HPE R32 40÷70 INVERTER

Air/water inverter heat pump with axial fans

GAS ECOLOGICAL


CR TOUCH OPTIONAL


AXIAL FANS DC BRUSHLESS


VENTILATION SILENT


COMPRESSOR DC INVERTER

CHECK V.415


EXCHANGER PLATE


CIRCULATOR DC INVERTER


DHW CON OPTIONAL DIVERTER

Technical and construction characteristics

The HPE R32 40÷70 INVERTER series reaches high SEER and SCOP values thanks to DC Inverter scroll compressors, EC fan and exchangers
high efficiency.
The DC inverter compressors are of the hermetic scroll type expressly designed for operation with R32, equipped with thermal protection and mounted on rubber vibration dampers, the mobile spiral is moved by a BLDC electric motor cooled by the aspirated refrigerant.
All compressors are equipped with an electric resistance positioned on the compressor crankcase which is automatically activated when the machine is off and are complete with a polyvinyl ether oil charge. In the tandem connections there is an oil equalization line with a solenoid valve controlled by the control which ensures balancing and lubrication.
HPE R32 40÷70 heat pumps are particularly suitable for combining with radiant panel heating systems
or for applications where maximum efficiency is required heating mode.

Main components:
- Hermetic inverter scroll compressors operating with R32;
- Adequate carpentry for external installation;
- Brazed plate exchanger in AISI 304 stainless steel;
- Brushless DC axial fan with wing profile blades.

The refrigeration circuit includes:
- Filter drier with 100% molecular sieve cartridge;
- Shut-off cock on the liquid line;
- Liquid passage and humidity indicator;
- Electronic expansion valve;
- Charge attacks;
- High and pressure safety pressure switch;
- High and low pressure transducers;
- Cycle reversal valve;
- Liquid receiver and separator;
- Non-return valves.

Model	Version STD Refrigeration power kW	Version STD Thermal Power kW	Code	€
HPE R32 40 INVERTER	**29,7**	**40,1**	**37980019**	**20.980,00**
HPE R32 50 INVERTER	**36,2**	**50,4**	**37980020**	**25.500,00**
HPE R32 60 INVERTER	**48,0**	**61,4**	**37980021**	**27.280,00**
HPE R32 70 INVERTER	**53,7**	**66,8**	**37980022**	**30.950,00**

Accessories HPE R32 40÷70 INVERTER

Partial recovery desuperheater (only with GI module)	**mod. 40** **mod. 50** **mod. 60** **mod. 70**	**37980023** **37980024** **37980025** **37980026**	**1.863,00** **2.395,00** **2.250,00** **2.772,00**
Version for low water temperatures		**37980027**	**787,00**
Single pump AC	**mod. 40** **mod. 50 - 60 - 70**	**37980028** **37980029**	**1.430,00** **1.752,00**
Single pump EC		**37980030**	**4.213,00**
Double pump AC	**mod. 40 - 50** **mod. 60 - 70**	**37980031** **37980032**	**3.105,00** **3.326,00**
Single pump AC + inertial tank		**37980033**	**5.100,00**
Single pump EC + inertial tank		**37980034**	**7.429,00**
Double pump AC + inertial tank		**37980035**	**7.318,00**

