+**	**A++/A+**	**A+/A+**	**A++/A+**	**A++/A+**
COOLING MODE *(LN/SL versions)*						
Cooling Capacity (2)	[kW]	**24,9**	**40,5**	**52,5**	**63,4**	**74,2**
Total power input (2)	[kW]	9,7	16,0	21,6	25,4	30,9
EER	[-]	2,57	2,53	2,43	2,50	2,40
User flow (2)	[m^3/h]	4,29	6,97	9,03	10,9	12,8
User pressure drop (2) - Base version	[kPa]	22,3	24,1	23,6	17,3	19,3
COOLING + HEATING MODE *(LN/SL versions)*						
Cooling Capacity (3)	[kW]	**24,7**	**39,2**	**51,4**	**63,0**	**75,8**
Heating Capacity (3)	[kW]	**33,8**	**54,1**	**71,8**	**86,3**	**104**
Total power input (3)	[kW]	9,2	15,0	20,6	23,4	28,3
TER	[-]	6,39	6,22	5,98	6,38	6,35
Technical data						
Refrigerant / GWP_{100}	-	R290 / 0,02				
Charge of refrigerant	[Kg]	**4,7**	**6,8**	**7,4**	**10,4**	**11,3**
Number of refrigerant circuits	N°	1				
Compressor type / quantity	-/N°	Semihermetic reciprocating with VFD (Variable Frequency Drive) / 1				
Expansion valve type	-	Electronic				
Fans quantity / type	-	1 / Axial EC	2 / Axial EC		3 / Axial EC	
Fans power input (1) (total)	[kW]	0,20	0,40	0,57	0,67	0,76
Total air flow (1)	[m^3/h]	8.250	15.450	16.200	23.700	24.700
Electrical data						
Power supply (main - gas detector)	-	400/3+N/50 - 230/1/50				
Maximum absorbed power	[kW]	13,2	21,3	27,3	31,4	38,4
Locked rotor current - LRA	[A]	23,8	39	49,8	58,9	69,8
Maximum absorbed current (full load)	[A]	23,8	39	49,8	58,9	69,8
Solution INTEGRATA (for cold and/or hot user)						
Buffer tank capacity	[L]	300				
Pump type	-	Centrifugal				
Standard pump (1,5 bar)						
Motor efficiency	-	IE3				
Pump motor nominal power input	[kW]	0,55	1,1	1,1	1,5	1,5
Pump motor nominal absorbed current	[A]	1,85	3,3	3,3	3,8	3,8
Increased pump (3,0 bar)						
Motor efficiency	-	IE3				
Pump motor nominal power input	[kW]	1,5	2,2	2,2	3,0	3,0
Pump motor nominal absorbed current	[A]	4,1	4,7	4,7	6,4	6,4
Water connections						
Size (nominal external diameter)	[inch]	1" (DN 25)	1" ¼ (DN 32)	1" ¼ (DN 32)	2" (DN 50)	2" (DN 50)
Noise levels (4)						
Total sound power (LN version)	[db(A)]	78	86	86	88	88
Total sound pressure (LN version) - at 1 m distance	[db(A)]	70	78	78	80	80
Total sound pressure (LN version) - at 10 m distance	[db(A)]	50	58	58	60	60
Total sound power (SL version)	[db(A)]	76	82	82	84	85
Total sound pressure (SL version) - at 1 m distance	[db(A)]	68	74	74	76	77
Total sound pressure (SL version) - at 10 m distance	[db(A)]	48	54	54	56	57
Total sound power (XL version)	[db(A)]	75	80	80	82	84
Total sound pressure (XL version) - at 1 m distance	[db(A)]	67	72	72	74	76
Total sound pressure (XL version) - at 10 m distance	[db(A)]	47	52	52	54	56
Dimensions and weights - unit						
Lenght	[mm]	1.750	2.400	2.400	3.200	3.200
Width	[mm]	1.050	1.050	1.050	1.050	1.050
Height (LN, SL)	[mm]	1.900	1.900	1.900	1.900	1.900
Height (XL)	[mm]	1.985	1.985	1.985	1.985	1.985
Shipment weight - BPBP/LN/4P/EC/II version	[Kg]	535	645	715	895	900
Shipment weight - BPBP/SL/4P/EC/II version	[Kg]	575	715	775	955	960
Shipment weight - BPBP/XL/4P/EC/II version	[Kg]	575	715	775	955	960
Dimensions of the Hydronic kit						
Lenght	[mm]	1050	1050	1050	1050	1050
Width	[mm]	900	900	900	900	900
Height	[mm]	1670	1670	1670	1670	1670

