

Water chillers and heat pumps catalogue











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small systems

MPI DC

MPE

MCC

MCW

MCR

MSHRT

MTE



MPI DC WATER CHILLERS AND HEAT PUMPS INVERTER DC

- > R410A
- > CONTINUOUS MODULATION OF CAPACITY FROM 30% TO 100%
- > WATER PRODUCED UP TO 58°C
- > HEAT PUMP OPERATION AT TEMPERATURES AS LOW AS -15°
- > SCROLL OR TWIN ROTARY COMRPESSOR WITH PERMANENT MAGNETS ELECTRIC SYNCHRONOUS MOTOR
- > ELECTRONIC EXPANSION VALVE
- > MODULATING HYDRAULIC PUMP

The actual thermal load of an air conditioning system is less than 60% of the rated load capacity 90% of the time.

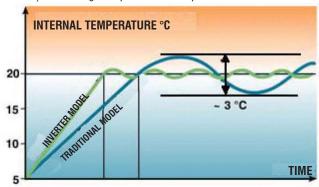
In low-powered installations with a small number of indoor units and a low water content, operation under partial load conditions is particularly critical. In order to ensure that the system works correctly, it is thus necessary to vary the power output by the chiller.

The inverter controller acts on the compressor rpm by modulating the refrigerant mass, cooling capacity and input power.

The operating logic of MPI DC units allows an accurate adjustment of the outlet water temperature according to the thermal load conditions:

The PID control algorithm makes it possible to regulate the water temperature within $\pm 1.15\%$.

The inverter controller allows to adjust the capacity and the input of the compressor to the actual thermal load and makes it possible to considerably reduce electrical intakes at the compressor start-up (reduction of starting currents) and during the operation under partial loads.



The spinning airtight scroll compressors (for models from MPI014 DC to MPI029 DC) or Twin Rotary compressors (for models from MPI08 DC to MPI010 DC) are equipped with motor protection against overheating and overcurrents.

Mounted on anti-vibration supports, complete with oil charge, they are enclosed in a soundproofed compartment and equipped with an automatically controlled oil heating system to avoid oil dilution by the refrigerant when the compressor is stopped.



The compressor motor is a permanent magnets, brushless, alternating current motor controlled by a trapezoidal wave driver operating in the frequency field ranging from 30 to 120 Hz (BLDC "Brushless Direct Current" Technology)

The electronic control system allows the setpoint to be adjusted automatically according to the outdoor temperature in order to reduce consumption and broaden the working temperature range.



The condensation control adjusts fan speed to actual operating conditions. This results in better working conditions, reduction of sound levels under partial load conditions and possibility of operating in cooling mode beyond conventional working limits (up to an outdoor air temperature of -10°C).



During heat pump operation, the exclusive smart defrost system can correctly identify an impairment of performance in the outdoor exchanger due to the formation of ice and minimise the process time in relation to normal operation of the unit.

STRUCTURE

Painted galvanised sheet steel structure (RAL9002) for an attractive look and effective resistance to corrosive agents.

Fastening devices are made of non-oxidizable materials, or carbon steel that has undergone surface-passivating treatments.

The compressor compartment is completely sealed and may be accessed on 3 sides thanks to easy-to-remove panels that greatly simplify maintenance and/or inspection.

Sound insulation, available on request, can further reduce the noise emissions of the unit.



CUSTOMISED HYDRONIC KITS

- High head modulating pump made entirely of stainless steel, already configured for use with mixtures of water and ethylene glycol up to 35% and provided with internal thermal protection. It is housed in the compressor compartment and is easy to reach thanks to the removable perimeter panels.
- Expansion tank
- Safety valve
- Filling cock (included)
- Automatic vent valve
- Water differential pressure switch and outlet water temperature probe with anti-freeze thermostat function
- Mechanical Y filter supplied as a standard feature on all models to protect the evaporator (included)

Cooling circuit

- BLDC-type compressor housed in a compartment that can be sound insulated.
- Brazed plate heat exchangers made of AISI 316 stainless steel and optimised for use with R410A.
- Finned block condenser with 8 mm copper piping and aluminium fins, characterised by ample heat exchange surfaces
- Dehydrating filter
- Flow indicator with humidity indicator
- Electronically controlled electric thermostatic valve, with external equalisation and integrated MOP function
- Cycle-reversing valve (MPI DC H)
- Single-acting valves (MPI DC H)
- Liquid receiver (MPI DC H)
- High and low pressure switches
- Safety valve
- Schrader valves for checks and/or maintenance
- Refrigerant pressure gauges (optional)

Fan drive assembly

RG66006339.03

Electric fan with 6-pole external rotor motor directly keyed to the axial fan, with internal thermal protection on the windings, complete with safety grille and dedicated supporting structure.

The fan is housed in a special compartment having a profile designed to optimise ventilation.

The use of finned block heat exchangers with 8mm diameter pipes reduces pressure drops on the air side, thus significantly improving the noise levels of the units.

The condensation control system continuously and automatically regulates the fan speed, further limiting the noise emissions of the unit during nighttime operation and under partial load conditions.

Made of 8mm diameter copper pipes and aluminium fins, generously sized. The special engineering of the heat exchangers allows defrost cycles to be carried out at maximum speed in the models with heat pump operation, which brings clear benefits in terms of the integrated efficiency of the whole cycle.

ELECTRONIC MICROPROCESSOR CONTROL

The electronic control enables the complete control of the MPI DC unit. It can be easily accessed through a polycarbonate flap with IP65 protection rating.



The modulation of capacity enables the unit to operate even in systems where the water content is low, without the use of an inertial water buffer tank. By reading the outdoor air temperature, it can automatically change the setpoint to adapt it to the outdoor load conditions or keep the unit running even in the harshest winter conditions.

Main functions:

- Continuous modulation of compressor capacity
- Control of outlet temperature
- Control over the temperature of water entering the evaporator
- Defrosting management (MPI DC-H)
- Control of fan speed
- Complete alarm management
- Dynamic control of the setpoint according to the outdoor air temperature
- Can be connected to an RS485 serial line for supervisory / teleassistance operation
- Option of connecting a remote terminal that duplicates the control functions
- Control of pump speed

Devices controlled:

- Compressor
- Fans
- Cycle-reversing valve (MPI DC H)
- Water circulation pump
- Antifreeze heating elements (optional)
- Alarm signalling relay

ELECTRIC CONTROL BOARD

Electric control board constructed and wired in accordance with the Directive on electromagnetic compatibility and related standards. Made of steel sheet, it is also protected by the enclosing panels of the unit.

OPTIONS

Water storage

Low noise execution

Refrigerant pressure gauges

Antifreeze heating elements on the water circuit

Special exchangers (hydrophilic treatment, coppercopper, cataphoresis, anti-corrosion)

ACCESSORIES AVAILABLE

Remote control boards Base vibration dampers

Metal grilles to protect exchangers EC fans



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RATED TECHNICAL DATA OF WATER CHILLERS

MPI DC - C		010 M	014	018	023	029
Power supply	V-ph-Hz	230-1-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50
Rated cooling capacity	kW	10,6	14,3	18,2	22,9	29,1
Total power input	kW	3,35	4,78	7,63	7,77	12,3
EER (rated capacity)		3,16	2,99	2,39	2,95	2,37
Total input power with pump	kW	3,6	5,3	8,2	8,3	12,9
Maximum power input	kW	5,6	7,1	10,7	10,8	21,9
Maximum absorbed current	A	26,6	20,0	22,0	28,5	43,0
Starting current	Α	10	10	10	10	10
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1
Refrigerant charge	kg	3,5	4,1	4,1	5,7	5,7
High / low pressure switch	bar,g	42 / 2	42 / 2	42 / 2	42 / 2	42 / 2
No. of axial fans		2	2	2	4	4
Air flow rate	m³/h	6.939	6.939	6.939	11.438	11.438
Water flow rate	l/h	1826	2454	3132	3935	4992
Diameter of water connections	inches	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Pressure drop, water side	kPa	23	35	35	36	36
Available head	kPa	130	120	120	98	98
Water content, excluding optionals	dm ³	3,0	3,0	3,0	5,0	5,0
Expansion tank	dm³	5	5	5	5	5
Buffer tank	dm ³	30	30	30	50	50
Height	mm	1250	1250	1250	1300	1300
Length	mm	1220	1220	1220	1565	1565
Depth	mm	560	560	560	600	600
Sound power level	dB(A)	70	71	71	74	74
Sound pressure level	dB(A)	42	43	43	46	46
Transport weight*	kg	210	210	210	285	285
Operating weight*	kg	235	235	235	335	335

- * Weights refer to model with pump and buffer tank
- Cooling capacity: outdoor air temperature 35°C, water temperature 12°C -7°C
- Sound power measured according to standards ISO 3741 ISO 3744 and EN 29614-1
- Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a clear field (fan side)
- The maximum power input is the mains electricity that must be available in order for the unit to work
- The maximum current absorption refers to the current that will trigger the internal safety devices of the unit. It is the maximum current allowed in the unit..

This value may never be exceeded; it must be used as a reference for determining the size of the power supply line and the related safety devices (refer to the wiring diagram supplied with the units).



RATED TECHNICAL DATA OF HEAT PUMPS

MPI DC - H		008 M	010 M	014	018	023	029
Power supply	V-ph-Hz	230-1-50	230-1-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50
Rated cooling capacity	kW	7,96	10,4	14,0	17,9	22,5	28,5
Total power input	kW	2,62	3,35	4,78	7,63	7,77	12,3
EER (rated capacity)		3,04	3,10	2,93	2,35	2,90	2,32
Total input power with pump	kW	2,8	3,6	5,3	8,2	8,3	12,9
Rated heating capacity	kW	8,89	11,5	15,7	21,6	24,6	33,7
Total power input in heating mode	kW	2,81	3,56	4,96	7,48	7,86	11,7
COP (rated capacity)		3,16	3,23	3,17	2,89	3,13	2,88
Total input power with pump in heating mode	kW	3,0	4,1	5,5	8,0	8,4	12,3
Maximum power input	kW	4,1	5,6	7,1	10,7	10,8	21,9
Maximum absorbed current	A	16	26,6	20,0	22,0	28,5	43,0
Starting current	Α	10	10	10	10	10	10
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1
Refrigerant charge	kg	2,1	4,1	4,4	4,4	6,0	6,0
High / low pressure switch	bar	42 / 2	42 / 2	42 / 2	42 / 2	42 / 2	42 / 2
No. of axial fans		1	2	2	2	4	4
Air flow rate	m³/h	4680	6939	6.939	6.939	11.438	11.438
Water flow rate in cooling mode	I/h	1367	1.789	2.407	3.072	3.861	4.898
Water flow rate in heating mode	l/h	1545	1.974	2.727	3.752	4.273	5.853
Diameter of water connections	"	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Water pressure drop (cooling)	kPa	6	22	33	33	34	34
Water pressure drop (heating)	kPa	7	23	36	36	40	40
Available head (cooling)	kPa	93	130	120	120	98	98
Available head (heating)	kPa	95	120	110	110	80	80
Water content, excluding optionals	dm ³	2	3	3	3	5	5
Expansion tank	dm ³	1	5	5	5	5	5
Buffer tank	dm ³	19,5	30	30	30	50	50
Height	mm	758	1250	1250	1250	1300	1300
Length	mm	1241	1220	1220	1220	1565	1565
Depth	mm	582	560	560	560	600	600
Sound power level	dB(A)	68	70	71	71	74	74
Sound pressure level	dB(A)	40	42	43	43	46	46
Transport weight*	kg	144	220	220	220	300	300
Operating weight*	kg	153	240	240	240	347	347

- * Weights refer to model with pump and buffer tank
- Cooling capacity: outdoor air temperature 35°C, water temperature 12°C -7°C
 Heating capacity: outdoor air temperature 7°C dry bulb and 6.2°C wet bulb, water temperature 40°C 45°C
- Sound power measured according to standards ISO 3741 ISO 3744 and EN 29614-1
- Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a clear field (fan side)
- The maximum power input is the mains electricity that must be available in order for the unit to work
- The maximum current absorption refers to the current that will trigger the internal safety devices of the unit. It is the maximum current allowed in the unit..

This value may never be exceeded; it must be used as a reference for determining the size of the power supply line and the related safety devices (refer to the wiring diagram supplied with the units).



PERFORMA: EFFICIENCY BEYOND EVERY LIMIT

- > R410A
- > OPTIMISED FINNED BLOCK EXCHANGERS
- > QUIET OPERATION
- > HIGH EFFICIENCY
- > EXTENDED OPERATING LIMITS
- > TANDEM CONFIGURATION
- > DYNAMIC SETPOINT
- > OPERATION UNDER PARTIAL LOAD CONDITIONS WITHOUT NEED FOR WATER BUFFER TANK
- > SMART DEFROST SYSTEM
- > IN THE CONFIGURATION WITH AN ELECTRONIC VALVE SUITABLE FOR RADIANT PANEL SYSTEMS.

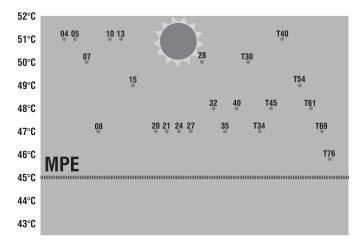
PERFORMA (MPE) water chillers and heat pumps are designed for outdoor installation in both residential and industrial applications.

The range uses R410A refrigerant, which assures high levels of performance with relatively low energy consumption and features 25 models in the chiller and heat pump version, with cooling capacities ranging from 4 to 76 kW and heating capacities from 5 to 85 kW.

BEYOND CONVENTIONAL WORKING LIMITS

The finned block heat exchangers have been optimised for R410A and use 8 mm copper pipes, which permit a better heat exchange and quiet operation of the fans.

Their generous sizing guarantees the production of chilled water even with outdoor air temperatures as high as 51°C and all models of the range assure an average energy efficiency ratio (EER) of 2.95 in the cooling mode and heating efficiency (COP) of 3.25, corresponding to the Eurovent Energy Efficiency Class A.



EFFICIENCY IN ALL CONDITIONS

The actual thermal load of an air conditioning system is less than 60% of the rated load capacity 90% of the time; the MPE T version with single-circuit dual compressor answers this demand by offering high efficiency during operation under partial load conditions (ESEER>4) and also guarantees the unit's operation at the worst temperature conditions.

In such conditions the microprocessor controller activates the capacity control mode, doubling the condensing surface available to the single compressor.

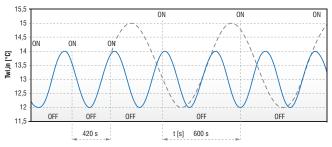
The axial-type fans with airfoil-shaped blades and 6- and 8-pole motors with electronic speed control (optional) guarantee quiet operation and optimal performance of the unit in all conditions.



SELF-ADAPTIVE CONTROL

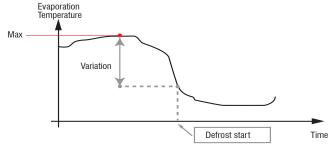
The electronic control system allows the setpoint to be adjusted automatically according to the outdoor temperature in order to reduce consumption and broaden the working temperature range.

The unit can also function in systems with a low water content, even without the use of a water buffer tank, thanks to the automatic adjustment which limits the number of compressor starts and thus extends the life of the compressors themselves.



SMART DEFROST SYSTEM

The exclusive defrost system (optional feature available with the advanced controller) can correctly identify an impairment of performance in the outdoor exchanger due to the formation of ice and minimise the process time in relation to normal operation of the unit.





CONSTRUCTIVE COMPONENTS

STRUCTURE

Painted galvanised sheet steel structure (RAL9002) for an attractive look and effective resistance to corrosive agents.

Fastening devices are made of non-oxidizable materials, or carbon steel that has undergone surface-passivating treatments.

The compressor compartment is completely sealed and may be accessed on 3 sides thanks to easy-to-remove panels that greatly simplify maintenance and/or inspection.

Sound insulation, available on request, can further reduce the noise emissions of the unit.

CUSTOMISED HYDRONIC KITS

 High head pump made entirely of stainless steel, already configured for use with mixtures of water and ethylene glycol up to 35% and provided with internal thermal protection.

It is housed in the compressor compartment and is easy to reach thanks to the removable perimeter panels.

- Expansion tank
- Safety valve
- Filling cock (included)
- Automatic vent valve
- Water differential pressure switch and outlet water temperature probe with anti-freeze thermostat function
- Mechanical Y filter supplied as a standard feature on all models to protect the evaporator (included)

COOLING CIRCUIT

- Scroll-type compressor (rotary up to 7 kW) housed in a compartment that can be sound insulated
- Brazed plate heat exchangers made of STAINLESS STEEL and optimised for use with R410A
- Finned block condenser with 8 mm copper piping and aluminium fins, characterised by ample heat exchange surfaces
- Dehydrating filter
- Flow indicator with humidity indicator
- Thermostatic valve with external equalization and integrated MOP function
- Cycle-reversing valve (MPE H)
- Single-acting valves (MPE H)
- Liquid receiver (MPE H)
- High and low pressure switches
- Safety valve
- Schrader valves for checks and/or maintenance
- Refrigerant pressure gauges (optional)

FAN DRIVE ASSEMBLY

Electric fan with 6/8-pole external rotor motor directly keyed to the axial fan, with internal thermal protection on the windings, complete with safety grille and dedicated supporting structure.

The fan is housed in a special compartment having a profile designed to optimise ventilation.

The use of finned block heat exchangers with 8mm diameter pipes reduces pressure drops on the air side, thus significantly improving the noise levels of the units.

The condensation control system continuously and automatically regulates the fan speed, further limiting the noise emissions of the unit during nighttime operation and under partial load conditions.

FINNED BLOCK HEAT EXCHANGER

Made of 8mm diameter copper pipes and aluminium fins, generously sized.

The special engineering of the heat exchangers allows defrost cycles to be carried out at maximum speed in the models with heat pump operation, which brings clear benefits in terms of the integrated efficiency of the whole cycle.

ELECTRONIC MICROPROCESSOR CONTROL

The electronic control enables the complete control of the MPE unit. It can be easily accessed through a polycarbonate flap with IP65 protection rating. The self-adaptive logic enables the unit to operate even in systems where the water content is low, without the use of an inertial buffer tank. By reading the outdoor air temperature, it can automatically change the setpoint to adapt it to the outdoor load conditions or keep the unit running even in the harshest winter conditions.

The basic controller comes complete with the MODBUS protocol and enables an immediate connection to ERGO networks. Main functions:



- Control over the temperature of water entering the evaporator
- Management of the defrosting function (MPE-H)
- Control of fan speed (optional)
- Complete alarm management
- Dynamic control of the setpoint according to the outdoor air temperature
- Can be connected to an RS485 serial line for supervisory / teleassistance operation
- Option of connecting a remote terminal that duplicates the control functions

Devices controlled:

- Compressor
- Fans
- Cycle-reversing valve (MPE-H)
- Water circulation pump
- Antifreeze heating elements (optional)
- Alarm signalling relay

On request, it is possible to install the advanced controller whose functions extend to:

- LAN networks
- Smart Defrost System

ELECTRIC CONTROL BOARD

The electric control board is constructed and wired in accordance with EEC Directive 73/23, Directive 89/336 on electromagnetic compatibility and related standards. Made of steel sheet, it is also protected by the enclosing panels of the unit.

OPTIONS

Incorporable hydronic kits

Condensation control

Low noise execution

Refrigerant pressure gauges

Antifreeze heating elements on the water circuit

Electronic thermostatic valve

Heat recovery (chiller)

Special exchangers (hydrophilic treatment, copper-copper, cataphoresis, anti-corrosion)

ACCESSORIES AVAILABLE

Remote control boards

Base vibration dampers

Metal grilles to protect exchangers



MPE-C		004 M	005 M	007 M	008 M	008	010 M	010	013	015	018	020	024	027	028
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50	230-1-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Cooling capacity	kW	4.11	5.10	6.66	8.40	8.40	9.25	9.25	12.90	14.98	17.20	19.61	23.80	26.60	28.10
Total power input	kW	1.35	1.70	2.26	3.35	3.09	3.22	3.22	4.16	5.16	6.32	7.12	8.10	9.33	8.65
EER		3.06	3.01	2.95	2.51	2.72	2.87	2.87	3.10	2.90	2.72	2.75	2.94	2.85	3.25
ESEER		3.54	3.39	3.32	2.98	3.36	3.38	3.38	3.69	3.53	3.30	3.21	3.42	3.36	3.77
Total input power with pump	kW	1.49	1.84	2.40	3.49	3.23	3.59	3.59	4.53	5.53	6.69	7.49	8.47	9.70	9.20
Maximum power input	kW	2.0	2.3	3.0	5.0	5.0	5.1	7.2	8.9	10.5	12.5	13.6	14.5	18.0	18.3
Maximum absorbed current	A	9.8	11.6	15.3	24.2	9.2	26.3	14.4	17.4	20.0	24.3	26.2	27.6	33.6	35.5
Starting current	A	38	44	63	98	49	99	50	65	68	75	104	158	132	133
No. of compressors / circuits	- ^	1 / 1	1/1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Refrigerant charge	kg	1.47	1.48	2.04	2.09	2.09	2.87	2.87	3.99	4.11	3.67	4.23	5.8	6.0	7.5
High / low pressure switch	bar	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42
No. of axial fans	Dui	1	1	1	1	1	2	2	2	2	4	4	4	4	2
Air flow rate	m	3,635	3,635	3,406	3,406	3,406	7,385	7,385	6,939	6,939	9,990	9,990	9,307	9,307	16,276
Water flow rate	I/h	707	877	1,146	1,445	1,445	1,591	1,591	2,219	2,577	2,958	3,373	4,094	4,575	4,833
Diameter of water connections	inches	1	1	1,140	1,443	1,445	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Pressure drop, water side	kPa	2	4	6	6	6	34	34	61	38	51	51	49	34	40
	kPa kPa	63	61	57	53	53	116	116	83	103	129	123	116	124	143
Available head		1.5	1.5	1.5	1.5	1.5	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	5.5
Water content, excluding optionals Expansion tank	dm dm	1.5	1.5	1.5	1.5	1.5	3.0 5	3.0 5	3.0 5	5	4.0 5	4.0 5	4.0 5	4.0	5.5
			20	20			30					50			125
Buffer tank	dm	20			20	20		30	30	30	50		50	50	
Height	mm	758	758	758	758	758	1250	1250	1250	1250	1300	1300	1300	1300	1485
Length	mm	960	960	960	960	960	1220	1220	1220	1220	1565	1565	1565	1565	1990
Depth	mm	450	450	450	450	450	560	560	560	560	600	600	600	600	950
Sound power level	dB(A)	66	66	67	67	67	69	69	69	69	71	71	72	72	73
Sound pressure level	dB(A)	38	38	39	39	39	41	41	41	41	43	43	44	44	45
Transport weight*	kg	98	100	107	110	110	202	202	209	209	260	260	280	285	370
Operating weight*	kg	92.3	94.3	101.3	104.3	104.3	227.5	227.5	234.5	234.5	306.3	296.3	327.3	332.3	492
MPE-C		032	035	040	054	066		T30	T34	T40	T45	T54	T61	T69	T76
Power supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50		400-3-50	400-3-50	400-3-50	400-3-50	400-3N-50		400-3N-50	400-3N-50
Cooling capacity	kW	31.52	35.00	39.67	51.4	66.1		30.00	34.05	39.57	44.55	54.6	61.9	69.8	76.1
Total power input	kW	10.06	11.51	12.77	17.8	24.1		10.43	12.59	13.64	16.38	18.3	21.2	23.6	27.5
EER							1								
		3.13	3.04	3.11	3.04	2.74		2.88	2.70	2.90	2.72	2.98	2.92	2.96	2.77
ESEER		3.63	3.61	3.68	3.6	3.3		4.17	4.11	4.15	4.04	4.03	2.92 4.01	4.18	4.16
Total input power with pump	kW	3.63 10.61	3.61 12.06	3.68 13.32	3.6 18.7	3.3 25		4.17 10.98	4.11 13.14	4.15 14.19	4.04 16.93	4.03 19.6	2.92 4.01 22.5	4.18 24.9	4.16 28.8
	kW kW	3.63 10.61 18.9	3.61 12.06 21.8	3.68 13.32 22.4	3.6 18.7 22.7	3.3 25 23.3		4.17 10.98 20.9	4.11 13.14 24.4	4.15 14.19 26.6	4.04 16.93 30.8	4.03 19.6 27	2.92 4.01 22.5 29.9	4.18 24.9 32.3	4.16 28.8 39.4
Total input power with pump	kW A	3.63 10.61 18.9 36.5	3.61 12.06 21.8 41.5	3.68 13.32 22.4 42.5	3.6 18.7 22.7 45.2	3.3 25 23.3 46.2		4.17 10.98 20.9 39.9	4.11 13.14 24.4 45.9	4.15 14.19 26.6 49.7	4.04 16.93 30.8 56.7	4.03 19.6 27 48	2.92 4.01 22.5 29.9 53	4.18 24.9 32.3 57	4.16 28.8 39.4 69
Total input power with pump Maximum power input	kW	3.63 10.61 18.9	3.61 12.06 21.8	3.68 13.32 22.4	3.6 18.7 22.7	3.3 25 23.3		4.17 10.98 20.9	4.11 13.14 24.4	4.15 14.19 26.6	4.04 16.93 30.8	4.03 19.6 27	2.92 4.01 22.5 29.9	4.18 24.9 32.3	4.16 28.8 39.4
Total input power with pump Maximum power input Maximum absorbed current	kW A	3.63 10.61 18.9 36.5	3.61 12.06 21.8 41.5	3.68 13.32 22.4 42.5	3.6 18.7 22.7 45.2	3.3 25 23.3 46.2		4.17 10.98 20.9 39.9	4.11 13.14 24.4 45.9	4.15 14.19 26.6 49.7	4.04 16.93 30.8 56.7	4.03 19.6 27 48	2.92 4.01 22.5 29.9 53	4.18 24.9 32.3 57	4.16 28.8 39.4 69
Total input power with pump Maximum power input Maximum absorbed current Starting current	kW A	3.63 10.61 18.9 36.5 166	3.61 12.06 21.8 41.5 161	3.68 13.32 22.4 42.5 163	3.6 18.7 22.7 45.2 163	3.3 25 23.3 46.2 165		4.17 10.98 20.9 39.9 86	4.11 13.14 24.4 45.9 96	4.15 14.19 26.6 49.7 127	4.04 16.93 30.8 56.7 130	4.03 19.6 27 48 177	2.92 4.01 22.5 29.9 53 187	4.18 24.9 32.3 57 202	4.16 28.8 39.4 69 229
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW A A	3.63 10.61 18.9 36.5 166 1 / 1	3.61 12.06 21.8 41.5 161 1 / 1	3.68 13.32 22.4 42.5 163 1 / 1	3.6 18.7 22.7 45.2 163 1 / 1	3.3 25 23.3 46.2 165 1 / 1		4.17 10.98 20.9 39.9 86 2 / 1	4.11 13.14 24.4 45.9 96 2 / 1	4.15 14.19 26.6 49.7 127 2 / 1	4.04 16.93 30.8 56.7 130 2 / 1	4.03 19.6 27 48 177 2 / 1	2.92 4.01 22.5 29.9 53 187 2 / 1	4.18 24.9 32.3 57 202 2 / 1	4.16 28.8 39.4 69 229 2 / 1
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge	kW A A kg	3.63 10.61 18.9 36.5 166 1 / 1 7.5	3.61 12.06 21.8 41.5 161 1 / 1 7.8	3.68 13.32 22.4 42.5 163 1 / 1 10.8	3.6 18.7 22.7 45.2 163 1 / 1	3.3 25 23.3 46.2 165 1 / 1 15.0		4.17 10.98 20.9 39.9 86 2 / 1 7.8	4.11 13.14 24.4 45.9 96 2 / 1 7.8	4.15 14.19 26.6 49.7 127 2 / 1 10.9	4.04 16.93 30.8 56.7 130 2 / 1 10.9	4.03 19.6 27 48 177 2 / 1	2.92 4.01 22.5 29.9 53 187 2 / 1	4.18 24.9 32.3 57 202 2 / 1 16	4.16 28.8 39.4 69 229 2 / 1 16
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch	kW A A kg	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42	4.03 19.6 27 48 177 2 / 1 11 2 / 42	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans	kW A A A kg bar	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate	kW A A kg bar	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate	kW A A Kg bar m I/h	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections	kW A A A kg bar m l/h inches	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 1 1/4	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 1 1/4	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side	kW A A Kg bar m I/h inches kPa	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 1 1/4 51	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 1 1/4 43	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head	kW A A A kg bar m l/h inches kPa kPa	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 1 1/4 51	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 1 1/4 43	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head Water content, excluding optionals	kW A A Kg bar I/h inches kPa kPa dm	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 1 1/4 51 126 5.5	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 4 16,276 6,021 1 1/4 41 130 5.5	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 1 1/4 43 119 5.5	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 2 16,276 5,160 1 1/4 30.01 150 5.5	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank	kW A A Kg bar m I/h inches kPa kPa dm dm	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 1 1/4 43 119 5.5 8	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5.160 1 1/4 30.01 150 5.5 8	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5 8	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114 12 8
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Unimeter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank Buffer tank Height	kW A A Kg bar m I/h inches kPa kPa dm dm	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 11/4 43 119 5.5 8 125	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7 8 125	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8 8 125		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01 150 5.5 8	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5 8	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5 8	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7 8	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8 8 125	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11 8	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114 12 8
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Unimeter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank Buffer tank Height Length	kW A A Kg bar m I/h inches kPa dm dm mm mm	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8 125 1485 1990	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8 125 1485 1990	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 11/4 43 119 5.5 8 125 1485 1990	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7 8 125 1485 1990	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8 8 125 1485		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01 150 5.5 8 125 1485 1990	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5 8 125 1485	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8 125 1485 1990	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5 8 125	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7 8 125 1735	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8 8 125 1735 2091	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11 8 125 1735 2091	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114 12 8 125 1735 2091
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank Buffer tank Height Length Depth	kW A A A Kg bar m I/h inches kPa dm dm mm mm	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8 125 1485 1990	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8 125 1485 1990	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 11/4 43 119 5.5 8 125 1485 1990 950	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7 8 125 1485 1990 950	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 11/4 60 95 8 8 125 1485 1990 950		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01 150 5.5 8 125 1485 1990	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 11/4 38 134 5.5 8 125 1485 1990 950	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8 125 1485 1990 950	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5 8 125 1485 1990 950	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7 8 125 1735 2091 1183	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8 8 125 1735 2091 1183	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11 8 125 1735 2091 1183	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114 12 8 125 1735 2091 1183
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank Buffer tank Height Length Depth Sound power level	kW A A A Kg bar m I/h inches kPa dm dm mm mm mm dB(A)	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8 125 1485 1990 950 73	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8 125 1485 1990 950 73	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 11/4 43 119 5.5 8 125 1485 1990 950 75	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7 8 125 1485 1990 950 78	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8 8 125 1485 1990 950 78		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01 150 5.5 8 125 1485 1990 950 72	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5 8 125 1485 1990	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8 125 1485 1990 950 72	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5 8 125 1485 1990 950 72	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7 8 125 1735 2091 1183 81	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8 8 125 1735 2091 1183 81	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11 8 125 1735 2091 1183 81	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114 12 8 125 1735 2091 1183 81
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank Buffer tank Height Length Depth Sound power level Sound pressure level	kW A A A Kg bar m I/h inches kPa dm dm mm mm mm dB(A) dB(A)	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8 125 1485 1990 950 73 45	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8 125 1485 1990 950 73 45	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 11/4 43 119 5.5 8 125 1485 1990 950 75 47	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 11/4 60 110 7 8 125 1485 1990 950 78 50	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8 8 125 1485 1990 950 78 50		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 11/4 30.01 150 5.5 8 125 1485 1990 950 72	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5 8 125 1485 1990 950 72 44	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8 125 1485 1990 950 72 44	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5 8 125 1485 1990 950 72 44	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7 8 125 1735 2091 1183 81 53	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8 8 125 1735 2091 1183 81 53	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11 8 125 1735 2091 1183 81 53	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 1114 12 8 125 1735 2091 1183 81 53
Total input power with pump Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Water flow rate Diameter of water connections Pressure drop, water side Available head Water content, excluding optionals Expansion tank Buffer tank Height Length Depth Sound power level	kW A A A Kg bar m I/h inches kPa dm dm mm mm mm dB(A)	3.63 10.61 18.9 36.5 166 1 / 1 7.5 2 / 42 2 16,276 5,421 11/4 51 126 5.5 8 125 1485 1990 950 73	3.61 12.06 21.8 41.5 161 1 / 1 7.8 2 / 42 2 16,276 6,021 1 1/4 41 130 5.5 8 125 1485 1990 950 73	3.68 13.32 22.4 42.5 163 1 / 1 10.8 2 / 42 2 15,776 6,823 11/4 43 119 5.5 8 125 1485 1990 950 75	3.6 18.7 22.7 45.2 163 1 / 1 13 2 / 42 2 20000 9305 1 1/4 60 110 7 8 125 1485 1990 950 78	3.3 25 23.3 46.2 165 1 / 1 15.0 2 / 42 2 20000 11376 1 1/4 60 95 8 8 125 1485 1990 950 78		4.17 10.98 20.9 39.9 86 2 / 1 7.8 2 / 42 2 16,276 5,160 1 1/4 30.01 150 5.5 8 125 1485 1990 950 72	4.11 13.14 24.4 45.9 96 2 / 1 7.8 2 / 42 2 16,276 5,857 1 1/4 38 134 5.5 8 125 1485 1990 950 72	4.15 14.19 26.6 49.7 127 2 / 1 10.9 2 / 42 2 15,776 6,806 1 1/4 45 117 5.5 8 125 1485 1990 950 72	4.04 16.93 30.8 56.7 130 2 / 1 10.9 2 / 42 2 15,776 7,663 1 1/4 57 97 5.5 8 125 1485 1990 950 72	4.03 19.6 27 48 177 2 / 1 11 2 / 42 4 24930 9391 2 56 138 7 8 125 1735 2091 1183 81	2.92 4.01 22.5 29.9 53 187 2 / 1 11 2 / 42 4 24930 10647 2 69 120 8 8 125 1735 2091 1183 81	4.18 24.9 32.3 57 202 2 / 1 16 2 / 42 4 24354 12006 2 55 128 11 8 125 1735 2091 1183 81	4.16 28.8 39.4 69 229 2 / 1 16 2 / 42 4 24354 13089 2 64 114 12 8 125 1735 2091 1183 81

^{*} Weights refer to model with pump and buffer tank
- Cooling capacity: outdoor air temperature 35°C, water temperature 12°C -7°C
- Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a clear field (fan side).



MPE-H Power supply Cooling capacity Total power input EER ESEER Total input power with pump Heating capacity Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits Refrigerant charge	V-ph-Hz kW kW kW kW kW kW	230-1-50 4.03 1.35 2.99 3.47 1.49 4.72 1.46	230-1-50 5.00 1.70		008 M	008	010 M	010	013	015	018	020	024	027	028
Cooling capacity Total power input EER ESEER Total input power with pump Heating capacity Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW kW kW kW	4.03 1.35 2.99 3.47 1.49 4.72 1.46	5.00	007 M 230-1-50		400-3-50	230-1-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Total power input EER ESEER Total input power with pump Heating capacity Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW kW kW kW	1.35 2.99 3.47 1.49 4.72 1.46		6.53	8.23	8.23	9.07	9.07	12.64	14.68	16.86	19.22	23.32	26.07	27.54
EER ESEER Total input power with pump Heating capacity Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW kW kW	2.99 3.47 1.49 4.72 1.46		2.26	3.35	3.09	3.22	3.22	4.16	5.16	6.32	7.12	8.10	9.33	8.65
Total input power with pump Heating capacity Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW kW kW	1.49 4.72 1.46	2.95	2.89	2.46	2.67	2.82	2.82	3.04	2.85	2.67	2.70	2.88	2.79	3.18
Heating capacity Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW kW kW	4.72 1.46	3.32	3.26	2.92	3.29	3.31	3.31	3.62	3.46	3.23	3.15	3.35	3.29	3.70
Total power input in heating mode COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW kW	1.46	1.84	2.40	3.49	3.23	3.59	3.59	4.53	5.53	6.69	7.49	8.47	9.70	9.20
COP Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW kW		5.86	7.77	10.21	9.95	10.87	10.87	15.09	17.60	20.03	22.96	27.15	29.98	31.37
Total input power with pump in heating mode Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW A		1.81	2.41	3.59	3.25	3.62	3.62	4.70	5.49	6.63	7.16	8.11	8.89	9.14
Maximum power input Maximum absorbed current Starting current No. of compressors / circuits	kW A	3.24	3.25	3.23	2.85	3.07	3.00	3.00	3.21	3.21	3.02	3.21	3.35	3.37	3.43
Maximum absorbed current Starting current No. of compressors / circuits	А	1.60	1.95	2.55	3.73	3.39	3.99	3.99	5.07	5.86	7.00	7.53	8.48	9.26	9.69
Starting current No. of compressors / circuits		2.0	2.3	3.0	5.0	5.0	5.1	7.2	8.9	10.5	12.5	13.6	14.5	18.0	18.3
No. of compressors / circuits		9.80	11.60	15.30	24.20	9.20	26.30	14.40	17.40	20.00	24.30	26.20	27.6	33.60	35.50
<u> </u>	A	38	44	63	98	49	99	50	65	68	75	104	158	132	133
Refrigerant charge		1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
	kg	1.47	1.48	2.04	2.09	2.09	2.87	2.87	3.99	4.11	3.67	4.23	5.8	6.0	7.5
High / low pressure switch	bar	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42	2 / 42
No. of axial fans		1	1 0.005	1 0 400	1	1 0 400	2	2	2	2	4	4	4	4	2
Air flow rate	m	3,635 707	3,635 877	3,406 1,146	3,406 1,445	3,406 1,445	7,385 1,591	7,385 1,591	6,939 2,219	6,939 2,577	9,990 2,958	9,990 3,373	9,307 4,094	9,307 4,575	16,276 4,833
Flow rate cooling only	l/h l/h	811	1,008	1,337	1,755	1,711	1,869	1,869	2,595	3,027	3,445	3,949	4,670	5,156	5,396
Water flow rate heat pump mode Diameter of water connections	I/11 «	1	1,000	1,337	1,733	1,711	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Water pressure drop (cooling)	kPa	2	4	6	6	6	34	34	61	38	51	51	49	34	40
Water pressure drop (cooling) Water pressure drop (heating)	kPa	3	4	8	8	8	45	45	83	51	69	69	62	43	49
Available head (cooling)	kPa	63	61	57	53	53	116	116	83	103	129	123	116	124	143
Available head heat pump	kPa	62	59	53	48	48	102	102	57	86	104	97	95	107	128
Water content, excluding optionals	dm	1.5	1.5	1.5	1.5	1.5	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	5.5
Expansion tank	dm	1	1	1	1	1	5	5	5	5	5	5	5	5	8
Buffer tank	dm	n.a.	n.a.	n.a.	n.a.	n.a.	30	30	30	30	50	50	50	50	125
Height	mm	758	758	758	758	758	1250	1250	1250	1250	1300	1300	1300	1300	1485
Length	mm	960	960	960	960	960	1220	1220	1220	1220	1565	1565	1565	1565	1990
Depth	mm	450	450	450	450	450	560	560	560	560	600	600	600	600	950
Sound power level	dB(A)	66	66	67	67	67	69	69	69	69	71	71	72	72	73
Sound pressure level	dB(A)	38	38	39	39	39	41	41	41	41	43	43	44	44	45
Transport weight*	kg	103	105	111.7	115	115	212	212	219	220	273	273	295	300	400
Operating weight*	kg	97.3	99.3	106	109.3	109.3	237.5	237.5	244.5	245.5	319.3	309.3	342.3	347.3	522
MPE-H		032	035	040	054	066		T30	T34	T40	T45	T54	T61	T69	T76
Power supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50		400-3-50	400-3-50	400-3-50	400-3-50			400-3N-50	
Cooling capacity	kW	30.89	34.30	38.88	52.00	62.80		29.40	33.37	38.78	43.66	53.5	60.7	68.5	74.6
Total power input	kW	10.06	11.51	12.77	17.80	24.10		10.43	12.59	13.64	16.38	18.30	21.20	23.60	27.50
ESEER ESEER		3.07 3.56	2.98 3.54	3.04 3.61	2.92 3.50	2.60 3.20		2.82 4.09	2.65 4.03	2.84 4.06	2.67 3.96	2.91 4.01	2.86 3.99	2.9 4.16	2.71 4.15
Total input power with pump	kW	10.61	12.06	13.32	18.70	25.00		10.98	13.14	14.19	16.93	19.6	22.5	24.9	28.8
Heating capacity	kW	35.58	39.28	45.17	60.80	75.30		34.51	39.41	46.49	52.72	59.90	67.50	77.00	84.76
Total power input in heating mode	kW	10.42	11.57	13.14	18.30	23.10		10.86	12.80	13.97	16.26	18.50	21.50	23.40	26.82
COP	KVV	3.41	3.39	3.44	3.32	3.26		3.18	3.08	3.33	3.24	3.24	3.14	3.29	3.16
Total input power with pump in heating mode	kW	10.97	12.12	13.69	19.20	24.00		11.41	13.35	14.52	16.81	19.76	22.76	24.66	28.08
Maximum power input	kW	18.9	21.8	22.4	22.70	23.30		20.9	24.4	26.6	30.8	27.0	29.9	32.3	39.4
Maximum absorbed current	А	36.50	41.50	42.50	45.20	46.20		39.9	45.9	49.70	56.70	48	53	57	69
Starting current	А	166	161	163	163	165		86	96	127	130	177	187	202	229
	I 7		1 / 1	1 / 1	1 / 1	1 / 1					2 / 1	2 / 1		202	223
No. of compressors / circuits		1 / 1		10.8	13			2 / 1	2 / 1	2 / 1	2/1	2/1	2 / 1	2 / 1	2 / 1
No. of compressors / circuits Refrigerant charge	kg	1 / 1 7.5	7.8			16.0		2 / 1 7.8	2 / 1 7.8	2 / 1	10.9	13	2 / 1		
			7.8 2 / 42	2 / 42	2 / 42	16.0 2 / 42								2 / 1	2 / 1
Refrigerant charge	kg	7.5		2 / 42				7.8	7.8	10.9	10.9	13	13	2 / 1 19.5	2 / 1 19.5
Refrigerant charge High / low pressure switch	kg	7.5 2 / 42	2 / 42		2 / 42	2 / 42		7.8 2 / 42	7.8 2 / 42	10.9 2 / 42	10.9 2 / 42	13 2 / 42	13 2 / 42	2 / 1 19.5 2 / 42	2 / 1 19.5 2 / 42
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only	kg bar m I/h	7.5 2 / 42 2 16,276 5,421	2 / 42 2 16,276 6,021	2 15,776 6,823	2 / 42 2 20000 8944	2 / 42 2 20000 10802		7.8 2 / 42 2 16,276 5,160	7.8 2 / 42 2 16,276 5,857	10.9 2 / 42 2 15,776 6,806	10.9 2 / 42 2 15,776 7,663	13 2 / 42 4 24930 9202	13 2 / 42 4 24930 10440	2 / 1 19.5 2 / 42 4 24354 11782	2 / 1 19.5 2 / 42 4 24354 12831
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode	kg bar m l/h	7.5 2 / 42 2 16,276 5,421 6,120	2 / 42 2 16,276 6,021 6,756	2 15,776 6,823 7,769	2 / 42 2 20000 8944 10456	2 / 42 2 20000 10802 12953		7.8 2 / 42 2 16,276 5,160 5,935	7.8 2 / 42 2 16,276 5,857 6,779	10.9 2 / 42 2 15,776 6,806 7,996	10.9 2 / 42 2 15,776 7,663 9,067	13 2 / 42 4 24930 9202 10303	13 2 / 42 4 24930 10440 11610	2 / 1 19.5 2 / 42 4 24354 11782 13244	2 / 1 19.5 2 / 42 4 24354 12831 14579
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections	kg bar m l/h l/h	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4	2 / 42 2 16,276 6,021 6,756 1 1/4	2 15,776 6,823 7,769 1 1/4	2 / 42 2 20000 8944 10456 1 1/4	2 / 42 2 20000 10802 12953 1 1/4		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4	13 2 / 42 4 24930 9202 10303 2	13 2 / 42 4 24930 10440 11610 2	2 / 1 19.5 2 / 42 4 24354 11782 13244 2	2 / 1 19.5 2 / 42 4 24354 12831 14579 2
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling)	kg bar m l/h l/h "	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51	2 / 42 2 16,276 6,021 6,756 1 1/4 41	2 15,776 6,823 7,769 1 1/4 43	2 / 42 2 20000 8944 10456 1 1/4 60	2 / 42 2 20000 10802 12953 1 1/4 60		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57	13 2 / 42 4 24930 9202 10303 2 56	13 2 / 42 4 24930 10440 11610 2 69	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating)	kg bar m l/h l/h " kPa kPa	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50	2 15,776 6,823 7,769 1 1/4 43 54	2 / 42 2 20000 8944 10456 1 1/4 60 80	2 / 42 2 20000 10802 12953 1 1/4 60 80		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57	13 2 / 42 4 24930 9202 10303 2 56 60	13 2 / 42 4 24930 10440 11610 2 69 77	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling)	kg bar m l/h l/h " kPa kPa kPa	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130	2 15,776 6,823 7,769 1 1/4 43 54 119	2 / 42 2 20000 8944 10456 1 1/4 60 80 112	2 / 42 2 20000 10802 12953 1 1/4 60 80 99		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97	13 2 / 42 4 24930 9202 10303 2 56 60 138	13 2 / 42 4 24930 10440 11610 2 69 77 120	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump	kg bar m l/h l/h kPa kPa kPa kPa	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113	2 15,776 6,823 7,769 1 1/4 43 54 119	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117 93	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97	13 2 / 42 4 24930 9202 10303 2 56 60 138 130	13 2 / 42 4 24930 10440 11610 2 69 77 120	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump Water content, excluding optionals	kg bar m l/h l/h " kPa kPa kPa kPa dm	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107 5.5	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133 5.5	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117 93 5.5	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump Water content, excluding optionals Expansion tank	kg bar m l/h l/h " kPa kPa kPa kPa dm dm	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107 5.5 8	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133 5.5	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117 93 5.5 8	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump Water content, excluding optionals Expansion tank Buffer tank	kg bar m l/h l/h " kPa kPa kPa kPa dm dm	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107 5.5 8	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5 8 125	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5 8	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7 8	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8 8		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133 5.5 8	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5 8	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117 93 5.5 8 125	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5 8 125	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8 8	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11 8	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8 125
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Water content, excluding optionals Expansion tank Buffer tank Height	kg bar m l/h l/h " kPa kPa kPa dm dm dm mm	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107 5.5 8 125 1485	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5 8 125 1485	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5 8 125	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7 8 125 1485	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8 8 125 1485		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133 5.5 8 125 1485	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5 8 125	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117 93 5.5 8 125 1485	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5 8 125 1485	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7 8 125 1735	13 2 / 42 4 24930 10440 11610 2 69 77 120 8 8 8 125 1735	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11 8 125 1735	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8 125 1735
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Water content, excluding optionals Expansion tank Buffer tank Height Length	kg bar m l/h l/h " kPa kPa kPa dm dm mm	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107 5.5 8 125 1485 1990	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5 8 125 1485 1990	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5 8 125 1485 1990	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7 8 125 1485 1990	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8 8 125 1485 1990		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133 5.5 8 125 1485 1990	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5 8 125 1485 1990	10.9 2 / 42 2 15,776 6,806 7,996 1 1/4 45 57 117 93 5.5 8 125 1485 1990	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5 8 125 1485 1990	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7 8 125 1735 2091	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8 8 8 125 1735 2091	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11 8 125 1735 2091	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8 125 1735 2091
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump Water content, excluding optionals Expansion tank Buffer tank Height Length Depth	kg bar m l/h l/h kPa kPa kPa kPa dm dm mm mm	7.5 2 / 42 2 16,276 5,421 6,120 11/4 51 63 126 107 5.5 8 125 1485 1990 950	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5 8 125 1485 1990 950	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5 8 125 1485 1990	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7 8 125 1485 1990 950	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8 8 125 1485 1990 950		7.8 2 / 42 2 16,276 5,160 5,935 11/4 30 39 150 133 5.5 8 125 1485 1990 950	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5 8 125 1485 1990 950	10.9 2 / 42 2 15,776 6,806 7,996 11/4 45 57 117 93 5.5 8 125 1485 1990 950	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5 8 125 1485 1990 950	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7 8 125 1735 2091 1183	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8 8 125 1735 2091 1183	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11 8 125 1735 2091 1183	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8 125 1735 2091 1183
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump Water content, excluding optionals Expansion tank Buffer tank Height Length Depth Sound power level	kg bar m //h //h " kPa kPa kPa dm dm dm mm mm dB(A)	7.5 2 / 42 2 16,276 5,421 6,120 1 1/4 51 63 126 107 5.5 8 125 1485 1990 950 73	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5 8 125 1485 1990 950 73	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5 8 125 1485 1990 950 75	2 / 42 2 20000 8944 10456 11/4 60 80 112 80 7 8 125 1485 1990 950 78	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8 8 125 1485 1990 950 78		7.8 2 / 42 2 16,276 5,160 5,935 1 1/4 30 39 150 133 5.5 8 125 1485 1990 950 72	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5 8 125 1485 1990 950 72	10.9 2 / 42 2 15,776 6,806 7,996 11/4 45 57 117 93 5.5 8 125 1485 1990 950 72	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5 8 125 1485 1990 950 72	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7 8 125 1735 2091 1183 81	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8 8 125 1735 2091 1183 81	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11 8 125 1735 2091 1183 81	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8 125 1735 2091 1183 81
Refrigerant charge High / low pressure switch No. of axial fans Air flow rate Flow rate cooling only Water flow rate heat pump mode Diameter of water connections Water pressure drop (cooling) Water pressure drop (heating) Available head (cooling) Available head heat pump Water content, excluding optionals Expansion tank Buffer tank Height Length Depth	kg bar m l/h l/h kPa kPa kPa kPa dm dm mm mm	7.5 2 / 42 2 16,276 5,421 6,120 11/4 51 63 126 107 5.5 8 125 1485 1990 950	2 / 42 2 16,276 6,021 6,756 1 1/4 41 50 130 113 5.5 8 125 1485 1990 950	2 15,776 6,823 7,769 1 1/4 43 54 119 99 5.5 8 125 1485 1990	2 / 42 2 20000 8944 10456 1 1/4 60 80 112 80 7 8 125 1485 1990 950	2 / 42 2 20000 10802 12953 1 1/4 60 80 99 61 8 8 125 1485 1990 950		7.8 2 / 42 2 16,276 5,160 5,935 11/4 30 39 150 133 5.5 8 125 1485 1990 950	7.8 2 / 42 2 16,276 5,857 6,779 1 1/4 38 51 134 112 5.5 8 125 1485 1990 950	10.9 2 / 42 2 15,776 6,806 7,996 11/4 45 57 117 93 5.5 8 125 1485 1990 950	10.9 2 / 42 2 15,776 7,663 9,067 1 1/4 57 73 97 67 5.5 8 125 1485 1990 950	13 2 / 42 4 24930 9202 10303 2 56 60 138 130 7 8 125 1735 2091 1183	13 2 / 42 4 24930 10440 11610 2 69 77 120 120 8 8 125 1735 2091 1183	2 / 1 19.5 2 / 42 4 24354 11782 13244 2 55 59 128 110 11 8 125 1735 2091 1183	2 / 1 19.5 2 / 42 4 24354 12831 14579 2 64 71 114 100 12 8 125 1735 2091 1183

^{*} Weights refer to model with pump and buffer tank
- Cooling capacity: outdoor air temperature 35°C, water temperature 12°C -7°C
- Cooling capacity: outdoor air temperature 7°C dry bulb and 6.2°C wet bulb, water temperature 40°C/45°C
- Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a clear field (fan side).