HPE R32 40÷70 INVERTER

Air/water inverter heat pump with axial fans

Accessories HPE R32 40÷70 INVERTER		Code	€
Circuit breakers	mod. 40 mod. 50 - 60 - 70	37980036 37980037	310,00 655,00
Compressor delivery and suction valves	mod. 50 - 60 - 70	37980038	373,00
Exchanger adhesive resistance + pump resistance (if present)		37980039	355,00
Exchanger adhesive resistance, pump resistance and tank resistance		37980040	1.331,00
Plant management module (GI)		37980041	560,00
Silent mode	mod. 40 mod. 50 - 60 - 70	37980042 37980043	236,00 344,00
Super silent mode	mod. 40 mod. 50 - 60 - 70	37980044 37980045	1.176,00 1.354,00
Cu-Al battery with anti-corrosion treatment	mod. 40 mod. 50 / 60 mod. 70	37980046 37980047 37980048	4.047,00 7.207,00 8.150,00
Touchscreen remote control		37980049	589,00
Centralized multifunction touch screen control unit(1)		37980050	1.027,00
Wall remote control		37980051	294,00
Modbus RTU (RS485)(1)		37980052	1.268,00
Three-way diverter valve for hot water production in domestic thermal storage		37980053	577,00
Filter Y		37980054	133,00
Anti-vibration		37980055	310,00
Battery protection nets	mod. 40 mod. 50 - 60 - 70	37980056 37980057	399,00 798,00
DHW storage probe - Remote probe		37980058	44,00
Interface activation Modbus RS485		37980059	781,00

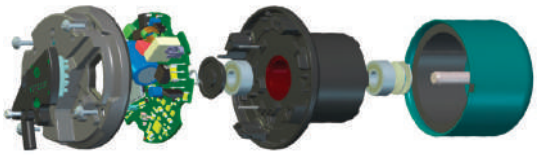
(1) **The installation of the accessory excludes the installation of the other control accessories**

Control

New control logic and display interface installed on all A2B Accorroni E.G. units. new generation HPE 32 40÷70 INVERTER, allows rapid maintenance with parameter and firmware updating from USB peripheral. Increase in memory with implementation of new logic.

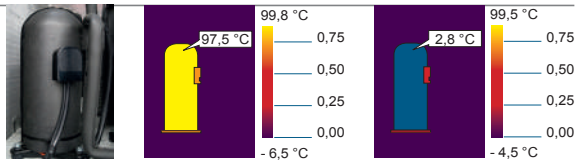
Technologie EC

The EC technology underlying the fan motor allows for an efficiency of up to 90% and enables high levels of energy savings, significantly extending its life and making it almost maintenance-free. These values pay off in terms of protecting the environment and saving money for the user. This product today presents the greatest possible connection between economy and ecology.



Thermal-acoustic insulation (silence kit)

The innovative thermo-acoustic coating allows a noise reduction of up to 10% at certain compressor rotation frequencies. The particular multilayer structure allows thermal insulation which at very low temperatures reduces losses by up to 2% compared to standard insulation.

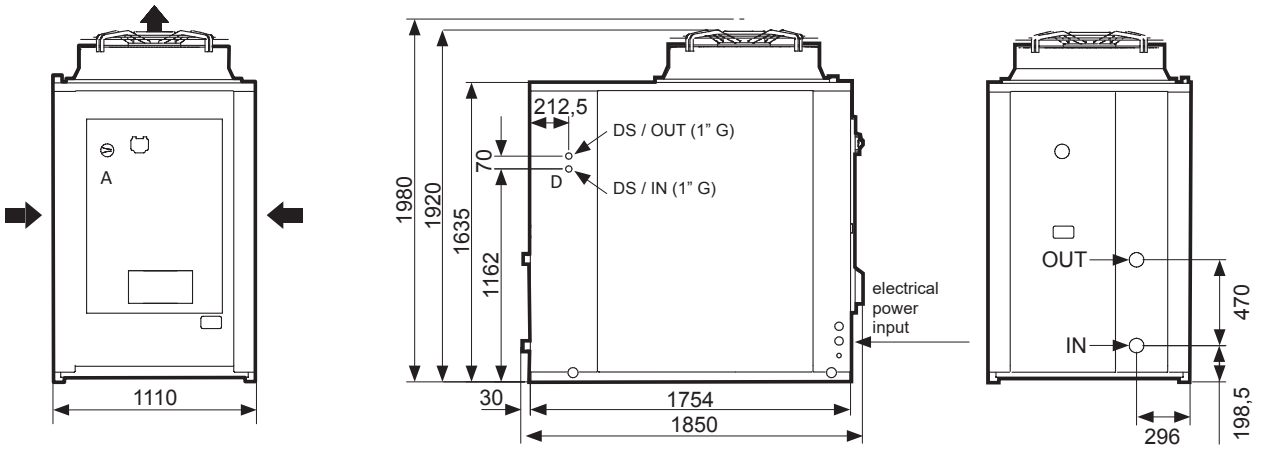


Diffuser (super silencing kit)