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser fluid temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-2022

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-2022

(3) Condenser fluid temperature IN/OUT = 40/45 °C - Evaporator fluid temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-2022

(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 level.

Compliance with "Eco-Design"

The units comply with the European Directive 2009/125/EU, the Commission Regulation (EU) No 811/2013, No 813/2013 and with the Harmonized Standards.

The relevant information related to each model (eg.: SCOP, Seasonal Space Heating Energy Efficiency, Annual electricity consumption, ….) are published on our website

HERA MP

Technical data

HERA MP R290		110-2-2 PE	130-2-2 PE	160-2-2 PE	190-2-2 PE
HEATING MODE *(LN/SL versions)*					
Heating Capacity (1)	[kW]	**96,6**	**116**	**151**	**173**
Total power input (1)	[kW]	29,4	39,3	46,8	55,2
COP	[-]	3,29	2,95	3,23	3,13
User flow (1)	[m^3/h]	16,70	20,20	26,2	30,1
User pressure drop (1) - Base version	[kPa]	28,9	27,9	34,5	38,2
Applications for seasonal efficiency for heating according to Commission Regulation (EU) No 813/2013 - Low Temperature - Average Climate					
SCOP (LN/SL - XL)	[W/W]	3,788 - 3,830	3,744 - 3,784	3,807 - 3,847	3,800 - 3,834
$\eta_{s,h}$ (LN/SL - XL)	[%]	148,5 - 150,2	146,8 - 148,4	149,3 - 150,9	149,0 - 150,3
Applications for seasonal efficiency for heating according to Commission Regulation (EU) No 813/2013 - Medium Temperature - Average Climate					
SCOP (LN/SL - XL)	[W/W]	3,096 - 3,124	3,097 - 3,125	3,131 - 3,159	3,125 - 3,148
$\eta_{s,h}$ (LN/SL - XL)	[%]	120,8 - 122,0	120,9 - 122,0	122,3 - 123,4	122,0 - 122,9
Energy efficiency class according to Regulation EU no. 811/2013 – low temperature heat pumps ≤ 70kW					
Seasonal space heating energy efficiency class	-	**A+/A+**	**#**	**#**	**#**
COOLING MODE *(LN/SL versions)*					
Cooling Capacity (2)	[kW]	**83,2**	**103**	**127**	**147**
Total power input (2)	[kW]	32,7	44,5	50,9	61,7
EER	[-]	2,54	2,31	2,50	2,38
User flow (2)	[m^3/h]	14,3	17,8	21,8	25,4
User pressure drop (2) - Base version	[kPa]	24,5	24,2	27,7	31,6
COOLING + HEATING MODE *(LN/SL versions)*					
Cooling Capacity (3)	[kW]	**82,1**	**107**	**125**	**149**
Heating Capacity (3)	[kW]	**112**	**147**	**172**	**206**