MCC AIR-COOLED WATER CHILLERS WITH CENTRIFUGAL FANS

The package air-cooled water chillers and cycle reversing heat pumps of the **MCC** series are designed to be installed indoors as part of residential or commercial duct systems.

Designed and developed for R410A refrigerant, the MCC series achieves exceptional levels of energy efficiency thanks to the optimisation of the heat exchangers in terms of plate type and distribution.

The design philosophy places a priority on compactness, "plug & play" solutions and easy access to all the components: the logic of the **PLUG&PLAY PLUMBING**, already in the **DNA** of the whole water line, is combined here with the innovative **PLUG&PLAY VENTILATION** philosophy. The continuously modulating adaptive control of the fan flow rate (pressostatic condensation control as a standard feature of all models making up the range) drastically reduces installation times.

PLUG & PLAY VENTILATION SYSTEM:

Automatic air flow adaptation based on:

- pressure drops in channels
- intake air temperature

A standard feature of all units is pressostatic condensation control which modulates, by means of a phase cut device, the number of fan revolutions depending on the pressure drops on the air side and the inlet air temperature. Air delivery can be configured vertically or horizontally (optional).

PLUG & PLAY WATER SYSTEM

To enable immediate application of MCC to the system, 3 different hydronic kits are available:

- B version: units with evaporator only.
- P version: units equipped with evaporator, electric pump and expansion tank
- S version: units equipped with evaporator, electric pump, expansion tank and inertial buffer tank.
- Mechanical Y filter (COMPULSORY) supplied as a standard feature on all models to protect the evaporator.

SIMPLIFIED MAINTENANCE

Direct coupling of the centrifugal fans to the electric motor without any pulleys or belts.

The technical / cooling compartment is completely separated from the fan compartment so that checks can be performed while the chiller is operating. Controller accessible from outside the unit.

MICROPROCESSOR CONTROL AND REGULATION

New generation, allows connection with ERGO

Possibility of connecting / changing the set-point of the unit based on the outdoor air temperature read by an ambient probe (optional).

The series features 10 models in cooling only version, and cooling capacity ranging from 6 to 37 kW, and 10 models with reversible heat pump, and heating capacity ranging from 6 to 41 kW.



ACCESSORIES AVAILABLE

- Refrigerant pressure gauges
- Antifreeze heating elements on the water circuit
- Electronic thermostatic valve
- Heat recovery (cooling only models)
- Special heat exchangers (copper-copper, cataphoresis, Blygold)
- Remote microprocessor or simplified control
- Base vibration dampers
- Metal grilles to protect exchangers
- Outlet connectors



	WATER CHILLERS RA	ATED TECHN	ICAL DATA				
MCC-C		06M	07M	09M	06	07	09
Power supply	V-ph-Hz		230-1-50			400-3-50	
Cooling capacity	kW	5,70	6,90	9,20	5,70	6,95	9,25
MCC CB Total power input	kW	2,61	3,18	4,83	2,58	3,04	4,63
MCC CP CS Total power input	kW	2,75	3,32	5,20	2,72	3,18	5,00
Maximum power input	kW	4	5	7	4	5	7
Maximum current absorption	A	17,1	19,1	33,6	7,5	9,5	17,4
Starting absorbed current	A	61,6	82,6	100,2	32,6	35,6	51,2
n° of scroll compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1
n° of axial fan		1	1	1	1	1	1
Air flow	m³/h	2.500	2.500	5.500	2.500	2.500	5.500
ASEP	Pa	91	85	140	91	85	135
Water flow	l/s	0,273	0,329	0,439	0,272	0,331	0,442
Water side pressure drop	kPa	4	4	36	4	5	36
Available pressure head	kPa	57	55	155	57	55	155
Diameter of hydrualic connections	п	1	1	1 1/4	1	1	1 1/4
Water content escluding optionals	dm ³	2,5	2,8	3,3	2,5	2,8	3,3
Expansion tank	dm ³	1	1	5	1	1	5
Buffer tank	dm ³	20	20	36	20	20	36
Height	mm	1.000	1.000	1.160	1.000	1.000	1.160
Length	mm	1.050	1.050	1.250	1.050	1.050	1.250
Width	mm	600	600	730	600	600	730
Sound power level	dB(A)	70	70	78	70	70	78
Sound pressure level	dB(A)	42	42	50	42	42	50
Transport weight *	kg	160	165	220	160	165	220
Operating weight *	kg	168	178	239	168	178	239

v	ATER CHILLE	RS RATED 1	ECHNICAL [DATA				
MCC-C		12	15	18	22	25	33	37
Power supply	V-ph-Hz		•	!	400-3-50		!	
Cooling capacity	kW	12,00	14,60	18,00	22,30	25,50	33,10	36,70
MCC CB Total power input	kW	5,73	6,43	7,53	8,93	12,05	14,85	16,25
MCC CP CS Total power input	kW	6,10	6,80	7,90	9,30	12,60	15,40	16,80
Maximum power input	kW	9	9	11	13	17	19	21
Maximum current absorption	А	19,4	20,4	23,2	25,2	28,4	34,6	38,2
Starting absorbed current	А	67,2	77,2	104,2	114,2	134,6	162,6	199,6
n° of scroll compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1	1/1
n° of axial fan		1	1	1	1	2	2	2
Air flow	m³/h	5.500	5.500	6.500	6.500	11.000	13.000	13.000
ASEP	Pa	130	120	120	110	125	95	90
Water flow	l/s	0,573	0,698	0,860	1,065	1,218	1,582	1,753
Water side pressure drop	kPa	39	56	38	45	48	41	38
Available pressure head	kPa	148	125	136	118	123	123	121
Diameter of hydrualic connections	"	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Water content escluding optionals	dm ³	4	4	4	5	6	7	8
Expansion tank	dm ³	5	5	5	5	8	8	8
Buffer tank	dm ³	36	36	96	96	155	155	155
Height	mm	1.160	1.160	1.210	1.210	1.400	1.400	1.400
Length	mm	1.250	1.250	1.650	1.650	2.250	2.250	2.250
Width	mm	730	730	800	800	800	800	800
Sound power level	dB(A)	78	78	79	79	80	82	82
Sound pressure level	dB(A)	50	50	51	51	52	54	54
Transport weight *	kg	228	240	295	301	405	430	440
Operating weight *	kg	248	260	375	381	546	572	583

^{*} Weights refer to model with pump and buffer tank
- Cooling capacity: outdoor air temperature 35°C, water temperature 12°C 7°C - Sound power measured according to standards ISO 3741 - ISO 3744 and EN 29614-1
- Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a clear field (fan side).



	HEAT PUMPS RAT	LD ILUMINIO	UF DVIV				1	1
МСС-Н		06M	07M	09M	06	07	09	_
Power supply	V-ph-Hz		230-1-50			400-3-50		1
Cooling capacity	kW	5,6	6,75	9	5,6	6,8	9,1	1
MCC HB Cooling power input	kW	2,61	3,18	4,83	2,58	3,04	4,63	
MCC HP - HS Cooling power input	kW	2,75	3,32	5,2	2,72	3,18	5	. ↓
Heating capacity	kW	6,4	7,75	10,2	6,4	7,65	9,95	<u> </u>
MCC HB Heating power input	kW	2,86	3,38	5,2	2,94	3,23	4,9	
MCC HP - HS Heating power input	kW	3	3,52	5,57	3,08	3,37	5,27	
Maximum power input	kW	4	5	7	4	5	7	<u> </u>
Maximum current absorption	A	17,1	19,1	33,6	7,5	9,5	17,4	
Starting absorbed current	A	61,56	82,6	100,2	32,6	35,6	51,2	1
n° of scroll compressor / circuits		1/1	1/1	1/1	1/1	1/1	1/1	4
n° of axial fan	2	1	1	1	1	1	1	1
Air flow	m³/h	2.500	2.500	5.500	2.500	2.500	5.500	₹
AESP	Pa	91	85	140	91	85	135	4
Water flow in cooling mode	l/s	0,267	0,323	0,431	0,267	0,325	0,433	. ↓
Water flow in heat pump	l/s	0,306	0,369	0,488	0,308	0,365	0,477	4
Water pressure drop (cooling)	kPa	4	4,3	34,6	4	4,3	34,9	4
Water pressure drop (heating)	kPa	5,1	5,4	42	5,1	5,4	42	<u> </u>
Available pressure head (cooling)	kPa	57,4	55,5	156,7	57,4	55,4	156,4	1
Available pressure head (heating)	kPa	55,2	52,9	145,4	55	53,2	147,7	4
Diameter of hydrualic connections	"	1	1	1 1/4	1	1	1 1/4	
Water content escluding optionals	dm ³	2,5	2,8	3,3	2,5	2,8	3,3	<u> </u>
Expansion tank	dm ³	1	1	5	1	1	5	
Buffer tank	dm ³	20	20	36	20	20	36	
Height	mm	1.000	1.000	1.160	1.000	1.000	1.160	<u> </u>
Length	mm	1.050	1.050	1.250	1.050	1.050	1.250	. ↓
Width	mm	600	600	730	600	600	730	╛
Sound power level	dB(A)	70	70	78	70	70	78	
Sound pressure level	dB(A)	42	42	50	42	42	50	<u> </u>
Transport weight *	kg	170	180	240	170	180	240	<u>↓</u>
Operating weight *	kg	173	183	260	173	183	260	
	HEAT PUMPS	S RATED TE	CHNICAL DA	TA				
MCC-H		12	15	18	22	25	33	3
Power supply	V-ph-Hz			<u> </u>	400-3-50	<u> </u>	<u> </u>	
Cooling capacity	kW	11,70	14,30	17,60	21,80	25,00	32,40	35
MCC HB Cooling power input	kW	5,73	6,43	7,53	8,93	12,05	14,85	16
MCC HP - HS Cooling power input	kW	6,10	6,80	7,90	9,30	12,60	15,40	16
Heating capacity	kW	13,10	15,50	19,20	23,80	28,20	36,36	40
MCC HB Heating power input	kW	6,10	6,72	7,73	9,23	12,35	15,25	16
MCC HP - HS Heating power input	kW	6,47	7,09	8,12	9,57	12,85	15,75	17
Maximum power input	kW	9	9	11	13	17	19	1 2
Maximum current absorption	A	19,4	20,4	23,2	25,2	28,4	34,6	3
Starting absorbed current	A	67,2	77,2	104,2	114,2	134,6	162,6	19
n° of scroll compressor / circuits		1/1	1/1	1/1	1/1	1/1	1/1	1
n° of axial fan		1	1	1	1	2	2	
Air flow	m³/h	5.500	5.500	6.500	6.500	11.000	13.000	13
AESP	Pa	130	120	120	110	125	95	
Water flow in cooling mode	l/s	0,561	0,684	0,843	1,043	1,194	1,550	1,
	,,,	0,626	0,743	0,920	1,138	1,349	1,729	1,
<u> </u>	1/9		3,1 10	3,520				_
Water flow in heat pump	l/s kPa		54	37	44	46	39	1
Water flow in heat pump Water pressure drop (cooling)	kPa	37	54 63	37 44	44 51	46 58	39 48	
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating)	kPa kPa	37 46	63	44	51	58	48	
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling)	kPa kPa kPa	37 46 150	63 128	44 138	51 121	58 125	48 125	1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating)	kPa kPa	37 46 150 139	63 128 116	44 138 128	51 121 107	58 125 111	48 125 112	1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections	kPa kPa kPa kPa "	37 46 150 139 1 1/4	63 128 116 1 1/4	44 138 128 1 1/4	51 121 107 1 1/4	58 125 111 1 1/4	48 125 112 1 1/4	1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals	kPa kPa kPa kPa " dm ³	37 46 150 139 1 1/4	63 128 116 1 1/4 4	44 138 128 1 1/4 4	51 121 107 1 1/4 5	58 125 111 1 1/4 6	48 125 112 1 1/4 7	1 1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank	kPa kPa kPa kPa " dm ³ dm ³	37 46 150 139 1 1/4 4 5	63 128 116 1 1/4 4 5	44 138 128 1 1/4 4 5	51 121 107 1 1/4 5	58 125 111 1 1/4 6 8	48 125 112 1 1/4 7 8	1 1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank Buffer tank	kPa kPa kPa kPa " dm³ dm³ dm³	37 46 150 139 1 1/4 4 5	63 128 116 1 1/4 4 5 36	44 138 128 1 1/4 4 5 96	51 121 107 1 1/4 5 5 96	58 125 111 1 1/4 6 8 155	48 125 112 1 1/4 7 8 155	1 1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank Buffer tank Height	kPa kPa kPa kPa " dm³ dm³ dm³	37 46 150 139 1 1/4 4 5 36 1.160	63 128 116 1 1/4 4 5 36 1.160	44 138 128 1 1/4 4 5 96 1.210	51 121 107 1 1/4 5 5 96 1.210	58 125 111 1 1/4 6 8 155 1.400	48 125 112 1 1/4 7 8 155 1.400	1
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank Buffer tank Height Length	kPa kPa kPa kPa kPa dm³ dm³ dm³ mm	37 46 150 139 1 1/4 4 5 36 1.160 1.250	63 128 116 1 1/4 4 5 36 1.160 1.250	44 138 128 1 1/4 4 5 96 1.210 1.650	51 121 107 1 1/4 5 5 96 1.210 1.650	58 125 111 1 1/4 6 8 155 1.400 2.250	48 125 112 1 1/4 7 8 155 1.400 2.250	1 1 1 1 1 1 2 2
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank Buffer tank Height Length Width	kPa kPa kPa kPa kPa dm³ dm³ dm³ mm mm	37 46 150 139 1 1/4 4 5 36 1.160 1.250 730	63 128 116 1 1/4 4 5 36 1.160 1.250 730	44 138 128 1 1/4 4 5 96 1.210 1.650 800	51 121 107 1 1/4 5 5 96 1.210 1.650 800	58 125 111 1 1/4 6 8 155 1.400 2.250 800	48 125 112 1 1/4 7 8 155 1.400 2.250 800	1 1 1 1 1 1. 2. 8
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank Buffer tank Height Length Width Sound power level	kPa kPa kPa kPa kPa dm³ dm³ dm³ dm³ dm³ dm³	37 46 150 139 1 1/4 4 5 36 1.160 1.250 730 78	63 128 116 1 1/4 4 5 36 1.160 1.250 730 78	44 138 128 1 1/4 4 5 96 1.210 1.650 800 79	51 121 107 1 1/4 5 5 96 1.210 1.650 800 79	58 125 111 1 1/4 6 8 155 1.400 2.250 800	48 125 112 1 1/4 7 8 155 1.400 2.250 800 82	1 1 1 1 1 2 8
Water flow in heat pump Water pressure drop (cooling) Water pressure drop (heating) Available pressure head (cooling) Available pressure head (heating) Diameter of hydrualic connections Water content escluding optionals Expansion tank Buffer tank Height Length Width Sound power level Sound pressure level Transport weight *	kPa kPa kPa kPa kPa dm³ dm³ dm³ mm mm	37 46 150 139 1 1/4 4 5 36 1.160 1.250 730	63 128 116 1 1/4 4 5 36 1.160 1.250 730	44 138 128 1 1/4 4 5 96 1.210 1.650 800	51 121 107 1 1/4 5 5 96 1.210 1.650 800	58 125 111 1 1/4 6 8 155 1.400 2.250 800	48 125 112 1 1/4 7 8 155 1.400 2.250 800	3 4 4 12 10 11 1 1 1 1 1 1 1 1 2 2 2 2 8 8 8 8 8 8

245

265

kg

250

270

310

388

Transport weight *

Operating weight *

342

436

450

601

475

627

485

638

^{*} Weights refer to model with pump and buffer tank

⁻ Cooling capacity: outdoor air temperature 35°C, water temperature 12-7°C - Heating capacity: outdoor air temperature 7°C dry bulb and 6.2°C wet bulb,

Heating capacity: outdoor air temperature 7°C dry bulb and 6.2°C wet bulb water temperature 40°C/45°C

⁻ Sound power measured according to standards ISO 3741 - ISO 3744 and EN 29614-1 $\,$

⁻ Sound pressure measured at a distance of 10 m and a height of $\,$ 1.5 m above the ground in a clear field (fan side)



MCW WATER-COOLED CHILLERS AND HEAT PUMPS

MCW chillers, heat pumps and motor-driven evaporating units are designed for residential and light-duty commercial applications and in some cases for industrial applications with 24 h/day operation. **MCW** chillers are available in a completely enclosed version for a low noise operation, thanks to the use of scroll-type compressors.

Thanks to their compact dimensions, the pre-assembled hydraulic components and their attractive design, they are suitable for a variety of environments and do not need to be installed in dedicated rooms.

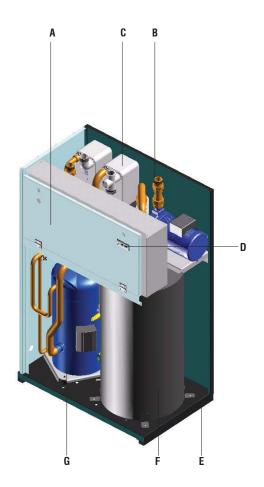
The design philosophy has favoured the development of units having a reduced height with water or cooling (MCR) connections from above and pre-assembled piping system, which reduce installation time and costs and the need for technical space.

The large number of sizes making up the series and the available accessories allow a broad range of possible configurations, which make the **MCW** series an ideal solution for speeding up installation on the building site.

Only top quality components are used for the cooling, hydraulic and electric systems guaranteeing high technical level of the **MCW** chillers in terms of efficiency, reliability and reduced noise levels.

All the units are available in single circuit configurations.

The mechanical Y filter is COMPULSORY on all models to protect the heat exchangers (user side, dissipator side).





- A The electric control board is constructed and wired in accordance with EEC Directive 72/23, Directive 89/336 on electromagnetic compatibility and related standards.
- **B** All the units have plumbing connections upwards, thus contributing to a considerable reduction of the minimum clearance for installation and maintenance operations. A water flow control device is available upon request. In addition to this device an outlet water temperature sensor is available, that performs the function of an antifreeze thermostat.
- Only heat exchangers with stainless steel braze-welded plates are used.
- **D** Microprocessor control; the Basic version featured on standard models is a μ Chiller controller.
- Painted galvanised sheet steel supporting base The enclosing panels made of galvanised sheet steel coated with epoxy polyester powder (RAL 7035) contribute to an attractive design suitable for installations in residential environments.
- F On request the units can be equipped with an electric pump and buffer tank incorporated in the unit itself; the tank is installed at the plumbing outlet on the user side.
- **G** Only Scroll-type compressors are used in all **MCW** units.



	RATED TE	CHNICAL DA	TA of MCW C	water chille	rs			
MCW - CS / CL		005 M	005	007 M	007	010 M	010	012
Cooling capacity	kW	5,55	5,50	7,04	7,00	9,90	9,90	12,20
Rated input power	kW	1,32	1,30	1,74	1,70	2,34	2,30	2,75
Rated current absorption	A	6,26	3,17	8,27	3,47	11,21	4,71	6,70
Power supply	V-ph-Hz	230-1-50	400-3-50 + N	230-1-50	400-3-50 + N	230-1-50	400-3-50 + N	400-3-50 +
Maximum absorbed current	A	12	4,2	15	5,1	23,1	7	10
Inrush current	A	47	24	61	32	100	46	50
Evaporator water flow rate	l/h	954	946	1.211	1.203	1.703	1.704	2.098
Pressure drops, evaporator side	kPa	28	27	31	31	27	27	31
Condenser water flow rate	l/h	390	386	498	494	695	693	849
Pressure drops - condenser side	kPa	4	4	6	6	5	5	7
Scroll compressors / cooling circuits	No.	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Water content in user section	dm ³	2,1	2,1	2,1	2,1	2,6	2,6	2,6
Pump available head (option)	kPa	77	78	68	69	60	60	124
Pump electrical output (option)	kW	0,25	0,25	0,25	0,25	0,25	0,25	0,33
Buffer tank (option)	dm ³	47	47	47	47	47	47	92
Water connections GAS type		1"	1"	1"	1"	1"	1"	1" 1/2
Height	mm	830	830	830	830	830	830	1.270
Length	mm	705	705	705	705	705	705	812
Depth	mm	453	453	453	453	453	453	508
Standard unit weight	kg	103	103	106	106	108	108	118
MCW-CS: Sound power level	dB(A)	55	55	55	55	59	59	61
MCW-CL: Sound power level	dB(A)	53	53	53	53	57	57	59
·	RATED TE	CHNICAL DA	TA of MCW C	water chille	rs			
MCW - CS / CL		015	018	020	022	027	031	039
Cooling capacity	kW	14,90	17,80	20,20	21,90	26,90	31,20	38,70
Rated input power	kW	3,40	3,95	4,40	4,90	6,30	7,20	8,90
Rated current absorption	A	8,58	9,39	11,22	12,04	15,56	18,12	21,10
Power supply	V-ph-Hz	3,55	5,55	,	400-3-50 + N	.0,00	.5,.2	2.,.0
Maximum absorbed current	A	13	14	16	17	20	29	32
Inrush current	A	66	74	101	98	130	130	135
Evaporator water flow rate	l/h	2.562	3.062	3.458	3.766	4.627	5.367	6.656
Pressure drops, evaporator side	kPa	27	30	26	29	26	29	28
Condenser water flow rate	I/h	1.039	1.235	1.392	1.522	1.885	2.181	2.703
Pressure drops - condenser side	kPa	4	6	5	6	5	7	7
Scroll compressors / cooling circuits	No.	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Water content in user section	dm ³	3,1	3,1	3,6	3,6	3,9	4,3	4,6
Pump available head (option)	kPa	113	92	135	125	106	82	129
Pump electrical output (option)	kW	0,33	0,33	0,45	0,45	0,45	0,45	0,75
Buffer tank (option)	dm ³	92	92	92	92	92	92	92
Water connections GAS type	uill	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2
Height	mm	1.270	1.270	1.270	1.270	1.270	1.270	1.270
Length	mm	812	812	812	812	812	812	812
Depth	mm	508	508	508	508	508	508	508
Standard unit weight	kg	121	125	167	203	210	219	233
MCW-CS: Sound power level	dB(A)	61	61	61	62	62	65	65
morr oo. ooung power rever	αD(Λ)	υı	J I	υı	UL	UL	00	

18



	RATED T	ECHNICAL D	ATA of MCW H	heat pumps				
MCW - HS / HL		005 M	005	007 M	007	010 M	010	012
Cooling capacity	kW	5,30	5,30	6,80	6,80	9,60	9,60	11,80
Rated input power in cooling mode	kW	1,32	1,30	1,74	1,70	2,34	2,30	2,75
Rated current absorption in cooling mode	А	6,26	2,62	8,27	3,47	11,21	4,71	5,63
Evaporator water flow rate	l/h	911	911	1.170	1.169	1.651	1.651	2.029
Pressure drops, evaporator side	kPa	25	25	29	29	25	25	29
Condenser water flow rate	l/h	376	375	485	482	678	675	826
Pressure drops – condenser side	kPa	4	4	6	6	4	4	6
Heating capacity	kW	6,02	5,9	7,75	7,6	10,8	10,6	13,1
Rated input power in heating mode	kW	1,67	1,64	2,19	2,14	2,96	2,9	3,47
Rated current absorption in heating mode	A	8,51	3,28	11,51	4,44	15,63	5,99	7,05
Condenser water flow rate	l/h	1.035	1.015	1.334	1.307	1.858	1.823	2.254
Pressure drops – condenser side	kPa	30	29	45	43	32	31	47
Power supply	V-ph-Hz	230-1-50	400-3-50 + N	230-1-50	400-3-50 + N	230-1-50	400-3-50 + N	
Maximum absorbed current	A	12	4,2	15	5,1	23,1	7	10
Inrush current	A	47	24	61	32	100	46	50
Scroll compressors / cooling circuits	No.	1	1	1	1	1	1	1
Water content in user section	dm ³	2,1	2,1	2,1	2,1	2,6	2,6	2,6
Pump available head (option)	kPa kW	91	92 0,25	0.25	85 0.25	78 0,25	79 0,25	148
Pump electrical output (option)	dm ³	0,25 47	0,25 47	0,25 47	0,25 47	47	0,25 47	0,33 92
Buffer tank (option)	am	1"	1"	1"	1"	1"	1"	1" 1/2
GAS water connections Height	mm	830	830	830	830	830	830	1.270
Length	mm	705	705	705	705	705	705	812
Depth	mm	453	453	453	453	453	453	508
Standard unit weight	kg	106	106	109	109	112	112	123
MCW-HS: Sound power level	dB(A)	55	55	55	55	59	59	61
MCW-HL: Sound power level	dB(A)	53	53	53	53	57	57	59
INOV TIE. COURT POWER REVER	\`		ATA of MCW H			- 01	, or	
MCW - HS / HL		015	018	020	022	027	031	039
Cooling capacity	l kW	14,50	17,30	20.10	21,20	26,10	30.30	37.50
Rated input power in cooling mode	kW	3,40	3,89	4,40	4,90	6,30	7,20	8,90
Rated current absorption in cooling mode	A	7,43	7,37	9,37	10,20	13,15	15,23	17,38
Evaporator water flow rate	l/h	2.494	2.976	3.458	3.647	4.489	5.212	6.450
Pressure drops, evaporator side	kPa	26	28	26	27	24	27	26
Condenser water flow rate	l/h	1.016	1.204	1.392	1.483	1.840	2.130	2.635
Pressure drops – condenser side	kPa	4	6	5	6	5	7	7
Heating capacity	kW	16	19,2	21,6	23,59	29	33,6	41,7
Rated input power in heating mode	kW	4,28	4,91	5,5	6,2	7,9	9,1	11,2
Rated current absorption in heating mode	А	8,95	9,88	11,89	12,63	16,34	19,04	22,34
Condenser water flow rate	l/h	2.751	3.303	3.715	4.058	4.989	5.779	5.343
Pressure drops – condenser side	kPa	13	46	37	46	38	50	18
Power supply	V/Ph/Hz				400-3-50 + N			
Maximum absorbed current	A	66	14	16	17	20	29	32
Inrush current	A	31	74	101	98	130	130	135
Scroll compressors / cooling circuits	No.	1	1	1	1	1	1	1
Plate evaporator	No.	1	1	1	1	1	1	1
Plate condenser	No.	1	1	1	1	1	1	1
Water content in user section	dm ³	3,1	3,1	3,6	3,6	3,9	4,3	4,6
Pump available head (option)	kPa	148	140	122	158	151	139	149
Pump electrical output (option)	kW	0,33	0,33	0,45	0,45	0,45	0,45	0,75
Buffer tank (option)	dm ³	92	92	92	92	92	92	92
Water connections GAS type		1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2
Height	mm	1.270	1.270	1.270	1.270	1.270	1.270	1.270
Length	mm	812	812	812	812	812	812	812
Depth Standard unit weight	mm	508	508	508	508	508	508	508
Standard unit weight MCW-HS: Sound power level	kg dP(A)	125 55	132 55	175 55	209 55	221 59	236 59	247
	dB(A)	53	53	53	53	57	57	61 59
MCW-HL: Sound power level	dB(A)	აა	Jo	JJ	აა	JI	JI	วช

Cooling capacity refers to the following conditions: water temperature at evaporator 12/7°C – water temperature at condenser 15 - 30°C Heating capacity: water temperature at evaporator 15°C, water temperature at condenser 40 - 45°C. Sound power measured according to standards ISO 3741 - ISO 3744 and EN 29614-1



MCR CONDENSERLESS WATER CHILLERS IN STANDARD AND LOW NOISE VERSIONS

MCR condenserless water chillers derived from the MCW range of water-condensed chillers and are offered in standard and low-noise versions for cooling only.

The numerous optional features available to complete the units include remote condensers with vertical or horizontal flow axial fans in standard and low-noise versions and a heat recovery system (with desuperheater).

The mechanical Y filter is COMPULSORY on all models to protect the heat exchangers (user side).



R	ATED TECHNICAL DATA	A OF MCR C	MOTOR DRIVE	N EVAPORA	TING UNITS			
MCR - CS / CL		005 M	005	007 M	007	010 M	010	012
Cooling capacity	kW	4,8	4,8	6,2	6,2	8,6	8,6	10,76
Rated input power	kW	1,63	1,6	2,16	2,1	2,96	2,9	3,5
Rated current absorption	A	7,63	2,96	9,99	3,77	13,84	5,36	6,3
Power supply	V-ph-Hz	230-1-50	400-3-50 + N	230-1-50	400-3-50 + N	230-1-50	400-3-50 + N	400-3-50 + N
Maximum absorbed current	A	12	4,2	15	5,1	23,1	7	10
Inrush current	A	47	24	61	32	100	46	50
Evaporator water flow rate	l/h	825	825	1.066	1.067	1.478	1.480	1.851
Pressure drops, evaporator side	kPa	26	26	30	30	26	26	30
Scroll compressors / cooling circuits	No.	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Plate evaporator	No.	1	1	1	1	1	1	1
Water content in user section	dm ³	2,1	2,1	2,1	2,1	2,6	2,6	2,6
Pump available head (option)	kPa	81	81	72	72	67	67	133
Pump electrical output (option)	kW	0,25	0,25	0,25	0,25	0,25	0,25	0,33
Buffer tank (option)	dm ³	47	47	47	47	47	47	92
Height	mm	830	830	830	830	830	830	1.270
Length	mm	705	705	705	705	705	705	812
Depth	mm	453	453	453	453	453	453	508
MCR-CS: Sound power level	dB(A)	55	55	55	55	59	59	61
MCR-CL: Sound power level	dB(A)	53	53	53	53	57	57	59
R	ATED TECHNICAL DATA	A OF MCR C	MOTOR DRIVE	N EVAPORA	TING UNITS		•	
MCR - CS / CL		015	018	020	022	027	031	039
Cooling capacity	kW	13	15,6	17,6	19,2	23,5	27,3	33,9
Rated input power	kW	4,3	5	5,6	6,2	8	9,1	11,2
Rated current absorption	A	8,39	8,85	10,76	11,52	15,04	16,96	19,97
Power supply	V-ph-Hz				400-3-50 + N			
Maximum absorbed current	A	13	14	16	17	20	29	32
Inrush current	A	66	74	101	98	130	130	135
Evaporator water flow rate	l/h	2.236	2.683	3.028	3.302	4.042	4.695	5.831
Pressure drops, evaporator side	kPa	26	29	26	29	26	29	28
Scroll compressors / cooling circuits	No.	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Plate evaporator	No.	1	1	1	1	1	1	1
Water content in user section	dm ³	3,1	3,1	3,6	3,6	3,9	4,3	4,6
Pump available head (option)	kPa	125	107	145	136	122	101	136
Pump electrical output (option)	kW	0,33	0,33	0,45	0,45	0,45	0,45	0,75
Buffer tank (option)	dm ³	92	92	92	92	92	92	92
Height	mm	1.270	1.270	1.270	1.270	1.270	1.270	1.270
Length	mm	812	812	812	812	812	812	812
Depth	mm	508	508	508	508	508	508	508
MCR-CS: Sound power level	dB(A)	61	61	61	62	62	62	65
MCR-CL: Sound power level	dB(A)	59	59	59	60	60	60	63



COMPACT REVERSIBLE AIR/WATER HEAT PUMPS

REFRIGERANT: R410A

EXTREMELY LOW NOISE LEVELS

LOW DIMENSIONS

- 1190 x 340 x 735 mm
- 1190 x 340 x 1235 mm

TOP QUALITY COMPONENTS

INTEGRATED HYDRONIC MODULE:

- 3 speed circulation pump
- Expansion tank
- Safety valve
- Air vent valves
- Pressure gauges
- Hydraulic filter

FUNCTIONS OF THE CONTROL SYSTEM

- Reduction in minimum volume of water in the system
- Condensation pressure regulation
- Automatic control of the circulation pump (antifreeze function, antiseizure function)
- Defrost regulation according to the outdoor temperature
- Management of alarms with recording of events
- External communication via a serial interface (Modbus protocol)

OTHER ADVANTAGES

- Easy access to components
- Keypad/display on front panel
- Partition between the fan and technical compartment
- Removable control panel to permit a larger opening
- Rigorous control of production: tightness test of the cooling circuit, electric, dielectric test, water circuit test, etc.

STANDARD EQUIPMENT:

- Single-phase start-up kit (MSHRT 7/9/12 single-phase)
- Water flow control
- Proportional "four-season" adjustment
- Low pressure switch
- High pressure switch
- Water filter (to be connected)
- Integrated hydronic module



HEATING AND COOLING

Rated water temperature in heating mode $40/45^{\circ}$ C Rated water temperature in cooling mode $7/12^{\circ}$ C

OPERATING LIMITS

 $\begin{array}{ll} \hbox{Outdoor air temperature:} & -16^{\circ}\hbox{C in heating mode,} \\ & +43^{\circ}\hbox{C in cooling mode} \\ \hbox{Maximum water outlet temperature:} & +55^{\circ}\hbox{C in heating mode} \end{array}$

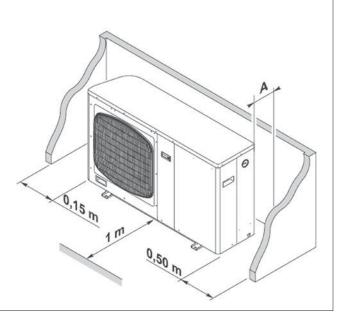


	TECH	INICAL DA	TA of MSHRT heat	t pumps						
MODE	L		MSHRT 075	MSHRT 095	MSHRT 125	MSHRT 127				
Power s	supply		230/1/50	230/1/50	230/1/50	400/3//50				
	Conditions: inlet/outlet water temper	ature 40/45°	°C, inlet air tempera	ture 7/6° C (D.B./W.	B.); net values; EN 1	4511-2				
	Rated heating capacity	kW	7,2	9,17	10,5	12,4				
	Rated input power	kW	2,65	3,19	3,62	4,06				
	C.O.P	kW/kW	2,72	2,87	2,9	3,05				
	Nominal water flow rate	m³/h	1,19	1,58	1,87	2,16				
	Pump available head	kPa	57	47	66	53				
	Conditions: inlet/outlet water temper	ature */45° (C, inlet air temperatu	re -7/-8° C (D.B./W.	B.); net values; EN 1	4511-2				
	Rated heating capacity	kW	4,6	5	5,88	6,8				
. 5	Rated input power	kW	2,87	3,23	3,77	4,25				
Ĭ	C.O.P	kW/kW	1,6	1,55	1,56	1,6				
HEATING	Conditions: inlet/outlet water tempe	rature */55°	C, inlet air temperat	ure 7/6° C (D.B./W.B	3.); net values; EN 14	1511-2				
_	Rated heating capacity	kW	6	8,25	9,38	11,7				
	Rated input power	kW	3,04	3,75	4,04	4,73				
	C.O.P	kW/kW	1,97	2,17	2,32	2,47				
	Conditions: inlet/outlet water temperature 40/45° C, inlet air temperature 7/6° C (D.B./W.B.); gross values; Eurovent									
	Rated heating capacity	kW	7,25	9,24	10,65	12,5				
	Rated input power	kW	2,56	3,12	3,48	4,1				
	C.O.P	kW/kW	2,83	2,96	3,06	3,05				
	Conditions: inlet/outlet water ter	nperature 30	/35° C, inlet air tem	perature 7/6° C (D.B	./W.B.); net values; l	Ref.				
	C.O.P	kW/kW	3,42	3,41	3,66	3,84				
	Conditions: inlet/outlet water te	mperature 12	2/7° C, inlet air temp	erature 35° C (D.B.);	gross values; Eurov	ent				
G	Rated cooling capacity	kW	5,90	7,10	8,56	9,00				
COOLING	Rated input power	kW	2,55	3,14	3,33	3,73				
90	E.E.R.	kW/kW	2,31	2,26	2,57	2,41				
_	Water flow rate	m³/h	1,01	1,22	1,48	1,51				
	Pump available head	kPa	64	59	82	80				
	refrigerant		R410A	R410A	R410A	R410A				
Number	of cooling circuits	no.	1	1	1	1				
Nbr of c	ompressors	no.	1	1	1	1				
Starting	current	Α	40	33	34	56				
Expansi	on tank	I	2	2	2	2				
Diamete	r of male water connection		3/4"	3/4"	1"	1"				
Sound p	ower level	dBA 65 65 67 6		67						
Min/max	water content of system	Ī	30/60	40/90	50/90	50/90				
Net dim	ensions (H/L/D)	mm	735x1190x340	735x1190x340	1235x1190x340	1235x1190x340				
Net weigh	ght	kg	98	98	128	128				

CLEARANCE REQUIREMENTS

A 150 mm for models 075 and 095 250 mm for models 125 and 127

This dimension does not take into account configurations including the installation of a hydraulic filter with two isolation valves positioned straight behind the unit: allow for 0.30 metres.





AIR-COOLED CONDENSING UNITS

To be used in systems in two sections, MTE units can be combined with DX exchanger coils of air handling units.

MTE outdoor condensing units were developed on the basis of the MPE and LCE series and offer a high level of efficiency combined with extremely low noise levels.

They are supplied complete with:

- > Shut-off valves on the liquid and gas line
- > Heating element on the compressor crankcase to prevent oil from being diluted during off cycles
- > Nitrogen precharge under pressure
- > Schrader valves for pressure-controlled charging operations
- > Humidity and liquid flow indicator mounted so as to be visible from the outside with no need to remove the panels
- Electrical control panel with microprocessor controller accessible from the outside and low-voltage output for dry-contact thermostatic control of the unit, external disconnect switch, phase sequence control, compressor protection, compressor start-up time delay device.