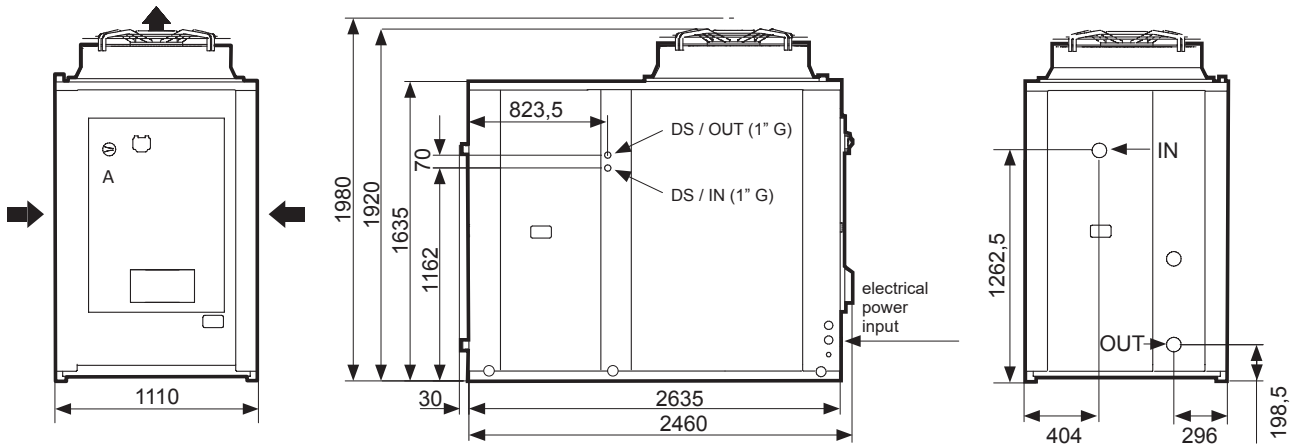
This diffuser increases the efficiency of the fan by allowing it to reduce its speed, lowering the sound pressure by up to 7.2 dB(A) and energy consumption by up to 27%. In this way it is possible to save significant amounts of electricity per fan per year. Alternatively, you can count on the greater efficiency to improve air flows by up to 9% with the same energy consumption.

- Compact size
- Energy savings of up to 27%
- Greater air flow
- Noise reduced up to 7.2 dB(A)

Dimensions HPE R32 40÷70 INVERTER STANDARD



Dimensions HPE R32 40÷70 INVERTER WITH TANK KIT



Values in mm

Weight HPE R32 40÷70 INVERTER

Version	Model	40	50	60	70
Standard	Shipping weight kg	415	505	525	575
	Operating weight kg	410	500	520	570
With pump	Shipping weight kg	435	535	555	595
	Operating weight kg	440	540	560	600
With double pump	Shipping weight kg	465	565	585	625
	Operating weight kg	470	570	590	630
With pump and tank	Shipping weight kg	585	685	705	745
	Operating weight kg	990	1090	1110	1150
With double pump and tank	Shipping weight kg	615	715	735	775
	Operating weight kg	1000	1100	1120	1160