Total power input (3)	[kW]	30,1	40,9	47,3	57,3
TER	[-]	6,45	6,21	6,28	6,20
Technical data					
Refrigerant / GWP_{100}	-	R290 / 0,02			
Charge of refrigerant	[Kg]	**13,6**	**14,6**	**19,6**	**20,6**
Number of refrigerant circuits	N°	2			
Compressor type / quantity	-/N°	Semihermetic reciprocating with VFD (Variable Frequency Drive) / 2			
Expansion valve type	-	Electronic			
Fans quantity / type	-	4 / Axial EC		6 / Axial EC	
Fans power input (1) (total)	[kW]	0,84	1,17	1,16	1,48
Total air flow (1)	[m^3/h]	30.600	34.500	45.200	49.100
Electrical data					
Power supply (main - gas detector)	-	400/3+N/50 - 230/1/50			
Maximum absorbed power	[kW]	42,6	54,6	62,9	76,9
Locked rotor current - LRA	[A]	76,0	97,6	116,0	138
Maximum absorbed current (full load)	[A]	76,0	97,6	116,0	138
Solution Base-P (for cold and/or hot user)					
Pump type	-	Centrifugal			
Standard pump (1,5 bar)					
Motor efficiency	-	IE3			
Pump motor nominal power input	[kW]	1,5	1,5	2,2	2,2
Pump motor nominal absorbed current	[A]	3,8	3,8	4,7	4,7
Increased pump (3,0 bar)					
Motor efficiency	-	IE3			
Pump motor nominal power input	[kW]	4,0	4,0	4,0	4,0
Pump motor nominal absorbed current	[A]	8,7	8,7	8,7	8,7
Water connections					
Size (nominal external diameter)	[inch]	2" (DN 50)	2" (DN 50)	2" ½ (DN 65)	2" ½ (DN 65)
Noise levels (3)					
Total sound power (LN version)	[db(A)]	88	88	90	90
Total sound pressure (LN version) - at 1 m distance	[db(A)]	80	80	82	82
Total sound pressure (LN version) - at 10 m distance	[db(A)]	60	60	62	62
Total sound power (SL version)	[db(A)]	85	85	87	87
Total sound pressure (SL version) - at 1 m distance	[db(A)]	77	77	79	79
Total sound pressure (SL version) - at 10 m distance	[db(A)]	57	57	59	59
Total sound power (XL version)	[db(A)]	83	83	85	85
Total sound pressure (XL version) - at 1 m distance	[db(A)]	75	75	77	77
Total sound pressure (XL version) - at 10 m distance	[db(A)]	55	55	57	57
Dimensions and weights - unit					
Lenght	[mm]	3.190	3.190	4.090	4.090
Width	[mm]	2.100	2.100	2.100	2.100
Height (LN, SL)	[mm]	1.900	1.900	1.900	1.900
Height (XL)	[mm]	1.985	1.985	1.985	1.985
Shipment weight - BPBP/LN/4P/EC/II version	[Kg]	1.410	1.545	1.780	1.790
Shipment weight - BPBP/SL/4P/EC/II version	[Kg]	1.480	1.605	1.850	1.860
Shipment weight - BPBP/XL/4P/EC/II version	[Kg]	1.480	1.605	1.850	1.860