				Techr	nical da	ata of N	/ITE co	ndensi	ng unit	S						
MTE-C		005 M	007 M	009 M	009	010 M	010	012	013	015	018	021	024	029	033	038
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	400-3N-50	230-1-50	400-3N-50		400-3N-50							
Cooling capacity	kW	5,40	7,11	9,12	9,15	9,60	9,58	12,15	13,43	15,26	18,42	20,79	24,41	29,26	32,95	37,70
Total power input	kW	1,72	2,30	3,34	3,15	3,36	3,36	4,42	4,43	5,48	6,65	7,50	8,42	9,88	11,45	12,27
EER		3,15	3,10	2,73	2,91	2,86	2,85	2,75	3,03	2,78	2,77	2,77	2,90	2,96	2,88	3,07
Maximum power input	kW	2,4	3,1	4,1	4,1	4,5	4,6	5,9	5,9	6,9	8,6	9,3	10,7	14,0	15,9	17,4
Maximum current absorbed	Α	12,2	15,7	20	7,4	22,8	8,6	10,8	10,9	12,5	16,9	18	20,4	28,18	31,44	34,01
Startying ampere	Α	63	63	63	45	97	48	63	63	66	73	102	102	130	163	158
n° of scroll compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Rated amount of refrigerant requested	kg	1,5	2	2	2	2,3	2,3	2,3	3	3	3,8	3,8	4,1	3,6	4,0	5,5
High/low pressure switch	bar	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42
n° of axial fans		1	1	1	1	2	2	2	2	2	2	2	2	4	4	4
Air flow	m³/h	3.635	3.406	3.406	3.406	6.686	6.686	6.686	5.986	5.986	11.940	11.940	11.460	21.500	21.500	19.700
Gas line connection	mm	16	16	16	16	22	22	22	22	22	28	28	28	32	32	32
Liquid line connection	mm	10	10	10	10	12	12	12	12	12	16	16	16	16	16	16
Height	mm	758	758	758	758	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.275	1.275	1.275
Lenght	mm	960	960	960	960	1.220	1.220	1.220	1.220	1.220	1.220	1.220	1.220	1.565	1.565	1.565
Width	mm	450	450	450	450	550	550	550	550	550	550	550	550	601	601	601
Sound Power level	dB(A)	67	67	67	67	69	69	69	70	70	77	77	77	80	80	80
Sound pressure level	dB(A)	39	39	39	39	41	41	41	42	42	49	49	49	52	52	52
Liquid Receiver (option)	dm ³	1,3	1,3	1,3	1,3	4,2	4,2	4,2	4,2	4,2	4,2	4,2	4,2	7,8	7,8	7,8
Weights	kg	72	85	94	94	165	165	168	170	170	175	190	204	230	239	259
MTE-C	g	042	053	059	066	074	082	096	108	129	142	163	169	193	214	
Power supply	V-ph-Hz	400-3N-50														
Cooling capacity	kW	42,29	52,95	58,5	66	73,74	82,05	96,21	107,72	128,74	141,95	163,41	169,06	192,59	213,66	
Total power input	kW	13,45	16,21	18,22	21,27	23,64	27.77	32,93	38,42	40.95	45,95	57,86	55,88	66.2	78,47	İ
EER		3,14	3,27	3,21	3,1	3,12	2,95	2,92	2,8	3,14	3,09	2,82	3,03	2,91	2,72	ĺ
Maximum power input	kW	19,2	24,4	26,3	30,1	33,2	37,9	43,4	49,8	54,9	60,1	74,5	75,6	85,4	100,6	İ
Maximum current absorbed	Α	35,8	45,8	49,2	55.7	60.8	68.8	80.8	90.5	103,3	112,5	136,5	137,1	155.0	174,3	ĺ
Startying ampere	A	160	167	170	180	195	214	238	276	303	311	382	251	305	322	İ
n° of scroll compressors / circuits		1/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	4/2	4/2	4/2	1
Rated amount of refrigerant requested	kg	7,0	10	10	12	10.3	13,8	13,8	18	20	22,8	29,5	32	30	32	İ
High/low pressure switch	bar	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	2/42	
n° of axial fans	Dui	2	4	4	4	4	4	6	6	8	8	8	6	6	6	
Air flow	m³/h	21.230		24.930	24.930	24.354			36.180	46.839	46.839		65.223	65.223		1
Gas line connection	mm	35	35	35	35	35	35	42	42	42	42	42	54	54	54	
Liquid line connection	mm	16	22	22	22	22	22	28	28	28	28	28	28	28	28	1
Height	mm	1.485	1.720	1.720	1.720	1.720	1.720	1.720	1.720	1.720	1.720	1.720	1.830	1.830	1.830	
Lenght	mm	1.990	2.010	2.010	2.010	2.010	2.010	2.360	2.360	3.190	3.190	3.190	3.540	3.540	3.540	ł
Width	mm	950	1.185	1.185	1.185	1.185	1.185	1.185	1.185	1.185	1.185	1.185	1.654	1.654	1.654	
Sound Power level	dB(A)	82	76	76	76	77	80	82	82	82	82	83	83	84	84	
Sound pressure level	dB(A)	54	48	48	48	49	52	54	54	54	54	55	55	56	56	
Liquid Receiver (option)	dm ³	10	10	10	10	10	10	8	8	12	12	12	12	12	12	
Weights	ka	360	525	530	540	570	650	730	730	1010	1055	1085	1330	1460	1470	
vveignis	кy	1 300	1 323	1 330	340	1 3/0	000	130	130	1010	1 1000	1000	1330	1400	14/0	J

⁻ Cooling capacity: outdoor air temperature 35°C, evaporation temperature 5°C

⁻ Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a clear field (fan side).

dedicated heat pumps solutions HIWARM
MCP
DHW TANKS
LCP
MSHTJ

EMC



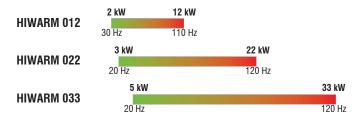
HIGH EFFICIENCY TOTAL HEAT RECOVERY MULTI-PURPOSE MODULATING SYSTEM

- > SPLIT VERSION
- > HEATING
- > COOLING
- > DEHUMIDIFICATION
- > DOMESTIC HOT WATER
- > USING RENEWABLE HEATING SOURCES
- > MAXIMUM ENERGY EFFICIENCY
- > TOTAL HEAT RECOVERY
- > INTEGRATED HYDRONIC SYSTEM
- > TOTAL SAFETY

HiWarm is a multi-purpose total condensation heat recovery split heat pump.

Exchanging heat with external air enables the room to be conditioned and to produce hot water for sanitary purposes without the use of electric elements. During summer time the cooling system is capable of producing hot water and chilled water simultaneously.

There are 3 sizes available, classified on the basis of cooling capacity to be delivered at the maximum power frequency of the compressor.









The characteristics shared by all 3 sizes of HiWarm units can be summed up as follows:

- Indoor unit where the compressor is housed so as both to reduce outdoor noise emissions and allow the construction of a lightweight outdoor unit that can be positioned above the ground with simple brackets.
- Remote dissipator where the coil and the fans are housed. It is available
 in a version for outdoor installation and in a duct version for indoor
 installation.

Main constructive features of HiWarm units:

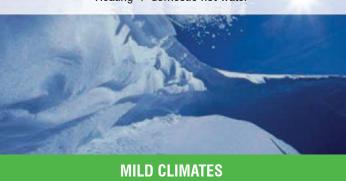
- Double water circuit.
- Air conditioning circuit with reversible system on cooling circuit side and water side and min/max variable set-point through a voltage-free contact or from min/max through a 0-10V or 4-20mA signal.
- ACS circuit with total recovery (in the event of simultaneous cooling) or in any case with recovery as a priority. This circuit is separate and unlike in other similar products on the market it does not require long heating/ cooling phases for inertial storage which impair energy efficiency, above all in summertime.
- Scroll or twin-rotary compressors BLDC brushless technology.
- Exchangers with high efficiency braze-welded AISI 316 plates.
- Highly efficiency fans.
- Throttle valve: EEV (electronically controlled electric thermal expansion valve) to take advantage from the possibility of generating thermodynamic cycles under reduced pressure let-downs, resulting in clear benefits in terms of COP.
- Integrated control of pumps on the system side and the DHW side: Both pumps are modulating pumps with permanent magnets electric synchronous motor.
- Advanced electronic control allowing to meet the load control step requirements.

These critical components guarantee an optimal performance under part load conditions, which are increasingly taken into consideration and are a discriminating factor in the choice of thermal engineers.



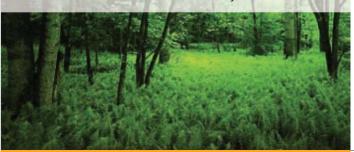


Heating + domestic hot water



IN THE WINTER SEASON HIWARM CAN PRODUCE HOT WATER FOR THE HEATING SYSTEM AS WELL AS DOMESTIC HOT WATER, WITH OUTDOOR TEMPERATURES AS LOW AS -15°C AND WATER TEMPERATURES OF UP TO 60°C.

domestic hot water only



DURING IN-BETWEEN SEASONS HIWARM CAN PRODUCE ONLY DOMESTIC HOT WATER, WHEREAS THE AIR CONDITIONING SYSTEM -SUMMER AND WINTER MODES - REMAINS OFF

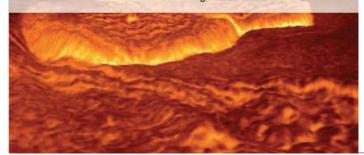
SUMMER

Domestic hot water + cooling



SUMMER

Domestic hot water + cooling and dehumidification



IN THE SUMMERTIME OPERATING MODE,
DOMESTIC HOT WATER AND CHILLED WATER ARE
PRODUCED AT "ZERO COST" SIMULTANEOUSLY
AND USED FOR ROOM AIR COOLING AND/OR
DEHUMIDIFICATION REQUIREMENTS



STRUCTURAL COMPONENTS

INDOOR UNIT

Galvanised steel perimeter enclosure panels with an epoxy polyester powder coating, oven cured at 180°C, and front plexiglass cover which also incorporates the display (LCD).

All components of the unit are accessible from the front of the unit, by simply removing the front panel.

The BLDC compressor, the high efficiency modulating pumps, the two braze-welded plate exchangers, the electronic expansion valve, the onboard controller, the cycle reversing valve on the water side and the solenoid valves are housed in the indoor unit.

REMOTE UNIT FOR OUTDOOR INSTALLATION

Panels coated with epoxy polyester powder paint oven cured at 180°C. The unit is completely enclosed with panels and available in RAL9002 (Grey White). The fans and the finned coil are housed in the outdoor unit. 6 pole axial fans with blades ensuring broad coverage, associated with external rotor asynchronous motors (or synchronous permanent magnets) and fan continuous speed modulation.

EC fans equipped with permanent magnets synchronous motors are available as option.

REMOTE UNIT FOR INDOOR INSTALLATION (ATTIC)

Galvanised sheet steel panelling, coated with epoxy polyester powder paint oven cured at 180°C.

The unit is completely enclosed with panels and available in RAL9002 (Grey White).

Centrifugal fans with reaction impellers and backward curved blades combined with brushless BLDC motors to ensure continuous efficient modulation.

Maximum head available at 200 Pa.

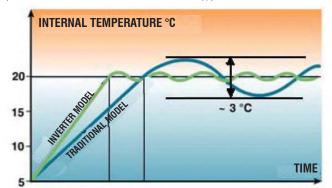


COMPRESSORS

Hermetic scroll compressors (respectively for the 22 DC and 33 DC) or twin rotary compressors (for the 12 DC), complete with motor protection against temperature and current overloads and excessive temperatures of the outgoing gas.

Mounted on rubber vibration dampers, complete with oil charge and housed in a compartment that is soundproofed with sound absorbing material. They are also equipped with an automatic oil heater to prevent the oil from being diluted by the refrigerant when the compressor stops.

Brushless permanent magnet AC compressor motor controlled by a trapezoidal wave driver within a speed range between 30 (20) and 120 Hz (BLDC "Brushless Direct Current" technology).





INTERNAL EXCHANGERS

All units have heat exchangers with braze-welded AISI 316 austenitic stainless steel plates and connections made of AISI 304 L, characterised by a reduced carbon content to facilitate brazing.

Braze-welded plate exchangers represent the state of the art in terms of heat exchange efficiency and make it possible to significantly reduce the refrigerant charge compared to traditional solutions.

The high turbulence induced by the internal corrugation of the plates and the perfectly smooth surface of the plates themselves also hinders the build-up of dirt. The high thermal exchange coefficient on the refrigerant side, in combination with the new plate geometry, enables a much shorter approach to the T set-points, with clear benefits in terms of energy.

PUMPS

Use wet-rotor circulation pumps with EC motors, maintenance free, high efficiency (class A) and electronically controlled.

The pump casing is made of grey cast iron with a cataphoretic KTL coating, which provides optimal protection against corrosion. The thermal insulation is polypropylene, the shaft is



stainless steel, the bearings are made of metal-impregnated carbon and the rotor, with a three-dimensional spiral is made of a synthetic material with a hermetic insulating coating of composite carbon fibre material.

They are supplied with a heat-insulating shell for heating applications and insulating preformed shells for cooling.

ELECTRONICALLY CONTROLLED ELECTRIC THROTTLE VALVE

An electronically controlled electronic valve is used instead of a classic mechanical thermostatic valve, because it is able to handle transients in a shorter time and to operate with very small ΔP .



The shutter in the central part of the valve can always slide vertically with a wide range of movement to allow the orifice through which the fluid passes to be opened by varying degrees.

Using this valve makes it possible to reduce the amount of energy consumed by the compressor when the surrounding conditions allow the difference between the condensation and evaporation pressures to be reduced to values below 5 bar.



CYCLE REVERSING VALVE ON WATER SIDE

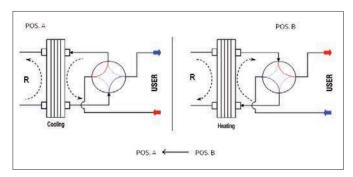
HiWarm units are reversible: when switched from the cooling to heat pump mode and vice versa, they carry out two cycle reversals. One on the refrigerant side and one on the water side.

The cycle reversing valve on the water side is switched from position A to position B (in less than 20 seconds) and vice versa by means of an electric driver, without changing



the direction of flow for users; this allows the direction of flow to be reversed in the exchangers, so that it is always opposite the direction of flow of the refrigerant fluid.

ONBOARD CONTROLLER





Functions of on-board control system:

- Control of the different operating parameters
- Modulation of the compressor to maintain the outlet temperature set point of heat pump
- Management of alarms (high/low pressure, antifreeze, flow switch, pump alarm)
- Management of pumps
- Display of operating parameters
- Antifreeze protection of heat exchangers
- Management of the maximum number of compressor start-ups
- Serial output management (optional)
- Interfaceability via WEB with the Webgate option; all it takes is a simple connection and any Internet browser can be used
- Summer/winter and on/off switching through clean contact or on-board control

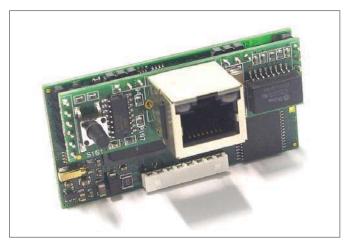
THE SUPERVISION SOFTWARE integrated into the unit is available.

The WEB circuit card allows a connection to be made between the onboard controller of the unit and the 10 Mbps Ethernet RJ45 network. The operating system used is Linux 2.4.21.

Installation takes place directly on the serial port of the advanced controller and a static or dynamic IP address with DHCP function is used.

The supervision software permits the following:

- · Display of unit status
- · Display of current alarms and alarm history
- · Recording of data with 10 settable variables
- · Downloading of all data records via a web browser or FTP
- · Possibility of editing the main parameters
- Sending of e-mails to 5 different recipients in case of alarm With supervision software it is also possible to perform supervisory monitoring using the following protocols:
- SNMP v1 & v2c
- · BACnet Ethernet or BACnet/IP





TECHNICAL DATA

Thermodynamic performances of HiWarm units equipped with electronic pumps (standard) and electronic control fans (optional) have been reported in accordance with standard EN14511-2400. ESEER values have been calculated in accordance with Eurovent standards. Performances have been calculated for a maximum length of 10 m for the gas lines connecting the internal unit to the remote one (internal or external).

			Hi Wa i	r m 012	Hi Wa i	rm022	Hi Wa i	rm033
	Compressor speed	[Hz]	30	110	30	120	30	120
ESEER r	adiant panels (user @ 23-18°C) *	1	8.	61	6.	69	6.	52
ESEER E	Eurovent fan-coils (user @ 12-7°C)		5.	65	5.	30	5.	24
	Cooling capacity	[kW]	3.0	11.2	6.0	20.4	9.6	31.9
Cooling @ 35°C air 12/7°C water	Compressor input power	[kW]	0.6	3.1	1.3	7.0	2.1	11.0
\ 0°7	Compressor input current	[A]	7.4	8.3	11.1	12.6	16.6	19.8
12/	Fan input power	[kW]	0.08	0.30	0.07	0.45	0.06	0.60
ر aii	Fan input current	[A]	0.40	1.40	0.10	0.80	0.10	1.10
ğ 32,	EER	[-]	4.41	3.26	4.38	2.71	4.50	2.72
ng (a	USER water flow rate	[kg/h]	519	1921	1026	3517	1646	5480
Soolii	USER water pressure drops	[kPa]	2.0	19.0	3.0	26.0	3.0	23.0
)	DISSIPATION air flow rate	[m³/h]	3500	7000	5250	10500	7000	14000
16	Cooling capacity	[kW]	4.2	15.7	8.5	28.1	8.6	44.0
Cooling @ 35°C air 23/18°C water	Compressor input power	[kW]	0.6	3.2	1.3	7.5	1.2	11.8
ا8°C	Compressor input current	[A]	6.9	8.6	10.9	13.2	3.2	20.4
23/1	Fan input power	[kW]	0.08	0.30	0.06	0.45	0.05	0.60
C air	Fan input current	[A]	0.40	1.40	0.10	0.80	0.10	1.10
35°	EER	[-]	6.27	4.41	6.34	3.46	6.80	3.47
g (Ø	USER water flow rate	[kg/h]	714	2696	1458	4834	1472	7565
oolir	USER water pressure drops	[kPa]	3.0	37.0	4.0	49.0	11.1	44.0
)	DISSIPATION air flow rate	[m³/h]	3500	7000	5250	10500	7000	14000
air	Heating capacity	[kW]	3.3	16.6	7.6	32.3	11.8	51.7
50/55°C and 30°C outdoor air	Compressor input power	[kW]	0.9	4.3	2.1	9.5	3.2	14.2
C our	Compressor input current	[A]	12.8	18.4	15.2	23.7	20.2	25.9
30°	Fan input power	[kW]	0.08	0.30	0.06	0.45	0.05	0.60
) and	Fan input current	[A]	0.40	1.40	0.10	0.80	0.10	1.10
,22°(COP	[-]	3.46	3.54	3.58	3.14	3.63	3.37
) 50 _/	DHW water flow	[kg/h]	714	2860	1307	5563	2169	8885
DHW @	DHW pressure drops	[kPa]	3.0	41.0	4.0	64.0	4.0	61.0
НО	DISSIPATION air flow rate	[m³/h]	3500	7000	5250	10500	7000	14000
	Cooling capacity	[kW]	2.4	9.2	4.7	17.1	7.9	28.1
).//	Heating capacity	[kW]	3.2	13.1	6.4	25.5	10.6	40.9
d 12	Compressor input power	[kW]	0.9	4.1	1.8	8.9	2.9	13.4
Č an	Compressor input current	[A]	10.6	11.0	14.8	15.3	22.7	23.7
50/55°C and 12/7°C	Fan input power	[kW]	0.0	0.0	0.0	0.0	0.0	0.0
@ 2(Fan input current	[A]	0.0	0.0	0.0	0.0	0.0	0.0
) MH	COP	[-]	3.55	3.16	3.49	2.86	3.68	3.03
- D	USER water flow rate	[kg/h]	407	1580	806	2944	1357	4839
Cooling + DHW	USER water pressure drops	[kPa]	1.0	13.0	3.0	18.0	3.0	18.0
Coc	DHW water flow	[kg/h]	556	2252	1107	4393	1829	7026
	DHW pressure drops	[kPa]	2.0	26.0	4.0	40.0	4.0	38.0

^{*} Value calculated according to the same procedure as ESEER Eurovent Fan-coils (user @ 12-7°C).



TECHNICAL DATA

			HiWai	rm012	HiWai	rm022	HiWai	rm033
	Compressor speed	[Hz]	30	110	30	120	30	120
ESEER radiant	panels (user @ 23-18°C) *	'	8.6	61	6.0	69	6.	52
ESEER Eurove	nt fan-coils (user @ 12-7°C)		5.6	65	5.3	30	5.	24
	Heating capacity	[kW]	2.9	11.7	5.8	22.7	9.4	34.9
2°C	Compressor input power	[kW]	0.7	3.3	1.5	7.1	2.3	10.8
BT Heating @ 30-35°C and 7°C outdoor air	Compressor input current	[A]	8.6	8.9	12.3	12.7	18.9	19.6
35°C air	Fan input power	[kW]	0.30	0.30	0.45	0.45	0.60	0.60
ı @ 30-35° outdoor air	Fan input current	[A]	1.40	1.40	0.80	0.80	1.10	1.10
ig @ out	COP	[-]	2.84	3.23	3.00	2.95	3.21	3.02
leatir	USER water flow rate	[kg/h]	499	2014	1000	3903	1618	5998
ВТН	USER water pressure drops	[kPa]	2.0	21.0	4.0	32.0	4.0	28.0
	DISSIPATION air flow rate	[m³/h]	7000	7000	10500	10500	14000	14000
	Heating capacity	[kW]	3.1	12.2	6.1	23.5	9.8	35.7
J°C	Compressor input power	[kW]	0.6	2.7	1.2	5.8	1.9	8.9
BT Heating @ 30-35°C and 7°C outdoor air	Compressor input current	[A]	7.2	7.5	10.6	11.0	15.8	16.5
35°C air	Fan input power	[kW]	0.30	0.30	0.45	0.45	0.60	0.60
ı @ 30-35° outdoor air	Fan input current	[A]	1.40	1.40	0.80	0.80	1.10	1.10
ng (a) out	COP	[-]	3.48	4.03	3.69	3.65	3.91	3.71
leatii	USER water flow rate	[kg/h]	527	2093	1050	4034	1687	6147
BT	USER water pressure drops	[kPa]	2.0	22.0	4.0	34.0	4.0	29.0
	DISSIPATION air flow rate	[m³/h]	7000	7000	10500	10500	14000	14000
	Power supply		single-phas	e 230/1/50	three-phas	e 400/3/50	three-phas	e 400/3/50
Electrical input	FLA with fans adjusted by potentio- meter	[A]	21	,8	23,0		33	3,2
	FLA with EC electronic fans	[A]	21	,2	22	22,0 31,8		
	Lw sound power level - internal unit	[dBA]	5	4	5	5	5	7
Noise	Lp sound pressure level (10m Q=2) internal unit	[dBA]	2	6	2	7	2	9
emissions	Lw sound power level - external unit	[dBA]	6	5	6	6	6	9
	Lp sound pressure level (10m Q=2) external unit	[dBA]	3	7	3	8	4	1
	Compressor type		Twin F	Rotary	Sci	roll	Sc	roll
Compressor	Electric motor type		BLI	DC	BL	DC	BL	DC
Oumprossur	Oil charge for compressor	[1]	1.	8	1.	.5	1	.8
	No. of cooling circuits		1		1	I	-	I
	Internal module dimensions (LxDxH)	[mm]	803x112	0x501.5	803x12	47x606	803x12	47x606
	External module dimensions (LxDxH)	[mm]	1120x12	230x450	1410x12	280x450	2000x15	512x550
Dimensions,	Weight of internal module	[kg]	19	90	26	60	27	70
weights and connections	Weight of external module	5	0	10	00	123		
COLLIDOROLIO	Dimensions of hydraulic connectors	2	8	3	5	35		
	Cooling connections	Rota	lock	Rota	lock	Rota	llock	

^{*} Value calculated according to the same procedure as ESEER Eurovent Fan-coils (user @ 12-7°C).



TOTAL HEAT RECOVERY REVERSIBLE AIR/WATER HEAT PUMPS

- > HEATING
- > AIR CONDITIONING
- > COOLING
- > COOLING
- > DEHUMIDIFICATION
- > DOMESTIC HOT WATER
- > MAXIMUM ENERGY EFFICIENCY
- > TOTAL HEAT RECOVERY
- > INTEGRATED HYDRONIC SYSTEM
- > SMART DEFROST SYSTEM

MCP MULTI-PURPOSE units are designed for outdoor installation in both residential and industrial applications. The range uses R407C refrigerant, which assures high levels of performance with relatively low energy consumption and features 20 models of varying capacities indicatively from 8 to 40 kW in the cooling mode (9-47 kW in the heating mode) in nominal conditions (ref. EN14511).

The "real" multi-purpose units, with 4 water connections have been designed to cool and heat water for air conditioning and heating systems and for the production of DHW for residential or commercial use.

When reference is made to the production of domestic hot water, what is meant is the storage of thermal energy in a tank of "technical" water. Passing through a s/s coil contained inside the tank, water for domestic use is instantly heated. In this way it is possible to avoid storing domestic water and it is not necessary to provide for an anti-Legionella cycle (see recommended plumbing layouts for further details).

MCP units are NOT suitable for use as "rapid" heaters.

CONSTRUCTIVE FEATURES

Painted galvanised sheet steel structure (RAL9002) for an attractive look and effective resistance to corrosive agents.

Fastening devices are made of non-oxidizable materials, or carbon steel that has undergone surface-passivating treatments.

The compressor compartment is completely sealed and may be accessed on 3 sides thanks to easy-to-remove panels that greatly simplify maintenance and/or inspection.

Access to the compressor compartment is possible without removing the connection to the water circuit.

Sound insulation, available on request, can further reduce the noise emissions of the unit.

CUSTOMISED HYDRONIC KITS

 High head pump made entirely of stainless steel, already configured for use with mixtures of water and ethylene glycol up to 35% and provided with internal thermal protection.

It is housed in the compressor compartment and is easy to reach thanks to the removable perimeter panels.

The units can be equipped with two circulation pumps, one for the system side and one for the DHW side, and both pumps can be controlled by the onboard compressor..

- As an option it is possible to equip the unit with an inertial buffer tank, system side, that is particularly useful during a defrost cycle in particular when it is connected to low thermal inertia distribution units.
- Expansion tank
- Safety valve
- Filling cock (included)
- Automatic vent valve
- Water differential pressure switch and outlet water temperature probe with anti-freeze thermostat function
- Mechanical Y filter supplied as a standard feature on all models to protect the evaporator (included)



Electronic pumps with permanent magnets motors are available as option which are able to improve efficiency and guarantee an optimal modulation on the whole working range and the accurate control of inlet temperature

COOLING CIRCUIT

- Scroll-type compressor, optimised for heat pump applications, with R407C refrigerant, housed in a compartment that can be sound insulated
- Brazed plate heat exchanger made of stainless steel
- Finned block condenser with 9.52 mm copper piping and aluminium fins, characterised by ample heat exchange surfaces
- Dehydrating filter
- Flow indicator with humidity indicator
- Electronic thermostatic valve with advanced drivers and integrated MOP function
- Solenoid valves for managing the different operating modes of refrigerating cycles
- One-way valves
- Liquid receiver
- High and low pressure switches
- Schrader valves for checks and/or maintenance
- Refrigerant pressure gauges (optional)

FAN DRIVE ASSEMBLY

Electric fan with 6/8-pole external rotor motor directly keyed to the axial fan, with internal thermal protection on the windings, complete with safety grille and dedicated supporting structure.

The fan is housed in a special compartment having a profile designed to optimise ventilation.

The use of finned block heat exchangers of large surface reduces pressure drops on the air side, thus significantly improving the noise levels of the units.

The condensation control system continuously and automatically regulates the fan speed, further limiting the noise emissions of the unit during nighttime operation and under partial load conditions.

The pressure control is active also during DHW production as evaporation control in order to guarantee an optimal performance of the unit in all seasons.

EC electronic fans with permanent magnets motors are available as option, which are able to improve efficiency levels and guarantee an optimal modulation on the whole working range.



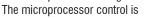
FINNED BLOCK HEAT EXCHANGER

Made of 9.52mm diameter copper pipes and aluminium fins, sized to guarantee maximum efficiency.

The special engineering of the heat exchangers allows defrost cycles to be carried out at maximum speed in the models with heat pump operation, which brings clear benefits in terms of the integrated efficiency of the whole cycle.

ELECTRONIC MICROPROCESSOR CONTROL

The electronic control enables the complete control of the MCP unit. It can be easily accessed through a polycarbonate flap with IP65 protection rating.



the heart of the unit and the multi-purpose system.

It is used to govern a 4 connection unit, i.e. two completely independent hydraulic circuits: on one side we have hot/chilled water production for room heating/cooling and DHW production on the other side.

Regardless of the unit configuration, the controller can govern the most suitable logic to fit the system (e.g. the circulation pumps, system side and/or DHW side can be installed inside the unit or externally, but they are always governed by the control logic through contacts present on the unit control board).

The section connected to the heating system may have an internal and/ or external inertial buffer tank or not, whereas the system should always include a tank for the storage of the energy necessary for the production of DHW.

For the priority control of DHW production, the unit is equipped with a temperature sensor to be inserted in a trap of the buffer tank.

The sensor will activate the pump on the DHW side and the production of DHW once the storage temperature falls below the settable threshold value. As an alternative to a remote temperature probe, a dry contact (to be connected to the electric control board terminals) coming from an external thermostat can be used.

The self-adaptive logic theoretically enables the unit to operate even in systems where the water content is low, without the use of an inertial buffer tank.

In that case, great care should be dedicated to the evaluation of water temperatures on system side, during defrost cycles.

By reading the outdoor air temperature, it can automatically change the setpoint to adapt it to the outdoor load conditions or keep the unit running even in the harshest winter conditions.

The controller can be configured using various serial cards and enables an immediate connection to supervision networks.

Main functions:

- Control over the temperature of the heat exchanger inlet water, system side
- Control over the temperature of the heat exchanger inlet water, DHW side
- Management of DHW production, as a priority
- Management of pump operation, DHW side (if necessary according to the temperature of storage water)
- Defrosting management
- Control of fan speed
- Complete alarm management
- Dynamic control of the setpoint according to the outdoor air temperature
- Connection to an RS485 serial line for supervisory / teleassistance operation
- Option of connecting a remote terminal that duplicates the control functions

Control of the unit devices:

- Compressor
- Fans
- Solenoid valves on the refrigerating circuit
- Water circulation pump
- Antifreeze heating elements
- Alarm signalling relay

ELECTRIC CONTROL BOARD

The electric control board is constructed and wired in accordance with EEC Directive 73/23, Directive 89/336 on electromagnetic compatibility and related standards.

Made of steel sheet, it is also protected by the enclosing panels of the unit.





Multi-purpose system for condominium or industrial applications from 7 to 41 kW $\,$

Package structure with heat pump and air/refrigerant exchanger incorporated in the outdoor unit





MCP	1	0078/	007	00084	000	04.08//	010	04284	012	015	010
	V ph Hz	007M	007 400-3N-50	009M 230-1-50	009 400-3N-50	010M 230-1-50	010 400-3N-50	013M 230-1-50	013 400-3N-50	015 400-3N-50	018
Power supply	V-ph-Hz	230-1-50	400-311-50	230-1-30	400-311-30	230-1-00	400-311-30	230-1-30	400-311-00	400-311-50	400-3N-50
Cooling mode	1 114/	7.00	7.00	0.00	0.70	1 44 40	44.00	40.40	40.00	45.00	40.00
Cooling capacity 1	kW	7,60	7,60	9,60	9,70	11,10	11,30	13,40	13,60	15,80	19,60
Power input 1	kW	2,70	2,60	3,35	3,25	3,87	3,77	4,72	4,62	5,55	7,32
EER		3,01	3,14	3,04	3,17	3,04	3,18	3,03	3,15	3,02	2,83
Cooling mode + ACS											
Cooling capacity ¹	kW	7,20	7,30	9,00	9,10	10,60	10,80	12,80	13,00	15,40	18,40
Power input ¹	kW	2,66	2,66	3,38	3,28	3,90	3,80	4,85	4,65	5,48	7,28
Heating capacity DHW	kW	9,48	9,58	11,95	11,95	14,02	14,13	16,98	16,99	20,15	24,77
Total COP		6,18	6,26	6,14	6,35	6,27	6,51	6,07	6,37	6,41	5,88
Heating mode (system / DHW)											
Heating capacity ²	kW	8,9	8,8	11,1	11,2	12,6	12,7	15,6	15,7	18,1	23,3
Power input ²	kW	2,90	2,80	3,75	3,55	4,17	4,07	5,12	5,02	5,75	7,72
COP		3,13	3,20	3,02	3,19	3,07	3,18	3,10	3,18	3,19	3,06
Water flow - chiller mode	l/h	1.307	1.307	1.651	1.668	1.909	1.944	2.305	2.339	2.718	3.371
Water flow - pdc mode	l/h	1.527	1.510	1.916	1.918	2.171	2.189	2.680	2.698	3.105	4.002
DHW water flow	l/h	1.631	1.648	2.055	2.055	2.411	2.430	2.921	2.922	3.466	4.260
Pump head, system side (chiller)	kPa	142	142	125	124	121	119	142	140	128	129
Pump head, DHW side	kPa	123	122	98	98	88	86	109	108	79	94
No. of scroll compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Diameter of water connections	inches	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4
Buffer tank	dm ³	30	30	30	30	30	30	30	30	30	50
Height	mm	1224	1224	1224	1224	1224	1224	1224	1224	1224	1273
Length	mm	1324	1324	1324	1324	1324	1324	1324	1324	1324	1665
Depth	mm	560	560	560	560	560	560	560	560	560	655
Sound power level	dB(A)	72	72	75	75	75	75	75	75	75	78
Ref. R407C	(kg)	6,3	6,3	6,3	6,3	6,5	6,5	7,4	7,4	8,3	10,8
Transport weight *	(kg)	228	228	265	265	256	256	265	265	270	393
Operating weight *	(kg)	245	245	282	282	272	272	282	282	287	426,5
	(ky)										
MCP		027	032	040	T18M	T18	T22M	T22	T24M	T24	T30
MCP Power supply			032	040			T22M				T30
MCP Power supply Cooling mode	V-ph-Hz	027 400-3N-50	032 400-3N-50	040 400-3N-50	T18M 230-1-50	T18 400-3N-50	T22M 230-1-50	T22 400-3N-50	T24M 230-1-50	T24 400-3N-50	T30 400-3N-50
MCP Power supply Cooling mode Cooling capacity 1	V-ph-Hz	027 400-3N-50 27,4	032 400-3N-50 34,4	040 400-3N-50 40,4	T18M 230-1-50	T18 400-3N-50	T22M 230-1-50 21,4	T22 400-3N-50 21,6	T24M 230-1-50 26,0	T24 400-3N-50 26,4	T30 400-3N-50 32,4
MCP Power supply Cooling mode Cooling capacity 1 Power input 1	V-ph-Hz	027 400-3N-50 27,4 10,00	032 400-3N-50 34,4 11,92	040 400-3N-50 40,4 14,74	T18M 230-1-50 18,6 6,72	T18 400-3N-50 18,8 6,52	230-1-50 21,4 7,75	T22 400-3N-50 21,6 7,55	T24M 230-1-50 26,0 9,79	T24 400-3N-50 26,4 9,29	T30 400-3N-50 32,4 10,73
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER	V-ph-Hz	027 400-3N-50 27,4	032 400-3N-50 34,4	040 400-3N-50 40,4	T18M 230-1-50	T18 400-3N-50	T22M 230-1-50 21,4	T22 400-3N-50 21,6	T24M 230-1-50 26,0	T24 400-3N-50 26,4	T30 400-3N-50 32,4
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS	V-ph-Hz	027 400-3N-50 27,4 10,00 2,89	34,4 11,92 3,09	40,4 14,74 2,91	18,6 6,72 2,94	18,8 6,52 3,07	230-1-50 21,4 7,75 2,93	T22 400-3N-50 21,6 7,55 3,04	230-1-50 26,0 9,79 2,81	T24 400-3N-50 26,4 9,29 3,01	T30 400-3N-50 32,4 10,73 3,18
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode + ACS Cooling capacity 1	V-ph-Hz	027 400-3N-50 27,4 10,00 2,89 27,10	34,4 11,92 3,09	40,4 14,74 2,91	18,6 6,72 2,94	T18 400-3N-50 18,8 6,52 3,07 17,60	21,4 7,75 2,93	T22 400-3N-50 21,6 7,55 3,04	26,0 9,79 2,81	T24 400-3N-50 26,4 9,29 3,01 25,80	T30 400-3N-50 32,4 10,73 3,18 30,80
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1	V-ph-Hz	027 400-3N-50 27,4 10,00 2,89	34,4 11,92 3,09 32,90 11,98	40,4 14,74 2,91	18,6 6,72 2,94	18,8 6,52 3,07	230-1-50 21,4 7,75 2,93	T22 400-3N-50 21,6 7,55 3,04 20,60 7,61	26,0 9,79 2,81 25,40 9,45	724 400-3N-50 26,4 9,29 3,01 25,80 9,25	32,4 10,73 3,18 30,80 10,89
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW	V-ph-Hz	27,4 10,00 2,89 27,10 9,66 35,65	34,4 11,92 3,09 32,90 11,98 43,45	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42	18,6 6,72 2,94 17,40 6,98 23,48	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49	21,4 7,75 2,93 20,20 8,01 27,23	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25	26,0 9,79 2,81 25,40 9,45 33,76	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97	32,4 10,73 3,18 30,80 10,89 40,49
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP	kW kW kW kW	27,4 10,00 2,89 27,10 9,66	34,4 11,92 3,09 32,90 11,98	40,4 14,74 2,91 39,40 14,60	18,6 6,72 2,94 17,40 6,98	18,8 6,52 3,07 17,60 6,78	230-1-50 21,4 7,75 2,93 20,20 8,01	T22 400-3N-50 21,6 7,55 3,04 20,60 7,61	26,0 9,79 2,81 25,40 9,45	724 400-3N-50 26,4 9,29 3,01 25,80 9,25	32,4 10,73 3,18 30,80 10,89
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW)	kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48	34,4 11,92 3,09 32,90 11,98 43,45	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33	18,6 6,72 2,94 17,40 6,98 23,48 5,81	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01	21,4 7,75 2,93 20,20 8,01 27,23 5,89	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25 6,25	26,0 9,79 2,81 25,40 9,45 33,76 6,26	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97	32,4 10,73 3,18 30,80 10,89 40,49 6,54
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2	kW kW kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48	34,4 11,92 3,09 32,90 11,98 43,45 6,40	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33	18,6 6,72 2,94 17,40 6,98 23,48 5,81	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1	21,4 7,75 2,93 20,20 8,01 27,23 5,89	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25 6,25	26,0 9,79 2,81 25,40 9,45 33,76 6,26	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45	32,4 10,73 3,18 30,80 10,89 40,49 6,54
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2	kW kW kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32	21,4 7,75 2,93 20,20 8,01 27,23 5,89	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35	26,0 9,79 2,81 25,40 9,45 33,76 6,26	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79	32,4 10,73 3,18 30,80 10,89 40,49 6,54
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2	kW kW kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48	34,4 11,92 3,09 32,90 11,98 43,45 6,40	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33	18,6 6,72 2,94 17,40 6,98 23,48 5,81	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1	21,4 7,75 2,93 20,20 8,01 27,23 5,89	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25 6,25	26,0 9,79 2,81 25,40 9,45 33,76 6,26	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45	32,4 10,73 3,18 30,80 10,89 40,49 6,54
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2	kW kW kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35	26,0 9,79 2,81 25,40 9,45 33,76 6,26	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode + ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP	kW kW kW kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97	722 400-3N-50 21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07	26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode + ACS Cooling capacity 1 Power input 1 Heating capacity 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode	kW kW kW kW kW kW	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871	39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8.157	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4.472	26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4,541 5,224	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow	kW kW kW kW kW l/h l/h l/h	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4,713 5.395 6.132	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473	39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8.157 9.015	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3,234 3,799 4,040	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3,681 4,305 4,684	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341 4,687	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5,188 5,807	26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4,541 5,224 5,843	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller)	kW kW kW kW l/h l/h kPa	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713 5.395 6.132 119	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6,871 7,473 144	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8,157 9,015 131	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341 4,687 132	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4.472 5.188 5.807	26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side	kW kW kW kW kW l/h l/h l/h	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713 5.395 6.132 119 72	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6,871 7,473 144 115	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6.949 8.157 9.015 131 89	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341 4,687 132 99	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5,188 5,807 127 85	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits	kW kW kW kW kW kW kW kW kW kW kW kW kW k	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713 5.395 6.132 119 72	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6,871 7,473 144 115 1/1	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6.949 8.157 9.015 131 89 1/1	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3,199 3,832 4,039 136 105 2/1	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341 4,687 132 99 2/1	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4.472 5.188 5.807 127 85 2/1	26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections	kW kW kW kW kW kW kW kW kW kW kW kW kW k	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713 5.395 6.132 119 72 1/1 1" 1/4	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473 144 115 1/1 1" 1/4	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6.949 8.157 9.015 131 89 1/1 1" 1/4	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105 2/1 1" 1/4	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1 1" 1/4	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3.715 4.341 4.687 132 99 2/1 1" 1/4	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4.472 5.188 5.807 127 85 2/1 1" 1/4	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1 1" 1/4	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1" 1/4
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank	kW kW kW kW kW kW kW kW kW kW kW kW kW k	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713 5.395 6.132 119 72 1/1 1" 1/4 50	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473 144 115 1/1 1" 1/4 125	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6.949 8.157 9.015 131 89 1/1 1" 1/4 125	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105 2/1 1" 1/4 50	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1 1" 1/4 50	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341 4,687 132 99 2/1 1" 1/4 50	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4.472 5.188 5.807 127 85 2/1 1" 1/4 50	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1 1" 1/4 50	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1" 1/4 125
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank Height	kW kW kW kW kW kW kW kW kW kW kW kW kW k	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4,713 5.395 6.132 119 72 1/1 1" 1/4 50 1273	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473 144 115 1/1 1" 1/4 125 1489	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8.157 9.015 131 89 1/1 1" 1/4 125 1489	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105 2/1 1" 1/4 50 1273	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50 1273	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1 1"1/4 50 1273	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4.341 4.687 132 99 2/1 1"1/4 50 1273	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5,188 5,807 127 85 2/1 1" 1/4 50 1273	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4,541 5,224 5,843 125 84 2/1 1" 1/4 50 1273	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1" 1/4 125 1489
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank Height Length	kW kW kW kW kW kW kW kW kW kW kW kPa kPa inches dm³ mm mm	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4,713 5.395 6.132 119 72 1/1 1" 1/4 50 1273 1665	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473 144 115 1/1 1" 1/4 125 1489 2065	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6.949 8.157 9.015 131 89 1/1 1" 1/4 125 1489 2065	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105 2/1 1" 1/4 50 1273 1665	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50 1273 1665	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1 1" 1/4 50 1273 1665	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4.341 4.687 132 99 2/1 1" 1/4 50 1273 1665	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5,188 5,807 127 85 2/1 1" 1/4 50 1273 1665	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4,541 5,224 5,843 125 84 2/1 1" 1/4 50 1273 1665	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1"1/4 125 1489 2065
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank Height Length Depth	kW kW kW kW kW kW kW kW kW kW kW kPa kPa inches dm³ mm mm	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4,713 5.395 6.132 119 72 1/1 1" 1/4 50 1273 1665 655	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5.917 6.871 7.473 144 115 1/1 1" 1/4 125 1489 2065 951	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6.949 8.157 9.015 131 89 1/1 1" 1/4 125 1489 2065 951	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105 2/1 1" 1/4 50 1273 1665 863	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50 1273 1665 863	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1 1" 1/4 50 1273 1665 863	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3,715 4,341 4.687 132 99 2/1 1" 1/4 50 1273 1665 863	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5.188 5.807 127 85 2/1 1" 1/4 50 1273 1665 863	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1 1" 1/4 50 1273 1665 863	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1"1/4 125 1489 2065 951
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank Height Length Depth Sound power level	kW kW kW kW kW kW kW kW kW kW kW kPa kPa inches dm³ mm mm dB(A)	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4,713 5.395 6.132 119 72 1/1 1" 1/4 50 1273 1665 655 78	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473 144 115 1/1 1" 1/4 125 1489 2065 951 78	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8.157 9.015 131 89 1/1 1" 1/4 125 1489 2065 951 78	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3,199 3,832 4,039 136 105 2/1 1" 1/4 50 1273 1665 863 78	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50 1273 1665 863 78	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3,681 4,305 4,684 133 99 2/1 1" 1/4 50 1273 1665 863 78	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3.715 4.341 4.687 132 99 2/1 1" 1/4 50 1273 1665 863 78	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5.188 5.807 127 85 2/1 1" 1/4 50 1273 1665 863 78	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1 1" 1/4 50 1273 1665 863 78	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1" 1/4 125 1489 2065 951 78
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank Height Length Depth Sound power level Ref. R407C	kW kW kW kW kW kW kW kW kW kW kPa kPa inches dm³ mm mm dB(A) (kg)	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4.713 5.395 6.132 119 72 1/1 1" 1/4 50 1273 1665 655 78 11,5	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6,871 7,473 144 115 1/1 1" 1/4 125 1489 2065 951 78 16,0	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8.157 9.015 131 89 1/1 1" 1/4 125 1489 2065 951 78 18,0	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3.199 3.832 4.039 136 105 2/1 1" 1/4 50 1273 1665 863 78 11,5	T18 400-3N-50 18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50 1273 1665 863 78 11,5	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3.681 4.305 4.684 133 99 2/1 1" 1/4 50 1273 1665 863 78 11,5	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3.715 4.341 4.687 132 99 2/1 1" 1/4 50 1273 1665 863 78 11,5	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5.188 5.807 127 85 2/1 1" 1/4 50 1273 1665 863 78 11,5	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1 1" 1/4 50 1273 1665 863 78 11,5	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1" 1/4 125 1489 2065 951 78 14,0
MCP Power supply Cooling mode Cooling capacity 1 Power input 1 EER Cooling mode +ACS Cooling mode +ACS Cooling capacity 1 Power input 1 Heating capacity DHW Total COP Heating mode (system / DHW) Heating capacity 2 Power input 2 COP Water flow - chiller mode Water flow - pdc mode DHW water flow Pump head, system side (chiller) Pump head, DHW side No. of scroll compressors / circuits Diameter of water connections Buffer tank Height Length Depth Sound power level	kW kW kW kW kW kW kW kW kW kW kW kPa kPa inches dm³ mm mm dB(A)	27,4 10,00 2,89 27,10 9,66 35,65 6,48 31,4 9,90 3,22 4,713 5.395 6.132 119 72 1/1 1" 1/4 50 1273 1665 655 78	34,4 11,92 3,09 32,90 11,98 43,45 6,40 40,0 12,52 3,25 5,917 6.871 7.473 144 115 1/1 1" 1/4 125 1489 2065 951 78	940 400-3N-50 40,4 14,74 2,91 39,40 14,60 52,42 6,33 47,4 15,04 3,20 6,949 8.157 9.015 131 89 1/1 1" 1/4 125 1489 2065 951 78	18,6 6,72 2,94 17,40 6,98 23,48 5,81 22,3 7,52 3,01 3,199 3,832 4,039 136 105 2/1 1" 1/4 50 1273 1665 863 78	18,8 6,52 3,07 17,60 6,78 23,49 6,01 22,1 7,32 3,07 3.234 3.799 4.040 135 105 2/1 1" 1/4 50 1273 1665 863 78	21,4 7,75 2,93 20,20 8,01 27,23 5,89 25,0 8,55 2,97 3,681 4,305 4,684 133 99 2/1 1" 1/4 50 1273 1665 863 78	21,6 7,55 3,04 20,60 7,61 27,25 6,25 25,2 8,35 3,07 3.715 4.341 4.687 132 99 2/1 1" 1/4 50 1273 1665 863 78	26,0 9,79 2,81 25,40 9,45 33,76 6,26 30,2 9,99 3,07 4,472 5.188 5.807 127 85 2/1 1" 1/4 50 1273 1665 863 78	724 400-3N-50 26,4 9,29 3,01 25,80 9,25 33,97 6,45 30,4 9,79 3,15 4.541 5.224 5.843 125 84 2/1 1" 1/4 50 1273 1665 863 78	32,4 10,73 3,18 30,80 10,89 40,49 6,54 37,5 11,53 3,29 5.573 6.448 6.964 106 60 2/1 1" 1/4 125 1489 2065 951 78

* Weights referred to version including pump and buffer tank

¹ Water temperature 12°C - 7°C; outdoor air temperature 35°C 2 Water temperature 40°C - 45°C, outdoor air temperature 7°C dry bulb, outdoor air temperature 6°C wet bulb Performances measured according to standard EN 14511



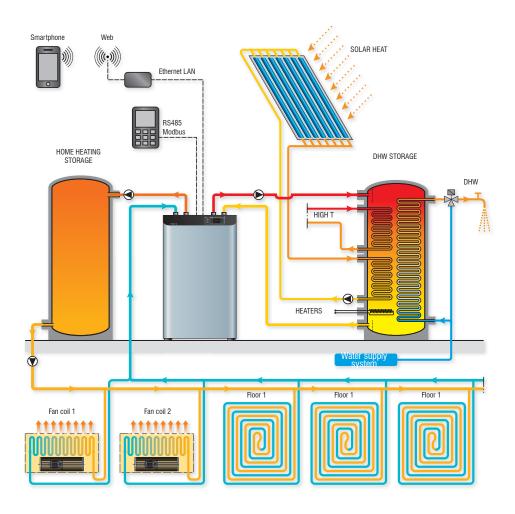
Multi-purpose units (ON/OFF or modulating) and heat pumps, generally speaking, are NOT suitable for use as "rapid" heaters, this means that thermal storage for the production of DHW should be provided in any case.