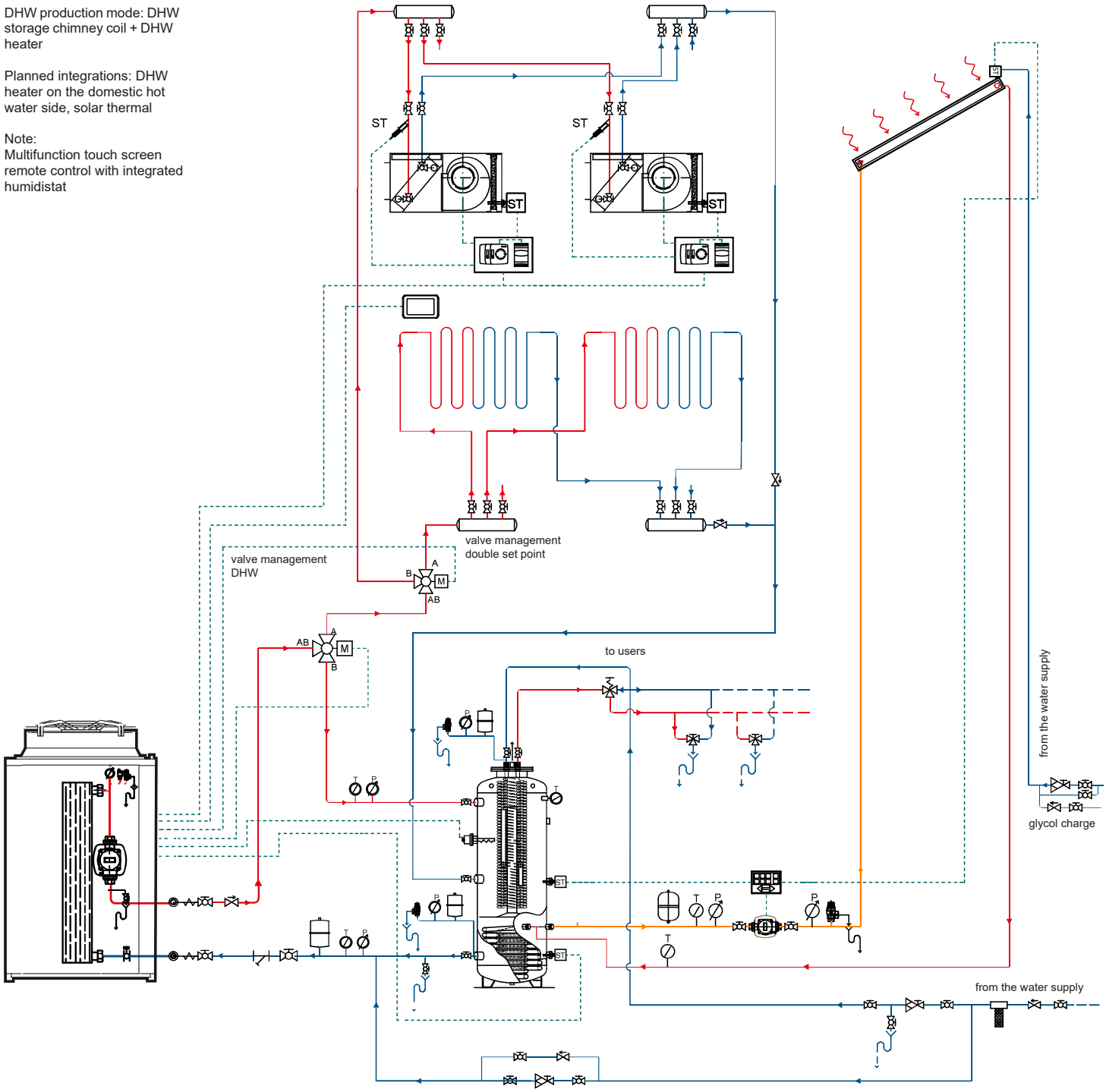
1 - HPE R32 INVERTER system diagram for the production of heating, air conditioning and DHW

System regulation mode:
multizone with management
double fixed point set point
on radiant panels
main area

DHW production mode: DHW
storage chimney coil + DHW
heater

Planned integrations: DHW
heater on the domestic hot
water side, solar thermal

Note:
Multifunction touch screen
remote control with integrated
humidistat



LEGEND

domestic hot water mixer	interception gate
dial thermometer	2-way motorized valve
manometer 0 - 6 bar	sand trap filter
loading group with pressure reducer	2-position motorized 3-way valve
safety valve calibrated at 3 bar	NTC immersion temperature probe
air vent valve with tap	external management control
“Y” mechanical filter	3-way anti-scald thermostatic valve
non-return valve	Multifunction touch screen remote control