Reference conditions:

(1) Outdoor ambient air = +7 °C / 87% r.h. - Condenser fluid temperature IN/OUT = 40/45 °C - Fluid: water - Results according to UNI EN 14511-202.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.

(3) Condenser fluid temperature IN/OUT = 40/45 °C - Evaporator fluid temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.

(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 level.

Compliance with "Eco-Design"

The units comply with the European Directive 2009/125/EU, the Commission Regulation (EU) No 811/2013, No 813/2013 and with the Harmonized Standards

The relevant information related to each model (eg.: SCOP, Seasonal Space Heating Energy Efficiency, Annual electricity consumption, ….) are published on our website

HERA MP

Technical data

HERA MP R290		200-2-2 PV	240-2-2 PV
HEATING MODE *(LN/SL versions)*			
Heating Capacity (1)	[kW]	**201**	**238**
Total power input (1)	[kW]	68,8	82,0
COP	[-]	2,92	2,90
User flow (1)	[m^3/h]	35,0	41,4
User pressure drop (1) - Base version	[kPa]	52,2	61,1
Applications for seasonal efficiency for heating according to Commission Regulation (EU) No 813/2013 - Low Temperature - Average Climate			
SCOP (LN/SL - XL)	[W/W]	3,679 - 3,702	3,675 - 3,696
$\eta_{s,h}$ (LN/SL - XL)	[%]	144,2 - 145,1	144,0 - 144,8
Applications for seasonal efficiency for heating according to Commission Regulation (EU) No 813/2013 - Medium Temperature - Average Climate			
SCOP (LN/SL - XL)	[W/W]	2,996 - 3,013	2,995 - 3,009
$\eta_{s,h}$ (LN/SL - XL)	[%]	116,9 - 117,5	116,8 - 117,4
Energy efficiency class according to Regulation EU no. 811/2013 – low temperature heat pumps ≤ 70kW			
Seasonal space heating energy efficiency class	-	**#**	**#**
COOLING MODE *(LN/SL versions)*			
Cooling Capacity (2)	[kW]	**183**	**215**
Total power input (2)	[kW]	74,6	91,0
EER	[-]	2,45	2,36
User flow (2)	[m^3/h]	31,4	37,0
User pressure drop (2) - Base version	[kPa]	52,8	59,1
COOLING + HEATING MODE *(LN/SL versions)*			
Cooling Capacity (3)	[kW]	**181**	**220**
Heating Capacity (3)	[kW]	**250**	**303**
Total power input (3)	[kW]	70,4	85,2
TER	[-]	6,12	6,14
Technical data			
Refrigerant / GWP_{100}	-	R290 / 0,02	
Charge of refrigerant	[Kg]	> 12	
Number of refrigerant circuits	N°	2	
Compressor type / quantity	-/N°	Semihermetic reciprocating with VFD (Variable Frequency Drive) / 2	
Expansion valve type	-	Electronic	
Fans quantity / type	-	4 / Axial EC	
Fans power input (1) (total)	[kW]	1,29	1,48
Total air flow (1)	[m^3/h]	44.080	46.200
Electrical data			
Power supply (main - gas detector)	-	400/3+N/50 - 230/1/50	
Maximum absorbed power	[kW]	83,3	93,3
Locked rotor current - LRA	[A]	146	161
Maximum absorbed current (full load)	[A]	146	161
Solution Base-P (for cold and/or hot user)			
Pump type	-	Centrifugal	
Standard pump (1,5 bar)			
Motor efficiency	-	IE3	
Pump motor nominal power input	[kW]	3,0	3,0
Pump motor nominal absorbed current	[A]	6,4	6,4
Increased pump (3,0 bar)			
Motor efficiency	-	IE3	
Pump motor nominal power input	[kW]	5,5	7,5
Pump motor nominal absorbed current	[A]	10,6	13,6
Water connections			
Size (nominal external diameter)	[inch]	3" (DN 80)	3" (DN 80)
Noise levels (3)			
Total sound power (LN version)	[db(A)]	86	87
Total sound pressure (LN version) - at 1 m distance	[db(A)]	67	68
Total sound pressure (LN version) - at 10 m distance	[db(A)]	54	55
Total sound power (SL version)	[db(A)]	85	86
Total sound pressure (SL version) - at 1 m distance	[db(A)]	66	67
Total sound pressure (SL version) - at 10 m distance	[db(A)]	53	54
Total sound power (XL version)	[db(A)]	83	84
Total sound pressure (XL version) - at 1 m distance	[db(A)]	64	65
Total sound pressure (XL version) - at 10 m distance	[db(A)]	51	52
Dimensions and weights - unit			
Lenght	[mm]	3.665	3.665
Width	[mm]	2.280	2.280
Height (LN, SL)	[mm]	2.550	2.550
Height (XL)	[mm]	2.610	2.610
Shipment weight - BPBP/LN/4P/EC/II version	[Kg]	2.800	2.840
Shipment weight - BPBP/SL/4P/EC/II version	[Kg]	2.900	2.940
Shipment weight - BPBP/XL/4P/EC/II version	[Kg]	2.930	2.970

Reference conditions:

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(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.

(3) Condenser fluid temperature IN/OUT = 40/45 °C - Evaporator fluid temperature IN/OUT = 12/7 °C - Fluid: water - Results according to UNI EN 14511-202.

(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 level.

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