When reference is made to the production of domestic hot water, what is meant is the storage of thermal energy in a tank of "technical" water. Water for domestic use must be heated by means of a stainless steel coil contained inside the storage tank or a plate exchanger outside the tank; in this way it is possible to avoid storing domestic water and it is not necessary to provide for an anti-Legionella cycle (see recommended plumbing layouts for further details).

If you wish to consider the DHW storage option, the storage tank should be suitable for the storage of drinking water and equipped with a coil (connected to the multi-purpose unit) having a surface designed to allow heat exchange fit for the unit capacity, based on its working temperature and DHW storage temperatures within the storage tank.

Please note that DHW system should in no case be in contact with the water circuit of heat pumps units (a separation should always be provided).







GALLETTI THERMAL STORAGE TANKS FOR THE PRODUCTION OF DHW BY CORDIVARI

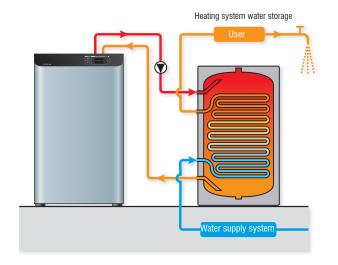
Galletti introduces its new range of thermal storage tanks for the production of domestic hot water developed in partnership with Cordivari and specifically conceived for pairing with heat pumps.

This range of products combines the proven experience of Galletti in heat pumps and control logics of multi-purpose systems to the experience of Cordivari in the development of tanks.

Galletti decided to favour the thermal storage tank solution (i.e. storage of technical water within a tank) instead of the boiler solution (domestic hot water storage).

As technical water is stored, it is not necessary to provide for an anti-Legionella cycle usually carried out by means of thermal shock (causing lowering of system efficiency) or chemical treatment.

The range features two lines of products. The first one is made up of stainless steel coil for the instantaneous production of domestic warm water.



The second line of products is made up of thermal storage tanks associated with an external plate exchanger for the instantaneous production of hot water.

dedicated heat pumps solutions\DHW TANKS - INTRODUCTION

In order to develop a product that perfectly meets the requirements of multi-purpose systems installed in combination with heat pumps, Galletti and Cordivari conducted a careful study on heat exchange surfaces and stratification: the result is a range of tanks which in terms of coils and plate exchangers feature exchange surfaces that are on average much larger than those of the traditional thermal storage tanks available on the market.

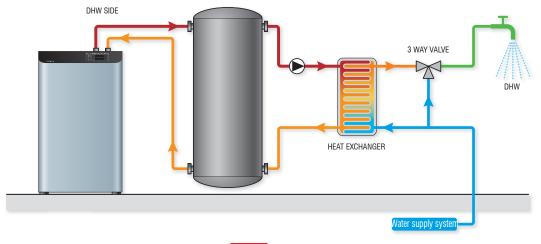
The Labyrinth Diffuser (patented) has been mounted as a standard feature on all models in order to guarantee optimal stratification in all situations, including transients that may impair the storage tank performances.

All models of this range are available in a basic and a two additional coils versions as solar auxiliary system and high T source.

As part of its commitment to always improving system energy efficiency, Galletti does not use electric heating elements inside its heat pumps or tanks as auxiliary heating source.

The heating elements can be used on Galletti thermal storage tanks only as back-up in case of temporary stop of heat pump.

These thermal storage tanks are the perfect complement to the offer of multi-purpose systems by Galletti who for years has been offering MCP and HiWarm multi-purpose units.



dedicated heat pumps solutions\RYTN DHW TANK



Tank type: thermal storage tank for the production of domestic hot water

Liquid stored: water for heating system

DHW production system: stainless steel quick coil

CAPACITY	CODE	NET STORAGE DOMESTIC WAT CIRCUIT VOLUME		CODE		SURFACE AREA OF CORRUGATED COIL	WEIGHT
[1]		[1]	[1]	[m²]	[kg]		
300	RYTN 300	302,0	7,2	3,5	62		
600	RYTN 600	525,8	32,2	5,5	95		
800	RYTN 800	760,0	45,5	7,8	120		

THERMAL ST	ORAGE TANK	DHW COIL			
Pmax	Pmax Tmax				
3 bar	99° C	6 bar			



The figure shows the connection layout of 600 and 800 litre models

INTENDED USE

Production of domestic hot water (DHW) using "renewable" heat sources, such as heat pumps.

RYTN storage tanks are designed to store heating system water. Domestic water is made to pass inside a stainless steel corrugated coil.

Inside the thermal storage tank, at the connections used for the heat pump, there is a Labyrinth Diffuser (patented system). This element makes it possible to maintain the stratification regardless of the connection used for the inlet technical water coming from the heat pump.

NOTE:Do not use the thermal storage tank to store domestic hot water It is recommended to use this thermal storage tank for the production of sanitary hot water only and not as auxiliary heating source on system side. In this case, the use of a dedicated tank is recommended.

MATERIALS AND FINISHES

- Thermal storage tank made of carbon steel, unfinished on the inside, painted on the outside
- 316L stainless steel corrugated coil for the domestic water circuit.

INSULATION

- For 300l size: rigid polyester foam insulating layer, thickness 70mm, with a high level of heat insulation and conductivity coefficient of 0.023W/mK.
- For 600I and 800I sizes: polyester fibre insulating layer, thickness 100 mm, with a high level of heat insulation and conductivity coefficient of 0.035 W/mK. Fire resistance class B-s2d0 according to standard EN 13501
- Grey PVC exterior coating complete with upper PVC cover

WITHDRAWAL DATA

RYTN 300	P =	0 kW	P =	5 kW	P = 1	0 kW	P = 1	5 kW
NTIN 300	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	118	10	142	10	166	10	191
Initial T	20	83	20	91	20	100	20	108
storage 50C°	30	48	30	51	30	54	30	57
DHW 10C°/45C°	10	96	10	116	10	135	10	155
Initial T	20	67	20	74	20	81	20	88
storage 50C°	30	39	30	42	30	44	30	47

RYTN 600	P = 0 kW		P =	5 kW	P = 1	= 10 kW		P = 15 kW		P = 20 kW		25 kW
NTIN 000	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	293	10	353	10	413	10	473	10	533	10	593
Initial T	20	223	20	246	20	269	20	291	20	314	20	337
storage 50C°	30	153	30	163	30	174	30	184	30	195	30	205
DHW 10C°/45C°	10	240	10	289	10	338	10	387	10	436	10	485
Initial T	20	182	20	201	20	220	20	238	20	257	20	276
storage 50C°	30	125	30	134	30	142	30	151	30	159	30	168

RYTN 800	P =	P = 0 kW		l5 kW	P = 20 kW F		P = 2	P = 25 kW		80 kW	P = 35 kW	
NTIN OUU	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	469	10	757	10	853	10	949	10	1045	10	1141
Initial T	20	367	20	480	20	517	20	555	20	592	20	630
storage 50C°	30	266	30	320	30	339	30	357	30	375	30	393
DHW 10C°/45C°	10	384	10	619	10	698	10	777	10	855	10	934
Initial T	20	300	20	392	20	423	20	454	20	485	20	515
storage 50C°	30	218	30	262	30	277	30	292	30	307	30	322

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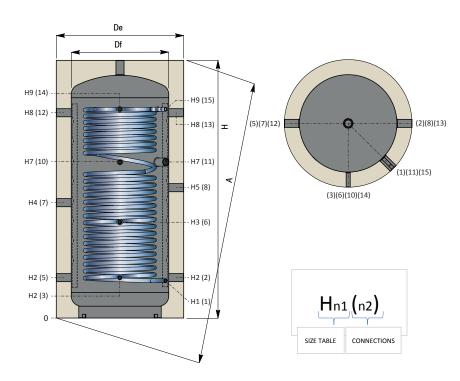
 $^{{\}bf Q} = {\rm flow} \ {\rm rate} \ {\rm of} \ {\rm domestic} \ {\rm hot} \ {\rm water} \ {\rm withdrawn} \ {\rm from} \ {\rm the} \ {\rm coil} \ {\rm in} \ {\rm l/min}$

P = power in kW of the connected heat pump under the conditions considered (e.g. outdoor T)

V = maximum quantity of DHW that can be produced under the specified conditions



RYTN 300



	CONNECTIONS
1	Domestic water inlet - 1" Gas M
2-5	Return to heat pump
3	Probe - 1/2" Gas F
6	Probe - 1/2" Gas F
7	Inlet for heating system water from heat pump* - 1"1/2 Gas F
8	Return to Generator* - 1"1/2 Gas F
10	Probe - 1/2" Gas F
11	Backup heating element - 1"1/2 Gas F
12-13	Inlet for heating system water from heat pump / from Generator* - 1"1/2 Gas F
14	Probe - 1/2" Gas F
15	Domestic water outlet - 1" Gas F

* in the presence of a second high temperature generator that works directly on the upper part of the storage tank

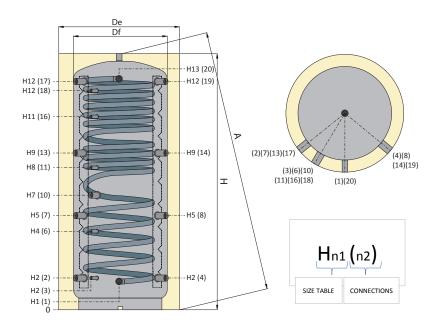


It is recommended not to use the connection on the top of tank for the delivery from a heat pump or a high temperature generator to avoid any stratification spoiling.



It is recommended to use this thermal storage tank for the production of sanitary hot water only and not as auxiliary heating source on system side. In this case, the use of a dedicated tank is recommended.

RYTN 600 - RYTN 800



	CONNECTIONS
1	Domestic water inlet - 1" Gas M
2-4	Return to heat pump
3	Probe - 1/2" Gas F
6	Probe - 1/2" Gas F
7-8	Inlet for heating system water from heat pump* - 1"1/2 Gas F
10	Backup heating element - 1"1/2 Gas F
11	Probe - 1/2" Gas F
13-14	Return to Generator* - 1"1/2 Gas F
16	Probe - 1/2" Gas F
17-19	Inlet for heating system water from heat pump / from Generator* - 1"1/2 Gas F
18	Probe - 1/2" Gas F
20	Domestic water outlet - 1" Gas M

* in the presence of a second high temperature generator that works directly on the upper part of the storage tank



It is recommended not to use the connection on the top of tank for the delivery from a heat pump or a high temperature generator to avoid any stratification spoiling.



It is recommended to use this thermal storage tank for the production of sanitary hot water only and not as auxiliary heating source on system side. In this case, the use of a dedicated tank is recommended.

SIZE TABLE

Capacity	Df	De	Н	A	H1	H2	Н3	H4	Н5	Н6	H7	Н8	Н9	H10	H11	H12	H13
[litres]									[mm]								
300	550	690	1521	1670	233	266	581	766	866	-	906	1216	1251	-	-	-	-
600	650	850	1920	1945	230	247	-	582	695	-	915	1060	1144	-	1382	1593	1610
800	790	990	1890	1925	248	265	-	584	690	-	838	988	1115	-	1332	1541	1558

This series of thermal storage tanks, fruit of a partnership combining the experience of Galletti and Cordivari, was specifically conceived for pairing with heat pumps.



Storage type: thermal storage tank for the production of domestic hot water

Liquid stored: water for heating system

DHW production system: stainless steel quick coil

Additional coils: a solar thermal coil and high temperature coil

CAPACITY	CODE	NET STORAGE Volume	DOMESTIC WATER CIRCUIT VOLUME	SURFACE AREA OF CORRUGATED COIL	VOLUME OF Lower fixed Coil	SURFACE AREA OF LOWER FIXED COIL	VOLUME OF Upper fixed coil	SURFACE AREA OF UPPER FIXED COIL	WEIGHT
[1]		[1]	[1]	[m²]	[1]	[m²]	[1]	[m²]	[kg]
300	RYTNSH 300	288,3	7,2	3,5	7,8	1,2	5,9	0,9	85
600	RYTNSH 600	501.8	32.2	5,5	13	2	8	1,25	132
800	RYTNSH 800	728	45,5	7,8	16,3	2,5	11,8	1,8	169

THERMAL ST	ORAGE TANK	DHW COIL	SOLAR AND HIGH T	EMPERATURE COIL
Pmax	Tmax	Pmax	Pmax	Pmax
3 bar	99° C	6 bar	12 bar	110° C

INTENDED USE

Production of domestic hot water (DHW) using "renewable" heat sources, such as heat pumps.

RYTNSH thermal storage tanks are provided with additional charging coils to enable use of heat originating from solar thermal panels or other high temperature sources of heat such as, for example, fireplace heaters, biomass generators, etc.

Inside the thermal storage tank, at the connections used for the heat pump, there is a Labyrinth Diffuser (patented system). This element makes it possible to maintain the stratification regardless of the connection used for the inlet technical water coming from the heat pump.

NOTE: RYTNSH storage tanks are designed to store solely heating system water. Domestic water is made to pass inside a stainless steel corrugated coil. Do not use the thermal storage tank to store domestic hot water.

MATERIALS AND FINISHES

- Thermal storage tank made of carbon steel, unfinished on the inside, painted on the outside
- 316L stainless steel corrugated coil for the domestic water circuit.

INSULATION

- For 300l size: rigid polyester foam insulating layer, thickness 70mm, with a high level of heat insulation and conductivity coefficient of 0.023W/mK.
- For 600I and 800I sizes: polyester fibre insulating layer, thickness 100 mm, with a high level of heat insulation and conductivity coefficient of 0.035 W/mK. Fire resistance class B-s2d0 according to standard EN 13501
- Grey PVC exterior coating complete with upper PVC cover

HEAT EXCHANGER

2 fixed carbon steel coils for solar thermal and high temperature systems



The figure shows the connection layout of 600 and 800 litre models

It is recommended to use this thermal storage tank for the production of sanitary hot water only and not as auxiliary heating source on system side. In this case, the use of a dedicated tank is recommended.

WITHDRAWAL DATA*

RYTNSH 300	P =	0 kW	P =	5 kW	P = 1	10 kW	P = 15 kW		
NT INON SUU	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	
DHW 10C°/45C°	10	118	10	142	10	166	10	191	
Initial T	20 83		20	91	20	100	20	108	
storage 50C°	30	48	30	51	30	54	30	57	
DHW 10C°/45C°	10	96	10	116	10	135	10	155	
Initial T	20	67	20	74	20	81	20	88	
storage 50C°	30	39	30	42	30	44	30	47	

RYTNSH 600	P = 0 kW		P = 5 kW		P = 10 kW		P = 1	15 kW	P = 2	20 kW	P = 2	25 kW
NT INSH DUU	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	293	10	353	10	413	10	473	10	533	10	593
Initial T	20	223	20	246	20	269	20	291	20	314	20	337
storage 50C°	30	153	30	163	30	174	30	184	30	195	30	205
DHW 10C°/45C°	10	240	10	289	10	338	10	387	10	436	10	485
Initial T storage 50C°	20	182	20	201	20	220	20	238	20	257	20	276
	30	125	30	134	30	142	30	151	30	159	30	168

RYTNSH 800	P = 0 kW		P = 15 kW		P = 2	P = 20 kW		25 kW	P = 3	80 kW	P = 3	35 kW
NT INSTITUTE	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	469	10	757	10	853	10	949	10	1045	10	1141
Initial T	20	367	20	480	20	517	20	555	20	592	20	630
storage 50C°	30	266	30	320	30	339	30	357	30	375	30	393
DHW 10C°/45C°	10	384	10	619	10	698	10	777	10	855	10	934
Initial T	20	300	20	392	20	423	20	454	20	485	20	515
storage 50C°	30	218	30	262	30	277	30	292	30	307	30	322

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 $[{]f Q}={\ \ \ }$ flow rate of domestic hot water withdrawn from the coil in I/min

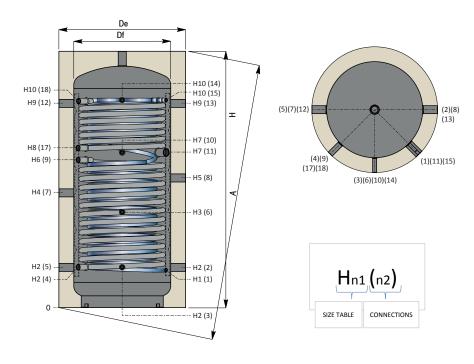
 $[{]f P}={
m power}$ in kW of the connected heat pump under the conditions considered (e.g. outdoor T)

⁼ maximum quantity of DHW that can be produced under the specified conditions

withdrawal data refer only to the use of heat pump and not to a solar thermal source or other high temperature sources.



RYTNSH 300

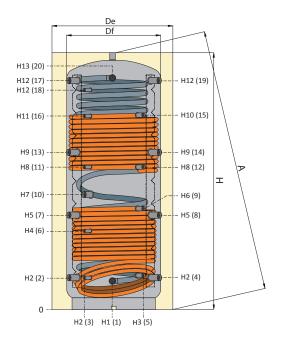


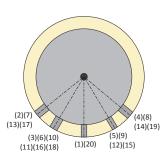
	CONNECTIONS
1	Domestic water inlet - 1/2" Gas F
2-5	Return to heat pump - 1"1/2 Gas F
3	Probe - 1/2" Gas F
4	Lower fixed coil outlet - 1" Gas F
6	Probe - 1/2" Gas F
7	Inlet for heating system water from heat pump* - 1"1/2 Gas F
8	Return to Generator* - 1"1/2 Gas F
9	Lower fixed coil outlet - 1" Gas F
10	Probe - 1/2" Gas F
11	Backup heating element - 1"1/2 Gas F
12-13	Inlet for heating system water from heat pump / from Generator* - 1"1/2 Gas F
14	Probe - 1/2" Gas F
15	Domestic water outlet - 1/2" Gas F
17	Upper fixed coil outlet - 1" Gas F
18	Upper fixed coil inlet - 1" Gas F

* in the presence of a second high temperature generator that works directly on the upper part of the storage tank

	CONNECTIONS
1	Domestic water inlet - 1" Gas M
2-4	Return to heat pump - 1"1/2 Gas F
3	Probe - 1/2" Gas F
5	Lower fixed coil outlet - 1" Gas F
6	Probe - 1/2" Gas F
7-8	Inlet for heating system water to heat pump* - 1"1/2 Gas F
9	Lower fixed coil outlet - 1" Gas F
10	Backup heating element - 1"1/2 Gas F
11	Probe - 1/2" Gas F
12	Upper fixed coil outlet - 1" Gas F
13-14	Return to Generator* - 1"1/2 Gas F
15	Upper fixed coil inlet - 1" Gas F
16	Probe - 1/2" Gas F
17-19	Inlet for heating system water from heat pump / from Generator* - 1"1/2 Gas F
18	Probe - 1/2" Gas F
20	Domestic water outlet - 1" Gas M

RYTNSH 600 - RYTNSH 800







^{*} in the presence of a second high temperature generator that works directly on the upper part of the storage tank



It is recommended not to use the connection on the top of tank for the delivery from a heat pump or a high temperature generator to avoid any stratification spoiling.

SIZE TABLE

Capacity	Df	De	Н	A	H1	H2	Н3	H4	Н5	Н6	Н7	Н8	Н9	H10	H11	H12	H13
[litres]									[mm]								
300	550	690	1521	1579	233	266	581	766	866	806	976	906	1216	1251	-	-	-
600	650	850	1920	1945	230	247	260	582	695	855	915	1060	1144	1361	1382	1593	1610
800	790	990	1890	1925	248	265	278	584	690	762	823	988	1115	1332	1332	1541	1558

This series of thermal storage tanks, fruit of a partnership combining the experience of Galletti and Cordivari, was specifically conceived for pairing with heat pumps.



Tank type: thermal storage tank for the production of domestic hot water

Liquid stored: water for heating system

Method of DHW production: external module with stainless steel plate heat exchanger

CAPACITY	CODE	NET STORAGE Volume	MAX POWER OF DHW MODULE	WEIGHT
[1]		[1]	kW	[kg]
300	RYTP 300	286	120*	106
500	RYTP 500	505	120*	131
800	RYTP 800	803	120*	152

^{* =} maximum power referred to a storage temperature of 80°C

THERMAL ST	ORAGE TANK	STAINLESS STEEL PL	ATE HEAT EXCHANGER
Pmax	Tmax	Pmax	Tmax
3 bar	99° C	6 bar	99° C



RYTP Series

INTENDED USE

Production of domestic hot water (DHW) using "renewable" heat sources, such as heat pumps.

RYTP storage tanks are designed to store heating system water. Domestic water is made to pass inside a stainless steel plate heat exchanger.

NOTE: RYTP storage tanks are designed to store solely heating system water. Do not use the thermal storage tank to store domestic hot water.

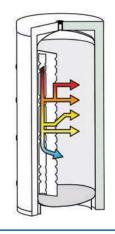
MATERIALS AND FINISHES

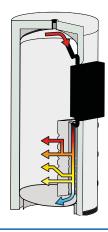
Thermal storage tank made of carbon steel, unfinished on the inside, painted on the outside.

Heat exchanger: external module with a 316L stainless steel plate heat exchanger for the production of domestic hot water

INSULATION

- Polyester fibre insulating layer, thickness 100 mm, with a high level of heat insulation and conductivity coefficient of 0.035 W/mK Fire resistance class B-s2d0 according to standard EN 13501
- Grey PVC exterior coating complete with upper PVC cover
- External module clad in painted sheet metal and insulated on the inside





- Thermal storage tank: reservoir of heating system water acting as a thermal flywheel. Inside the thermal storage tank there are a labyrinth diffuser (patented system) on the DHW module and two other labyrinth diffusers on both sides of the tank which ensure perfect stratification of technical inlet water coming from the heat pump and of technical outlet water at the instantaneous production module output. The labyrinth diffuser is located on both sides of the storage tank and is arranged so as to make it possible to maintain the stratification regardless of the connection used for the inlet technical water coming from the heat pump.
- **-DHW production module:** an external unit that instantly heats domestic water by exploiting the heat stored in the puffer, ensuring hygiene and comfort as well as the possibility of regulating the outlet temperature The module consists of a stainless steel plate exchanger, an on/off pump and a 3-way valve for temperature-controlled pre-mixing on the exchanger inlet (primary side), which prevents excessively high temperatures in the exchanger itself while considerably reducing the risk of limescale build-up.

WITHDRAWAL DATA

DVTD 200	P = 0 kW		P = 5 kW		P = 10 kW		P = 15 kW		P = 20 kW		P = 25 kW	
RYTP 300	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	334	10	420	10	566	10	866	10	1846	10	infinite
Initial T	20	334	20	372	20	420	20	482	20	566	20	684
storage 50C°	26,3	334*	26,3	362*	26,3	396*	26,3	436*	26,3	485*	26,3	547*
DHW 10C°/45C°	10	264	10	332	10	447	10	684	10	1459	10	infinite
Initial T	20	264	20	294	20	332	20	381	20	447	20	541
storage 50C°	21	264	21	293	21	328	21	373	21	433	21	515

- $\mathbf{Q} =$ flow rate of domestic hot water withdrawn from the coil in l/min
- **P** = power in kW of the connected heat pump under the conditions considered (e.g. outdoor T)
- V = maximum quantity of DHW that can be produced under the specified conditions
- * = DHW outlet temperature 42.6 °C

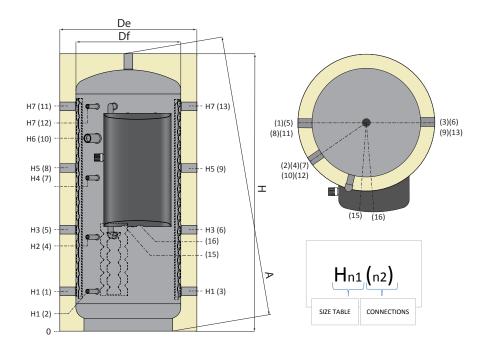


WITHDRAWAL DATA

RYTP 500	P = 0 kW		P = 15 kW		P = 20 kW		P = 2	25 kW	P = 3	30 kW	P = 3	35 kW
11111 300	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	557	10	1444	10	3078	10	infinite	10	infinite	10	infinite
Initial T	20	557	20	804	20	943	20	1141	20	1444	20	1966
storage 50C°	26,3	557	26,3	727	26,3	809	26,3	912	26,3	1045	26,3	1224
DHW 10C°/45C°	10	441	10	1143	10	2437	10	infinite	10	infinite	10	infinite
Initial T	20	441	20	636	20	747	20	904	20	1143	20	1556
storage 50C°	21	441	21	623	21	723	21	861	21	1063	21	1389

RYTP 800	P = 0 kW		P = 15 kW		P = 20 kW		P = 25 kW		P = 3	30 kW	P = 35 kW	
NTIF OUU	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	891	10	2310	10	4924	10	infinite	10	infinite	10	infinite
Initial T	20	891	20	1286	20	1509	20	1825	20	231	20	3145
storage 50C°	26,3	891	26,3	1163	26,3	1294	26,3	1459	26,3	1672	26,3	1958
DHW 10C°/45C°	10	705	10	1828	10	3896	10	infinite	10	infinite	10	infinite
Initial T	20	705	20	1018	20	1194	20	1444	20	1828	20	2488
storage 50C°	21	705	21	996	21	1156	21	1376	21	1699	21	2221

- ${f Q}={\ \ \ }$ flow rate of domestic hot water withdrawn from the coil in I/min
- P = power in kW of the connected heat pump under the conditions considered (e.g. outdoor T)
- V = maximum quantity of DHW that can be produced under the specified conditions
- * = DHW outlet temperature 42.6 °C



	CONNECTIONS
1-3	Return to heat pump - 1"1/2 Gas F
2	Probe - 1/2" Gas F
4	Probe - 1/2" Gas F
5-6	Inlet for water from heat pump* - 1"1/2 Gas F
7	Probe - 1/2" Gas F
8-9	Return to Generator* - 1"1/2 Gas F
10	Backup heating element - 1"1/2 Gas F
11-13	Inlet for water from heat pump / from Generator* - 1"1/2 Gas F
12	Probe - 1/2" Gas F
15	DHW outlet - 1" Gas M
16	DHW inlet - 1" Gas M

* in the presence of a second high temperature generator that works directly on the upper part of the storage tank



It is recommended not to use the connection on the top of tank for the delivery from a heat pump or a high temperature generator to avoid any stratification spoiling.

It is recommended to use this thermal storage tank for the production of sanitary hot water only and not as auxiliary heating source on system side. In this case, the use of a dedicated tank is recommended.

SIZE TABLE

Capacity	Df	De	Н	A	H1	H2	Н3	H4	Н5	Н6	H7
[litres]						[mm]					
300	550	750	1360	1374	232	425	497	625	782	855	1048
500	650	850	1719	1737	247	583	629	950	1011	1195	1393
800	790	990	1888	1915	265	613	690	1038	1115	1338	1541

This series of thermal storage tanks, fruit of a partnership combining the experience of Galletti and Cordivari, was specifically conceived for pairing with heat pumps.



Tank type: thermal storage tank for the production of domestic hot water

Liquid stored: water for heating system

Method of DHW production: external module with stainless steel plate heat exchanger

Additional coils: a solar thermal coil and high temperature coil

CAPACITY	CODE	NET STORAGE VOLUME	MAX POWER OF DHW MODULE	VOLUME OF Lower Fixed Coil	SURFACE AREA OF LOWER FIXED COIL	VOLUME OF Upper fixed coil	SURFACE AREA OF UPPER FIXED COIL	WEIGHT
[1]		[1]	kW	[1]	[m²]	[1]	[m²]	[kg]
300	RYTPSH 300	278,1	120*	7,6	1,2	4,4	0,7	125
500	RYTPSH 500	483,1	120*	13,5	2,1	6,5	1,25	170
800	RYTPSH 800	774,9	120*	16,3	2,5	13,5	1,8	202

^{* =} maximum power referred to a storage temperature of 80°C

THERMAL ST	ORAGE TANK	SOLAR AND	HIGH T. COIL	STAINLESS STEEL PLATE HEAT EXCHANGER			
Pmax	Tmax	Pmax	Tmax	Pmax	Tmax		
3 bar	99° C	12 bar	110° C	6 bar	99° C		

INTENDED USE

Production of domestic hot water (DHW) using "renewable" heat sources, such as heat pumps. RYTPSH storage tanks are designed to store heating system water. Domestic water is made to pass inside a stainless steel plate heat exchanger.

RYTPSH thermal storage tanks are provided with additional charging coils to enable use of heat originating from solar thermal panels or other sources of heat such as, for example, fireplace heaters, biomass generators, etc.

NOTE: RYTPSH storage tanks are designed to store solely heating system water. Do not use the thermal storage tank to store domestic hot water.

MATERIALS AND FINISHES

Thermal storage tank made of carbon steel, unfinished on the inside, painted on the outside.

Heat exchanger: external module with a 316L stainless steel plate

heat exchanger for the production of domestic hot water

INSULATION

- Polyester fibre insulating layer, thickness 100 mm, with a high level of heat insulation and conductivity coefficient of 0.035 W/mK Fire resistance class B-s2d0 according to standard EN 13501
- Grey PVC exterior coating complete with upper PVC cover
- External module clad in painted sheet metal and insulated on the inside.

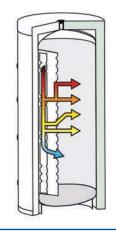
HEAT EXCHANGERS

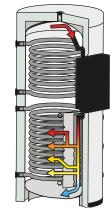
2 fixed carbon steel coils for solar thermal and high temperatures



The figure shows the connection layout of 500 and 800 litre models

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- Thermal storage tank: reservoir of heating system water acting as a thermal flywheel. Inside the thermal storage tank there are a labyrinth diffuser (patented system) on the DHW module and two other labyrinth diffusers on both sides of the tank which ensure perfect stratification of technical inlet water coming from the heat pump and of technical outlet water at the instantaneous production module output. The labyrinth diffuser is located on both sides of the storage tank and is arranged so as to make it possible to maintain the stratification regardless of the connection used for the inlet technical water coming from the heat pump.
- **DHW production module:** an external unit that instantly heats domestic water by exploiting the heat stored in the puffer, ensuring hygiene and comfort as well as the possibility of regulating the outlet temperature. The module consists of a stainless steel plate exchanger, an on/off pump and a 3-way valve for temperature-controlled pre-mixing on the exchanger inlet (primary side), which prevents excessively high temperatures in the exchanger itself while considerably reducing the risk of limescale build-up.

WITHDRAWAL DATA**

RYTPSH 300	P = 0 kW		P = 5 kW		P = 10 kW		P = 1	15 kW	P = 2	20 kW	P = 25 kW	
HTTPSH 300	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	334	10	420	10	566	10	866	10	1846	10	infinite
Initial T	20	334	20	372	20	420	20	482	20	566	20	684
storage 50C°	26,3	334*	26,3	362*	26,3	396*	26,3	436*	26,3	485*	26,3	547*
DHW 10C°/45C°	10	264	10	332	10	447	10	684	10	1459	10	infinite
Initial T	20	264	20	294	20	332	20	381	20	447	20	541
storage 50C°	21	264	21	293	21	328	21	373	21	433	21	515

- $\mathbf{Q} =$ flow rate of domestic hot water withdrawn from the coil in l/min
- **P** = power in kW of the connected heat pump under the conditions considered (e.g. outdoor T)
- V = maximum quantity of DHW that can be produced under the specified conditions
- * = DHW outlet temperature 42.6 °C
- ** withdrawal data refer only to the use of heat pump and not to a solar thermal source or other high temperature sources.



WITHDRAWAL DATA**

RYTPSH 500	P = 0 kW		P = 15 kW		P = 20 kW		P = 2	25 kW	P = 3	30 kW	P = 3	35 kW
หาเคอกอบบ	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	557	10	1444	10	3078	10	infinite	10	infinite	10	infinite
Initial T	20	557	20	804	20	943	20	1141	20	1444	20	1966
storage 50C°	26,3	557	26,3	727	26,3	809	26,3	912	26,3	1045	26,3	1224
DHW 10C°/45C°	10	441	10	1143	10	2437	10	infinite	10	infinite	10	infinite
Initial T	20	441	20	636	20	747	20	904	20	1143	20	1556
storage 50C°	21	441	21	623	21	723	21	861	21	1063	21	1389

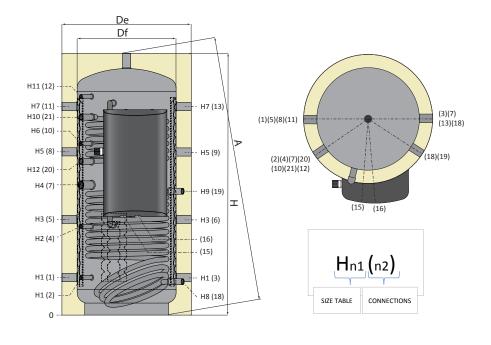
RYTPSH 800	P =	P = 0 kW		P = 15 kW		P = 20 kW		25 kW	P = 3	30 kW	P = 3	35 kW
11111 011 000	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)	Q (I/min)	V (I)
DHW 10C°/45C°	10	891	10	2310	10	4924	10	infinite	10	infinite	10	infinite
Initial T	20	891	20	1286	20	1509	20	1825	20	231	20	3145
storage 50C°	26,3	891	26,3	1163	26,3	1294	26,3	1459	26,3	1672	26,3	1958
DHW 10C°/45C°	10	705	10	1828	10	3896	10	infinite	10	infinite	10	infinite
Initial T	20	705	20	1018	20	1194	20	1444	20	1828	20	2488
storage 50C°	21	705	21	996	21	1156	21	1376	21	1699	21	2221

 $\mathbf{Q} =$ flow rate of domestic hot water withdrawn from the coil in l/min

 $\mathbf{P} = \text{power in kW of the connected heat pump under the conditions considered (e.g. outdoor T)}$

y = power in wor the confected near unity under the conditions considered (e.g. V = maximum quantity of DHW that can be produced under the specified conditions
 * = DHW outlet temperature 42.6 °C

withdrawal data refer only to the use of heat pump and not to a solar thermal source or other high temperature sources.



	CONNECTIONS
	CONNECTIONS
1-3	Return to heat pump - 1"1/2 Gas F
2	Probe - 1/2" Gas F
4	Probe - 1/2" Gas F
5-6	Inlet for water from heat pump* - 1"1/2 Gas F
7	Backup heating element - 1"1/2 Gas F
8-9	Return to Generator* - 1"1/2 Gas F
10	Probe - 1/2" Gas F
11-13	Inlet for water from heat pump / from Generator* - 1"1/2 Gas F
12	Probe - 1/2" Gas F
15	DHW outlet - 1" Gas M
16	DHW inlet - 1" Gas M
18	Lower fixed coil outlet - 1" Gas F
19	Lower fixed coil outlet - 1" Gas F
20	Upper fixed coil outlet - 1" Gas F
21	Upper fixed coil inlet - 1" Gas F

* in the presence of a second high temperature generator that works directly on the upper part of the storage tank



It is recommended not to use the connection on the top of tank for the delivery from a heat pump or a high temperature generator to avoid any stratification spoiling.



It is recommended to use this thermal storage tank for the production of sanitary hot water only and not as auxiliary heating source on system side. In this case, the use of a dedicated tank is recommended.

SIZE TABLE

Capacity	Df	De	Н	A	H1	H2	Н3	H4	Н5	Н6	H7	Н8	Н9	H10	H11	H12
[litres]								[m	m]							
300	550	750	1360	1374	232	425	497	645	762	870	1048	195	604	1002	1085	762
500	650	850	1719	1737	247	583	629	904	1011	1124	1393	220	814	1301	1393	1011
800	790	990	1888	1915	265	613	690	898	1115	1138	1541	265	749	1428	1138	1020

This series of thermal storage tanks, fruit of a partnership combining the experience of Galletti and Cordivari, was specifically conceived for pairing with heat pumps.

dedicated heat pumps solutions\DHW TANKS



 $\ensuremath{^{\star}}$ Check in table 1 the coupling of heating element and DHW production tank

	RYR02M	RYR03M	RYR06T	RYR12T
RYTN300	~	~	-	-
RYTN600	~	~	~	-
RYTN800	~	~	~	~
RYTNSH300	~	~	-	-
RYTNSH600	~	~	~	-
RYTNSH800	~	~	~	~
RYTP300	~	~	-	-
RYTP500	~	~	~	-
RYTP800	~	~	~	~
RYTPSH300	~	~	-	-
RYTPSH500	V	~	~	-
RYTPSH800	~	~	~	~

Table 1 - Tank - heating elements combinations



TOTAL HEAT RECOVERY MULTI-PURPOSE REVERSIBLE AIR/WATER HEAT PUMPS

- > HEATING
- > AIR CONDITIONING
- > COOLING
- > COOLING
- > DEHUMIDIFICATION
- > DOMESTIC HOT WATER
- > 2 AND 4 PIPES SYSTEMS
- > MAXIMUM ENERGY EFFICIENCY
- > TOTAL HEAT RECOVERY
- > INTEGRATED HYDRONIC SYSTEM
- > SMART DEFROST SYSTEM

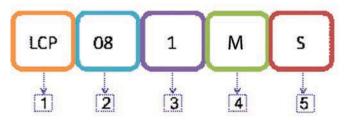
LCP multifunctional units are air conditioning and domestic hot water (DHW) production units conceived for both residential and industrial use and designed to operate 24 hours a day.

They cover a wide range of heating capacities, from 50 to 370 kW, guaranteeing a high thermodynamic efficiency and broad configurability, both in terms of accessories and cooling circuits.

All units of the LCP series, regardless of size, can be made in a standard configuration "S" or a low-noise configuration "L", in which the compressors and compressor compartment are covered with sound-deadening material and the unit is specially dimensioned so as to be compatible with a reduced fan speed.

All units of the LCP series, regardless of size, can be coupled with both 2and 4-pipe systems; the letter "P" indicates heat pump with total recovery for 4-pipe systems and the letter "M" indicates multifunctional heat pump for 2-pipe systems.

The LCP units are identified by the following code:



- 1 Initials identifying the Galletti model (example: "LCP" unit)
- 2 Unit size expressed in rated cooling capacity x10 [kW] (example: $08 \ge 80 \text{ kW}$)
- 3 Efficiency Pack: layout of cooling circuit and compressors (example: Efficiency Pack 1)
- 4 Unit version (example: "H", Multifunctional)
- 5 Unit configuration (example: "S", optional sound insulation not present)

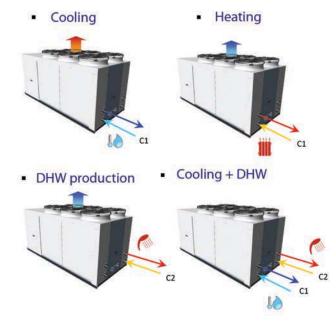
LCP multifunctional units have 4 water connections for two different plumbing circuits for 2- or 4-pipe systems:

Circuit 1, production of chilled water (or hot water if the unit is reversible like LCP M)

Circuit 2, production of hot water through total heat recovery



Schematic illustration of the operating modes available for an $\mathbf{LCP}\ \mathbf{M}$ which interfaces with a 2-pipe air conditioning system and guarantees the production of hot or cold water on the primary side and the simultaneous production of hot water on the total recovery side.



Schematic illustration of the operating modes available for an **LCP P** unit which interfaces with a 4-pipe heating/air conditioning system and quarantees the simultaneous production of hot and cold water



Cooling + Heating



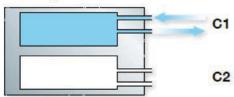


OPERATING MODES OF LCP M TOTAL HEAT RECOVERY MULTI-PURPOSE UNITS

Cooling

In the "Chiller" mode the LCP M multifunctional unit chills water to cool a room on the user side, dissipating the condensation heat in air by means of a finned block condenser.



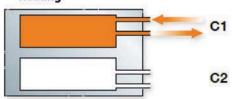


Heating

In the "Heat Pump" mode the LCP M unit heats the water in the condenser to provide heating on the user side, absorbing the evaporative cooling capacity in air by means of a finned block heat exchanger.

In other words, a certain amount of heat is drawn from the thermal source, air, which is delivered to the user after reaching a thermal level such as to satisfy needs.

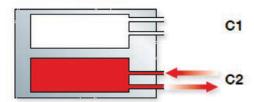
Heating



Hot water production (for sanitary use-DHW)

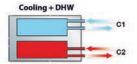
In the "Production of High-temperature Hot Water for sanitary use (DHW)" mode the LCP M multifunctional unit heats water in the second condenser, absorbing the evaporative cooling capacity in air by means of a finned block heat exchanger.

Domestic hot water



Cooling and hot water production through total recovery

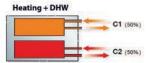
In the "Chiller + DHW" mode the LCP M multifunctional unit can produce chilled water with the simultaneous production of high-temperature hot water for sanitary use, thanks to total heat recovery.





Production of hot water (for example for sanitary use) simultaneously with heating

In the "Simultaneous DHW Production and Heating" mode the LCP M multifunctional unit heats water in parallel, optimally exploiting the complete independence of its thermodynamic circuits. Capacity is equally divided between the two circuits.





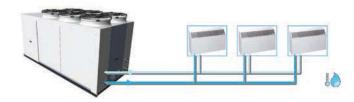
LCP units enable the installation of a simple air conditioning system, either 2-pipe or 4-pipe.

The designation "two-pipe" or "four-pipe" refers to the system for distributing the water used by all the air conditioning equipment of a building.

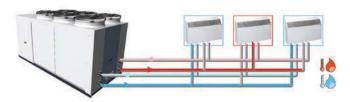
A two-pipe system has a single supply line and a single line for the return of water to the unit. The indoor units served by a two-pipe system contain only an exchanger, which works alternatively as a heating or cooling coil, according to the operating mode.

The four-pipe system has a distribution system that simultaneously offers both hot water (with respective return lines) and chilled water (with respective return lines) (for example, cooling systems with dehumidification + post-heating).

Schematic illustration of a 2-pipe air conditioning system:



Schematic illustration of a 4-pipe air conditioning system:



Two-pipe systems are less flexible than a four-pipe system, since the entire building is alternatively in the heating or cooling mode; however, they enable large savings to be achieved when it comes to installing the system. If design requirements call for a 4-pipe system, LCP P units, compatible with this configuration, are available on request.



POSSIBLE COMBINATIONS OF OPERATING MODES WITH VARIATIONS IN THERMAL LOAD

The possible operating modes of LCP units under partial load conditions are listed in the tables below.

The units are equipped with two thermodynamic circuits and two or four compressors, which combine their operation to satisfy the variable requirements of the air conditioning system.

For example, in the winter mode, LCP units are capable of dividing their power evenly, 50% to domestic hot water and 50% to heating.

Unit with 2 Compressors 2 Cooling circuits:

	Summer Mode:		Winter Mode:
•	100% Cooling 50% Cooling	•	100% Heating 50% Heating
•	100% Cooling + 100% DHW 50% Cooling + 50% DHW		
•	50% Cooling + 100% DHW 100% Cooling + 50% DHW	•	50% Heating + 50% DHW
•	100% DHW 50% DHW	•	100% DHW 50% DHW

Unit with 4 Compressors 2 Cooling circuits:

	Summer Mode:	Winter Mode:
•	100% Cooling 75% Cooling 50% Cooling 25% Cooling	 100% Heating 75% Heating 50% Heating 25% Heating
•	100% Cooling + 100% DHW 75% Cooling + 75% DHW 50% Cooling + 50% DHW 25% Cooling + 25% DHW	
•	50% Cooling + 100% DHW 25% Cooling + 100% DHW 100% Cooling + 50% DHW 100% Cooling + 25% DHW	 50% Heating + 50% DHW 50% Heating + 25% DHW 25% Heating + 50% DHW 25% Heating + 25% DHW
•	100% DHW 75% DHW 50% DHW 25% DHW	• 100% DHW • 75% DHW • 50% DHW • 25% DHW

SOLUTION TO THE PROBLEM OF DEFROSTING

LCP units provide excellent thermodynamic efficiency and utmost flexibility of use, thanks to constant product research: they can drive a 2- or 4-pipe system, produce DHW simultaneously with chilled water and cover a wide range of capacities.