HPE R32 40÷70 INVERTER

Air/water inverter heat pump with axial fans

Technical data tableHPE R32 40÷70 INVERTER
Version STANDARD

DESCRIPTION		U.M.	HPE R32 40	HPE R32 50	HPE R32 60	HPE R32 70
Cooling						
Refrigeration power (1)		kW	29,7	36,2	48,0	52,7
Absorbed power (1)		kW	9,62	11,8	15,6	17,8
E.E.R. (1)		W/W	3,09	3,07	3,08	2,96
Refrigeration power (2)		kW	37,2	55,1	65,1	65,6
Absorbed power (2)		kW	9,05	13,3	17,7	16,9
E.E.R. (2)		W/W	4,11	4,14	4,15	3,88
SEER (5)		W/W	4,66	4,63	4,74	4,68
Water flow rate (1)		l/s	1,42	1,73	2,30	2,52
Pressure drops on the hydronic circuit side (1)		kPa	21	26	36	36
Heating						
Thermal power (3)		kW	40,1	50,4	61,6	66,8
Absorbed power (3)		kW	10,0	12,5	15,3	16,6
C.O.P. (3)		W/W	4,01	4,03	4,03	4,02
Thermal power (4)		kW	40,7	49,9	59,7	66,7
Absorbed power (4)		kW	12,7	15,6	18,6	20,7
C.O.P. (4)		W/W	3,20	3,20	3,21	3,22
Thermal power (12)		kW	38,4	48,3	56,2	61,9
Absorbed power (12)		kW	14,2	18,1	21,8	23,9
C.O.P. (12)		W/W	2,70	2,67	2,58	2,59
SCOP (6)		W/W	4,08	4,01	3,74	3,72
Water flow rate (4)		l/s	1,95	2,39	2,86	3,19
Pressure drops on the hydronic circuit side (4)		kPa	37	49	58	56
Energy efficiency - water 35 °C / 55 °C			A++ / A+	A++ / A+	A+ / A+	A+ / A+
Compressor						
Type			Scroll DC Inverter			
Number			1	2	2	2
Coolant oil (type)			FW68S			
Coolant oil (quantity)		m/l	1900	3800	3800	3800
Refrigerant circuits			1			
Refrigerant						
Type			R32			
Refrigerate quantity(7)		kg	6,5	9,5	11,7	12,0
Refrigerant quantity in tons. of CO2 equivalent (7)		ton	4,4	6,4	7,9	8,1
Design pressure (high/low) mod. heat pump		bar	46 / 27,6			
Design pressure (high/low) mod. chiller		bar	46 / 27,6			
External area fans						
Type			EC			
Number			1			
Nominal power (1)		kW	1,95	1,95	3,10	3,10
Maximum power absorbed		kW	1,95	1,95	3,10	3,10
Maximum current absorbed		A	4,8	4,8	4,8	4,8
Nominal air flow		l/s	4368	5431	6417	5547
Internal exchanger						
Internal exchanger type			with plates / BPHE			
No internal exchangers			1			
Water content		l	3,05	3,54	4,27	5,12
Hydraulic circuit						
Water content of the hydronic circuit		l	5	5	6	7
Hydronic kit max pressure (safety valve calibration)		bar	6			
Hydraulic connections			1” 1/2			
Minimum volume of water(8)		l	286	389	490	522
Nominal pump power (1)		kW	-			
Max absorbed pump power		kW	-			
Max current absorbed pump		A	-			
Noise						
Sound power (9)	Standard	dB(A)	77	83	84	84
	Silent	dB(A)	76	82	83	83
	Super Silent	dB(A)	75	81	82	82
Electrical data			400V/3P+N+T/50Hz			
Power supply						
Max power absorbed		kW	22	31	37	41
Max current absorbed		A	34	48	58	63
Max power absorbed with antifreeze kit		kW	23	31	38	41
Max current absorbed with antifreeze kit		A	36	50	60	65