The combined application of scroll compressors, advanced control systems and the refrigerant gas R410A results in compact circuits and high COPs.

Thanks to the presence of two thermodynamic circuits which are completely independent of each other, the LCP M presents itself on the market as a unique offering, capable of producing hot water for heating while simultaneously carrying out a defrost cycle or guaranteeing the replenishment of domestic hot water.

During the wintertime period, especially with temperatures ranging between 3° C and $+3^{\circ}$ C, the high ambient relative humidity causes the formation of water condensation around the exchanger fins.

Since the exchanger is at a lower temperature than the outdoor air, the water in contact with it ends up hindering the heat exchange necessary for the system to work correctly.

A defrost cycle is a temporary reversal of the thermodynamic cycle which switches the unit into the summer mode and melts the ice present between fins.

This phase is obviously problematic, since the cooling cycle warms up the exchanger by drawing heat from the room that was previously being heated. The circuit that is defrosting will draw heat on the user side (that is, not on the DHW side) if the unit is LCP M, and will heat on the hot water user side if the unit is LCP P.

The LCP unit reduces this problem with the following technical innovations:

Hydrophilic coils are installed; these break down the drops of water into particles and reduce the obstruction of the space between one fin and another caused by ice build-up.

Thanks to a lower surface tension, the water tends to slide and precipitate by gravity, preventing the formation of frost at low temperatures.



The software which manages the defrost cycle minimizes the time it takes to complete it and only acts when it is really necessary. The fans are pushed to their maximum capacity at just the right time, that is, when the ice is no longer stuck to the fins, and mechanically ejects it from the heat exchanger.

The two thermodynamic circuits in the LCP M and LCP P are completely independent and while one defrosts, the other circuit is able to ensure continuity in the unit's operation, with practically no thermal discomfort for the user.

Separate defrosting





LCP - HS / PS			41	51	61	71	81	94	104	124
	Cooling capacity (1)	kW	51,7	56,4	67,6	74,18	82,82	102,3	111,46	134,64
	Total Input power (1)	kW	15,93	17,9	20,4	22,9	26,64	32,3	36,5	43,42
	EER (1)		3,25	3,14	3,31	3,23	3,11	3,17	3,05	3,1
	Cooling capacity (2)	kW	50,6	56,1	59,3	73,18	83,97	101,9	112,13	131,01
	Heating capacity (2)	kW	65,22	72,2	79,1	93,76	107,15	130,64	144,33	167,86
	Total Input power (2)	kW	16,29	18,12	22	23,41	26,45	32,59	36,23	45,08
ge	Total COP (2) (**)		7,68	7,57	7,79	7,71	7,83	7,69	7,57	6,2
N E	Heating capacity (3)	kW	77,81	86	100,44	111,01	124,3	154,24	170,45	199,68
Summe r Mode	Total Input power (3)	kW	18,18	20,21	23,43	26,09	28,96	36,33	40,4	49,82
n _S	COP (3)		4,28	4,26	4,29	4,25	4,29	4,25	4,22	4,01
	Heating capacity (4)	kW	56,25	62,05	72,89	80,77	89,38	11,45	123,08	146,96
	Total Input power (4)	kW	15,96	17,83	20,78	23,18	26,07	31,9	35,49	44,53
<u> </u>	COP (4)		3,52	3,48	3,51	3,48	3,46	3,49	3,47	3,3
Winter Mode	Heating capacity (5)	kW	55,63	61,26	71,98	79,64	89,14	110,25	121,39	145,08
a a a	Total Input power (5)	kW	16	19,2	22,33	25,17	28,25	34,39	38,38	47,63
<u> </u>	COP (5)		3,23	3,19	3,22	3,16	3,16	3,21	3,16	3,05
Expansion tanks		dm ³	8	8	8	8	8	12	12	25
Tank capacity (*)		dm ³	200	200	220	220	220	340	340	600
Frame			1	1	2	2	2	3+	3+	4
Height		mm	1720	1720	1720	1720	1720	1720	1720	1830
Length		mm	2010	2010	2360	2360	2360	3540	3540	3540
Depth		mm	1185	1185	1185	1185	1185	1185	1185	1654
Sound pressure @ 10 m Q=2		dB(A)	52	52	53	53	53	54	54	56
LCP - HS / PS			144	164	194	214	244	274	294	324
	Cooling capacity (1)	kW	147,92	166,53	193,63	220,56	238,6	264,3	298,97	314,03
	Total Input power (1)	kW	48,42	54,84	66,19	74,6	83,14	98,3	101,96	114,5
			70,72	34,04				30,0		
	EER (1)	KW	3,05	3,04	2,93	2,96	2,87	2,89	2,93	2,73
		kW		_	_	2,96 222,23	_			_
	EER (1)		3,05	3,04	2,93		2,87	2,89	2,93	2,73
	EER (1) Cooling capacity (2)	kW	3,05 144,86	3,04 165,08	2,93 197,74	222,23	2,87 245,72	2,89 268,79	2,93 304,5	2,73 326,61
ode .	EER (1) Cooling capacity (2) Heating capacity (2)	kW kW	3,05 144,86 186,26	3,04 165,08 211,79	2,93 197,74 252,69	222,23 286,12	2,87 245,72 315,58	2,89 268,79 345,39	2,93 304,5 390,66	2,73 326,61 422,71
r Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2)	kW kW	3,05 144,86 186,26 49,88	3,04 165,08 211,79 55,46	2,93 197,74 252,69 64,14	222,23 286,12 73,55	2,87 245,72 315,58 79,83	2,89 268,79 345,39 89,04	2,93 304,5 390,66 99,1	2,73 326,61 422,71 109,56
nme r Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**)	kW kW kW	3,05 144,86 186,26 49,88 7,6	3,04 165,08 211,79 55,46 7,67	2,93 197,74 252,69 64,14 7,79	222,23 286,12 73,55 7,56	2,87 245,72 315,58 79,83 7,63	2,89 268,79 345,39 89,04 7,62	2,93 304,5 390,66 99,1 7,66	2,73 326,61 422,71 109,56 7,41
Summe r Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3)	kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11	3,04 165,08 211,79 55,46 7,67 250,03	2,93 197,74 252,69 64,14 7,79 291,94	222,23 286,12 73,55 7,56 339,2	2,87 245,72 315,58 79,83 7,63 368,62	2,89 268,79 345,39 89,04 7,62 408,75	2,93 304,5 390,66 99,1 7,66 459,56	2,73 326,61 422,71 109,56 7,41 468,18
Summer Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3)	kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96	3,04 165,08 211,79 55,46 7,67 250,03 61,17	2,93 197,74 252,69 64,14 7,79 291,94 70,72	222,23 286,12 73,55 7,56 339,2 81,35	2,87 245,72 315,58 79,83 7,63 368,62 89,05	2,89 268,79 345,39 89,04 7,62 408,75 99,49	2,93 304,5 390,66 99,1 7,66 459,56 110,46	2,73 326,61 422,71 109,56 7,41 468,18 121,47
Summer Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3)	kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13	222,23 286,12 73,55 7,56 339,2 81,35 4,17	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85
	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4)	kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81
	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4)	kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4
	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4)	kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16
Winter Mode Summer Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5)	kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28 160,5	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41 327,79	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16
	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28 160,5 53,34	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91 59,52	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77 69,09	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71 78,92	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27 84,41	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45 93,82	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41 327,79 104,35	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16 337,6 115,57
Winter Mode	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28 160,5 53,34 3,01	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91 59,52 3,01	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77 69,09 3,04	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71 78,92 3,09	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27 84,41 3,13	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45 93,82 3,11	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41 327,79 104,35 3,14	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16 337,6 115,57 2,92
ay Now Law III Now III	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28 160,5 53,34 3,01 25	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91 59,52 3,01 25	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77 69,09 3,04 25	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71 78,92 3,09	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27 84,41 3,13	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45 93,82 3,11 25	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 327,79 104,35 3,14	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16 337,6 115,57 2,92
Expansion tanks Tank capacity (*) Frame	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW kW kW kW	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 160,5 53,34 3,01 25 600	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91 59,52 3,01 25 600	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77 69,09 3,04 25 600	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71 78,92 3,09 25 600	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27 84,41 3,13 25 600	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45 93,82 3,11 25 765	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41 327,79 104,35 3,14 25	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16 337,6 115,57 2,92 25 765
Expansion tanks Tank capacity (*) Frame Height	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW dm3 dm3	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28 160,5 53,34 3,01 25 600	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91 59,52 3,01 25 600	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77 69,09 3,04 25 600	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71 78,92 3,09 25 600 5	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27 84,41 3,13 25 600 5	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45 93,82 3,11 25 765 6	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41 327,79 104,35 3,14 25 765 6	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16 337,6 115,57 2,92 25 765 6
Expansion tanks Tank capacity (*) Frame	EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW kW kW kW kW kW kW k	3,05 144,86 186,26 49,88 7,6 218,11 54,96 3,97 162,66 49,53 3,28 160,5 53,34 3,01 25 600 4	3,04 165,08 211,79 55,46 7,67 250,03 61,17 4,09 180,94 55,32 3,29 178,91 59,52 3,01 25 600 4	2,93 197,74 252,69 64,14 7,79 291,94 70,72 4,13 211,29 63,77 3,33 209,77 69,09 3,04 25 600 5	222,23 286,12 73,55 7,56 339,2 81,35 4,17 246,24 73,25 3,38 243,71 78,92 3,09 25 600 5	2,87 245,72 315,58 79,83 7,63 368,62 89,05 4,14 266,66 78,61 3,41 264,27 84,41 3,13 25 600 5	2,89 268,79 345,39 89,04 7,62 408,75 99,49 4,11 294,59 87,35 3,39 291,45 93,82 3,11 25 765 6 2174	2,93 304,5 390,66 99,1 7,66 459,56 110,46 4,16 330,97 97,41 3,41 327,79 104,35 3,14 25 765 6	2,73 326,61 422,71 109,56 7,41 468,18 121,47 3,85 340,81 108,4 3,16 337,6 115,57 2,92 25 765 6

⁽¹⁾ Summer mode for production of chilled water alone on exchanger "S1" @ 12/7°C with outdoor air 35°C.

⁽²⁾Summer mode for simultaneous production of chilled water on exchanger "S1" @ 12/7°C and hot water on exchanger "S2" @ 40/45°C.

⁽³⁾ Summer mode for production of hot water alone on exchanger "S2" @ 45/50? with outdoor air 35°C.

⁽⁴⁾ Winter mode for production of hot water alone on exchanger "S1" @ 40/45°C with outdoor air 7°C RH90% [possible with unit in version "H"].

⁽⁵⁾ Winter mode for production of hot water alone on exchanger "S2" @ 40/50? with outdoor air 7°C RH90%.



LCP - HL / PL			41	51	61	71	81	94	104	124
	Cooling capacity (1)	kW	49,6	53,84	65,05	70,82	78,62	98,03	105,94	127,62
	Total Input power (1)	kW	16,22	18,54	20,64	23,56	27,73	33,05	37,82	44,39
	EER (1)	KVV	3,1	2,9	3,1	3	2,73	2,9	2,7	2,8
	Cooling capacity (2)	kW	50.86	56.1	66,1	73.18	83.97	101.9	112,13	131.01
	Heating capacity (2)	kW	65,22	72,2	84,47	93,76	107,15	130,64	144,33	167,86
	Total Input power (2)	kW	15,66	17,49	20,13	22,47	25,21	31,33	34,98	42.8
<u> </u>	Total COP (2) (**)	KVV	7,68	7,57	7,79	7,71	7,83	7.69	7,57	7,71
© E	Heating capacity (3)	kW	77,12	85,23	99,12	109,24	123,37	152,21	167,41	193,59
Ē	Total Input power (3)	kW	17,12	19,57	22,48	25,04	27,91	35,02	39,11	47,48
Summe r Mode	COP (3)	KW	4.4	4.36	4,41	4.36	4,42	4,35	4,28	4.08
	Heating capacity (4)	kW	55,72	61,47	72,22	80,03	88,54	110,4	121,91	141
	Total Input power (4)	kW	15.32	17.19	19.83	22,23	25,14	30.63	34,22	42.16
	COP (4)	KW	3,64	3,58	3,64	3,6	3,52	3,6	3,56	3,34
Win ter Mode	Heating capacity (5)	kW	55,13	60,7	70,7	78,32	87,53	108,39	119,32	138,73
Z Z	Total Input power (5)	kW	16,57	18,56	21,37	24,13	27,34	32,97	36,94	45,27
Nii.	COP (5)	KII	3,33	3,27	3,31	3,25	3,2	3,29	3,23	3,06
Expansion tanks	001 (0)	dm ³	8	8	8	8	8	12	12	25
Tank capacity (*)		dm ³	200	200	220	220	220	340	340	600
Frame		un	1	1	2	2	2	3+	3+	4
Height		mm	1720	1720	1720	1720	1720	1720	1720	1830
Length		mm	2010	2010	2360	2360	2360	3540	3540	3540
Depth		mm	1185	1185	1185	1185	1185	1185	1185	1654
Sound pressure @ 10 m Q=2		dB(A)	45	46	48	48	48	49	49	51
LCP - HL / PL		(. ,)	144	164	194	214	244	274	294	324
1	Cooling capacity (1)	kW	138.51	153.76	187.63	215.12	232.67	258.62	291.7	304.57
	Cooling capacity (1) Total Input power (1)	kW kW	138,51 50.51	153,76 58.58	187,63 66.59	215,12 75.13	232,67 84.02	258,62 91.7	291,7 103.37	304,57 117.32
	Cooling capacity (1) Total Input power (1) EER (1)	kW kW	138,51 50,51 2,7	153,76 58,58 2,6	187,63 66,59 2,7	215,12 75,13 2,9	232,67 84,02 2,8	258,62 91,7 2,7	291,7 103,37 2,7	304,57 117,32 2,6
	Total Input power (1) EER (1)	kW	50,51 2,7	58,58 2,6	66,59 2,7	75,13 2,9	84,02 2,8	91,7 2,7	103,37 2,7	117,32 2,6
	Total Input power (1) EER (1) Cooling capacity (2)	kW	50,51 2,7 144,86	58,58 2,6 165,08	66,59 2,7 197,74	75,13 2,9 222,23	84,02 2,8 245,72	91,7 2,7 268,79	103,37 2,7 304,5	117,32 2,6 326,61
	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2)	kW	50,51 2,7	58,58 2,6	66,59 2,7 197,74 252,69	75,13 2,9	84,02 2,8 245,72 215,58	91,7 2,7	103,37 2,7	117,32 2,6
nde	Total Input power (1) EER (1) Cooling capacity (2)	kW kW kW	50,51 2,7 144,86 186,26	58,58 2,6 165,08 211,79	66,59 2,7 197,74	75,13 2,9 222,23 286,12	84,02 2,8 245,72	91,7 2,7 268,79 245,39	103,37 2,7 304,5 390,66	117,32 2,6 326,61 422,71
r Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**)	kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6	58,58 2,6 165,08 211,79 53,18 7,67	66,59 2,7 197,74 252,69 61,86 7,79	75,13 2,9 222,23 286,12 71,27 7,56	84,02 2,8 245,72 215,58 77,55 7,63	91,7 2,7 268,79 245,39 86,74 7,62	103,37 2,7 304,5 390,66 96,8 7,66	117,32 2,6 326,61 422,71 107,26 7,41
ıme r Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2)	kW kW kW	50,51 2,7 144,86 186,26 47,6	58,58 2,6 165,08 211,79 53,18	66,59 2,7 197,74 252,69 61,86	75,13 2,9 222,23 286,12 71,27	84,02 2,8 245,72 215,58 77,55	91,7 2,7 268,79 245,39 86,74	103,37 2,7 304,5 390,66 96,8	117,32 2,6 326,61 422,71 107,26
Summe r Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3)	kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26	58,58 2,6 165,08 211,79 53,18 7,67 245,93	66,59 2,7 197,74 252,69 61,86 7,79 290,62	75,13 2,9 222,23 286,12 71,27 7,56 339,2	84,02 2,8 245,72 215,58 77,55 7,63 368,62	91,7 2,7 268,79 245,39 86,74 7,62 405,16	103,37 2,7 304,5 390,66 96,8 7,66 459,56	117,32 2,6 326,61 422,71 107,26 7,41 468,18
Summer Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3)	kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17
Summer Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3)	kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93
	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4)	kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81
	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4)	kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1
	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4)	kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21
Win br Mode Summer Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5)	kW kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3 153,7	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09
	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 47,06 3,3 153,7 50,88	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87 57,32	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15 66,57	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62 76,65	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1 82,11	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44 91,16	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32 102,03	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09 114,27
Winter Mode	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3 153,7 50,88 3,02	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87 57,32 3,12	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15 66,57 3,11	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62 76,65 3,17	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1 82,11 3,2	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44 91,16 3,19	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32 102,03 3,2	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09 114,27 2,94
ag was well as	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3 153,7 50,88 3,02 25	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87 57,32 3,12 25	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15 66,57 3,11 25	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62 76,65 3,17 25	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1 82,11 3,2	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44 91,16 3,19	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32 102,03 3,2	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09 114,27 2,94
Expansion tanks Tank capacity (*)	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW kW kW kW kW	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3 153,7 50,88 3,02 25 600	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87 57,32 3,12 25 600	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15 66,57 3,11 25 600	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62 76,65 3,17 25 600	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1 82,11 3,2 25 600	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44 91,16 3,19 25 765	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32 102,03 3,2 25 765	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09 114,27 2,94 25 765
Expansion tanks Tank capacity (*) Frame	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW dm³ dm³	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3 153,7 50,88 3,02 25 600	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87 57,32 3,12 25 600 4	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15 66,57 3,11 25 600 5	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62 76,65 3,17 25 600 5	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1 82,11 3,2 25 600 5	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44 91,16 3,19 25 765 6	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32 102,03 3,2 25 765 6	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09 114,27 2,94 25 765 6
Expansion tanks Tank capacity (*) Frame Height	Total Input power (1) EER (1) Cooling capacity (2) Heating capacity (2) Total Input power (2) Total COP (2) (**) Heating capacity (3) Total Input power (3) COP (3) Heating capacity (4) Total Input power (4) COP (4) Heating capacity (5) Total Input power (5)	kW kW kW kW kW kW kW makw kW kW makw kW makw kW makw mm	50,51 2,7 144,86 186,26 47,6 7,6 214,26 52,67 4,07 155,52 47,06 3,3 153,7 50,88 3,02 25 600 4	58,58 2,6 165,08 211,79 53,18 7,67 245,93 58,67 4,19 178,39 53,08 3,36 178,87 57,32 3,12 25 600 4 1830	66,59 2,7 197,74 252,69 61,86 7,79 290,62 68,44 4,25 210,31 61,5 3,42 207,15 66,57 3,11 25 600 5	75,13 2,9 222,23 286,12 71,27 7,56 339,2 79,07 4,29 245,36 70,68 3,47 242,62 76,65 3,17 25 600 5	84,02 2,8 245,72 215,58 77,55 7,63 368,62 86,77 4,25 266,66 76,33 3,49 263,1 82,11 3,2 25 600 5	91,7 2,7 268,79 245,39 86,74 7,62 405,16 97,12 4,17 294,59 85,05 3,46 290,44 91,16 3,19 25 765 6	103,37 2,7 304,5 390,66 96,8 7,66 459,56 108,16 4,25 330,97 95,11 3,48 326,32 102,03 3,2 25 765 6	117,32 2,6 326,61 422,71 107,26 7,41 468,18 119,17 3,93 340,81 106,1 3,21 336,09 114,27 2,94 25 765 6

⁽¹⁾Summer mode for production of chilled water alone on exchanger "S1" @ $12/7^{\circ}$ C with outdoor air 35° C.

⁽²⁾Summer mode for simultaneous production of chilled water on exchanger "S1" @ 12/7°C and hot water on exchanger "S2" @ 40/45°C.

⁽³⁾Summer mode for production of hot water alone on exchanger "S2" @ 45/50? with outdoor air 35°C.

(4)Winter mode for production of hot water alone on exchanger "S1" @ 40/45°C with outdoor air 7°C RH90% [possible with unit in version "H"].

⁽⁵⁾ Winter mode for production of hot water alone on exchanger "S2" @ 40/50? with outdoor air 7°C RH90%.



TOTAL HEAT RECOVERY MULTI-PURPOSE REVERSIBLE WATER/ WATER HEAT PUMPS

- > GEOTHERMAL SYSTEM
- > HEATING
- > AIR CONDITIONING
- > COOLING
- > DEHUMIDIFICATION
- > DOMESTIC HOT WATER
- > MAXIMUM ENERGY EFFICIENCY
- > TOTAL HEAT RECOVERY
- > EXTREMELY QUIET OPERATION

LEP units have been designed for medium-high capacity applications (e.g. multi-residential or commercial units) and cover a range of heating capacities, from 40 to 420 kW, guaranteeing a high thermodynamic efficiency and broad configurability, both in terms of accessories and cooling circuits.

LEP chillers have been designed as fully enclosed units to ensure exceptionally quiet operation, so that they need not be installed in a closed-off area, and they feature an innovative rounded shape which softens their aesthetic impact.

LEP multifunctional units have 6 water connections for three different plumbing circuits for 2-pipe systems:

- Circuit 1, production of chilled or hot water
- Circuit 2, production of hot or cold water for dissipation in opposition to user side
- Circuit 3, hot water production for sanitary use (DHW)

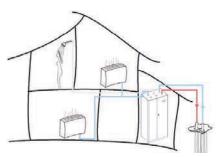
For this reason, multifunction units contain 3 distinct heat exchangers:

- "1" plate heat exchanger with evaporating and condensing function designed for user circuit
- "2" plate heat exchanger with evaporating and condensing function designed for dissipation circuit
- "3" plate heat exchanger designed for the DHW circuit with condensing function



OPERATING MODES OF LEP TOTAL HEAT RECOVERY MULTI-PURPOSE UNITS

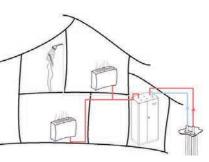
In the "Chiller" mode the unit cools water to air condition the interior on the user side, dissipating the condensation heat by means of water that is cooled in the dissipation exchanger.





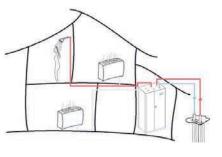
In the "Heat pump" mode the unit heats water in the condenser to

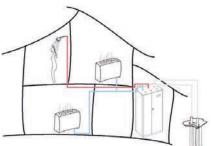
provide indoor heating on the user side, dissipating the evaporation cooling capacity by means of water that is heated in the dissipation exchanger. In other words, a certain amount of heat is drawn from the thermal source, which is delivered to the user after reaching a thermal level such as to satisfy needs.



In the "production of hightemperature sanitary hot water (DHW)" mode the unit heats water in the condenser, dedicated to DHW if necessary, dissipating the evaporative cooling capacity by means of water that is heated in the exchanger on the dissipation side.







LEP units enable the installation of a simple air conditioning system, either 2-pipe or 4-pipe.

The designation "two-pipe" or "four-pipe" refers to the system for distributing the water used by all the air conditioning equipment of a building.



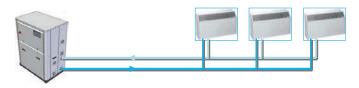


A two-pipe system has a single supply line and a single line for the return of water to the unit.

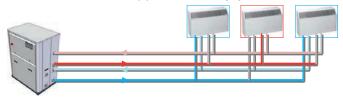
The indoor units served by a two-pipe system contain only an exchanger, which works alternatively as a heating and cooling coil, according to the operating mode.

The four-pipe system has a distribution system that simultaneously offers both hot water (with respective return lines) and chilled water (with respective return lines).

Schematic illustration of a 2-pipe air conditioning system:



Schematic illustration of a 4-pipe air conditioning system:





LEP technical data		42	52	62	72	82	92	112	132	142	144	162	164
					ser 12 - 7°C		n 15 - 30°C					4== 0	
Cooling capacity	kW	51,1	60,1	69,7	78,5	90,5	101	122,1	139,2	159,5	159,3	177,8	178,3
Electrical input	kW	8,65	11,2 7.9	12,2	14 22,5	15,3	17,4 27,9	20,2 32.3	23,2	27	27,9 44.8	31 49.6	30,8 49.4
Absorbed current EER	Α	13,9 5.91	5.38	19,5 5.73	5,59	24,6 5,9	5,8	6.06	3,2 6	43,3 5,91	5,71	5.75	5,82
USER Water flow	l/h	8777	10328	11976	13482	15535	17340	20965	23909	27398	27363	30542	30787
USER water pressure drops	kPa	37	49	50	48	38	48	41	50	48	47	52	52
DISSIPATION Water Flow	I/h	3414	4072	4678	5285	6043	6761	8127	9280	10656	10694	11952	11998
DISSIPATION Water pressure drop	kPa	7	9	7	9	7	8	7	9	8	8	9	9
Cooling and to			(DHW): use	r side tem							50°C		
Cooling capacity	kW	39,9	47,6	54,2	61,8	70,6	78,7	95,2	108,3	124,6	125,5	139,2	139,6
Heating capacity	kW	52,6	63,4	71,7	82,1	93,1	104,3	125,3	143,3	164,4	165,47	184	184,8
Electrical input	kW	13,4	16,6	18,4	21,3	23,7	27	31,7	36,9	41,9	42,3	47,1	47,6
Absorbed current	Α	21,5	26,6	29,6	34,2	38	43,3	50,8	59,1	67,2	67,9	75,6	76,3
TOTAL COP	1/6	6,9	6,68	6,83	6,75	6,92	6,78	6,96	6,83	6,9	6,88	6,86	6,82
USER Water flow	l/h kPa	6749 23	8178	9312	10618 31	12124 24	13508 30	16343 26	18601 32	21400 30	21545 31	23907	23975 33
USER water pressure drops DHW water flow	I/h	9163	32 11098	32 12489	14290	16206	18161	21807	24956	28621	28845	34 32034	32276
DHW pressure drops	kPa	38	54	40	53	40	50	41	53	49	50	54	55
DHW pressure grops	Kra	30			er 40 - 45°		on 15 - 10°(J 33	49	JU	J 4	33
Heating capacity	kW	59	70.9	80,5	91,7	104,4	116,9	140,3	160,3	184,2	185,5	206,3	207
Electrical input	kW	12,1	15,3	16.9	19,5	21,4	24.4	28,5	33.2	37.9	38,7	42.8	43,1
Absorbed current	A	19,5	24,5	27	31,2	34,4	39,1	45,8	53,2	60,7	62	68,7	69,2
COP		4,87	4,64	4,78	4,71	4,87	4,79	4,92	4,83	4,86	4,8	4,82	4,8
USER Water flow	l/h	10253	12322	13994	15941	18139	20315	24385	37855	32009	32243	35854	35982
USER water pressure drops	kPa	47	66	49	64	49	61	50	65	60	61	67	68
DISSIPATION Water Flow	l/h	8164	9694	11093	12594	14447	16114	19466	22145	25486	25589	28482	28558
DISSIPATION Water pressure drop	kPa	32	44	44	43	33	42	36	44	42	42	46	46
Heating consoit:	1444	E7.0			W 45 / 50°		on 15 / 10°		455.5	170 4	170.0	100.0	200.0
Heating capacity Electrical input	kW	57,2 13.4	68,8 16.8	77,9 18.6	89 21.4	101 23,7	113,3 27	136 31.7	155,5 36.9	178,4 41.9	179,8 42,7	199,6 47.2	200,6 47.7
Absorbed current	A	21,5	26,9	29,8	34,4	38,1	43,4	50.9	59,2	67.3	68.4	75.7	76,5
COP	A	4,26	4,1	4,2	4,15	4,25	4,19	4,29	4,21	4,25	4,21	4,23	4,2
USER Water flow	I/h	9954	11974	13568	15495	17586	19729	23683	27080	31061	31298	34754	34927
USER water pressure drops	kPa	45	62	47	61	47	58	48	64	57	58	63	64
DISSIPATION Water Flow	I/h	7638	9090	10370	11801	13492	15072	18212	20714	23817	23942	26613	26700
DISSIPATION Water pressure drop	kPa	29	39	39	38	29	37	32	39	37	37	41	41
Maximum absorbed current	Α	30	37	40	46	50	61	70	79	91	92	102	100
Inrush current	Α	111	156	157	164	176	203	238	244	289	197	2698	211
Sound power level	dB/A	72	72	73	73	74	76	76	77	77	80	77	80
LEP technical data		182	184	204	214	243	244	283	284	314	344	374	424
LEP technical data		182							284	314	344	374	424
LEP technical data Cooling capacity	[kW]	212,2			214 ser 12 - 7°0 244,8		244 n 15 - 30°C 284		284 317,5	314 349,5	344	374	424 475,7
	[kW]		Coolii	ng mode: u	ser 12 - 7°0	C, dissipatio	n 15 - 30°C	,					
Cooling capacity Electrical input Absorbed current		212,2 35,9 57,6	Cooli 206,5	224 37,5 60,1	ser 12 - 7°0 244,8 40,3 64,6	272,7 45,7 3,4	n 15 - 30°C 284 45,8 73,4	314 53,8 86,3	317,5 53,7 86,2	349,5 61,8 99,2	382,7 66,9 107,3	415,9 71,8 115,2	475,7 78,5 125,9
Cooling capacity Electrical input Absorbed current EER	[kW] [A] [-]	212,2 35,9 57,6 5,91	Coolii 206,5 34,4 55,2 6	224 37,5 60,1 5,98	ser 12 - 7°0 244,8 40,3 64,6 6,08	272,7 45,7 3,4 5,96	n 15 - 30°C 284 45,8 73,4 6,21	314 53,8 86,3 5,84	317,5 53,7 86,2 5,91	349,5 61,8 99,2 5,66	382,7 66,9 107,3 5,72	415,9 71,8 115,2 5,79	475,7 78,5 125,9 6,06
Cooling capacity Electrical input Absorbed current EER USER Water flow	[kW] [A] [-] [kg/h]	212,2 35,9 57,6 5,91 36436	Coolii 206,5 34,4 55,2 6 35456	224 37,5 60,1 5,98 38469	ser 12 - 7°0 244,8 40,3 64,6 6,08 42044	272,7 45,7 3,4 5,96 46837	n 15 - 30°C 284 45,8 73,4 6,21 48775	314 53,8 86,3 5,84 53931	317,5 53,7 86,2 5,91 54517	349,5 61,8 99,2 5,66 60081	382,7 66,9 107,3 5,72 65730	415,9 71,8 115,2 5,79 71427	475,7 78,5 125,9 6,06 81686
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops	[kW] [A] [-] [kg/h] [kPa]	212,2 35,9 57,6 5,91 36436 46	Coolin 206,5 34,4 55,2 6 35456 45	224 37,5 60,1 5,98 38469 51	244,8 40,3 64,6 6,08 42044 9	272,7 45,7 3,4 5,96 46837 51	284 45,8 73,4 6,21 48775 33	314 53,8 86,3 5,84 53931 39	317,5 53,7 86,2 5,91 54517 40	349,5 61,8 99,2 5,66 60081 48	382,7 66,9 107,3 5,72 65730 47	415,9 71,8 115,2 5,79 71427 46	475,7 78,5 125,9 6,06 81686 48
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow	[kW] [A] [-] [kg/h] [kPa] [kg/h]	212,2 35,9 57,6 5,91 36436 46 14171	Coolin 206,5 34,4 55,2 6 35456 45 13762	224 37,5 60,1 5,98 38469 51 14938	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288	272,7 45,7 3,4 5,96 46837 51 18194	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844	314 53,8 86,3 5,84 53931	317,5 53,7 86,2 5,91 54517	349,5 61,8 99,2 5,66 60081 48 23510	382,7 66,9 107,3 5,72 65730 47 25680	415,9 71,8 115,2 5,79 71427 46 27860	475,7 78,5 125,9 6,06 81686 48 31661
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop	[kW] [A] [-] [kg/h] [kPa] [kg/h]	212,2 35,9 57,6 5,91 36436 46 14171 8	Coolin 206,5 34,4 55,2 6 35456 45 13762 8	224 37,5 60,1 5,98 38469 51 14938 9	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288	272,7 45,7 3,4 5,96 46837 51 18194 9	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5	314 53,8 86,3 5,84 53931 39 21010 7	317,5 53,7 86,2 5,91 54517 40 21204 7	349,5 61,8 99,2 5,66 60081 48 23510 8	382,7 66,9 107,3 5,72 65730 47 25680 8	415,9 71,8 115,2 5,79 71427 46	475,7 78,5 125,9 6,06 81686 48
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling and t	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kPa] otal hea	212,2 35,9 57,6 5,91 36436 46 14171 8	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): use	ng mode: us 224 37,5 60,1 5,98 38469 51 14938 9	ser 12 - 7°C 244,8 40,3 64,6 6,08 42044 9 16288 9	272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12 -	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5	314 53,8 86,3 5,84 53931 39 21010 7 ery side tem	317,5 53,7 86,2 5,91 54517 40 21204 7	349,5 61,8 99,2 5,66 60081 48 23510 8	382,7 66,9 107,3 5,72 65730 47 25680 8	415,9 71,8 115,2 5,79 71427 46 27860 8	475,7 78,5 125,9 6,06 81686 48 31661 8
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop	[kW] [A] [-] [kg/h] [kPa] [kg/h]	212,2 35,9 57,6 5,91 36436 46 14171 8	Coolin 206,5 34,4 55,2 6 35456 45 13762 8	224 37,5 60,1 5,98 38469 51 14938 9	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288	272,7 45,7 3,4 5,96 46837 51 18194	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5	314 53,8 86,3 5,84 53931 39 21010 7	317,5 53,7 86,2 5,91 54517 40 21204 7	349,5 61,8 99,2 5,66 60081 48 23510 8	382,7 66,9 107,3 5,72 65730 47 25680 8	415,9 71,8 115,2 5,79 71427 46 27860	475,7 78,5 125,9 6,06 81686 48 31661
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kPa] otal hea	212,2 35,9 57,6 5,91 36436 46 14171 8 at recovery	Coolii 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): use 161,2	224 37,5 60,1 5,98 38469 51 14938 9er side tem 174,6 230,2 58,6	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9	272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12 - 215,2	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove	314 53,8 86,3 5,84 53931 39 21010 7 ery side ten 246,5	317,5 53,7 86,2 5,91 54517 40 21204 7	349,5 61,8 99,2 5,66 60081 48 23510 8 DHW) 45 - 1 275,5	382,7 66,9 107,3 5,72 65730 47 25680 8 50°C	415,9 71,8 115,2 5,79 71427 46 27860 8	475,7 78,5 125,9 6,06 81686 48 31661 8
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kPa] [kWa] [kWa] [kW] [kW]	212,2 35,9 57,6 5,91 36436 46 14171 8 at recovery 165,6 217,6	Coolii 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): use 161,2 211 53,4 85,7	ng mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93,9	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251	, dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6	314 53,8 86,3 5,84 53931 39 21010 7 ery side ten 246,5 324,7 82,3 132	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134	349,5 61,8 99,2 5,66 60081 48 23510 8 DHW) 45 - 9 275,5 365,2	382,7 66,9 107,3 5,72 65730 47 25680 8 60°C 303,3 397,5 102,3	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4	475,7 78,5 125,9 6,06 81686 48 31661 8
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kPa] [kW] [kW] [kW] [kW] [-]	212,2 35,9 57,6 5,91 36436 46 14171 8 at recovery 165,6 217,6 54,8 87,8	Coolii 206,5 34,4 55,2 6 335456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99	ng mode: u: 224 37,5 60.1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93,9 6,91	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98	, dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 vstem) 12 - 215,2 281,5 69,8 111,9 7,12	n 15 - 30°(284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08	314 53,8 86,3 5,84 53931 39 21010 7 rry side ten 246,5 324,7 82,3 132 6,94	317,5 53,7 86,2 5,91 54517 40 21204 7 10perature (1 249,8 329,2 83,6 134 6,93	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78	382,7 66,9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow	[kW] [A] [A] [-] [kg/h] [kPa] [kPa] otal hea [kW] [kW] [kW] [A] [-]	212,2 35,9 57,6 5,91 36436 46 14171 8 at recovery 165,6 217,6 54,8 87,8 7	Coolii 206,5 34,4 55,2 6 35456 45 13762 8 10HW): ust 161,2 211 53,4 85,7 6,99 27682	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9: side tem 174,6 230,2 58,6 93,9 6,91 29976	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98 32779	. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 vstem) 12 - 2215,2 281,5 69,8 111,9 7,12 36959	n 15 - 30°C 284 45.8 73,4 6.21 48775 33 13844 57°C, recove 222,9 391,9 72,7 116,6 7.08	314 53.8 86,3 5.84 53931 39 21010 7 7 246,5 324,7 82,3 132 6,94 42328	317,5 53,7 86,2 5,91 54517 40 21204 7 7 249,8 329,2 83,6 134 6,93 42905	349,5 61,8 99,2 5,66 60081 48 23510 80HW) 45 -1 275,5 365,2 94,5 151,5 6,78 47307	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water flow USER water pressure drops	[kW] [A] [A] [-] [kg/h] [kPa] [kPa] [kW] [kW] [kW] [kW] [kW] [kW] [KW] [KW] [KW] [KW] [KW]	212,2 35,9 57,6 5,91 36436 46 14171 8 recovery 165,6 217,6 54,8 87,8 7 28435 30	Coolii 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93,9 6,91 29976	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (8 190,9 251 63,3 101,5 6,98 32779 31	272,7 45,7 3,4 5,7 3,4 66837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recover 222,9 391,9 72,7 116,6 7,08 38272 22	314 53,8 86,3 5,84 53931 39 21010 7 7 246,5 324,7 82,3 132 6,94 42328 25	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31	382,7 66,9 107,3 5,72 65730 47 25680 8 60°C 303,3 397,5 102,3 164 6,82 51571 30	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow	[kW] [A] [-] [kg/h] [kPa] [kPa] [kW] [kW] [kW] [kW] [kW] [kW] [kW] [k] [kg/h]	212,2 35,9 57,6 5,91 36436 46 14171 8 1 recovery 165,6 217,6 54,8 87,8 7 28435 30 37884	Coolii 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899	ng mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 27 side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 16288 9 190,9 251 63,3 101,5 6,98 32779 31 43696	. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959 33	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823	314 53,8 86,3 5,84 53931 39 21010 7 ery side 246,5 324,7 82,3 132 6,94 42328 25 56523	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320	349,5 61,8 99,2 5,66 60081 48 23510 8 DHW) 45 - 275,5 365,2 94,5 151,5 6,78 47307 31 63582	382,7 66,9 107,3 5,72 65730 47 25680 8 8 50°C 102,3 164 6,82 51571 30 69200	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water flow USER water pressure drops	[kW] [A] [A] [-] [kg/h] [kPa] [kPa] [kW] [kW] [kW] [kW] [kW] [kW] [KW] [KW] [KW] [KW] [KW]	212,2 35,9 57,6 5,91 36436 46 14171 8 recovery 165,6 217,6 54,8 87,8 7 28435 30	Coolii 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 46	ng mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54	ser 12 - 7°(244,8 40,3 64,6 60,8 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98 32779 31 43696 52	272,7 45,7 3,4 5,96 46837 51 18194 9 ystem 12 - 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55	n 15 - 30°(284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 22 22 30823 32	314 53,8 86,3 5,84 53931 39 21010 7 ery side 5 324,7 82,3 132 6,94 42328 25 56523 40	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31	382,7 66,9 107,3 5,72 65730 47 25680 8 60°C 303,3 397,5 102,3 164 6,82 51571 30	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops	[kW] [A] [A] [-] [kg/h] [kPa] [kg/h] [kPa] [kW] [kW] [kW] [kW] [kW] [kW] [k] [-] [kg/h] [kPa]	212,2 35,9 57,6 5,91 36436 46 14171 8 165,6 217,6 54,8 87,8 7 28435 30 37884 48	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usu 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93.9 6,91 29976 33 40076 54 g mode: us	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45°	. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatio	n 15 - 30°C 284 45.8 73.4 6.21 48775 33 13844 57°C, recove 222.9 391.9 72.7 116.6 7.08 38272 22 50823 32 on 15 - 10°0	314 53,8 86,3 5,84 53931 39 21010 246,5 324,7 82,3 132 6,94 42328 25 56523 40	317,5 53,7 86,2 5,91 54517 40 21204 7 pperature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42	349,5 61,8 99,2 5,66 60081 48 23510 8 DHW) 45 - 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015	370,2 492,8 129,6 492,8 129 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kW] [kW] [kW] [kW] [kW] [kW] [kW] [kW	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 9 r side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 281,23	. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12-2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatii 315,1	n 15 - 30°C 284 45.8 73.4 6.21 48775 33 13844 57°C, recove 222.9 391,9 72,7 116,6 7,08 38272 22 50823 32 on 15 - 10°C	314 53.8 86,3 5.84 53931 39 21010 7 7 82,3 324,7 82,3 132 6,94 42328 25 56523 40	317,5 53,7 86,2 5,91 54517 40 21204 7 7 1249,8 329,2 83,6 134 6,93 42905 26 57320 42	349,5 61,8 99,2 5,66 60081 48 23510 8 8 94,5 151,5 6,78 47307 31 63582 5	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Heating capacity USER water flow USER water flow USER water flow DHW pressure drops Heating capacity Electrical input	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kPa] otal hea [kW] [kW] [kW] [kW] [kW] [kW] [k] [kPa] [kg/h] [kPa] [kPa]	212,2 35,9 57,6 5,91 36436 46 14171 8 at recovery 165,6 217,6 54,8 87,8 7 28435 30 37884 48	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 46 48,2	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 52,9	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (8 190,9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 281,23 57	272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatil 63,3	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recover 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 01 15 - 10°C 325,7 65,4	314 53.8 86,3 5.84 53931 39 21010 7 7 246,5 324,7 82,3 132 6,94 42328 25 56523 40 0 363 75,1	317,5 53,7 86,2 5,91 5,91 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5	382,7 66,9 107,3 5,72 65730 47 25680 8 60°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity	[kW] [A] [-] [kg/h] [kPa] [kPa] [kPa] [kW] [kW] [kW] [kW] [kW] [k] [kPa] [kg/h] [kPa] [kg/h] [kPa] [kg/h] [kPa]	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 9 84,8	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 16288 9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 281,23 57 91,4	. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 9 ystem) 12- 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatii 315,1 63,3	15 - 30°(284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 015 - 10°(325,7 65,4 104,9	314 53.8 86,3 5.84 53931 39 21010 7 7 82,3 324,7 82,3 132 6,94 42328 25 56523 40	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2	349,5 61,8 99,2 5,66 60081 48 23510 8 DHW) 45 -1 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current	[kW] [A] [-] [kg/h] [kPa] [kg/h] [kPa] otal hea [kW] [kW] [kW] [kW] [kW] [kW] [k] [kPa] [kg/h] [kPa] [kPa]	212,2 35,9 57,6 5,91 36436 46 14171 8 8 recovery 165,6 217,6 54,8 87,8 7 28435 30 37884 48	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 46 48,2	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 52,9	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (8 190,9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 281,23 57	272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatil 63,3	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recover 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 01 15 - 10°C 325,7 65,4	314 53,8 86,3 5,84 53931 39 21010 7 ery side ten 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C	317,5 53,7 86,2 5,91 5,91 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5	382,7 66,9 107,3 5,72 65730 47 25680 8 60°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP	[kW] [A] [-] [kg/h] [kPa] [fkg/h] [kPa] otal hea [kW] [kW] [kW] [-] [kg/h] [kPa] [kpa] [kpa] [kpa] [kw] [kw] [kw] [kw] [kw] [kw] [kw] [kw	212,2 35,9 57,6 5,91 36436 46 14171 8 4 recovery 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 9 r side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 52,9 84,8 4,85 4,4837 67	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98 32779 31 43696 52 281,23 57 91,4 4,94 4,8891 63	272,7 45,7 3,4 5,9 46837 51 18194 9 yestem) 12-2 281,5 69,8 111,9 7,12 36959 33 49008 55 C dissipatii 315,1 63,3 101,6 4,98 54768	n 15 - 30°C 284 45.8 73.4 6.21 48775 33 13844 57 70.7 70.7 70.7 70.7 70.7 70.7 70.7 7	314 53.8 86,3 5.84 53931 39 21010 7 246,5 324,7 82,3 132 6.94 42328 25 56523 40 C C 363 75,1 120,4 4,4,4 63082 48	317,5 53,7 86,2 5,91 54517 40 21204 7 7 1perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51	349,5 61,8 99,2 5,66 60081 48 23510 80 80 80 80 80 80 80 80 80 80 80 80 80	382,7 66,9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water flow DHW pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops USER Water flow USER water flow USER water flow USER Water flow USER Water flow USER Water flow USER Water flow USER water pressure drops DISSIPATION Water Flow	[kW] [A] [-] [Isg/h] [kPa] [kg/h] [kPa] [kg/h] [kPa] [kW] [kW] [kW] [[kW] [[kW] [[kW] [-1] [[kPa] [[kw] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [-1] [[kw] [[kw] [-1] [[kw] [[212,2 35,9 57,6 5,91 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 48,2 77,4 4,93 41353 57 33038	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258,9 84,8 4,85 44837 67 35730	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s) 190,9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 91,4 4,94 48891 63 39066	272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 ystem) 12- 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 c. dissipatil 63,3 101,6 4,98 54768 67	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recover 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 01 15 - 10°C 325,7 65,4 104,9 4,98 56606 39 45326	314 53.8 86,3 5,84 53931 39 21010 7 7 82,3 132 6,94 42328 25 56523 40 0 363 75,1 120,4 4,84 63082 48 50157	317,5 53,7 86,2 5,91 5,91 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 6,3868 51 50846	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 137,5 4,75 70853 62 56099	382,7 66,9 107,3 5,72 65730 47 25680 8 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 60 61287	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input COP USER Water flow USER water flow USER water flow USER water pressure drops USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow	IkW [A] [A] [A] [A] [A] [A] [A] [A] [A] [A]	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038	ng mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 er side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 4,85 4,85 4,85 44837 67 35730	ser 12 - 7°(244,8 40,3 64,6 6.08 42044 9 16288 9 16288 9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 281,23 57 91,4 4,94 48891 63 39066 43	. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 9 ystem) 12 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatii 315,1 63,3 101,6 4,98 54768 67 43844	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 on 15 - 10°0 325,7 104,9 4,98 56606 39 45326 29	314 53,8 86,3 5,84 53931 39 21010 7 ery side ten 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C C 363 75,1 120,4 4,84 63082 48 63082 48 63082 50157 34	317,5 53,7 86,2 5,91 54517 40 21204 7 7 1perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51	349,5 61,8 99,2 5,66 60081 48 23510 80 80 80 80 80 80 80 80 80 80 80 80 80	382,7 66,9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59	475,7 78.5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER Water flow USER Water flow USER water pressure drops DHW ser flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER Water flow USER Water flow USER Water Flow DISSIPATION Water Flow DISSIPATION Water pressure drop	IkW	212,2 35,9 57,6 5,91 36436 46 14171 8 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usu 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038 40 Heatin	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 92 r side tem 174,6 230,2 58,6 93.9 6,91 29976 33 40076 54 g mode: us 258 52,9 84,8 4,85 44837 67 35730 45	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipati 315,1 63,3 101,6 4,98 54768 67 43844 45 C, dissipati	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 57°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 32 32 32 32 35 32 35 32 36 35 36 37 65,4 104,9 4,98 56606 39 45326 29 90 15 / 10°	314 53,8 86,3 5,84 53931 39 21010 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C 363 75,1 120,4 4,84 63082 48 50157 34	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50846 35	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 47,75 70853 62 56099 42	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 115 141 75351 41
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops USER water pressure drops DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Heating capacity	IkW [A] [-] [-] [-] [-] [-] [-] [-]	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 52,9 84,85 44837 67 35730 457	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12-2 281,5 69,8 111,9 36959 33 49008 55 C, dissipatio 315,1 63,3 101,6 4,98 54768 67 43844 45 C, dissipatio 305,2	n 15 - 30°C 284 45.8 73,4 6.21 48775 33 13844 57 70, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 n 15 - 10° 325,7 65.4 104,9 4,98 56606 39 45326 29 01 15 / 10° 316,2	314 53.8 86,3 5,84 53931 39 21010 7 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C 363 75,1 120,4 4,84 63082 48 50157 34 C 351,5	317,5 53,7 86,2 5,91 54517 40 21204 7 7 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,8 63868 51 50846 35	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 137,5 70853 62 56099 42	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input COP USER Water flow USER water pressure drops USER water pressure drops USER water flow USER water flow USER water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Heating capacity Electrical input Heating capacity Electrical input	IkW [A] [-] [Ikg/h] [kPa] [kg/h] [kPa] [kW] [kW] [kW] [kW] [kW] [A] [kQ/h] [kPa] [kW]	212,2 35,9 57,6 5,91 36436 46 141771 8 at recovery 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3	g mode: u:	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 9 ystem) 12-2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipatio 4,98 67 43844 45 C, dissipati 305,2 69,9	n 15 - 30°C 284 45.8 73,4 6.21 48775 33 13844 57 70, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 104,9 4,98 4,98 45326 29 015-10°	314 53.8 86,3 5,84 53931 39 21010 7 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C 363 75,1 120,4 4,4 4,8 50157 34 C 351,5 82,7	317,5 53,7 86,2 5,91 40 21204 7 19reature (I 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50846 35	349,5 61,8 99,2 5,66 60081 48 23510 8 8 1275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 137,5 4,75 70853 62 56099 42	382,7 66,9 107,3 5,72 25680 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water pressure drop Heating capacity Electrical input Absorbed current	IkW [A] [A] [A] [A] [A] [A] [A] [A] [A] [A]	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3 53,5 85,8	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258,6 4837 467 35730 45 4006: DF 249,9	ser 12 - 7°(244,8 40,3 64,6 6,08 42044 9 16288 9 perature (s 190,9 251 63,3 101,5 6,98 32779 31 43696 52 er 40 - 45° 91,4 4,94 48891 63 39066 43 W 45/50° 27,4 63,4 101,6	272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 ystem) 12 - 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipati 63,3 101,6 4,98 54768 67 43844 45 C, dissipati 305,2 69,9 112,1	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recover 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 01 15 - 10°C 325,7 65,4 104,9 4,98 56606 39 45326 29 01 15 / 10° 316,2 72,8 116,8	314 53,8 86,3 5,84 53931 39 21010 7 rery side ten 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C 363 75,1 120,4 4,84 63082 48 50157 34 C 351,5 82,7 132,6	317,5 53,7 86,2 53,7 86,2 59,1 59,1 40 21204 7 perature (1) 249,8 329,2 83,6 134 42,905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50846 35	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 137,5 4,75 70853 62 56099 42	382,7 66,9 107,3 5,72 65730 47 25680 8 8 60°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 100,3 160,9 4,8 83657 59 66384 41	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DHW gressure drops DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water pressure drop Heating capacity Electrical input Absorbed current COP	IkW [A] [A] [A] [A] [A] [A] [A] [A] [A] [A]	212,2 35,9 57,6 5,91 36436 46 14171 8 165,6 217,6 54,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41 236,1 55 88,2 4,29	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3 53,5 85,8	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 21 side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 4,85 4,85 4,4837 67 35730 45 1 mode: D1 249,9 58,6 94 4,26	ser 12 - 7°(, dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12- 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipati 315,1 63,3 101,6 4,98 54768 67 43844 45 C, dissipati 305,2 69,9 1112,1 4,36	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 on 15 - 10°0 325,7 65,4 104,9 4,98 56606 39 45326 29 on 15 / 10° 316,2 72,8 116,8 4,34	314 53,8 86,3 5,84 53931 39 21010 7 ry side ten 246,5 324,7 82,3 132 6,94 42328 25 56523 40 2 363 75,1 120,4 4,84 63082 48 50157 34 C 351,5 82,7 132,6 4,25	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 63868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 50868 51 51 50868 51 51 50868 51 51 50868 51 51 51 51 51 51 51 51 51 51 51 51 51	349,5 61,8 99,2 5,66 60081 48 23510 8 DHW) 45- 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 137,5 4,75 70853 62 56099 42 395,5 94,6	382,7 66,9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,9 4,8 83657 59 66384 41 466,5 110,7 177,5	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207 4,13
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water flow USER water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Prow DISSIPATION Water pressure drop Heating capacity Electrical input Absorbed current COP USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow	ikW iAl iAl iAl iAl iAl iAl iAl iAl iAl iAl	212,2 35,9 57,6 5,91 36436 46 14171 8 at recovery 165,6 217,6 54,8 87,7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41 236,1 55 88,2 41	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3 53,5 85,8	g mode: u: 224 37,5 60,7 5,98 38469 51 14938 9: side tem 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: us 258 52,9 84,85 44837 67 35730 457 459 58,6 94 4,26 43500	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12- 215,2 281,5 69,8 111,9 36959 33 49008 55 C, dissipati 315,1 63,3 101,6 67 4384 45 C, dissipati 305,2 69,9 112,1 4,36 53130	n 15 - 30°(2 284 45.8 73,4 6.21 48775 33 13844 57°(-, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 32 32 315 - 10°(3 325,7 65,4 104,9 4,98 56606 39 45326 29 01 15/10° 316,2 72,8 116,8 4,34 55050	314 53.8 86.3 5.84 53931 39 21010 246.5 324.7 82.3 132 6.94 42328 25 56523 40 C 363 75,1 120.4 4,84 63082 48 50157 34 C 351,5 82,7 132,6 94 425 61202	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50368 50368 5	349,5 61,8 99,2 5,66 60081 48 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 137,5 4,75 70853 62 56099 42 395,5 94,6 151,7 4,18 68860	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41 431,7 102,5 164,4 4,21 75155	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41 466,5 110,7 177,5 4,22 81221	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207 4,13 92726
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow USER water flow USER water flow USER water flow USER water flow USER water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow	IkW [A] [-] [Ikg/h] [kPa] [kg/h] [kPa] [kW] [kW] [kW] [kW] [A] [kyA] [kW]	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41 236,1 55 88,2 4,2 4,2 4,2 4,2 4,2 4,2 4,2 4,2 4,2 4	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 161,2 211 53,4 85,7 6,99 27682 29 36899 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 3038 40 Heatin 230,3 53,5 85,8 4,31 40089 54	g mode: u:	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12-2 281,5 69,8 111,9 33 49008 55 C, dissipatio 315,1 63,3 101,6 4,98 57 43844 45 54768 67 43844 45 53130 63	n 15 - 30°C 284 45.8 73,4 6.21 48775 33 13844 57 70, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 15 - 10° 325,7 65.4 104,9 4,98 56606 39 45326 29 10 15 / 10° 316,2 72,8 116,8 4,34 55050 37	314 53.8 86,3 5,84 53931 39 21010 7 7 7 82,3 132 6,94 42328 25 56523 40 C 363 75.1 120,4 4,84 50157 34 50157 34 50157 34 50157 34 50157 34 50157 34 50157 34 50157 34 50157 34 50157 5015	317,5 53,7 86,2 5,91 54517 40 21204 7 7 19249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50846 35 356,3 83,7 134,3 4,23 62033 48	349,5 61,8 99,2 5,66 60081 48 23510 8 8 1275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 477,7 85,8 137,5 4,75 70853 62 56099 42 395,5 94,6 151,7 4,18 68860 59	382,7 66.9 107,3 5,72 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93.1 149,2 4,78 77301 60 61287 41	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41 466,5 110,7 177,5 4,22 81221 56	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207 4,13 92726 58
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water flow USER water flow DHW pressure drops Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water flow USER water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER water pressure drops DISSIPATION Water Flow	IkW [A] [-] [Ikg/h] [kPa] [kg/h] [kW]	212,2 35,9 57,6 5,91 36436 46 141771 8 trecovery 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41 236,1 55 88,2 4,29 41110 56 31615	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): ust 161,2 211 53,4 85,7 6,99 27682 29 36899 46 Heatin 238,4 41,353 57 33038 40 Heatin 230,3 53,5 85,8 4,31 40089 54 30861	g mode: u:	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 ystem) 12-2 281,5 69,8 111,9 7,12 36959 33 49008 55 c, dissipati 63,3 101,6 4,98 54768 67 43844 45 c, dissipati 305,2 69,9 112,1 4,36 53130 63 41055	n 15 - 30°C 284 45.8 73,4 6.21 48775 33 13844 5 7°C, recove 222,9 391,9 72.7 116,6 7,08 38272 22 50823 32 015 - 10°0 325,7 65,4 104,9 4,98 56606 39 45326 29 015,10°0 316,2 72,8 116,8 4,34 55050 37 42476	314 53.8 86,3 5,84 53931 39 21010 7 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C 363 75,1 120,4 4,84 63082 48 50157 34 C 351,5 82,7 132,6 4,226 4,236 4,436 6,946 6	317,5 53,7 86,2 5,91 54517 40 21204 7 19reature (1) 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50846 35 356,3 83,7 134,3 4,25 62033 48 47590	349,5 61,8 99,2 5,66 60081 48 23510 8 8 1275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 477,7 85,8 137,5 4,75 70853 62 56099 42 395,5 94,6 151,7 4,18 68860 59 52559	382,7 66,9 107,3 5,75 65,730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 4444,8 93,1 149,2 4,78 77301 60 61287 41 421,7 102,5 164,4 4,21 75155 57	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41 466,5 110,7 177,5 4,22 81221 56 62144	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207 4,13 92726 58 70502
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water flow USER water flow USER water flow USER water flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water Flow	KW FA	212,2 35,9 57,6 5,91 36436 46 14171 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41 236,1 55 88,2 4,29 41110 56 31615 36	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usr 161,2 211 53,4 85,7 6,99 27682 29 36899 46 46 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3 53,5 85,8 4,31 40089 54 30861 35	g mode: u: 224 37,5 60,1 5,98 38469 51 14938 9 174,6 230,2 58,6 93,9 6,91 29976 33 40076 54 g mode: u: 29976 33 40076 54 g mode: u: 29976 34 40076 54 g mode: u: 29976 35 40076 54 40076 54 40076 54 40076 54 40076 54 40076 54 40076 67 35730 45 40076 67 4007	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 45,7 3,4 46837 51 18194 9 ystem) 12- 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 c, dissipati 63,3 101,6 4,98 54768 67 43844 45 C, dissipati 305,2 69,9 112,1 4,36 53130 63 41055	n 15 - 30°C 284 45,8 73,4 6,21 48775 33 13844 5 7°C, recove 222,9 391,9 72,7 116,6 7,08 38272 22 50823 32 01 15 - 10°0 38277 65,4 104,9 4,98 56606 39 45326 29 0115/10° 316,2 72,8 116,8 4,34 55050 37 42476 26	314 53,8 86,3 5,84 53931 39 21010 7 246,5 324,7 82,3 132 6,94 42328 25 56523 40 2 363 75,1 120,4 4,84 63082 48 50157 34 50157 34 50157 34 50157 34 50157 34 60157 6	317,5 53,7 86,2 53,7 86,2 5,9 5,9 5,9 5,9 5,9 5,9 5,9 5,9 5,9 5,9	349,5 61,8 99,2 5,66 60081 48 23510 8 0HW) 45- 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 70853 62 56099 42 395,5 94,6 151,7 4,18 68860 59 38	382,7 66,9 107,3 5,72 65730 47 25680 8 60°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41 431,7 102,5 164,4 4,21 75155 57485 37	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41 466,5 110,7 177,5 4,22 81221 56 62144 36	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207 4,13 92726 58 70502 37
Cooling capacity Electrical input Absorbed current EER USER Water flow USER water pressure drops DISSIPATION Water Flow DISSIPATION Water pressure drop Cooling capacity Heating capacity Electrical input Absorbed current TOTAL COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER water pressure drops DHW water flow DHW pressure drops Heating capacity Electrical input Absorbed current COP USER Water flow USER Water flow USER water pressure drops DISSIPATION Water Plow DISSIPATION Water pressure drop USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow USER Water flow DISSIPATION Water Flow DISSIPATION Water Flow DISSIPATION Water pressure drop Maximum absorbed current	IkW IA IA IA IA IA IA IA IA IA IA IA IA IA	212,2 35,9 57,6 5,91 36436 46 14171 8 165,6 217,6 54,8 87,8 7 28435 30 37884 48 244,3 50 80,1 4,89 42543 59 33846 41 236,1 59 33846 41 41 56 31615 36 36 36 36 36 36 36 36 36 36 36 36 36	Coolin 206,5 34,4 55,2 6 35456 45 13762 8 (DHW): usu 161,2 211 53,4 85,7 6,99 27682 29 36899 27682 29 36899 46 Heatin 238 48,2 77,4 4,93 41353 57 33038 40 Heatin 230,3 53,5 85,8 4,31 40089 54 30861 35	g mode: u:	ser 12 - 7°(. dissipatio 272,7 45,7 3,4 5,96 46837 51 18194 9 ystem) 12- 215,2 281,5 69,8 111,9 7,12 36959 33 49008 55 C, dissipati 315,1 63,3 101,6 4,98 54768 67 43844 45 C, dissipati 305,2 69,9 112,1 4,36 53130 63 41055 40	n 15 - 30°C 284 45.8 73,4 6.21 48775 33 13844 57°C, recove 222,9 391,9 72,7 116.6 7,08 38272 22 50823 32 32 32 32 32 32 32 32 32 32 32 32 3	314 53,8 86,3 5,84 53931 39 21010 246,5 324,7 82,3 132 6,94 42328 25 56523 40 C 363 75,1 120,4 4,84 63082 48 50157 34 C 351,5 82,7 132,6 4,25 61202 46 46940 30 174	317,5 53,7 86,2 5,91 54517 40 21204 7 perature (1 249,8 329,2 83,6 134 6,93 42905 26 57320 42 367,5 75,6 121,2 4,86 63868 51 50846 35 35 35 36 35 36 31 34 429 35 36 36 36 36 36 36 36 36 36 36 36 36 36	349,5 61,8 99,2 5,66 60081 48 23510 8 23510 8 275,5 365,2 94,5 151,5 6,78 47307 31 63582 5 407,7 85,8 47307 31 63582 5 137,5 4,75 70853 62 56099 42 395,5 94,6 151,7 4,18 68860 59 525559 38 204	382,7 66.9 107,3 5,72 65730 47 25680 8 50°C 303,3 397,5 102,3 164 6,82 51571 30 69200 49 444,8 93,1 149,2 4,78 77301 60 61287 41 431,7 102,5 164,4 4,21 75155 57 57485 37 218	415,9 71,8 115,2 5,79 71427 46 27860 8 326,4 430,9 110 176,4 6,89 56052 30 75015 48 481,4 100,3 160,9 4,8 83657 59 66384 41 466,5 110,7 177,5 4,22 81221 56 62144 36 232	475,7 78,5 125,9 6,06 81686 48 31661 8 370,2 492,8 129 206,8 6,69 63583 30 85791 50 547,5 115 115 184,5 4,76 95146 61 75351 41 532,6 129,1 207 4,13 92726 58 70502 37 281
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HIGH TEMPERATURE HEAT PUMPS AS REPLACEMENT

CHARACTERISTICS

REFRIGERANT: R407C

QUITE OPERATION

COMPACT UNITS

- 1190 x 340 x 1235 mm

TOP QUALITY COMPONENTS

INTEGRATED HYDRONIC MODULE

- 3 speed circulation pump
- Air vent valves
- Pressure gauges
- Hydraulic filter

FUNCTIONS OF THE CONTROL SYSTEM

- Reduction in minimum volume of water in the system
- Automatic control of the circulation pump (antifreeze function, antiseizure function)
- Defrost regulation according to the outdoor temperature
- Management of alarms with recording of events
- External communication via a serial interface (Modbus protocol)

OTHER ADVANTAGES:

- Easy access to components
- Keypad/display on front panel
- Partition between the fan and technical compartment
- Removable control panel to permit a larger opening
- Rigorous control of production: tightness test of the cooling circuit, electric, dielectric test, water circuit test, etc.
- Base antifreeze protection by means of a heating element



STANDARD EQUIPMENT:

- Single-phase start-up kit (MSHTJ 14 single-phase)
- Antifreeze heating element
- Water flow control
- Low pressure switch
- High pressure switch
- Water filter (to be connected)
- Integrated hydronic module

HEATING

OPERATING LIMITS

Outdoor air temperature: -16° C in heating mode Maximum water outlet temperature: $+65^{\circ}$ C in heating mode

SCROLL COMPRESSOR WITH INTERMEDIATE INJECTION



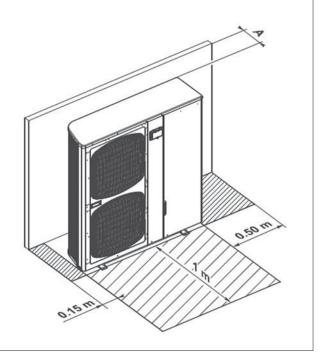
	TECHNICAL DATA of	MSHTJ irrevei	sible heat pumps		
MODE	iL		MSHTJ 145	MSHTJ 147	MSHTJ 197
Power	supply		230/1/50	400/3//50	400/3//50
	Conditions: inlet/outlet water temperature 40/45	° C, inlet air tem	perature 7/6° C (D.B	s./W.B.); net values;	EN 14511-2
	Rated heating capacity	kW	13,65	13,8	20,4
	Rated input power	kW	5,25	4,98	7,55
	C.O.P	kW/kW	2,60	2,77	2,70
	Nominal water flow rate	m³/h	1,55	1,55	2,3
	Pump available head	kPa	90	90	88
	Conditions: inlet/outlet water temperature */45°	C, inlet air temp	erature -7/-8° C (D.E	B./W.B.); net values;	EN 14511-2
	Rated heating capacity	kW	8,6	8,6	12,7
45	Rated input power	kW	5,04	4,75	7,47
N	C.O.P	kW/kW	1,71	1,82	1,7
HEATING	Conditions: inlet/outlet water temperature */55°	C, inlet air temp	perature 7/6° C (D.B.	/W.B.); net values; E	N 14511-2
_	Rated heating capacity	kW	13	13,2	20,1
	Rated input power	kW	6,3	5,86	9
	C.O.P	kW/kW	2,06	1,51	2,2
	Conditions: inlet/outlet water temperature 40/45	o° C, inlet air ten	nperature 7/6° C (D.	B./W.B.); gross value	es; Eurovent
	Rated heating capacity	kW	8,55	8,5	12,6
	Rated input power	kW	5,96	5,63	9,1
	C.O.P	kW/kW	1,43	1,51	1,4
	Conditions: inlet/outlet water temperature	30/35° C, inlet	air temperature 7/6°	C (D.B./W.B.); net v	alues
	C.O.P	kW/kW	3,41	4,02	3,41
Type of	refrigerant		R407C	R407C	R407C
Number	r of cooling circuits	no.	1	1	1
Nbr of o	compressors	no.	1	1	1
Starting	g current	А	44	42	59
Expansi	ion tank	I I	2	2	2
Diamet	er of male water connection		1"	1"	1"
Sound	power level	dBA	71,5	71,5	73,5
Minimir	n water content of system	I	45	45	65
Net dim	nensions (H/L/D)	mm	1235x1190x340	1235x1190x340	1235x1190x340
Net wei	ight	kg	141	141	145

CLEARANCE REQUIREMENTS

A 250 mm for models 145 - 147 - 197

This dimension does not take into account configurations including the installation of a hydraulic filter with two isolation valves positioned straight behind the unit: allow for $0.30~\rm metres$.

Minimum clearance above the unit: 0.70 metres





ELECTRIC MODULES

EMC electric modules are designed to back up the operation of Galletti heat pumps when necessary following the inevitable reduction in heating capacity associated with decreases in outdoor air temperature.

They are buffer tanks fitted internally with two armoured electric heating elements, which are activated by the onboard electrical control board according to the control logic described below.

The 2 electric heating elements present inside the buffer tank are controlled by the unit controller.

They are switched on in the heat pump mode when the temperature of the water leaving the condenser falls below the set threshold and the outdoor air temperature is lower than the set threshold values of the two thermostats present on the electrical control board (adjustable thresholds, preset at -5 °C and -10 °C).

If the outdoor air temperature is below -5 °C the first level is activated, if it is below -10°C the second level is activated as well.

In case of alarm (water flow, high pressure, low pressure, etc.) the controller will automatically switch them off.

EMC modules can be installed either externally as a rule in proximity to the heat pump, or inside an equipment enclosure. In the latter case, the air temperature probes must be positioned on the outside of the enclosure housing the module so as to correctly measure the outdoor air temperature (rather than the temperature inside the enclosure).



RATED TECHNICAL DATA O	of EMC ta	nk module with	ı electric heatir	ng elements		
EMC		EMC22M0000A	EMC22T0000A	EMC24M0000A	EMC24T0000A	EMC33T0000A
Power supply	V/Ph/Hz	230-1-50	400-3N-50	230-1-50	400-3N-50	400-3N-50
No. of reduction steps		2	2	2	2	2
Power input of electric heating element - 1st reduction step	kW	2,0	2,0	2,0	2,0	3,0
Electrical input of heating element - 1st reduction step	Α	8,7	2,9	8,7	2,9	4,4
Power input of electric heating element - 2nd reduction step	kW	2,0	2,0	4,0	4,0	3,0
Electrical input of heating element - 2nd reduction step	Α	8,7	2,9	17,4	5,8	4,4
Total power input of electric heating elements	kW	4,0	4,0	6,0	6,0	6,0
Total absorbed current of heating elements	Α	17,4	5,8	26,1	8,7	8,8
Regulation range of electric heating element thermostat	°C	-10 °C / 20°C	-10 °C / 20°C	-10 °C / 20°C	-10 °C / 20°C	-10 °C / 20°C
Buffer tank capacity	dm ³	30	30	30	30	50
Height	mm	1.146	1.146	1.146	1.146	1.211
Length	mm	364	364	364	364	364
Depth	mm	466	466	466	466	531
Water connections	inches	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Transport weight	kg	45	46	47	48	58
Operating weight	kg	71	72	73	74	104

large systems

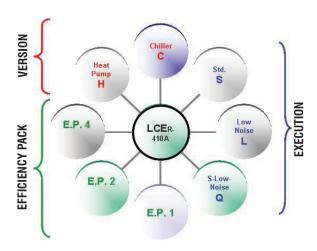
LCE LSE LEW LER



LCE: WIDE RANGE OF MODELS AND CONFIGURABILITY

The use of R410A as a refrigerant in specifically developed chillers brings guaranteed advantages thanks to the high exchange coefficients and lower pressure drops in the heat exchanger, which mean enhanced efficiency and reliability plus energy savings.

The LCE project has enabled a range to be developed which, starting off from 18 basic sizes, generates no fewer than 150 different cooling-only or heat pump models - given all the configurations and options that multiply the possibilities of choice - with powers from 40 to approximately 360 kW. A vast array of options and accessories allows you to build "dedicated" solutions tailored to numerous design and installation requirements.



> VERSION

- C Chiller cooling only
- H reversible heat pump
- F Free cooling, choices and prices on request

> EFFICIENCY PACK

The possibility of setting up different cooling circuits in units of the same power means being able to personalise efficiency levels under full or partial load conditions.

- 1 Dual circuit / dual compressor
 - The dual circuit-dual compressor models provide high efficiency values under full load (EER and COP).
- 2 Single circuit / dual compressor.
 - The solution of using two compressors in a single cooling circuit increases efficiency under partial load conditions, reaching ESEER values greater than 4.
- 4 Dual circuit / 4 compressors.
 - 4 compressors enable the unit to output power in 4 steps and adapt perfectly to the actual thermal load of the system, while reducing starting currents.

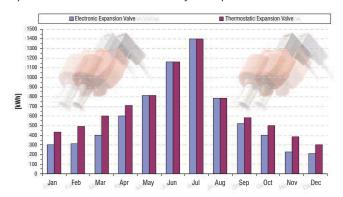
> EXECUTION

- S Standard execution
- L Low-Noise execution for a low noise impact
- Q Quiet execution for a super low noise impact



ELECTRONIC EXPANSION VALVES

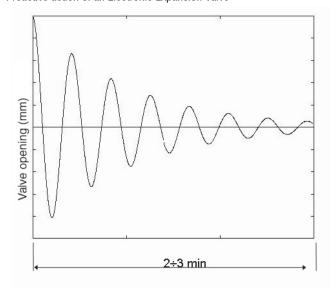
All units, irrespective of type of construction, are equipped with electronic expansion valves to maximise efficiency under partial load conditions.



Electronic expansion valves have the capacity, if correctly parameterised and controlled by the software, to optimise cooling circuit performance and decrease the system's power consumption.

When a sudden change occurs in the thermal load, with a traditional expansion valve there is a transient time of 2 to 3 minutes before a condition of equilibrium is reached.

Proactive action of an Electronic Expansion Valve



In the event of a compressor on/off request:

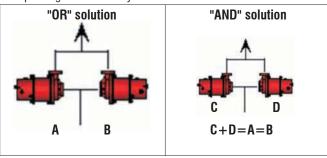
- The electronic driver pre-positions the valve at a point very near the final equilibrium point.
- A status of equilibrium is quickly reached with small adjustments.
- The electronic expansion valve becomes an active, rather than passive, component within the system.
- The transient time is greatly reduced.
- Overall the system is more efficient, with higher EERs and therefore greater savings.



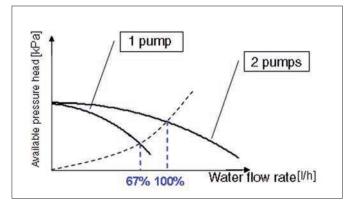
WATER PUMP OPTIONS

Complete hydronic kits can be incorporated within the units without modifying their size and you have the option of choosing the water circulation pump.

- Single pump, standard head or uprated.
- Dual pumps, OR solution: standard head or uprated, operating singly.
 The pumps operate in turns on a time/fault basis.
 - In the case, the microprocessor controls the pumps in such a way as to equally divide the hours of operation, changing over the pumps in the event of a fault.
- Dual pump, "AND" solution: standard or uprated pump, operating simultaneously.
 - Connected in parallel, they deliver water at the nominal flow rate when operating simultaneously.



Under partial load conditions operation is limited to a single pump, reducing the capacity by $^1\!/_{_3}$ compared to the rated value and resulting in average savings of about 30% in pumping costs.



In the case of two pumps in combination, the advanced microprocessor is mandatory because it controls the on/off switching of the second pump according to the number of capacity steps required at every instant. This makes operation of the unit cost-effective for most of its life since, based on well-known analyses, chillers operate 97% of the time under partial load conditions.

All LCE models are constructed so that the water inlet and outlet pipes are outside the unit. Pairs of quick connect couplings with a welding ring are available as an optional.

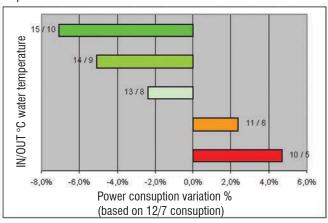


REGULATION

The electronic control system allows the setpoint to be adjusted automatically according to the outdoor temperature (sensor available as an optional) in order to reduce consumption and broaden the working temperature range.

In the summer mode, compensation begins with an outdoor air temperature of $30^{\circ}\text{C}.$

The diagram below indicates the increases in efficiency at different water temperatures.



The exclusive defrost system (optional feature available with the advanced controller) can correctly identify an impairment of performance in the outdoor exchanger due to the formation of ice and minimise the process time in relation to normal operation of the unit.

INTERCONNECTIVITY

ERGO networks as a standard feature

With advanced microprocessor control it is possible to implement:

- LAN networks
- GSM kit for reading and setting data via a mobile phone
- WEB kit for reading and setting data remotely from a PC via access to the IP address of the chiller unit or network of units.

REDUCTION IN OVERALL DIMENSIONS/TRANSPORT COSTS

Reduction in footprint and increase in power density (kW/m^2). Thanks to the decrease in depth (now 1180 mm up to model 160), it is possible to reduce transport costs.





Approx. capacity (kW)	Rated technical data of LCE water chillers, STANDARD version															
Profession	Approx canacity (kW/)	1									1	100		120		
Color Colo	11 - 1 - 2 ()							1		4	1		4		2	4
Profession pages Profession				_	_	_	_									-
Conting capacity WW	***	V-nh-Hz	042	002	002	012	002	031			101	102	104	121	122	112-1
Test power report First	11.7				63.3	69.2	76.5	92.2		-	102.8	103.5		124 1	123.6	126.4
Read current repart length A	0 1 7		-	-												
ESSIST			_	_												
SESSET														_		
Maximum current right A A B B B B B B B B																_
Subtring current A		Δ					_					_		,		
No. of sear former sears / crosslats																
No. of saids fines	· ·		-													
Alf four rine	·									-	-		-			
Water flow arise		m³/h	-	-						-						_
Pessuar day, water side April 1 6. 6 . 34 . 42 . 31 . 31 38 . 38			-							-						
Available head, standard pump APa			-	-						-						_
Buffer tank																
Equation tank										-			-			_
Pumbling connections			-							-			-			
Height	<u>'</u>		-	-						-			-			_
Length		mm	-	-						-			-			
Depth		_	-	-						-			-			
Sound power level		_	-	-						-			-			
Sound pressure level GB(A) - -			-							-			-			
Base unit operating weight	·	. ,	-		_	_	_			-			-	-		_
Bright with pump and full tank operating weight Rate Face		. ,	-				_			_	_		_			
Approx. capacity (kW) Company		·	-	-						-			-			_
Approx. capacity (kW)		5	Dotod	toohnioo												
Filte line Pack			naieu	tecimica	i uata vi i	LUE Water	ciiiileis, o	IANDANI) AGIZIOII							
V-ph-Hz V-ph																
Power supply Power supply																_
No. of scroll compressors / circuits Na. 18. 1	Efficiency Pack			2			2		4	4	4	4	4	4	4	4
Total power input NW	Efficiency Pack LGE,,,GS	V ab Ua		2			2		4	4 194	4	4	4	4	4	4
Rated current input	Efficiency Pack LCE,,,CS Power supply		141	2 142	144	161	2 162	164	4 174	4 194 #RIF!	4 214	4 244	4 274	4 294	4 324	4 364
EER 2,87 2,62 2,94 2,64 2,42 2,74 2,61 2,42 2,29 2,3 2,39 2,39 2,38 2,56 ESEER 1 3,93 4,01 4,1 3,61 3,79 3,75 4,04 3,84 3,89 3,94 3,91 4,05 4,18 Maximum current input A 131 131 129 137 144 150 136 155 173 196 224 237 251 300 No, of scroll compressors / circuits A 330 330 245 389 396 266 252 310 330 390 468 476 477 197 190 4/2<	Efficiency Pack LCE,,,CS Power supply Cooling capacity	kW	141 138,3	2 142 137,7	144,3	161 155,1	2 162 154,7	164 153,4	4 174 161,8	4 194 #RIF! 186,9	4 214 209	4 244 237	4 274 271,9	4 294 296,2	4 324 214,3	364 353,4
SEER S. S. S. S. S. S. S. S	Efficiency Pack LCE.,,CS Power supply Cooling capacity Total power input	kW kW	141 138,3 48,3	2 142 137,7 52,6	144 140,3 47,7	161 155,1 58,7	2 162 154,7 64	164 153,4 56,1	4 174 161,8 61,9	4 194 #RIF! 186,9 77,3	214 209 91,1	244 237 101,6	4 274 271,9 11,9	4 294 296,2 126,8	4 324 214,3 131,8	364 353,4 138,1
Maximum current input A 131 131 129 137 144 150 136 155 173 196 224 237 251 300 Starting current A 330 330 245 389 396 266 252 310 330 380 403 468 476 497 No, of scoll compressors / circuits 2 / 2 2 / 1 4 / 2 2 / 2 2 / 4 / 2 4 / 2	Efficiency Pack LCECS Power supply Cooling capacity Total power input Rated current input	kW kW	141 138,3 48,3 82,46	2 142 137,7 52,6 89,4	140,3 47,7 81,61	161 155,1 58,7 99,17	2 162 154,7 64 107,72	164 153,4 56,1 94,99	4 174 161,8 61,9 104,45	4 194 #RIF! 186,9 77,3 128,83	214 209 91,1 150,97	244 237 101,6 167,841	4 274 271,9 11,9 189,2	4 294 296,2 126,8 205,14	4 324 214,3 131,8 217,98	364 353,4 138,1 227,93
Starting current	Efficiency Pack LCE,,,CS Power supply Cooling capacity Total power input Rated current input EER	kW kW	138,3 48,3 82,46 2,87	2 142 137,7 52,6 89,4 2,62	140,3 47,7 81,61 2,94	161 155,1 58,7 99,17 2,64	2 162 154,7 64 107,72 2,42	153,4 56,1 94,99 2,74	4 174 161,8 61,9 104,45 2,61	4 194 #RIF! 186,9 77,3 128,83 2,42	209 91,1 150,97 2,29	244 237 101,6 167,841 2,3	4 274 271,9 11,9 189,2 2,39	294 296,2 126,8 205,14 2,39	214,3 131,8 217,98 2,38	353,4 138,1 227,93 2,56
No, of scroll compressors / circuits	Efficiency Pack LCE,,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER	kW kW A	138,3 48,3 82,46 2,87 3,93	2 142 137,7 52,6 89,4 2,62 4,01	140,3 47,7 81,61 2,94 4,1	155,1 58,7 99,17 2,64 3,61	2 162 154,7 64 107,72 2,42 3,79	153,4 56,1 94,99 2,74 3,75	4 174 161,8 61,9 104,45 2,61 4,04	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84	209 91,1 150,97 2,29 3,84	237 101,6 167,841 2,3 3,89	271,9 11,9 189,2 2,39 3,94	296,2 126,8 205,14 2,39 3,91	214,3 131,8 217,98 2,38 4,05	353,4 138,1 227,93 2,56 4,18
No. of axial fans 8	Efficiency Pack LCE,,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input	kW kW A	138,3 48,3 82,46 2,87 3,93 131	2 142 137,7 52,6 89,4 2,62 4,01 131	140,3 47,7 81,61 2,94 4,1 129	155,1 58,7 99,17 2,64 3,61 137	2 162 154,7 64 107,72 2,42 3,79 144	153,4 56,1 94,99 2,74 3,75 150	4 174 161,8 61,9 104,45 2,61 4,04 136	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155	209 91,1 150,97 2,29 3,84 173	237 101,6 167,841 2,3 3,89 196	271,9 11,9 189,2 2,39 3,94 224	4 294 296,2 126,8 205,14 2,39 3,91 237	4 324 214,3 131,8 217,98 2,38 4,05 251	353,4 138,1 227,93 2,56 4,18 300
Air flow rate m³/h 3890 3980 3980 3980 3980 3980 67672 67672 67672 7548 103511 97902 97902 97902 Water flow rate lkPa 48 49 50 42 42 46 49 50 53 41 49 55 41 Available head, standard pump kRa 150 150 147 147 147 148 155 133 147 171 170 152 137 134 Buffer tank dm³ 340 340 340 340 340 340 340 600 600 600 600 600 600 600 600 600 6	Efficiency Pack LCE_,,CS Power supply Cooling capacity Total power input Rated current input EEER ESEER Maximum current input Starting current	kW kW A	138,3 48,3 82,46 2,87 3,93 131 330	2 142 137,7 52,6 89,4 2,62 4,01 131 330	140,3 47,7 81,61 2,94 4,1 129 245	155,1 58,7 99,17 2,64 3,61 137 389	2 162 154,7 64 107,72 2,42 3,79 144 396	153,4 56,1 94,99 2,74 3,75 150 266	4 174 161,8 61,9 104,45 2,61 4,04 136 252	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310	4 214 209 91,1 150,97 2,29 3,84 173 330	237 101,6 167,841 2,3 3,89 196 380	271,9 11,9 189,2 2,39 3,94 224 403	4 294 296,2 126,8 205,14 2,39 3,91 237 468	4 324 214,3 131,8 217,98 2,38 4,05 251 476	4 364 353,4 138,1 227,93 2,56 4,18 300 497
Water flow rate I/h 23805 24143 26660 26678 27864 3295 35948 40747 46716 50827 53990 60257 Pressure drop, water side kPa 48 49 50 42 42 46 49 50 53 41 49 55 41 Available head, standard pump kPa 150 150 147 147 147 148 155 133 147 171 170 152 137 134 Buffer tank dm³ 340 340 340 340 340 340 600 <t< td=""><td>Efficiency Pack ICE_CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits</td><td>kW kW A</td><td>138,3 48,3 82,46 2,87 3,93 131 330 2 / 2</td><td>2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1</td><td>144,3 47,7 81,61 2,94 4,1 129 245 4 / 2</td><td>155,1 58,7 99,17 2,64 3,61 137 389 2 / 2</td><td>2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1</td><td>164 153,4 56,1 94,99 2,74 3,75 150 266 4 / 2</td><td>4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2</td><td>4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2</td><td>4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2</td><td>244 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2</td><td>4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2</td><td>4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2</td><td>4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2</td><td>4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2</td></t<>	Efficiency Pack ICE_CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits	kW kW A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1	144,3 47,7 81,61 2,94 4,1 129 245 4 / 2	155,1 58,7 99,17 2,64 3,61 137 389 2 / 2	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1	164 153,4 56,1 94,99 2,74 3,75 150 266 4 / 2	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2	244 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2	4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2
Pressure drop, water side	Efficiency Pack LCECS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans	kW kW A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1	144,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1	164 153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2	237 101,6 167,841 2,3 3,89 196 380 4 / 2	4 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2
Available head, standard pump kPa 150 150 147 147 148 155 133 147 171 170 152 137 134 Buffer tank dm³ 340 340 340 340 340 600	Efficiency Pack ICE,,,GS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate	kW kW A A A A M	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672	209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672	244 244 2101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478	271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902	364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902
Buffer tank dm³ 340 340 340 340 340 340 340 600 <th< td=""><td>Efficiency Pack ICE,,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of sxial fans Air flow rate Water flow rate</td><td>kW kW A A A A M A A I M³/h l/h</td><td>138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805</td><td>2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805</td><td>144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143</td><td>155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660</td><td>2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 26660</td><td>153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378</td><td>4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864</td><td>4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095</td><td>209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948</td><td>237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747</td><td>271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716</td><td>296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827</td><td>4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990</td><td>4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257</td></th<>	Efficiency Pack ICE,,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of sxial fans Air flow rate Water flow rate	kW kW A A A A M A A I M³/h l/h	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143	155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 26660	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095	209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948	237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747	271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716	296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257
Expansion tank dm³ 12 12 12 12 12 12 24 4	Efficiency Pack CE;,,CS Power supply Cooling capacity Total power input Eated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of sural fans Air flow rate Water flow rate Pressure drop, water side	kW kW A A A A M A K A K A K A K A K A K A K A	141 138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805 49	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42	164 153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49	209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50	237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53	4 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41	296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41
Pumbing connections " 2 1/2 2 1/2 2 1/2 2 1/2 2 1/2 2 1/2 3 3 3 4 4 4 4 4 4 4	Efficiency Pack ICE_CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump	kW kW A A A A A M A W W W W W W W W W W W W	141 138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / / 1 8 39890 23805 49 150	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147	2 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 26660 42	164 153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155	4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147	237 101,6 167,841 2.3 3,89 196 380 4 / 2 6 75478 40747 53 171	4 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55	4 364 353,4 138,1 1227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134
Height	Efficiency Pack ICE_F.CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank	kW kW A A A A A M A W W A W W A A A A A W W A A A A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805 49 150 340	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147 340	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 26660 42 147 340	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600	4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600	237 101,6 167,841 2.3 3,89 196 380 4 / 2 6 75478 40747 53 171 600	4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600	4 364 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600
Length mm 3190 3190 3540 3190 3190 3540 3190 3540 3538 3538 3538 4206 <th< td=""><td>Efficiency Pack ICE,,GS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank</td><td>kW kW A A A A A M A W W A W W A A A A A W W A A A A</td><td>138,3 48,3 82,46 2,87 3,93 131 330 2 / / 2 8 39890 23805 48 150 340</td><td>2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805 49 150 340 12</td><td>144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12</td><td>161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147 340 12</td><td>2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42 147 340</td><td>153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340</td><td>4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24</td><td>4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24</td><td>4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24</td><td>4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24</td><td>4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24</td><td>4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600 24</td><td>4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24</td><td>4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24</td></th<>	Efficiency Pack ICE,,GS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank	kW kW A A A A A M A W W A W W A A A A A W W A A A A	138,3 48,3 82,46 2,87 3,93 131 330 2 / / 2 8 39890 23805 48 150 340	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805 49 150 340 12	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147 340 12	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42 147 340	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24	4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24	4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24	4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600 24	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24
Depth mm 1183 1183 1183 1183 1183 1183 1183 1183 1183 1183 1183 1183 1653	Efficiency Pack ICE,,,GS Power supply Cooling capacity Total power input Rated current input EER ESER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Plumbing connections	kW kW A A A A A A A A KPa kPa dm³ dm³ dm³ "	138,3 48,3 82,46 2,87 3,93 131 330 2 / / 2 8 39890 23805 48 150 340 12 2 1/2	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / / 1 8 39890 23805 49 150 340 12 2 1/2	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2	155,1 58,7 99,17 2,64 3,61 137 389 2 / / 2 8 39890 26660 42 147 340 12 2 1/2	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 26660 42 147 340 12 2 1/2	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340 12 2 1/2	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24	4 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24 3	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24 3	237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24	4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600 24	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24
Sound power level dB(A) 82,0 86,0 82,0 86,0 82,0 86,0 82,0 86,0 87,0 87,0 87,0 87,0 88,0 <td>Efficiency Pack ICE,,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of savial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Plumbing connections Height</td> <td>kW kW A A A A A A A KPA KPA dm³ dm³ mm</td> <td>138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340 12 2 1/2 1735</td> <td>2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / / 1 8 39890 23805 49 150 340 12 2 //2 1735</td> <td>144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679</td> <td>155,1 58,7 99,17 2,64 3,61 137 389 2 / / 2 8 39890 26660 42 147 340 12 2 1/2 1735</td> <td>2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42 147 340 12 2 1/2 1735</td> <td>153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340 12 2 1/2</td> <td>4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24 3 1847</td> <td>4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24 3 1847</td> <td>4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24 3 1847</td> <td>4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24 4 2247</td> <td>4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24 4 2330</td> <td>4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600 24 4</td> <td>4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24 4</td> <td>4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24 4 2330</td>	Efficiency Pack ICE,,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of savial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Plumbing connections Height	kW kW A A A A A A A KPA KPA dm³ dm³ mm	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340 12 2 1/2 1735	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / / 1 8 39890 23805 49 150 340 12 2 //2 1735	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679	155,1 58,7 99,17 2,64 3,61 137 389 2 / / 2 8 39890 26660 42 147 340 12 2 1/2 1735	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42 147 340 12 2 1/2 1735	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340 12 2 1/2	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24 3 1847	4 194 #RIF! 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24 3 1847	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24 3 1847	4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24 4 2247	4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24 4 2330	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600 24 4	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24 4	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24 4 2330
Sound pressure level dB(A) 54,0 58,0 54,0 58,0 54,0 58,0 58,0 59,0 59,0 59,0 59,0 60,0 60,0 60,0 60,0 60,0 56,0 Base unit operating weight kg 1055 1055 1070 1085 1085 1220 1440 1460 1470 1620 1880 1912 1947 1947	Efficiency Pack ICE_CS Power supply Cooling capacity Total power input Rated current input EER ESEER ESEER Naximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Expansion tank Height Length	kW kW A A A A A A A A A A A A A A A A A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340 12 2 1/2 1735 3190	2 142 137,7 52,6 89,4 2,62 4,01 133 2 / 1 8 39890 23805 49 150 340 12 2 1/2 1735 3190	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540	161 155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147 340 12 2 1/2 1735 3190	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 42 147 340 12 2,1/2 1735 3190	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340 12 2 1/2 1679 3540	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 155 600 24 3 1847 3538	4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 6000 24 3 1847 3538	4 214 209 91,1 150,97 2,29 3,84 17330 4 / 2 6 67672 35948 50 147 600 24 3538	4 244 237 101.6 167.841 2.3 3.89 196 6 75478 40747 53 171 600 24 4 4 2247 3538	4 2774 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24 4 2330 4206	4 294 296,2 126,8 205,14 2,39 3,91 246 4 / 2 8 970827 49 152 600 24 42330 4206	4 324 214,3 131,8 217,98 2,38 4,05 476 4 / 2 8 97990 55 137 600 24 4 2330 4206	4 364 353,4 138,1 227,93 2,56 4,18 300 4 / 2 8 97902 60257 41 134 600 24 4 2330 4206
Base unit operating weight kg 1055 1055 1070 1085 1085 1220 1440 1460 1470 1620 1880 1912 1947 1947	Efficiency Pack LCE_nCS Power supply Cooling capacity Total power input Rated current input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Plumbing connections Height Length Depth	kW kW A A A A A A A A A A A A A A A A A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340 12 2 1/2 1735 3190 1183	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805 49 150 340 12 2 1/2 1735 1739 1183	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540 1183	155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / 1 8 39890 26660 42 147 340 12 2 1/2 1735 1735 1739 1183	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340 12 2 1/72 1679 3540 1183	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24 3 1847 3538 1653	4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24 3 1847 3538 1653	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24 3 1847 3538	4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24 4 2247 4 2247 3538 1653	4 271,9 111,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24 4 2330 4206 1653	4 294 296,2 126,8 205,14 2,39 3,91 236 4 / 2 8 97902 50827 49 152 600 24 4 2330 4206 1653	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 55 137 600 24 4 2300 4206	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24 4 2330 4206 1653
	Efficiency Pack ICECS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Plumbing connections Height Length Depth Sound power level	kW kW A A A A A A A A A A A A A A A A A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340 12 2 1/2 1735 31183 82,0	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / 1 8 39890 23805 49 150 340 12 2 1/2 1735 3735 3735 3735 3735 3735 3735 3735	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540 1183 82,0	155,1 58,7 99,17 2,64 3,61 137 389 2 / 2 8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 142 143 144 145 150 160 170 170 170 170 170 170 170 170 170 17	4 174 161,8 61,9 104,45 2,61 4,04 136 252 4 / 2 6 67672 27864 46 155 600 24 3 1847 3 1858 1653 87,0	4 194 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 600 24 3 1847 3538 1653 87,0	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 600 24 3 1847 3595 1653 87,0	4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24 4 2247 3538 87,0	4 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24 4 2330 4206 1653 88,0	4 294 296,2 126,8 205,14 2,39 3,91 237 468 4 / 2 8 97902 50827 49 152 600 24 4 2330 4206 1653 88,0	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24 4 2320 1653 88,0	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24 4 2330 1653 84,0
	Efficiency Pack ICE,,CS Power supply Cooling capacity Total power input Rated current input EER ESEER Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate Pressure drop, water side Available head, standard pump Buffer tank Expansion tank Plumbing connections Height Length Depth Sound power level Sound pressure level	kW kW A A A A A A A A A A A A A A A A A	138,3 48,3 82,46 2,87 3,93 131 330 2 / 2 8 39890 23805 48 150 340 12 2 1/2 1735 3190 1183 82,0 54,0	2 142 137,7 52,6 89,4 2,62 4,01 131 330 2 / / 1 8 39890 23805 49 12 2 1/2 1735 3190 1183 86,0 58,0	144 140,3 47,7 81,61 2,94 4,1 129 245 4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540 1183 82,0 54,0	155,1 58,7 99,17 2,64 3,61 137 389 2 / / 2 8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183 82,0 54,0	2 162 154,7 64 107,72 2,42 3,79 144 396 2 / / 1 8 39890 26660 42 147 340 12 2 1/2 1735 3190 11183 86,0 58,0	153,4 56,1 94,99 2,74 3,75 150 266 4 / 2 8 39890 26378 42 148 340 12 2 1/2 1679 3540 1183 82,0 54,0	4 174 161,8 61,9 104,45 2,61 4,04 136 252 6 67672 27864 46 155 150 24 3 1847 3538 87,0 59,0	4 #RIF1 186,9 77,3 128,83 2,42 3,84 155 310 4 / 2 6 67672 32095 49 133 6000 24 3 1847 3538 1653 87,0 59,0	4 214 209 91,1 150,97 2,29 3,84 173 330 4 / 2 6 67672 35948 50 147 4600 24 3 1847 3538 1653 87,0 59,0	4 244 237 101,6 167,841 2,3 3,89 196 380 4 / 2 6 75478 40747 53 171 600 24 4 2247 3538 1653 87,0 59,0	4 274 271,9 11,9 189,2 2,39 3,94 224 403 4 / 2 8 103511 46716 41 170 600 24 4 2330 4206 1653 88,0 60,0	4 294 296,2 126,8 205,14 2,39 3,91 237 468 97902 50827 49 152 600 24 4 2330 4206 1653 88,0 60,0	4 324 214,3 131,8 217,98 2,38 4,05 251 476 4 / 2 8 97902 53990 55 137 600 24 4 2330 4206 1653 88,0 60,0	4 364 353,4 138,1 227,93 2,56 4,18 300 497 4 / 2 8 97902 60257 41 134 600 24 4 2330 4206 1653 84,0 56,0

Cooling capacity refers to the following conditions: water temperature $12-7^{\circ}C$; outdoor air temperature $35^{\circ}C$ Sound pressure level refers to the following conditions: measured in an open field, at a distance of 10 m, with a directivity factor of 2.