HPE R32 40÷70 INVERTER

Air/water inverter heat pump with axial fans

Technical data table HPE R32 40÷70 INVERTER
Single AC Pump Version - Single AC Pump modulated by inverter - Double AC Pump

DESCRIPTION		U.M.	HPE R32 40	HPE R32 50	HPE R32 60	HPE R32 70
Cooling						
Cooling power (1)		kW	29,6	36,3	48,0	53,2
Absorbed power (1)		kW	9,54	11,7	15,5	17,7
E.E.R. (1)		W/W	3,10	3,10	3,10	3,01
Cooling power (2)		kW	37,3	55,3	65,3	66,0
Absorbed power (2)		kW	8,91	13,0	15,5	16,6
E.E.R. (2)		W/W	4,19	4,25	4,21	3,98
SEER (5)		W/W	4,80	4,72	4,86	4,85
Water flow (1)		l/s	1,42	1,74	2,30	2,55
Heating						
Thermal power (3)		kW	40,0	50,2	61,4	66,8
Absorbed power (3)		kW	9,84	12,2	15,0	16,3
C.O.P. (3)		W/W	4,07	4,11	4,09	4,10
Thermal power (4)		kW	40,6	49,7	59,5	66,6
Absorbed power (4)		kW	12,5	15,4	18,3	20,4
C.O.P. (4)		W/W	3,25	3,23	3,25	3,26
Thermal power (12)		kW	38,4	48,3	56,5	62,0
Absorbed power (12)		kW	14,2	18,0	21,7	23,8
C.O.P. (12)		W/W	2,70	2,68	2,60	2,61
SCOP (6)		W/W	4,25	4,16	3,92	3,94
Water flow (4)		l/s	1,94	2,38	2,85	3,19
Energy efficiency - water 35 °C / 55 °C			A++ / A++	A++ / A+	A++ / A+	A++ / A+
Compressor						
Type			Scroll DC Inverter			
Number			1	2	2	2
Refrigerant oil (type)			FW68S			
Coolant oil (quantity)		m/l	1900	3800	3800	3800
Refrigerant circuits			1			
Refrigerant						
Type			R32			
Quantity refrigerant (7)		kg	6,5	9,5	11,7	12,0
Refrigerant quantity in tons. of CO2 equivalent (7)		ton	4,4	6,4	7,9	8,1
Design pressure (high/low) mod. heat pump		bar	46 / 27,6			
Design pressure (high/low) mod. chiller		bar	46 / 27,6			
External area fans						
Type			EC			
Number			1			
Nominal power (1)		kW	1,95	1,95	3,10	3,10
Maximum power absorbed		kW	1,95	1,95	3,10	3,10
Maximum current absorbed		A	4,8	4,8	4,8	4,8
Nominal air flow		l/s	4368	5431	6417	5547
Internal exchanger						
Internal exchanger type			with plates / BPHE			
N. internal exchangers			1			
Water content		l	3,05	3,54	4,27	5,12
Useful prevalence (1) (**)		kPa	146	138	155	151
Useful prevalence (4) (**)		kPa	125	109	130	122
Hydraulic circuit						
Water content of the hydronic circuit		l	6,5/9,5*	7/10*	8/11*	9/11,5*
Hydronic kit max pressure (safety valve calibration)		bar	6			
Hydraulic connections			1” 1/2			
Minimum volume of water (8)		l	286	389	490	522
Nominal pump power (1)		kW	0,75	0,75	1,10	1,10
Max absorbed pump power		kW	1,04	1,04	1,35	1,35
Max current absorbed pump		A	1,86	1,86	2,45	2,45
Noise						
Sound power (9)	Standard	dB(A)	77	83	84	84
	Silent	dB(A)	76	82	83	83
	Super Silent	dB(A)	75	81	82	82
Electrical data						
Power supply			400V/3P+N+T/50Hz			
Max power absorbed		kW	24	33	39	43
Max current absorbed		A	38	52	62	68
Max power absorbed with antifreeze kit		kW	25	34	40	43
Max current absorbed with antifreeze kit		A	40	54	64	70