		Rated	technica	l data of	LCE water	chillere L	UM NUIS	F version							
Annual consists (IAM)							I W NUIS	90		1	100		100	1	
Approx, capacity (kW)		45 2	50 2	60 2	70 2	80 2	-	2	4	1	2	4	120	2	4
Efficiency Pack							1						1		
LCE,,,CL	14 - b 11-	042	052	062	072	082	091	092	094 00-3-50	101	102	104	121	122	124
Power supply	V-ph-Hz	40	50.0	00.0	00.0	70.5	00.0			400.5	400.5	404.0	405	400.0	407.5
Cooling capacity	kW	48	52,2	63,6	69,3	76,5	92,8	92,2	94,4	103,5	103,5	101,8	125	123,6	127,5
Total power input	kW	16,2	20,2	24,8	27,7	31,7	32	36,2	32,3	38,4	43,3	37,56	44,5	47,1	44,2
Rated current input	Α	27,68	34,16	42,24	46,89	53,34	54,74	61,4	55,25	64,92	72,88	70,2	72,65	76,82	72,25
EER		2,96	2,58	2,56	2,5	2,42	2,9	2,6	2,92	2,7	2,39	2,71	2,81	2,62	2,88
ESEER		4,06	3,96	3,89	3,93	3,78	3,45	3,9	3,9	3,4	3,75	3,85	3,88	4,09	4,09
Maximum current input	A	41	44	51	55	66	77	77,0	81	86	86	87	95	95	96
Starting current	Α	159	162	185	183	191	246	246	194	254	254	198	295	295	220
No, of scroll compressors / circuits		2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 2	2 / 1	4 / 2	2 / 2	2 / 1	4 / 2	2 / 2	2 / 1	4 / 2
No, of axial fans		4	4	6	6	6	8	8	8	8	8	8	6	6	6
Air flow rate	m³/h	15398	15398	21955	21955	21955	29393	29393	29393	29393	29393	29393	43434	43434	43434
Water flow rate	l/h	8261	8983	10956	12027	13313	15986	15986,0	16213	17778	17778	17582	21518	21518	21906
Pressure drop, water side	kPa	26	31	47	35	43	31	32,0	32	39	39	38	40	40	41
Available head, standard pump	kPa	157	149	125	131	117	129	129,0	128	118	118	119	107	107	105
Buffer tank	dm ³	200	200	220	220	220	340	340	340	340	340	340	600	600	600
Expansion tank	dm ³	12	12	12	12	12	12	12	12	12	12	12	24	24	24
Plumbing connections		2	2	2	2	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3
Height	mm	1735	1735	1735	1735	1735	1735	1735	1679	1735	1735	1679	1847	1847	1847
Length	mm	2090	2090	2442	2442	2442	3190	3190	3540	3190	3190	3540	3538	3538	3538
Depth	mm	1183	1183	1183	1183	1183	1183	1183	1183	1183	1183	1183	1653	1653	1653
Sound power level	dB(A)	70,0	74,0	76,0	76,0	76,0	73,0	77,0	73,0	73,0	77,0	73,0	77,0	81,0	77,0
Sound pressure level	dB(A)	42,0	46,0	48,0	48.0	48,0	45,0	49,0	45,0	45,0	49,0	49,0	49,0	53,0	49,0
Base unit operating weight	kg	525	525	630	635	700	905	905	980	915	915	980	1260	1260	1275
Unit with pump and full tank operating weight	kg	862	862	982	987	1067	1426	1426	1557	1436	1436	1557	2040	2040	2055
	<u> </u>	Rated	technica	l data of l	LCE water	chillers I (IZION WO	- version						ı	
	1	Hutou	140	ruutu or i	I Water	160	JII IIOIOI		100			070			
Approx, capacity (kW)	_							170	190	210	240	270	290	320	360
Efficiency Pack		1	2	4	1	2	4	4	4	4	4	4	4	4	4
LCE,,,CL		141	142	144	161	162	164	ND	194	214	244	274	294	324	364
Power supply	V-ph-Hz								00-3-50						
Cooling capacity	kW	137,4	137,7	139,7	155,4	154,7	153,7	-	186,9	208,9	237	271,9	296,1	214,3	341,1
Total power input	kW	50,3	52,6	49,6	60,2	64	57,7	-	77,3	91,1	101,6	113,9	123,9	131,9	143,6
Rated current input	A	81,98	85,67	80,89	97,85	96,2	93,85	-	125,26	147,47	156,55	172,95	199,25	212,09	230,88
EER		2,73	2,62	2,82	2,58	2,42	2,66	-	2,42	2,29	2,33	2,39	2,39	2,38	2,37
ESEER		3,93	4,01	4,1	3,61	3,79	3,75	-	3,84	3,84	3,89	3,94	3,91	4,05	4,18
Maximum current input	Α	106	106	105	120	120	126	-	148	167	190	215	229	242	300
Starting current	Α	306	306	222	371	371	241	-	307	318	382	398	494	472	497
No, of scroll compressors / circuits		2 / 2	2 / 1	4 / 2	2 / 2	2 / 1	4 / 2	-	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
No, of axial fans		6	6	6	6	6	6	-	6	6	6	8	8	8	8
Air flow rate	m³/h	43434	43434	43434	40235	40235	40235	-	55808	63261	63261	87186	81687	81687	81687
Water flow rate	l/h	23655	23655	24043	26719	26719	26434	-	31172	36451	36615	45628	49438	52350	58337
Pressure drop, water side	kPa	48	48	50	43	43	42	-	47	51	50	39	46	52	38
Available head, standard pump	kPa	151	151	148	147	147	148	-	139	143	177	174	158	145	142
	dm ³	600	600	600	600	600	600	-	600	600	600	600	600	600	600
Buffer tank	uiii				0.4	24	24	-	24	24	24	24	24	24	24
Buffer tank Expansion tank	dm ³	24	24	24	24	24					47	47	24	24	
Expansion tank		24		24 3	3	3		-	3	4	4	4	4	4	4
Expansion tank Plumbing connections	dm ³		24 3 1847	3		3	3								
Expansion tank Plumbing connections Height	dm ³ "	3 1847	3 1847	3 1847	3 1847	3 1847	3 1847	-	3 1847	4 2247	4 2247	4 2330	4 2330	4 2330	4 2330
Expansion tank Plumbing connections Height Length	dm³ " mm mm	3 1847 3538	3 1847 3538	3 1847 3538	3 1847 3538	3 1847 3538	3 1847 3538	-	3 1847 3538	4 2247 3538	4 2247 3538	4 2330 4206	4 2330 4206	4 2330 4206	4 2330 4206
Expansion tank Plumbing connections Height Length Depth	dm³ " mm mm mm	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653		3 1847 3538 1653	4 2247 3538 1653	4 2247 3538 1653	4 2330 4206 1653	4 2330 4206 1653	4 2330 4206 1653	4 2330 4206 1653
Expansion tank Plumbing connections Height Length Depth Sound power level	dm³ " mm mm mm dB(A)	3 1847 3538 1653 77,0	3 1847 3538 1653 81,0	3 1847 3538 1653 77,0	3 1847 3538 1653 77,0	3 1847 3538 1653 81,0	3 1847 3538 1653 77,0		3 1847 3538 1653 81,0	4 2247 3538 1653 81,0	4 2247 3538 1653 82,0	4 2330 4206 1653 83,0	4 2330 4206 1653 83,0	4 2330 4206 1653 83,0	4 2330 4206 1653 79,0
Expansion tank Plumbing connections Height Length Depth	dm³ " mm mm mm	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653	3 1847 3538 1653		3 1847 3538 1653	4 2247 3538 1653	4 2247 3538 1653	4 2330 4206 1653	4 2330 4206 1653	4 2330 4206 1653	4 2330 4206 1653



	Rat	ed techn	ical data	of LCE w	ater chille	rs, QUII	ET (supe	er low	noise) ve	ersion						
Approx, capacity (kW)		45	50	60	70	80	1		90			100		120		1
Efficiency Pack		2	2	2	2	2		1	2	4	1	2	4	1	2	4
LCECO		042	052	062	072	082	2 0	91	092	094	101	102		121	122	124
Power supply	V-ph-Hz	042	002	002	012	002		2		00-3-50	101	102	104	121	144	124
Cooling capacity	kW	48	52,2	63,3	69,3	76,5	5 0	92,8	92.2	94.4	103,5	103,5	5 102,3	123,6	123,6	125,7
Total power input	kW	16,2	20,8	24,8	27,7	31,7	_	32	36,2	32,3	38,4	43,3	_	454	47,1	45,1
Rated current input	A	27,68	35,11	42,24	46,89	53,3		4,74	61,4	55,25	64,92	72,88		73,45	76,84	76,59
EER	- ^ -	2.96	2,51	2,56	2,5	2,4		2,9	2,6	2.92	2,7	2.39		2,75	2.62	2,79
ESEER		4,06	3,96	3,89	3,93	3,78		3,45	3,9	3,9	3,4	3,75		3,88	4,09	4,09
Maximum current input	Α	41	44	51	55	66		77	77,0	81	86	86	87	95	95	96
Starting current	A	159	162	185	183	191		246	246.0	194	254	254	198	295	295	220
No, of scroll compressors / circuits		2 / 1	2 / 1	2 / 1	2 / 1	2 /	1 2	/ 2	2 / 1	4 / 2	2 / 2	2 /	1 4/2	2 / 2	2 / 1	4 / 2
No, of axial fans		4	4	6	6	6	_	8	8	8	8	8	8	6	6	6
Air flow rate	m³/h	15.398	15.398	21.955	21.955	21.9	55 29	9.393	29.393	29.393	29.393	29.39	3 29.393	35.930	35.930	35.930
Water flow rate	l/h	8.261	8.983	10.956	12.027	13.3	13 15	5.986	15.986	16.213	17.778	17.77	8 17.582	21.259	21.259	21.623
Pressure drop, water side	kPa	26	44,12	47	35	43		31	32,0	32	39	39	38	39	39	40
Available head, standard pump	kPa	157	149	125	131	117	7 1	129	129	128	118	118	119	109	109	106
Buffer tank	dm ³	200	200	220	220	220) 3	340	340	340	340	340	340	600	600	600
Expansion tank	dm ³	12	12	12	12	12		12	12	12	12	12	12	24	24	24
Plumbing connections	"	2	2	2	2	2	2	1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3
Height	mm	1735	1735	1735	1735	173	5 17	735	1735	1679	1735	1735	1679	1847	1847	1847
Length	mm	2090	2090	2442	2442	244	2 3	190	3190	3540	3190	3190	3540	3538	3538	3538
Depth	mm	1183	1183	1183	1183	118	3 1	183	1183	1183	1183	1183	1183	1653	1653	1653
Sound power level	dB(A)	67,0	72,0	73,0	73,0	73,0	0 7	70,0	74,0	70,0	70,0	74,0	70,0	69,0	73,0	69,0
Sound pressure level	dB(A)	39,0	44,0	45,0	45,0	45,0		12,0	46,0	42,0	42,0	46,0		41,0	45,0	41,0
Base unit operating weight	kg	525	525	630	635	700) 9	905	905	980	915	915	980	1260	1260	1275
Unit with pump and full tank operating weight	kg	862	862	982	987	106	7 14	426	1426	1557	1436	1436	1557	2040	2040	2055
	Rate	d technic	al data (of LCE w	ater chille	rs, QUI	ET (sup	er low	noise) ı	version						
Approx, capacity (kW)			14	Ю			160			170	190	210	240	270	290	320
Efficiency Pack		1	2	2	4	1	2		4	4	4	4	4	4	4	4
LCE,,,CQ		14	1 14	2 1	14 1	61	162	1	64	-	194	214	244	274	294	324
Power supply	V-ph-	Hz								400-3-50						
Cooling capacity	kW	135,	5 137	7,7 13	7,7 15	51,5	154,7	15	50,2	-	186,7	208,8	236,9	272	296,1	214,2
Total power input	kW	51,	2 52	,6 5),8 6	1,9	64	5	9,4	-	100,9	91,2	101,7	113,9	123,9	132
Rated current input	Α	83,3	5 85,	68 82	,76 10	0,58	103,98	96	5,53	-	163,1	147,61	164,37	183,42	199,56	212,47
EER		2,6	5 2,0	62 2	71 2	,45	2,42	2	,53	-	1,85	2,29	2,33	2,39	2,39	2,38
ESEER		3.9	_			.61	3.79	_	.75	-	3.84	3.84	3.89	3,94	3.91	4.05
Maximum current input	Α	106	3 10			20	120	1	26	-	148	167	190	215	229	242
Starting current	A	_	_			317	317	_	41	-	307	318	382	398	494	472
No, of scroll compressors / circuits		2 /	2 2	/ 1 4	/ 2 2	/ 2	2 / 1	4	/ 2	-	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
No, of axial fans		6	- 6		,	6	6	_	6	-	6	6	6	8	8	8
Air flow rate	m³/	_				.930	35.930		.930	-	35.930	40.953	40.953	69.835	69.835	69.835
Water flow rate	I/h	_	_		_	.051	26.051	_	.816		28.282	33.135	36.054	44.837	47.938	50.535
Pressure drop, water side	kPa	_				40	41	_	40	-	39	39	42	38	44	48
Available head, standard pump	kPa	_				51	151		52	-	161	171	193	177	164	153
Buffer tank	dm	_				600	600		600	-	600	600	600	600	600	600
Expansion tank	dm	_	_			24	24		24	-	24	24	24	24	24	24
Plumbing connections	uill	3	3			3	3	_	3	-	3	4	4	4	4	4
Height	mn		_			847	1847	_	847	-	1847	2247	2247	2330	2330	2330
Length	mn		_	_	_	538	3538	_	538	-	3538	3538	3538	4206	4206	4206
		_	_			653	1653	_	653	-+	1653	1653	1653	1653	1653	1653
Depth Sound power level	mn dB(A	_	_			9,0	73,0		9,0	-	73,0	73,0	73,0	74,0	74,0	74,0
Sound power level	,	, .							1.0		73,0 45.0					
Sound pressure level	dB(A	, .	_			1,0	45,0	_	_	-		45,0	45,0	46,0	46,0	46,0
Base unit operating weight	kg	_				330	1330	_	440	-	1460	1510	1620	1880	1912	1947
Unit with pump and full tank operating weight	kg	209	0 20	90 20	70 2	110	2110	27	220	-	2276	2326	2469	2894	2926	2961



	Rated te	chnical	data of	LCE he	at pump	s, STAI	NDARD	version							
Approx, capacity (kW)	T	45	50	60	70	80		90			100		120		Г
Efficiency Pack		2	2	2	2	2	1	2	4	1	2	4	1	2	4
LCEHS		042	052	062	072	082	091	092	094	101	102	104	121	122	124
Power supply	V-ph-Hz	042	002	002	UIL	002	031		-3-50	101	102	104	141	122	1/4-1
Cooling capacity	kW	-	_	63,3	69,2	76,5	92,3	92,2	-	102,8	103,5	_	124,1	123,6	126,4
Total power input in cooling mode	kW	-	-	24,8	27,7	31,7	33,1	36,2	-	39,5	43,3	_	43,1	47.1	42,9
Rated current input	A	-	-	42,23	46,89	53,33	56,95	61,81	-	67,09	73,3	-	74,13	80,59	73,92
EER .	- · · ·	-	-	2.56	2,5	2.42	2,78	2.55	-	2.6	2,39	-	2.88	2.62	2,94
ESEER		-	-	3,89	3,93	3,78	3,45	3,88	-	3,4	3,75	-	3,88	4,09	4,09
Heating capacity	kW	-	_	70,2	77,6	85,2	101,2	102,5	-	117,2	118,3	-	137,8	138,3	135
Total power input in heating mode	kW	-	_	18,7	21,5	24,6	32,5	28,8	-	37,5	33,6	-	42,7	37,7	42,2
Rated current input	A	-	-	35,53	37,05	41,96	55,97	50,06	-	63,93	57,72	-	73,53	65,48	72,81
COP		<u> </u>	-	3,75	3,6	3,46	3,11	3,55	_	3,13	3,52	_	3,23	3,67	3,2
Maximum current input	A	-	_	60	64	75	91	91	-	101	101	-	119	119	120
Starting current	A	-	_	195	192	200	261	261	-	269	269	-	319	319	247
No, of scroll compressors / circuits		-	-	2 / 1	2 / 1	2 / 1	2 / 2	2 / 1	-	2 / 2	2 / 1	-	2 / 2	2 / 1	4 / 2
No, of axial fans		<u> </u>	_	4	4	4	6	6	_	6	6	-	8	8	8
Air flow rate	m³/h		-	21379	21379	21379	30913	30913	-	30913	30913		41340	41340	41340
Water flow rate (cooling)	I/h	-	-	10887	11902	13158	15858	15858	-	17665	17665	-	21346	21346	21747
Pressure drop, water side (cooling)	kPa	-	-	46	34	42	31	31	-	38	38	-	39	39	40
Available head, standard pump (cooling)	kPa kPa	-	-	126	133	119	130	130	-	119	119	-	108	108	106
Buffer tank	dm ³	-	-	200	200	200	220	220	-	220	220	-	340	340	340
Expansion tank	dm ³	-	-	12	12	12	12	12	-	12	12	-	12	12	12
	ulli	-	-	2	2	2	2	2	-	2	2	-	2 1/2	2 1/2	2 1/2
Plumbing connections															
Height	mm	-	-	1735	1735	1735	1735	1735 2442	-	1735	1735	-	1735	1735	1679
Length	mm	-	-	2090	2090	2090	2442		-	2442	2442	-	3190	3190	3540
Depth Count according to the Count according	mm AD (A)	-	-	1183	1183	1183	1183	1183	-	1183	1183	-	1183	1183	1183
Sound power level	dB(A)			84,0	84,0	84,0	82,0	86,0		82,0	86,0	-	82,0	86,0	82,0
Sound pressure level	dB(A)			56,0	56,0	56,0	54,0	58,0		54,0	58,0	-	54,0	58,0	54,0
Base unit operating weight	kg	-	-	540	570	650	730	730	-	730	730	-	1010	1010	1050
Unit with pump and full tank operating weight	kg	<u> </u>		877	907	987	1138	1138	-	1138	1138	-	1581	1581	1641
	Rated te	chnical	data of	LCE he	at pump	s, STAI	NDARD	version							
Approx, capacity (kW)			140			160		170	190	210	240	270	290	320	360
Efficiency Pack		1	2	4	1	2	4	4	4	4	4	4	4	4	4
LCEHS		141	142	144	161	162	164	174	194	214	244	274	294	324	364
Power supply	V-ph-Hz							400-3-50)						
Cooling capacity	kW	138,3	137,7	140,3	155,1	154,7	153,4	161,8	186,9	209,0	237,0	271,9	296,2	214,3	353,4
Total power input in cooling mode	kW	48,3	52,6	47,7	58,7	64,0	56,1	61,9	77,3	91,1	101,6	113,9	123,8	131,8	138,1
Rated current input	Α	82,5	89,4	81,6	99,2	107,7	95,0	104,2	128,8	151,0	167,8	189,2	205,1	218,0	227,9
EER		2,87	2,62	2,94	2,64	2,42	2,74	2,61	2,42	2,29	2,33	2,39	2,39	2,38	2,56
ESEER		3,93	4,01	4,1	3,61	3,79	3,75	4,04	3,84	3,84	3,89	3,94	3,91	4,05	4,18
Heating capacity	kW	152,4	153,1	149,3	179,8	180	175,7	188	211,9	235,8	273,5	306,7	330,5	351,2	425,8
Total power input in heating mode	kW	46,3	41,2	45,8	55,6	50	55	50,4	59,7	67,9	80,1	88,5	97	105,2	124,3
Rated current input	Α	79,27	71,12	78,44	94,19	85,29	93,2	85,69	135,3	113,78	133,39	148,48	162,05	175,18	<u> </u>
COP		3,29	3,72	3,26	3,24	3,6	3,2	3,73	3,5	3,47	3,41	3,47	3,41	3,34	3,43
Maximum current input	Α	131	131	129	137	144	150	136	155	173	196	224	237	251	300
Starting current	A	330	330	245	389	396	266	252	310	330	380	403	468	476	497
										4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	
No. of scroll compressors / circuits		2/2	2 / 1		2 / 2	2 / 1	4 / 2	4 / 2	1 4 / 2			. , –	. , =		
No, of scroll compressors / circuits No, of axial fans		2 / 2	2 / 1	4 / 2	2 / 2	2 / 1	4 / 2	4 / 2	4 / 2	6	6	8	8	8	8
No, of axial fans	m³/h	8	8	4 / 2	8	8	8	6	6	6	6				
No, of axial fans Air flow rate	m³/h	8 39890	8 39890	4 / 2 8 39890	8 39890	8 39890	8 39890	6 67672	6 67672	6 67672	6 75478	103511	97902	97902	97902
No, of axial fans Air flow rate Water flow rate (cooling)	l/h	8 39890 23805	8 39890 23805	4 / 2 8 39890 24143	8 39890 26660	8 39890 26660	8 39890 26378	6 67672 27864	6 67672 32095	6 67672 35948	6 75478 40747	103511 46716	97902 50827	97902 53990	97902 60257
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling)	l/h kPa	8 39890 23805 48	8 39890 23805 49	4 / 2 8 39890 24143 50	8 39890 26660 42	8 39890 26660 42	8 39890 26378 42	6 67672 27864 46	6 67672 32095 49	6 67672 35948 50	6 75478 40747 53	103511 46716 41	97902 50827 49	97902 53990 55	97902 60257 41
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling)	l/h kPa kPa	8 39890 23805 48 150	8 39890 23805 49 150	4 / 2 8 39890 24143 50 147	8 39890 26660 42 147	8 39890 26660 42 147	8 39890 26378 42 148	6 67672 27864 46 155	6 67672 32095 49 133	6 67672 35948 50 147	6 75478 40747 53 171	103511 46716 41 170	97902 50827 49 152	97902 53990 55 137	97902 60257 41 134
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank	l/h kPa kPa dm³	8 39890 23805 48 150 340	8 39890 23805 49 150 340	4 / 2 8 39890 24143 50 147 340	8 39890 26660 42 147 340	8 39890 26660 42 147 340	8 39890 26378 42 148 340	6 67672 27864 46 155 600	6 67672 32095 49 133 600	6 67672 35948 50 147 600	6 75478 40747 53 171 600	103511 46716 41 170 600	97902 50827 49 152 600	97902 53990 55 137 600	97902 60257 41 134 600
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank	l/h kPa kPa	8 39890 23805 48 150 340	8 39890 23805 49 150 340	4 / 2 8 39890 24143 50 147 340	8 39890 26660 42 147 340	8 39890 26660 42 147 340	8 39890 26378 42 148 340	6 67672 27864 46 155 600 24	6 67672 32095 49 133 600 24	6 67672 35948 50 147 600 24	6 75478 40747 53 171 600 24	103511 46716 41 170 600 24	97902 50827 49 152 600 24	97902 53990 55 137 600 24	97902 60257 41 134 600 24
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections	l/h kPa kPa dm³ dm³	8 39890 23805 48 150 340 12 2 1/2	8 39890 23805 49 150 340 12 2 1/2	4 / 2 8 39890 24143 50 147 340 12 2 1/2	8 39890 26660 42 147 340 12 2 1/2	8 39890 26660 42 147 340 12 2 1/2	8 39890 26378 42 148 340 12 2 1/2	6 67672 27864 46 155 600 24 3	6 67672 32095 49 133 600 24 3	6 67672 35948 50 147 600 24 3	6 75478 40747 53 171 600 24 4	103511 46716 41 170 600 24 4	97902 50827 49 152 600 24 4	97902 53990 55 137 600 24 4	97902 60257 41 134 600 24 4
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height	l/h kPa kPa dm³ dm³	8 39890 23805 48 150 340 12 2 1/2 1735	8 39890 23805 49 150 340 12 2 1/2 1735	4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679	8 39890 26660 42 147 340 12 2 1/2 1735	8 39890 26660 42 147 340 12 2 1/2 1735	8 39890 26378 42 148 340 12 2 1/2 1679	6 67672 27864 46 155 600 24 3 1847	6 67672 32095 49 133 600 24 3 1847	6 67672 35948 50 147 600 24 3 1847	6 75478 40747 53 171 600 24 4 2247	103511 46716 41 170 600 24 4 2330	97902 50827 49 152 600 24 4 2330	97902 53990 55 137 600 24 4 2330	97902 60257 41 134 600 24 4 2330
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length	l/h kPa kPa dm³ dm³ mm	8 39890 23805 48 150 340 12 2 1/2 1735 3190	8 39890 23805 49 150 340 12 2 1/2 1735 3190	4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540	8 39890 26660 42 147 340 12 2 1/2 1735 3190	8 39890 26660 42 147 340 12 2 1/2 1735 3190	8 39890 26378 42 148 340 12 2 1/2 1679 3540	6 67672 27864 46 155 600 24 3 1847 3538	6 67672 32095 49 133 600 24 3 1847 3538	6 67672 35948 50 147 600 24 3 1847 3538	6 75478 40747 53 171 600 24 4 2247 3538	103511 46716 41 170 600 24 4 2330 4206	97902 50827 49 152 600 24 4 2330 4206	97902 53990 55 137 600 24 4 2330 4206	97902 60257 41 134 600 24 4 2330 4206
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth	Vh kPa kPa dm³ dm³ mm mm	8 39890 23805 48 150 340 12 2 1/2 1735 3190 1183	8 39890 23805 49 150 340 12 2 1/2 1735 3190 1183	4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540 1183	8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	8 39890 26378 42 148 340 12 2 1/2 1679 3540 1183	6 67672 27864 46 155 600 24 3 1847 3538 1653	6 67672 32095 49 133 600 24 3 1847 3538 1653	6 67672 35948 50 147 600 24 3 1847 3538 1653	6 75478 40747 53 171 600 24 4 2247 3538 1653	103511 46716 41 170 600 24 4 2330 4206 1653	97902 50827 49 152 600 24 4 2330 4206 1653	97902 53990 55 137 600 24 4 2330 4206 1653	97902 60257 41 134 600 24 4 2330 4206 1653
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth Sound power level	Vh kPa kPa dm³ dm³ mm mm dB(A)	8 39890 23805 48 150 340 12 2 1/2 1735 3190 1183 82,0	8 39890 23805 49 150 340 12 2 1/2 1735 3190 1183 86,0	4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540 1183 82,0	8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183 82,0	8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183 86,0	8 39890 26378 42 148 340 12 2 1/2 1679 3540 1183 82,0	6 67672 27864 46 155 600 24 3 1847 3538 1653 87,0	6 67672 32095 49 133 600 24 3 1847 3538 1653 87,0	6 67672 35948 50 147 600 24 3 1847 3538 1653 87,0	6 75478 40747 53 171 600 24 4 2247 3538 1653 87,0	103511 46716 41 170 600 24 4 2330 4206 1653 88,0	97902 50827 49 152 600 24 4 2330 4206 1653 88,0	97902 53990 55 137 600 24 4 2330 4206 1653 88,0	97902 60257 41 134 600 24 4 2330 4206 1653 84,0
No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth	Vh kPa kPa dm³ dm³ mm mm	8 39890 23805 48 150 340 12 2 1/2 1735 3190 1183	8 39890 23805 49 150 340 12 2 1/2 1735 3190 1183	4 / 2 8 39890 24143 50 147 340 12 2 1/2 1679 3540 1183	8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	8 39890 26660 42 147 340 12 2 1/2 1735 3190 1183	8 39890 26378 42 148 340 12 2 1/2 1679 3540 1183	6 67672 27864 46 155 600 24 3 1847 3538 1653	6 67672 32095 49 133 600 24 3 1847 3538 1653	6 67672 35948 50 147 600 24 3 1847 3538 1653	6 75478 40747 53 171 600 24 4 2247 3538 1653	103511 46716 41 170 600 24 4 2330 4206 1653	97902 50827 49 152 600 24 4 2330 4206 1653	97902 53990 55 137 600 24 4 2330 4206 1653	97902 60257 41 134 600 24 4 2330 4206 1653

Cooling capacity refers to the following conditions: water temperature 12-7°C; outdoor air temperature 35°C Cooling capacity refers to the following conditions: water temperature 40-45°C, outdoor air temperature 7°C dry bulb and 6°C wet bulb Sound pressure level refers to the following conditions: measured in an open field, at a distance of 10 m, with a directivity factor of 2.



	Rated te	chnical o	lata of L	CE heat	t pump	s, LO\	w nois	SE versi	on						
Approx, capacity (kW)	1	45	50	60	70	80		90			100)	120		Π
Efficiency Pack		2	2	2	2	2	1	2	4	1	2	4	1	2	4
LCEHL		042	052	062	072	082	091	092	09	4 10	1 10	2 10	121	122	124
Power supply	V-ph-Hz							4	00-3-50						
Cooling capacity	kW	48	52,2	63,7	69,9	77,4					_	_		123,6	127,5
Total power input in cooling mode	kW	16,2	20,2	24	27	30,9	_	_	32,			_		48,4	44,2
Rated current input	A	27,68	34,16	41,08	45,85	52,03			_			_		78,96	72,25
ESEER ESEER		2,96 4,06	2,58 3,96	2,65	2,59 3,93	2,51	2,9							2,55	2,88
Heating capacity	kW	53,3	60.6	3,89 70,7	78,5	3,78 86,4		_		_	_	_	_	4,09 139,3	4,09 136,8
Total power input in heating mode	kW	15,5	17,9	19,6	22,4	25,6						_	43,8	43,4	43,4
Rated current input	A	26,58	30,47	33,98	38,39	43,53					_	_		70,96	70,83
COP		3,44	3,38	3,61	3,51	3,38								3,21	3,15
Maximum current input	A	41	44	51	55	66	77	77	81	86	86	87	95	95	96
Starting current	Α	159	162	185	183	191	246	3 246	19	4 254	1 25	4 19	295	295	220
No, of scroll compressors / circuits		2 / 1	2 / 1	2 / 1	2 / 1	2 /	1 2 /	2 2/	1 4 /	2 2 /	2 2 /	1 4 /	2 2 / 2	2 / 1	4 / 2
No, of axial fans		4	4	6	6	6	8	8	8		8	_	6	6	6
Air flow rate	m³/h	15398		21955	21955	21955		_	_	_	_	_	_	43434	43434
Water flow rate (cooling)	l/h	8261	8983	10956	12027	13313	_	_	_	_	_	_	_	_	21906
Pressure drop, water side (cooling) Available head, standard pump (cooling)	kPa kPa	26 157	31 149	47 125	35 131	43 117	31 129	32	32 12	_	_		40	40 107	41 105
Buffer tank	dm ³	200	200	220	220	220	340		34	_	_	_	_	600	600
Expansion tank	dm ³	12	12	12	12	12	12		12		_	_	24	24	24
Plumbing connections	um	2,00	2,00	2	2	2	2 1/2	_	_	_	_	_	_	3	3
Height	mm	1735	1735	1735	1735	1735					_	_		1847	1847
Length	mm	2090	2090	2442	2442	2442	3190	3190	354	0 319	0 319	0 354	3538	3538	3538
Depth	mm	1183	1183	1183	1183	1183	1183	3 1183	3 118	3 118	3 118	3 118	3 1653	1653	1653
Sound power level	dB(A)	70,0	74,0	76,0	76,0	76,0	73,0	77,0	73,	0 73,	_	_	77,0	81,0	77,0
Sound pressure level	dB(A)	42,0	46,0	48,0	48,0	48,0					_	_		53,0	49,0
Base unit operating weight	kg	525	525	630	635	700	905	_	98	_	_	_	_	1260	1275
Unit with pump and full tank operating weight	kg	862	862	982	987	1067	1426			7 143	6 143	6 155	7 2040	2040	2055
	Rated tec	hnical d	ata of L	CE hea	t pum _l	ps, LO	W NO	ISE vers	ion						
Approx, capacity (kW)			140		_		160		170	190	210	240	270	290	320
Efficiency Pack		1	2	4		1	2	4	4	4	4	4	4	4	4
LCEHL		14	1 142	2 14	4 1	61	162	164	ND	194	214	244	274	294	324
Power supply	V-ph-H	_	4 107	7 1 100	7 1 45	E 4	155.7		400-3-5		011.0	230	Loce	007.1	204.0
Cooling capacity	kW kW	137 50,		_			155,7 65,8	153,7 57,7	-	180,8 77,8	211,9 86,6	103,1	265 114,8	287,1 125,5	304,2 134,6
Total power input in cooling mode Rated current input	A	81,9			_		106,84	93,85		126,01	140,25			201,78	216,44
EER		2.7			_	_	2.37	2.66		2.33	2.45	2.23	2.31	2.29	2.26
ESEER		3,9				_	3,79	3,75		3,84	3,84	3,94	3,91	4,05	4,18
Heating capacity	kW	155			_		178,1	174,8		210,9	233,8	268,5		326,5	347,2
Total power input in heating mode	kW	48		_	_		55,2	55,4	-	64,9	72,7	84,6	95,6	103,6	111,9
Rated current input	A	78,3	_	_	_		82,02	90,14	-	105,42	117,89			166,69	179,98
COP		3,2		_	_	_	3,23	3,16	-	3,25	3,22	3,19	3,19	3,158	3,1
Maximum current input	А	10	3 106	10	5 1	20	120	126	-	148	167	190	215	229	242
Starting current	А	30	306	3 22	2 3	371	371	241	-	307	318	382	398	464	472
No, of scroll compressors / circuits		2 /	2 2 /	1 4 /	2 2	/ 2	2 / 1	4 / 2	-	4 / 2	4 / 2	4 / 3	2 4 / 2	4 / 2	4 / 2
(6	6	6		6	6	6	-	6	6	6	8	8	8
No, of axial fans				404	34 40	235	40235	40235	-	55808	63261	6326	87186	81687	81687
Air flow rate	m³/h	434		_	_							1			F00F0
Air flow rate Water flow rate (cooling)	l/h	236	55 2365	5 240	43 26	_	26719	26434	-	31172	36451	36615		49438	52350
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling)	l/h kPa	236	55 2365	55 240	43 26	43	43	43	-	47	51	39	46	52	52
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling)	l/h kPa kPa	236 48 15	55 2365 49 1 151	55 240 50	43 26) 4 8 1	43 47	43 147	43 148	-	47 139	51 143	39 177	46 174	52 158	52 145
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank	l/h kPa kPa dm³	236 48 15 60	55 2365 49 1 151 0 600	55 240 50 14 0 60	43 26 0 4 8 1 0 6	43 47 600	43 147 600	43 148 600	-	47 139 600	51 143 600	39 177 600	46 174 600	52 158 600	52 145 600
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank	l/h kPa kPa	2363 48 15 600 24	55 2365 49 1 151 0 600 24	55 240 50 14 0 60 24	43 26 0 4 8 1 0 6	43 47 600 24	43 147 600 24	43 148 600 24		47 139 600 24	51 143 600 24	39 177 600 24	46 174 600 24	52 158 600 24	52 145 600 24
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections	l/h kPa kPa dm³	2363 48 15 600 24	55 2365 49 1 151 0 600 24 3	55 240 50 14 0 60 24 3	43 26 0 4 8 1 0 6	43 47 600 24 3	43 147 600 24 3	43 148 600 24 3		47 139 600 24 3	51 143 600 24 4	39 177 600 24 4	46 174 600 24 4	52 158 600 24 4	52 145 600 24 4
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height	l/h kPa kPa dm³ dm³	2363 48 15 600 24 3 184	55 2365 49 1 151 0 600 24 3 7 184	55 240 50 14 0 60 24 3 7 184	43 26 0 4 8 1 0 6 1 2	43 47 600 24 3 347	43 147 600 24 3 1847	43 148 600 24 3 1847	- - - -	47 139 600 24 3 1847	51 143 600 24 4 2247	39 177 600 24 4 2247	46 174 600 24 4 2330	52 158 600 24 4 2330	52 145 600 24 4 2330
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length	V/h kPa kPa dm³ dm³	236 48 15 60 24 3 184 353	55 2365 49 1 151 0 600 24 3 7 184 8 353	55 2400 50 140 600 24 3 7 184 8 353	43 26 0 4 8 1 0 6 1 2 17 18 88 35	43 47 500 24 3 347 538	43 147 600 24 3 1847 3538	43 148 600 24 3 1847 3538	- - - - -	47 139 600 24 3 1847 3538	51 143 600 24 4 2247 3538	39 177 600 24 4 2247 3538	46 174 600 24 4 2330 4206	52 158 600 24 4 2330 4206	52 145 600 24 4 2330 4206
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth	Vh kPa kPa dm³ dm³ mm mm	2366 48 15 600 24 3 184 353 165	55 23655 49 49 1 151 0 600 24 3 3 7 184 8 3533 1653	55 2400 50 144 0 600 24 3 3 7 184 3 353 165	43 26 0 4 8 1 0 6 1 2 17 18 18 35 16 3 16	43 47 600 24 3 347 538 653	43 147 600 24 3 1847 3538 1653	43 148 600 24 3 1847 3538 1653	- - - - -	47 139 600 24 3 1847 3538 1653	51 143 600 24 4 2247 3538 1653	39 177 600 24 4 2247 3538 1653	46 174 600 24 4 2330 4206 1653	52 158 600 24 4 2330 4206 1653	52 145 600 24 4 2330 4206 1653
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth Sound power level	Vh kPa kPa dm³ dm³ mm mm dB(A)	2366 48 15 600 24 3 184 353 165 77,	35 23655 23655 49 49 1 151 151 151 151 151 151 151 151 151	55 2400 50 144 0 600 24 3 3 7 184 3 353 3 165 0 77,	43 26 0 4 8 1 0 6 4 2 47 18 88 38 63 16 0 7	43 47 600 24 3 347 538 653 7,0	43 147 600 24 3 1847 3538 1653 81,0	43 148 600 24 3 1847 3538 1653 77,0		47 139 600 24 3 1847 3538 1653 81,0	51 143 600 24 4 2247 3538 1653 81,0	39 177 600 24 4 2247 3538 1653 82,0	46 174 600 24 4 2330 4206 1653 83,0	52 158 600 24 4 2330 4206 1653 83,0	52 145 600 24 4 2330 4206 1653 83,0
Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth	Vh kPa kPa dm³ dm³ mm mm	2366 48 15 600 24 3 184 353 165	35 2365 49 49 1 151 0 6000 24 3 7 184 8 3533 3 1653 3 1654 0 92,0 64,0	55 2400 50 1440 600 24 33 7 1843 3533 1655 0 77, 0 49,	43 26 0 4 8 1 0 6 1 2 17 18 88 35 63 16 0 7 0 4	43 47 500 24 3 347 538 553 7,0 9,0	43 147 600 24 3 1847 3538 1653	43 148 600 24 3 1847 3538 1653	- - - - -	47 139 600 24 3 1847 3538 1653	51 143 600 24 4 2247 3538 1653	39 177 600 24 4 2247 3538 1653	46 174 600 24 4 2330 4206 1653	52 158 600 24 4 2330 4206 1653	52 145 600 24 4 2330 4206 1653

Cooling capacity refers to the following conditions: water temperature 12-7°C; outdoor air temperature 35°C Cooling capacity refers to the following conditions: water temperature 40-45°C, outdoor air temperature 7°C dry bulb and 6°C wet bulb Sound pressure level refers to the following conditions: measured in an open field, at a distance of 10 m, with a directivity factor of 2.