Technical data table HPE R32 40÷70
INVERTER Single Pump EC version

DESCRIPTION		U.M.	HPE R32 40	HPE R32 50	HPE R32 60	HPE R32 70
Cooling						
Cooling power (1)		kW	29,4	35,7	47,4	53,1
Absorbed power (1)		kW	10,20	12,2	15,8	18,1
E.E.R. (1)		W/W	2,88	2,93	3,00	2,93
Cooling power (2)		kW	37,3	54,2	64,8	66,5
Absorbed power (2)		kW	9,47	13,5	15,8	17,0
E.E.R. (2)		W/W	3,94	4,01	4,10	3,91
SEER (5)		W/W	3,96	4,20	4,46	4,49
Water flow (1)		l/s	1,41	1,71	2,27	2,54
Heating						
thermal power (3)		kW	40,5	49,8	61,7	67,1
Absorbed power (3)		kW	10,40	12,7	15,5	16,8
C.O.P. (3)		W/W	3,89	3,92	3,98	3,99
thermal power (4)		kW	40,8	50,1	59,9	66,8
Absorbed power (4)		kW	13,1	15,9	18,8	20,8
C.O.P. (4)		W/W	3,11	3,15	3,19	3,21
thermal power (12)		kW	38,8	48,8	56,1	62,8
Absorbed power (12)		kW	14,8	18,6	22,2	24,3
C.O.P. (12)		W/W	2,62	2,62	2,53	2,58
SCOP (6)		W/W	3,83	3,89	3,72	3,69
Water flow (4)		l/s	1,95	2,40	2,87	3,20
Energy efficiency - water 35 °C / 55 °C			A++ / A+	A++ / A+	A+ / A+	A+ / A+
Compressor						
Type			Scroll DC Inverter			
Number			1	2	2	2
Refrigerant oil (type)			FW68S			
Refrigerant oil (quantity)		m/l	1900	3800	3800	3800
Refrigerant circuits			1			
Refrigerant						
Type			R32			
Refrigerant quantity (7)		kg	6,5	9,5	11,7	12,0
Refrigerant quantity in tons. of CO2 equivalent (7)		ton	4,4	6,4	7,9	8,1
Design pressure (high/low) mod. heat pump		bar	46 / 27,6			
Design pressure (high/low) mod. chiller		bar	46 / 27,6			
External area fans						
Type			EC			
Number			1			
Nominal power (1)		kW	1,95	1,95	3,10	3,10
Maximum power absorbed		kW	1,95	1,95	3,10	3,10
Maximum current absorbed		A	4,8	4,8	4,8	4,8
Nominal air flow		l/s	4368	5431	6417	5547
Internal exchanger						
Internal exchanger type			with plate / BPHE			
N. internal exchangers			1			
Water content		l	3,05	3,54	4,27	5,12
Useful prevalence (1) (**)		kPa	437	429	405	394
Useful prevalence (4) (**)		kPa	411	387	360	341
Hydraulic circuit						
Water content of the hydronic circuit		l	7	7	8	9
Hydronic kit max pressure (safety valve calibration)		bar	6			
Hydraulic connections			1” 1/2			
Minimum volume of water (8)		l	286	389	490	522
Nominal pump power (1)		kW	2,20			
Max absorbed pump power		kW	2,20			
Max current absorbed pump		A	4,15			
Noise						
Sound power (9)	Standard	dB(A)	77	83	84	84
	Silent	dB(A)	76	82	83	83
	Super Silent	dB(A)	75	81	82	82
Electrical data						
Power supply			400V/3P+N+T/50Hz			
Max power absorbed		kW	24	33	39	43
Max current absorbed		A	38	52	62	68
Max power absorbed with antifreeze kit		kW	25	34	40	43
Max current absorbed with antifreeze kit		A	40	54	64	70

Legend of the technical data tables HPE R32 40÷70 INVERTER

Performances referred to the following conditions, in accordance with the standard 14511:2018:

(1) Cooling: external air temperature 35 °C; inlet/outlet water temperature 12/7 °
(2) Cooling: external air temperature 35 °C; inlet/outlet water temperature 23/18 °C.
(3) Heating: external air temperature 7 °C d.b. 6 °C b.u.; inlet/outlet water temp. 30/35 °C.
(4) Heating: external air temperature 7° C d.b. 6° C b.u.; inlet/outlet water temp. 40/45 °C.
(5) Cooling: inlet/outlet water temperature 7/12 °C.
(6) Heating: average climatic conditions; Tbiv = -7 °C; low temperature.
(7) Indicative data and subject to change. For the correct data, always refer to the technical label on the unit.
(8) The volume indicated refers to the total necessary, the designer must satisfy it by considering the quantity already present inside the unit depending on the hydronic kit chosen (please check this value in the technical data sheet).
(9) Sound power: heating mode condition (3); value determined on the basis of measurements carried out in accordance with the UNI EN ISO 9614-2 regulation.(12) Heating: external air temperature 7 °C d.b. 6 °C b.u.; temp. water in/out 47 / 55 °C.
(**) Values refer to the useful head for For pump kit Single Pump / Single AC Pump modulated with inverter / Double AC Pump
(*) Values referring to the water content of the hydronic circuit for the AC Double Pump kit

N.B. The performance data reported are indicative and may be subject to change.
Furthermore, the yields declared in points (1), (2), (3) and (4) are to be understood as referring to the instantaneous power according to UNI EN 14511. The data declared in points (5) and (6) are determined according to UNI EN14825.

Technical data sheet unit with desuperheater HPE R32 40÷70 INVERTER

The performances with desuperheater are reported, under conditions (1) of the technical data table, for water outlet temperatures from the desuperheater of 45 °C and 55 °C.
DS = Desuperheater

HPE R32 40÷70 INVERTER Version STANDARD

MODEL	Delivery temperature 45 °C				Delivery temperature 55 °C			
	Cooling power kW	Absorbed power kW	EER W / W	Thermal power DS kW	Cooling power kW	Absorbed power kW	EER W / W	Thermal power DS kW
HPE R32 40	29,4	9,49	3,10	7,01	29,8	9,55	3,12	5,41
HPE R32 50	36,3	11,7	3,10	8,42	36,5	11,7	3,12	6,51
HPE R32 60	48,5	15,7	3,09	13,9	48,0	15,9	3,02	10,9
HPE R32 70	54,1	17,6	3,07	14,1	54,0	17,7	3,05	11,0

HPE R32 40÷70 INVERTER Single AC Pump Version - Single AC inverter modulated - Double AC Pump

MODEL	Delivery temperature 45 °C				Delivery temperature 55 °C			
	Cooling power kW	Absorbed power kW	EER W / W	Thermal power DS kW	Cooling power kW	Absorbed power kW	EER W / W	Thermal power DS kW
HPE R32 40	29,7	9,42	3,15	7,03	29,8	9,50	3,15	5,42
HPE R32 50	36,5	11,5	3,17	8,46	36,3	11,6	3,13	6,55
HPE R32 60	48,5	15,4	3,15	13,9	47,9	15,5	3,09	11,0
HPE R32 70	53,1	17,4	3,05	13,9	53,2	17,5	3,04	10,9

HPE R32 40÷70 INVERTER Single EC pump version and buffer tank

MODEL	Delivery temperature 45 °C				Delivery temperature 55 °C			
	Cooling power kW	Absorbed power kW	EER W / W	Thermal power DS kW	Cooling power kW	Absorbed power kW	EER W / W	Thermal power DS kW
HPE R32 40	29,5	10,1	2,92	7,04	29,4	10,2	2,88	5,43
HPE R32 50	35,8	12,1	2,96	8,40	35,9	12,2	2,94	6,52
HPE R32 60	48,1	15,6	3,08	13,4	47,6	15,7	3,03	11,6
HPE R32 70	53,6	17,9	2,99	14,0	53,5	18,0	2,97	11,0