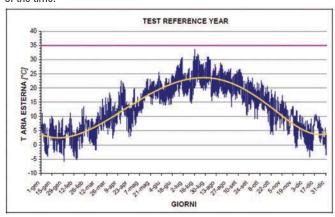
Rat	ed technica	ıl data n	f LCE h	eat pur	ıps. QU	IET (su	per low	noise) v	ersion/						
Approx, capacity (kW)	T	45	50	60	70	80	T	90	0101011	Т	100		120	Т	Т
Efficiency Pack		2	2	2	2	2	1	T 2	4	1	2	4	1	2	4
LCEHQ		042	052	062	072	082	091	092	094	101	102	104	121	122	124
Power supply	V-ph-Hz		~~_		· · ·)-3-50						
Cooling capacity	kW	48	52	64	70	77	93	93	94	104	104	102	124	124	126
Total power input in cooling mode	kW	16,2	20,2	24	27	30,9	32	35	32,3	38,4	38,7	37,1	45	47,1	45,1
Rated current input	Α	27,68	34,16	41,08	45,85	52,03	54,74	59,57	55,25	64,92	65,39	62,84	73,45	76,84	73,59
EER		2,96	2,58	2,65	2,59	2,51	2,9	2,65	2,92	2,7	2,68	2,76	2,75	2,62	2,79
ESEER		4,06	3,96	3,89	3,93	3,78	3,45	3,88	3,9	3,4	3,75	3,85	3,88	4,15	4,09
Heating capacity	kW	53,3	60,6	70,7	78,5	86,4	104,7	104,5	102,7	118	117,3	115,6		123	133,3
Total power input in heating mode	kW	16	18	20	22	26	31	30	30	35	35	35	42	39	42
Rated current input	A	26,58	30,47	33,98	38,39	43,53	52,32	_	51,99	60,19		59,51	69,09	64,43	68,44
COP		3,44	3,38	3,61	3,51	3,38	3,43	3,47	3,39	3,33	3,37	3,3	3,21	3,13	3,18
Maximum current input	A	41	44	51	55	66	77	77	81	86	86	87	99	99	100
Starting current	Α	159	162	185 2 / 1	183 2 / 1	191	246	246	194 4 / 2	254	254	198 4 / 2	299	299	225 4 / 2
No, of scroll compressors / circuits No, of axial fans		2 / 1	2 / 1	6	6	6	8	2 2 / 1	8	8	8	4 / 2	6	2 / 1	6
Air flow rate	m³/h	15398	15398	21955	21955	21955	29393		29393	29393		29393	_		35930
Water flow rate (cooling)	III /II	8261	8983	10956	12027	13313	15986	_	16213		_	17582	_		21623
Pressure drop, water side (cooling)	kPa	26	31	47	35	43	31	32	32	39	39	38	39	39	40
Available head, standard pump (cooling)	kPa	157	149	125	131	117	129	129	128	118	118	119	109	109	106
Buffer tank	dm ³	200	200	220	220	220	340	340	340	340	340	340	600	600	600
Expansion tank	dm ³	12	12	12	12	12	12	12	12	12	12	12	24	24	24
Plumbing connections		2	2	2	2	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3
Height	mm	1735	1735	1735	1735	1735	1735	1735	1679	1735	1735	1679	1847	1847	1847
Length	mm	2090	2090	2442	2442	2442	3190	3190	3540	3190	3190	3540	3538	3538	3538
Depth	mm	1183	1183	1183	1183	1183	1183	1183	1183	1183	1183	1183	1653	1653	1653
Sound power level	dB(A)	67,0	71,0	73,0	73,0	73,0	70,0	74,0	70,0	70,0	74,0	70,0	69,0	73,0	69,0
Sound pressure level	dB(A)	39,0	43,0	45,0	45,0	45,0	42,0	46,0	42,0	42,0	46,0	42,0	41,0	45,0	41,0
Base unit operating weight	kg	525	525	630	635	700	905	905	980	915	915	980	1260	1260	1275
Unit with pump and full tank operating weight	kg	862	862	982	987	1067	1426	1426	1557	1436	1436	1557	2040	2040	2055
Rate	d technical	data of	LCE he	eat pum	ps, QU	IIET (sı	iper lov	w noise)	versio	n					
Approx, capacity (kW)	T	т	14	40			160	Т	170	190	210	240	270	290	320
Efficiency Pack		-		2	4	1	2	4	4	4	4	4	4	4	4
LCEHQ		14	1 12	12 1	44 1	۸.	162	164	ND						
Power supply	V-ph-H	_				61	IUZ		טאו	194	214	244	274	294	324
4	v-pii-i	IZ			••••	61	102		00-3-50	194	214	244	274	294	324
Cooling capacity	kW	135	5,5 13	7,7 13						164,7	192,8	209,9	274 160,9	294 279	
Cooling capacity Total power input in cooling mode		_			7,7 1			4	00-3-50	1				ı	324 294,1 138
<u> </u>	kW	135	1 5	6 5	7,7 1:	51,5 1	151,7 68	150,2	00-3-50 - -	164,7	192,8	209,9	160,9	279	294,1
Total power input in cooling mode Rated current input	kW kW	135 5 83,	1 5 35 90	6 5 ,97 82	7,7 1: i1 ,76 10	51,5 1 62 0,58 1	151,7 68 110,3	150,2 59 96,53	00-3-50 - -	164,7 89 143,92	192,8 100 161,28	209,9 109 175,41	160,9 116 186,28	279 128 206,54	294,1 138 221,67
Total power input in cooling mode	kW kW	135 5	1 5 35 90 65 2,	6 5 ,97 82 46 2,	7,7 15 i1 ,76 10 71 2	51,5 1 62 0,58 1	151,7 68	150,2 59	00-3-50 - -	164,7	192,8 100	209,9	160,9 116	279 128	294,1 138
Total power input in cooling mode Rated current input EER	kW kW	135 5 83, 2,6	1 5 35 90 35 2, 33 4,	6 5 ,97 82 46 2, 01 4	7,7 15 i1 ,76 10 71 2 ,1 3	51,5 1 62 0,58 1 ,41 ,61	151,7 68 110,3 2,2 3,79	150,2 59 96,53 2,53	00-3-50 - - - -	164,7 89 143,92 1,85 3,84	192,8 100 161,28 1,93	209,9 109 175,41 1,93	160,9 116 186,28 2,26	279 128 206,54 2,17	294,1 138 221,67 2,14 4,05
Total power input in cooling mode Rated current input EER ESEER	kW kW	135 5 83, 2,6	1 5 35 90 65 2, 33 4, 1,3 15	6 5 ,97 82 46 2, 01 4 0,1 14	7,7 15 61 ,76 10 71 2 ,1 3 8,3 1	51,5 1 62 0,58 1 ,41 ,61 73,2 1	151,7 68 110,3 2,2 3,79	150,2 59 96,53 2,53 3,75	00-3-50	164,7 89 143,92 1,85	192,8 100 161,28 1,93 3,84	209,9 109 175,41 1,93 3,89	160,9 116 186,28 2,26 3,94	279 128 206,54 2,17 3,91	294,1 138 221,67 2,14 4,05 338,2
Total power input in cooling mode Rated current input EER ESEER Heating capacity	kW kW A	138 5 83, 2,6 3,9	1 5 35 90 35 2, 33 4, 1,3 15 7 42	6 5 ,97 82 46 2, 01 4 0,1 14 2,4 46	7,7 15 61 61 76 10 71 2 71 3 8,3 15 6,3 5	51,5 1 62 0,58 1 ,41 ,61 73,2 1	151,7 68 110,3 2,2 3,79 173,1	150,2 59 96,53 2,53 3,75 171,3		164,7 89 143,92 1,85 3,84 204,9	192,8 100 161,28 1,93 3,84 226,8	209,9 109 175,41 1,93 3,89 262,6	160,9 116 186,28 2,26 3,94 296,7	279 128 206,54 2,17 3,91 318,5	294,1 138 221,67 2,14 4,05 338,2
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode	kW kW A kW kW	135 5 83, 2,6 3,9 15	1 5 35 90, 65 2, 93 4, 1,3 15 7 42 7 7	6 5 ,97 82 46 2, 01 4 0,1 14 2,4 46	7,7 15 61 61 771 2 71 3 8,3 15 6,3 5	51,5 1 62 0,58 1 ,41 ,61 7 73,2 1	151,7 68 110,3 2,2 3,79 173,1 50,1	150,2 59 96,53 2,53 3,75 171,3 54,1		164,7 89 143,92 1,85 3,84 204,9 63,5	192,8 100 161,28 1,93 3,84 226,8 71	209,9 109 175,41 1,93 3,89 262,6 82,9	160,9 116 186,28 2,26 3,94 296,7 94	279 128 206,54 2,17 3,91 318,5 101,7	294,1 138 221,67 2,14 4,05 338,2 109,7
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input	kW kW A kW kW	138 5 83, 2,6 3,9 15 4	1 5 335 90, 35 2, 33 4, 1,3 15 7 42 7 7 722 3,	6 5 ,97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3	7,7 15 61 6 7,76 10 71 2 71 3 8,3 1 6,3 5 66 6	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 89 ,17	68 110,3 2,2 3,79 173,1 50,1 88	41150,2 59 96,53 2,53 3,75 171,3 54,1 88		164,7 89 143,92 1,85 3,84 204,9 63,5 103	192,8 100 161,28 1,93 3,84 226,8 71 115	209,9 109 175,41 1,93 3,89 262,6 82,9	160,9 116 186,28 2,26 3,94 296,7 94 151	279 128 206,54 2,17 3,91 318,5 101,7	294,1 138 221,67 2,14 4,05 338,2 109,7
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP	kW kW A kW kW A	138 5 83, 2,6 3,8 15 4 7	1 5 35 90. 35 2, 33 4, 1,3 15 7 422 7 7 7 22 3,3	6 5 ,97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3	7,7 15 11 16 11 17 176 10 171 2 1,1 3 18,3 15 16 170 1	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 89 ,17 124	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2	49 41 150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input	kW kW A A A	138 5 83, 2,0 3,9 15 4 7 3,2	1 5 35 90. 55 2, 93 4, 1,3 15 7 42 7 7 722 3, 0 11 0 3	6 5 ,97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3 10 1 110 2	7,7 1! i1	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 89 ,17 124 877	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377	49		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current	kW kW A A A	138 5 83, 2,4 3,9 15 4 7 3,2	1 5 35 90. 65 2, 93 4, 1,3 15 7 422 7 7 7 22 3, 0 11 0 3	6 5 ,97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3 10 1 110 2	7,7 1! i1	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 89 ,17 124 877	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377	4150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits	kW kW A A A	138 5 83, 2,4 3,9 15 4 7 3,2 11 31	1 5 335 90. 355 2,93 4,1,3 15. 7 422 3,7 0 11 0 3 3 (2 2 2 6)	6 5 ,97 82 ,97 82 ,97 82 ,46 2, 01 4 ,0,1 14 ,2,4 46 ,66 7 ,23 3 ,10 1 ,10 2 ,/ 1 4 ,66	7,7 11: 61 61 776 100 771 22 7,1 33 8,3 11: 8,3 5: 66 6 7,2 3 7,2 3 7,2 2 7,2 2	51,5 1 62 0,58 1 ,41 ,61 :73,2 1 4,7 89 .17 1 124 1 1877 / 2 2 2 6	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1	4 150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans	kW kW A A A A	138 5 83, 2,6 3,8 15 7 7 3,2 11 31	1 5 335 90.0 355 2,93 4,1,3 15;7 422 7 7 7 222 3,0 1:0 3 7 2 2 2,5 6 (330 35;8	6 5 97 822 97 822 97 822 98 22 99 82 90 1 4 90 1 4 90 1 1 90 2 91 1 4 91 1 91	7,7 18 11 11 12 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 89 ,17 124 877 / 2 2 6 5930 3	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6	41150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate	kW kW A A A A M A	138 83, 2,4 3,9 15 4 7 7 3,2 11 31 2,6 6	1 5 335 900 55 2,33 4,1,3 15;7 422 7 7 7 722 3,30 11;0 3 3 (2 2 2 5) 6 (330 355;603 23	6 5 97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3 10 1 10 2 7 1 4 6 930 35 3303 23	7,7 18 11 18	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 89 ,17 124 877 / 2 2 6 5930 3	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6	41150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling)	kW kW A A A A A M A A	133 55 83, 2,4 3,5 15 4 7 3,2 11 31 2,7 6 359 233	1 5 335 900 35 2,33 4,13 15;7 42;7 7 7 22 3,30 1:0 3;7 2;2 3,30 3;3 35;3 35;3 35;3 35;3 37 4	6 5 997 82 46 2, 01 4 0,1 14 2,4 46 6 7 223 3 10 1 110 2 110 2 110 4 6 5 930 35 3303 23 7	7,7 1: 11 2 7,76 10 7,71 2 7,1 3 8,3 1 8,3 5 6 7,2 3 7,2 2 6 930 35 667 26 8	51,5 1 62 0,58 1 ,41 ,61 1 ,73,2 1 ,4,7 89 1 ,17 124 1 377 7 2 2 6 5930 3 5051 2	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930	4/150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling)	kW kW A kW A A A A A K KW KW KW A A K A A A K A K	133 5 83, 2,4 3,5 15 4 7 3,2 11 31 2,4 6 359 233	1 5 35 90 35 2, 33 4, 1,3 15 7 422 3,0 11 0 3 7 2 2 6 0 303 355 303 br>305 305 305 305 305 305	6 5 .97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3 10 1 10 2 / 1 4 6 930 35 303 23 7 4 53 1	7,7 1: 1,76 10 7,7 1: 3,1 3 8,3 1: 8,3 5: 6 7,2 3 8,3 5: 7,2 2 6 930 3: 667 26 88 551 1:	51,5 1 62 0,58 1 ,41 ,61 73,2 1 4,7 889 ,17 124 877 / 2 2 6 5930 3 5051 2	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930 26051 41	4/150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling)	kW kW A kW A A A A A KPA kPA kPA	133 5 83, 2,6 3,9 15 4 7 3,2 11 31 2,6 359 233 4	1 5 35 90 35 2, 33 4, 1,3 15 7 422 3,10 11 0 3 7 22 3, 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6	7,7 1: 1,76 10 7,7 2 1,1 3 8,3 1: 8,3 5 6 7,2 3 08 27 2 2 6 930 35 667 26 88 551 1: 00 66	51,5 662 62 63 64 64 64 64 64 64 64	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930 26051 41 151	4/150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40 152		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank	kW kW A kW A A A A A A KPA kPA kPA dm³	133 55 83, 2,6 3,9 15 4 7 3,2 11 31 2,6 23 23 4 15 6 6	1 5 35 90 35 2,4 33 4,1 33 15,1 7 422 7 7 7222 3,1 0 11 0 3 35 6 03 355 6 03 23 7 453 15 6 06 6	6	7,7 15 1,76 10 7,76 10 7,71 2 1,1 3 8,3 17 8,3 5 6 7,2 3 08 27 7,2 2 6 930 35 667 26 88 51 1 00 66 144	51,5 662 62 63 64 64 64 64 64 64 64	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930 26051 41 151 600	4/150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40 152 600		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank	kW kW A kW A A A A A A KPA kPA kPA dm³	133 5 83, 2,6 3,9 15 4 7 3,2 11 31 2,6 23 23 4 15 60 2	1 5 35 90 35 2, 33 4, 1,3 15 7 422 3,1,3 15 7 422 3,22 3, 0 1 0 3 7 2 2 6 6 6 30 359 303 233 7 44 3 3 15 6 6 6 6 6 6 6 6 6 6 7 6 6 7 7 7 6 8 7 7 7 7 8 7 7 7 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 7 7 8 8 7 7 7 7 8 8 7 7 7 7 8 8 7 7 7 7 8 8 7 7 7 7 7 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	6	7,7 19 11 11 17 17 18 18 17 18 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	51,5 662 62 63 64 64 64 64 64 64 64	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 65930 26051 41 151 600 24	4 150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40 152 600 24		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections	kW kW A kW A A A A A A A A A A A A A A A	133 5 83, 2,6 3,9 15 4 7 3,2 11 31 2 7 6 23 23 4 15 60 22	1 5 35 90 35 2, 33 4, 1,3 15 7 422 3,1,3 15 7 422 3,3 0 11 0 3 3 7 2 2 6 6 6 30 359 30 359 30 359 30 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	6	7,7 1: 1,76 10 7,7 2 1,1 3 8,3 1: 8,3 5 6 7,2 3 8,3 5 7,2 2 6 930 3: 667 26 88 5 51 1 00 6 144 3 1447 1	51,5 662	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930 26051 41 151 600 24 3	4 150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40 152 600 24 3 3		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24 3	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24 4	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24 4	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24 4	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24 4	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24 4
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height	kW kW A kW A A A A A A A A A A A A A A A	133 5 83, 2,6 3,9 15 4 7 3,2 11 31 2 , 6 23 23 4 15 60 2 2 18	1 5 35 90 35 2, 33 4, 1,3 15 7 42 7 7 7 7 22 3, 0 1 1 0 3 3 7 2 2 2 6 6 6 330 359 303 233 7 4 33 15 6 6 6 6 6 6 6 6 7 2 2 2 6 6 6 7 4 7 4 8 6 6 8 7 4 8 7 4	6	7,7 19 11 11 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	51,5 662	151,7 68 110,3 2,2 3,79 173,1 150,1 88 3,2 124 377 2 / 1 6 65930 26051 41 151 600 24 3 1847	4 150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40 152 600 24 3 1847		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24 3 1847	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24 4 2247	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24 4 2247	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24 4 2330	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24 4 2330	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24 4 2330
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length	kW kW A kW A A A A A A A A A A A A A A A	133 5 83, 2,4 3,8 15 4 7 7 3,2 11 31 2 2,6 359 233 4 15 60 22 18 35 18 18 18 16 16 16 16 16 16 16 16 16 16 16 16 16	1 5 35 90 35 90 36 2, 33 4, 1,3 15 7 42 7 7 7 7 22 3, 0 1 1 0 3 3 7 2 2 2 6 6 6 6 30 359 303 233 7 4 4 3 15 30 6 6 4 4 2 2 6 6 6 6 6 7 4 2 7 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	6	7,7 19 1,76 10 7,7 2 1,1 3 8,3 17 8,3 5 6 7,2 3 7,2 2 6 930 35 667 26 88 5 51 1 00 6 144 3 147 1 138 3 153 1	662	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 15930 16051 41 151 600 24 3 1847 3538	44		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24 3 1847 3538	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24 4 2247 3538	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24 4 2247 3538	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24 4 2330 4206	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24 4 2330 4206	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24 4 2330 4206
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth	kW kW A kW A A A A A A A A A A A A A A A	133 5 83, 2,4 3,5 15 4 7 7 3,5 6 233 4 15 60 2 18 355 18 60 69	1 5 35 90 35 90 36 2, 33 4, 1,3 15 7 422 3,10 11 30 3 7 2 2 3 (0 3 30 359 30 359 30 359 30 359 30 359 30 4, 30 4, 30 11 30 60 44 2 3 4, 3 15 3 15	6 5. 97 82 46 2, 01 4 0,1 14 2,4 46 6 7 23 3 10 1 10 2 / 1 4 6 333 23 7 4 53 1 000 6 44 2 38 35 53 16 8,0 66	7,7 19 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	662	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 35930 60051 41 151 600 24 3 1847 3538 1653	440 150,2 59 96,53 2,53 3,75 171,3 54,1 88 3,16 130 247 4 / 2 6 35930 25816 40 152 600 24 3 1847 3538 1653		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24 3 1847 3538 1653	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24 4 2247 3538 1653	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24 4 2247 3538 1653	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24 4 2330 4206 1653	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24 4 2330 4206 1653	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24 4 2330 4206 1653
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth Sound power level	kW kW A A A A A A A A A A A A A A A A A	133 5 833, 2,4 3,8 15 4 7 7 3,2 4 11 31 2 2,6 35 2 23 3 4 15 60 2 18 18 18 18 18 18 18 18 18 18 18 18 18	1 5 335 900 335 900 335 900 33 4,1,3 155 7 422 3,100 10 3 30 7 2 2 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 5. 97 82 46 2, 97 82 46 2, 101 4 10,1 144 2,4 46 6 7 23 3 10 1 110 2 7 1 4 6 9330 35 303 23 7 4 53 1 600 6 44 2 38 35 53 16 66,0 4	7,7 19 11 11 12 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	51,5 62 62 62 62 62 62 62 6	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930 60051 41 151 600 24 3 1847 3538 1653 73,0	44		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24 3 1847 3538 1653 73,0	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24 4 2247 3538 1653 73,0	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24 4 2247 3538 1653 73,0	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24 4 2330 4206 1653 74,0	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24 4 2330 4206 1653 74,0	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24 4 2330 4206 1653 74,0
Total power input in cooling mode Rated current input EER ESEER Heating capacity Total power input in heating mode Rated current input COP Maximum current input Starting current No, of scroll compressors / circuits No, of axial fans Air flow rate Water flow rate (cooling) Pressure drop, water side (cooling) Available head, standard pump (cooling) Buffer tank Expansion tank Plumbing connections Height Length Depth Sound power level Sound pressure level	kW kW A A A A A A A A A A A A A A A A A	133 5 83, 2,4 3,5 15 4 7 7 3,5 6 233 4 15 60 2 18 355 18 355 16 69	1 5 35 90 35 90 35 90 37 42 37 7 7 422 3, 30 11 30 35 303 23 37 44 30 15 30 12 30 12 30 12 30 12 30 13 30 15 30 12 30	6 5. 97 82 46 2, 97 82 46 2, 97 82 46 7 10,1 14 10,1 14 10 2 10 1 1 10 2 10 1 1 10 2 10 1 1 10 1 10	7,7 19 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	51,5 62 62 62 62 62 62 62 6	151,7 68 110,3 2,2 3,79 173,1 50,1 88 3,2 124 377 2 / 1 6 85930 86051 41 151 6600 24 3 1847 3538 1653 73,0 45,0	44		164,7 89 143,92 1,85 3,84 204,9 63,5 103 3,23 148 314 4 / 2 6 35930 28282 39 161 600 24 3 1847 3538 1653 73,0 45,0	192,8 100 161,28 1,93 3,84 226,8 71 115 3,2 167 328 4 / 2 6 40953 33135 39 171 600 24 4 2247 3538 1653 73,0 45,0	209,9 109 175,41 1,93 3,89 262,6 82,9 134 3,17 190 395 4 / 2 6 40953 36054 42 193 600 24 4 2247 3538 1653 73,0 45,0	160,9 116 186,28 2,26 3,94 296,7 94 151 3,16 213 396 4 / 2 8 69835 44837 38 177 600 24 4 2330 4206 1653 74,0 46,0	279 128 206,54 2,17 3,91 318,5 101,7 164 3,13 226 465 4 / 2 8 69835 47938 44 164 600 24 4 2330 4206 1653 74,0 46,0	294,1 138 221,67 2,14 4,05 338,2 109,7 177 3,08 240 475 4 / 2 8 69835 50535 48 153 600 24 4 2330 4206 1653 74,0

Cooling capacity refers to the following conditions: water temperature 12-7°C; outdoor air temperature 35°C Cooling capacity refers to the following conditions: water temperature 40-45°C, outdoor air temperature 7°C dry bulb and 6°C wet bulb Sound pressure level refers to the following conditions: measured in an open field, at a distance of 10 m, with a directivity factor of 2.



LSE MULTI-SCROLL SOLUTIONS FOR HIGH PERFORMANCE UNDER PARTIAL LOAD CONDITIONS

Though a water chiller or heat pump is chosen on the basis of the maximum load of the system it is intended to serve, the actual thermal load of an air conditioning system is less than 60% of the rated load capacity 90% of the time.



The **LSE** range of chillers and heat pumps includes 14 models with capacities from 370 to 1200 kW (650 kW in heat pump mode) and uses only scroll compressors on 2 or 4 cooling circuits.

HIGH EFFICIENCY UNDER PARTIAL LOAD CONDITIONS

The number of compressors, according to size, is 2 or 3 per cooling circuit, multiplying the capacity control steps.

The high number of capacity control steps enables the unit to adapt its power to the actual needs of the system, with particular gains in efficiency under partial load conditions compared to traditional screw compressors. The control microprocessor automatically distributes the workload among the compressors, thus increasing their lifespan.

During operation under partial load conditions, the compressors work with oversized exchange surfaces so as to achieve more advantageous thermodynamic cycles, thanks also to the use of an **electronic expansion valve**, a standard feature of all models.

VERSIONS

- Cooling Only
- Free-Cooling
- Heat pump, up to 650 kW

WATER PUMP OPTIONS

Complete hydronic kits can be incorporated within the units without modifying their size and you have the option of choosing the water circulation pump.

- Single pump, standard head or uprated (high head).
- Dual pumps, OR solution: standard head or uprated, operating singly.
 The pumps operate in turns on a time/fault basis.
- Dual pump, "AND" solution: standard or uprated pump, operating simultaneously.

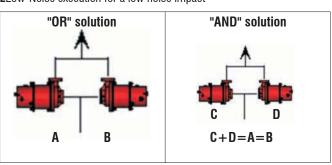
Connected in parallel, they deliver water at the nominal flow rate when operating simultaneously.

Under partial load conditions operation is limited to a single pump, reducing the capacity by $^{1}/_{3}$ compared to the rated value and resulting in average savings of about 30% in pumping costs.

ACOUSTIC VERSIONS

S Standard execution

LLow-Noise execution for a low noise impact





INTERCONNECTIVITY

With advanced microprocessor control it is possible to implement:

- LAN networks (up to 4 units)
- GSM kit for reading and setting data via a mobile phone
- WEB kit for reading and setting data remotely from a PC via access to the IP address of the chiller unit or network of units
- Serial cards for protocols:

Carel / Modbus

Lonworks / Trend

- WEB Hardware: Ethernet card for protocols: Bacnet / SNMP
- WEB software: Ethernet board for Web interface





To request tenders for LSE chillers, fill in all the fields in the tender request form provided on the opposite page and send it to your local dealer. Below is a brief explanation of the items included in the form.

MODEL

 Identify the model on the table of the previous page depending on the required power

OPERATION

- C cooling only
- H reversible heat pump

VERSION

It is possible to choose from among 3 different acoustic configurations:

- S Standard execution
- L Low-Noise version for a low noise impact

POWER SUPPLY

- -400/3/50 + N
- 400/3/50 with 230V transformer for the auxiliary circuits
- 400/3/50 + N, circuit breakers
- 400/3/50 with 230V transformer 230V, circuit breakers

MICROPROCESSOR / EXPANSION VALVE

- ADVANCED + electronic valve

The chillers are designed to be equipped with an electronic expansion valve as a standard component. Chillers with traditional expansion valves can also be supplied on request.

WATER PUMP

- Absent
- Single pump and expansion tank
- Uprated single pump and expansion tank
- Dual pump for combined operation (AND operating logic) + expansion tank The management of AND logic requires the use of an ADVANCED microprocessor controller
- Uprated dual pump for combined operation (AND operating logic) + expansion tank The management of AND logic requires the use of an ADVANCED microprocessor controller
- Dual pump with rotation on a time basis (OR logic) and expansion tank (rotation on a time basis)
- Dual uprated pump in time sequence (OR operating sequence) and expansion tank

BUFFER TANK

- Absent
- Present, integrated into the unit without modifying its overall dimensions, located on the outlet side in standard configurations.

HEAT RECOVERY

- Absent
- Partial (desuperheater) In that case, the presence of a condensation control system is mandatory.

CONDENSATION CONTROL

- Absent
- Phase cut modulating control with adjustment of air flow rate depending on the condensation pressure. Using this option enables the unit to operate in the cooling mode with air temperatures below 20°, down to a temperature of as low as -10°C.

ANTIFREEZE KIT

- Absent
- Present, units with evaporator only
- Present, units with evaporator, pump and expansion tank
- Present, units with evaporator, pump, expansion tank and buffer tank

REMOTE COMMUNICATION

- Absent
- RS485 Serial board (Modbus or Carel protocol)
- Lonworks serial care (option available only if an ADVANCED microprocessor controller is used)
- GSM modem kit for communication via SMS messages
- Ethernet pCOWEB board (SNMP or BACNET protocol)
- Ethernet pCOWEB board (SNMP or BACNET protocol) + HIWEB supervision software

COOLING ACCESSORIES

- Absent
- Pressure gauges

SPECIAL HEAT EXCHANGER CONFIGURATION (ON REQUEST)

- Standard
- Copper / copper heat exchangers
- Heat exchangers with cataphoresis
- Heat exchangers with corrosion-proof treatment
- Special

PACKING

- Standard
- Wooden crate
- Wooden case

INSULATION

- Absent
- Base rubber vibration dumpers
- Base spring vibration dumpers

REMOTE CONTROLLER

- Absent
- Simplified
- Base microprocessor control
- Advanced microprocessor control

INSTALLATION OF THE UNIT

- Absent
- Pair of quick couplings for water IN-OUT

ACCESSORIES

- Power factor correction capacitors
- Soft-starter kit
- Service kit (kit of sensors for quick diagnosis)
- Clock card
- ON/OFF status of the compressors
- Remote control for limiting compressor starts
- Configurable digital alarm card
- Outdoor air temperature probe for setpoint compensation
- Pressure gauges
- Regulating filter kit (solenoid and tap on the liquid line)
- Normative reference other than "97/23/EC PED"
- Condenser protection grille



R	ATED	TECHN	IICAL	DATA (of LSE	water	chille	rs, CS	versio	n					
LSECS		374	416	456	486	536	558	618	658	748	800	900	942	1072	1202
Power supply	V-ph-Hz		!				41	00V - 3	Ph - 50	Hz					I
Cooling capacity	kW	366,80	413,02	454,74	488,19	532,46			657,31		799,89	898,06	950,95	1.062,94	1.202,00
Total power input	kW								229,64						
EER		2,95	2,75	2,87	2,82	2,76	2,90	2,90	2,86	2,96	2,74	2,90	2,75	2,78	2,67
ESEER		4,26	4,18	4,32	4,25	4,23	4,15	4,15	4,09	4,15	4,19	4,33	4,34	4,29	4,28
Total absorbed current	Α	221,32			_				404,79					_	741,7
FLA Maximum absorbed current (without accessories)	Α	270	333	362	382	400	453	480	506	540	631	670	755	792	975
LRA Inrush current (without accessories)	Α	432	476	550	558	518	569	637	648	613	738	699	828	777	1190
No. of scroll compressors / circuits		4/2	6/2	6/2	6/2	6/2	8/4	8/4	8/4	8/4	10/4	10/4	12/4	12/4	12/4
No. of axial fans		(,	8			10		1			14		16
Air flow rate	m³/h	118	.913		159.453	3	209	.054	199.974	251.304	245.895		280.994		320.000
Water flow rate		63.090	71.039			91.584	96.807	105.944	113.057						208.136
Pressure drop, water side	kPa	54	56	57	51	52	46	50	52	53	63	55	61	51	56
Head available - Pumps (OR) BP (option)	kPa	154	125	176	160	128	151	125	191	155	114	180	162	147	115
Head available - Pumps (OR) HP (option)	kPa	252	236	262	257	241	235	234	227	253	234	276	259	244	214
Head available - Pumps (AND) LP (option)	kPa	164	143	124	114	92	160	144	133	153	126	181	158	130	86
Head available - Pumps (AND) HP (option)	kPa	237	226	217	216	205	280	263	252	230	233	266	251	242	219
Buffer tank	dm ³	<u> </u>		600					<u> </u>		1040				
Expansion tank	dm³							5	50						
Vic Taulic water connections	inches			4				5					6		
Height	mm	2.6	350		2.650			2.650		2.6	350		2.650		2650
Length	mm	3.0)65		4.065			5.065		6.0)65		7.065		8065
Depth	mm		250		2.250			2.250		2.2			2.250		2250
Sound power level Lw	dB(A)		0		91			92			2		93		95
Sound pressure level Lp	dB(A)	6			63			64			4		65		67
Weight without accessories	kg		2.990	3.361	3.385	3.386	4.132	4.217	4.482	4.891	5.090	5.688	5.926	6.066	7300
RATED .	LECHI											•			
LSECL	LOIII	374	416	456	486	536	558	618	658	748	800	900	942	1072	1202
	V-ph-Hz		110	100	100	000			Ph - 50		000	300	072	1072	1202
Cooling capacity	kW		30/ 07	110 na	470 82	512 /0			632,01		765 47	868 N5	012 /8	1 018 58	1 177 00
Total power input	kW								235,28						
EER	KVV	2,79	2,55	2,74	2,67	2,59	2,79	2,75	2,69	2,82	2,54	2,73	2,56	2,57	2,52
ESEER		4,19	4,11	4,25	4,18	4,16	4,07	4,08	4,02	4,08	4,12	4,26	4,27	4,22	4,28
Total absorbed current	A	218,86						382,08	+		513,16			675,32	766,3
FLA Maximum absorbed current (without accessories)	A	259	322	347	368	386	435	462	488	518	518	645	730	767	975
LRA Inrush current (without accessories)	A	421	465	545	543	504	551	619	630	592	592	674	803	752	1190
No. of scroll compressors / circuits	_ ^	4/2	6/2	6/2	6/2	6/2	8/4	8/4	8/4	8/4	10/4	10/4	12/4	12/4	12/4
No. of axial fans		4/2	6/2	6/2	6/2	6/2	8/4	8/4	8/4	8/4	10/4	-	12/4		16
Air flow rate	m³/h	94.		0/2	126.557				158.800				5.266		280.000
Water flow rate			67.935	75.696	80.981	88.148	94.000		108.706						
Pressure drop, water side	kPa	50	51	53	48	47	44	47	48	51	57	51	56	47	53
Head available - Pumps (OR) BP (option)	kPa	164	140	189	175	147	160	138	206	168	136	190	176	161	127
Head available - Pumps (OR) HP (option)	kPa	259	246	271	266	252	244	241	234	259	245	285	271	258	225
Head available - Pumps (AND) LP (option)	kPa	172	155	134	126	106	167	153	143	162	141	194	175	149	101
Head available - Pumps (AND) HP (option)	kPa	243	234	224	223	214	286	272	262	239	244	274	262	254	228
	dm ³	243	234	600	223	214	200	212	202	239	1.040	214	202	234	220
Buffer tank				000					50		1.040				
Expansion tank	dm ³			Λ			1	5	JU	ı			6		
Vic Taulic water connections	inches	0.0	250	4	0 650			2.650		0.0	250	· ·			2650
Height	mm		350 365		2.650						350 365		2.650		2650
Length	mm)65		4.065			5.065)65		7.065		8065
Depth	mm		250		2.250			2.250			250		2.250		2250
Sound power level Lw	dB(A)		2		83			84			5		85	-	92
Sound pressure level Lp	dB(A)		4		55		<u> </u>	56			7	ļ	57		64
Weight without accessories	kg	2650	3110	3481	3525	3526	4312	4397	4662	4996	5195	5928	0 400	6.406	7300

Cooling: outdoor air temperature 35°C, evaporator water temperature 12°C / 7°C Sound power measured according to standards ISO 3741 - ISO 3744 and EN 29614-1 Sound pressure level measured at a distance of 10 m with a directivity factor of 2



RATED TECHNICA	AL DAIA UI LO	SE neat p	oumps, H	S versio	n (standa	ara)			
LSEHS		374	416	456	486	536	558	618	658
Power supply	V-ph-Hz		•	•	400V - 3	Ph - 50 Hz	•	•	
Cooling capacity	kW	366,8	413,02	454,74	488,19	532,46	562,83	615,96	657,3
Total power input	kW	124,55	149,91	158,31	173,24	192,65	194,22	212,14	229,6
EER		2,95	2,75	2,87	2,82	2,76	2,9	2,9	2,86
ESEER		4,26	4,18	4,32	4,25	4,23	4,15	4,15	4,09
Total absorbed current	A	221,32	278,17	289,93	305,96	338,46	368,53	386,89	404,7
Heating capacity	kW	410,18	470,15	513,77	550,81	602,15	647,83	695,88	743,9
Total power input	kW	119,44	139,77	153,63	163,39	175,67	189,49	203,84	218,1
COP		3,43	3,36	3,34	3,37	3,43	3,42	3,41	3,41
Total absorbed current	A	214,13	265,77	284,07	292,93	314,21	325,1	348,63	372,1
FLA Maximum absorbed current (without accessories)	A	270	333	362	382	400	453	480	506
LRA Inrush current (without accessories)	A	432	476	550	558	518	569	637	648
No. of scroll compressors / circuits	İ	4/2	6/2	6/2	6/2	6/2	8/4	8/4	8/4
No. of axial fans		(3		8		10		
Air flow rate	m³/h	118	.913		159.453		209	.054	199.97
Water flow rate in cooling mode	l/h	63.090	71.039	78.215	83.969	91.583	96.807	105.945	113.05
Pressure drop, water side (cooling)	kPa	54	56	57	51	52	46	50	52
Head available (cooling) - Pumps (OR) LP	kPa	154	125	176	160	128	151	125	191
Head available (cooling) - Pumps (OR) HP	kPa	252	236	262	257	241	235	234	227
Head available (cooling) - Pumps (AND) LP	kPa	164	143	124	114	92	160	144	133
Head available (cooling) - Pumps (AND) HP	kPa	237	226	217	216	205	280	263	252
Buffer tank	dm³			600				1040	
Expansion tank	dm³				5	50			
Vic Taulic water connections	inches			4				5	
Height	mm	2.6	350		2.650			2.650	
Length	mm	3.0)65		4.065			5.065	
Depth	mm	2.2	250		2.250			2.250	
Sound power level Lw	dB(A)	8	2		83			84	
Sound pressure level Lp	dB(A)	6	2		63			64	
Weight without accessories	kg	2.685	3.130	3.501	3.545	3.546	4.382	4.467	4.68



RATED TECHNICAL	. DATA of LS	E heat p	umps, H	L versior	ı (low-no	ise)			
LSEHL		374	416	456	486	536	558	618	658
Power supply	V-ph-Hz				400V - 3 I	Ph - 50 Hz			
Cooling capacity	kW	354,49	394,97	440,09	470,82	512,49	546,51	593,81	632,01
Total power input	kW	126,95	154,67	160,5	176,58	197,61	196,17	216,16	235,28
EER		2,79	2,55	2,74	2,67	2,59	2,79	2,75	2,69
ESEER		4,19	4,11	4,25	4,18	4,16	4,07	4,08	4,02
Total absorbed current	A	218,86	277,84	284,61	302,87	337,52	360,1	382,08	403
Heating capacity	kW	408,39	467,43	510,81	547,78	598,87	644,83	692,34	739,86
Total power input	kW	115,88	136,23	148,9	158,52	170,91	183,59	197,83	212,08
COP		3,52	3,43	3,43	3,46	3,5	3,51	3,5	3,49
Total absorbed current	A	203,3	254,97	269,67	278,34	299,74	307,1	330,45	353,83
FLA Maximum absorbed current (without accessories)	A	259	322	347	368	386	435	462	488
LRA Inrush current (without accessories)	A	421	465	545	543	504	551	619	630
No. of scroll compressors / circuits		4/2	6/2	6/2	6/2	6/2	8/4	8/4	8/4
No. of axial fans		(3		8			10	
Air flow rate	m³/h	94.	300		126.557		167.300	163.050	158.800
Water flow rate in cooling mode	l/h	60.972	67.935	75.696	80.981	88.148	94.000	102.135	108.706
Pressure drop, water side	kPa	50	51	53	48	47	44	47	48
Head available (cooling) - Pumps (OR) LP	kPa	164	140	189	175	147	160	138	206
Head available (cooling) - Pumps (OR) HP	kPa	259	246	271	266	252	244	241	234
Head available (cooling) - Pumps (AND) LP	kPa	172	155	134	126	106	167	153	143
Head available (cooling) - Pumps (AND) HP	kPa	243	234	224	223	214	286	272	262
Buffer tank	dm ³			600				1.040	
Expansion tank	dm ³				5	0			
Vic Taulic water connections	inches			4				5	
Height	mm	2.6	350		2.650			2.650	
Length	mm	3.0)65		4.065			5.065	
Depth	mm	2.2	250		2.250			2.250	
Sound power level Lw	dB(A)	8	2		83			84	
Sound pressure level Lp	dB(A)	5	4		55			56	
Weight without accessories	kg	2.790	3.250	3.621	3.665	3.666	4.562	4.647	4.912

Cooling: outdoor air temperature 35° C, evaporator water temperature 12° C / 7° C Heating: outdoor air temperature 7° C, condenser water temperature 40° C / 45° C Sound power measured according to standards ISO 3741 - ISO 3744 and EN 29614-1 Sound pressure level measured at a distance of 10 m with a directivity factor of 2

△Gallett

WATER COOLED CHILLERS AND HEAT PUMPS

- > LEW C-H WATER-COOLED UNITS
- > OCCUPY A SMALL SURFACE AREA
- > NO NEED TO ADD GLYCOL TO THE WATER IN THE USER CIRCUIT
- > HIGH COP OF THE THERMODYNAMICAL CYCLE
- > NO NOISE OUTSIDE
- > REDUCED REFRIGERANT CHARGE
- > INNOVATIVE AESTHETICS AND TOTAL SAFETY, GIVEN THAT THE CHILLERS ARE COMPLETELY ENCLOSED
- OPTION OF INSTALLING AN OUTDOOR DRY COOLER WHERE IT IS NOT POSSIBLE TO USE A NON-RECIRCULATING WATER SUPPLY TO COOL THE CONDENSER
- > HEAT PUMP VERSION WITH CYCLE REVERSIBILITY AT THE COOLING SIDE
- > CONDENSING CONTROL OPTION ON THE HEAT PUMP VERSIONS POSSIBLE

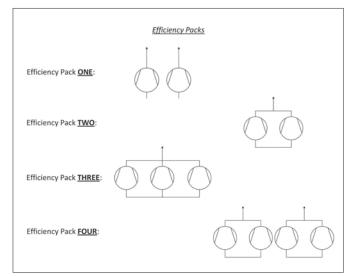


- C Chiller Cooling only, dissipation with well or mains water
- D Chiller Cooling only, dissipation with cooling tower water or dry cooler
- H Reversible heat pump
- W Irreversible heat pump

> EFFICIENCY PACK

The possibility of setting up different cooling circuits in units of the same power means being able to personalise efficiency levels under full or partial load conditions.

- 1 Dual circuit / dual compressor
 - The dual circuit-dual compressor models provide high efficiency values under full load (EER and COP).
- 2 Single circuit / dual compressor
 - The solution of using two compressors in a single cooling circuit increases efficiency under partial load conditions, reaching ESEER values greater than 4.
- 2 Single circuit / three compressors
 - the best solution for applications demanding cost-effectiveness and efficiency under partial load conditions
- 4 Dual circuit / 4 compressors
 - 4 compressors enable the unit to output power in 4 steps and adapt perfectly to the actual thermal load of the system. The redundancy of cooling circuits and compressors is a guarantee of reliability.





- S Standard execution
- L Low-Noise execution for a low noise impact

GENERALITIES

The LEW series of water-cooled chillers includes a range of models capable of satisfying every need.

The LEW units are designed to cool-heat water and solutions containing up to 30% glycol (percentage by weight) in civil, industrial and technological air-conditioning systems.

In buildings with large surface areas, the air conditioning system can be expanded step by step as new floors or areas are sold/leased, by installing an LEW unit for every floor in a small control room. This allows you to spread your investment over time..

The possibility of keeping the evaporator indoors means there is no need to add glycol to the water inside the system. In addition, you can keep all components requiring maintenance in an easily accessible room.

STRUCTURE

All LEW units are built with a galvanised sheet steel supporting base and enclosing panels coated with epoxy powder paint oven cured at 180°C. The unit boasts an exclusive design which lends it an attractive appearance as well as assuring the complete inaccessibility of all components when the unit is closed: this aspect, combined with the ample use of sound-deadening material inside the compartment, an optional feature of the lownoise version, reduces the level of sound power emitted to exceptionally low levels [Lp < 66 dB-A @1 metre].

The plumbing connections are provided on the side of the unit.

All panels are removable to permit full access to the unit components even though only the front access is required for maintenance operations.

COOLING CIRCUIT

The entire cooling circuit is built using only components of the finest quality brands and processes conforming to the specifications of Directive 97/23 for brazing.

The chillers are built with a single or dual cooling circuit using only components supplied by leading international manufacturers.



COMPRESSORS

Only Scroll-type compressors of leading international manufacturers are used in the LEW units.

Today Scroll compressors represent the best solution capable of ensuring reliability and efficiency in the range of powers up to 182 kW

per circuit and the best solution for keeping down noise levels.



HEAT EXCHANGERS

All units have heat exchangers with brazewelded AISI 316 austenitic stainless steel plates and connections made of AISI 316 L, characterised by a reduced carbon content to facilitate brazing.



Braze-welded plate exchangers represent the state of the art in terms of heat exchange

efficiency and make it possible to significantly reduce the refrigerant charge compared to traditional solutions.

The high turbulence induced by the internal corrugation of the plates combined with their perfectly smooth surface also helps prevent dirt build-up and the formation of scale on the condenser side.

COOLING COMPONENTS

- Molecular mesh activated-alumina filter dryer
- Flow indicator with humidity indicator Indications are provided directly on the sight glass.
- Electronically controlled electric expansion valve
- Electric thermostatic valve with stepper motor and dedicated electronic driver designed to maximise the efficiency of the cooling circuit and optimise the operating parameters.
- Cycle-reversing valve (heat pump models only)
- Check valves (heat pump models only)
- High and low pressure switches
- Schrader valves for checks, access and/or maintenance
- Safety valve, refrigerant side

ELECTRIC CONTROL BOARD

The electric control board is constructed and wired in accordance with Directives 73/23/EEC and 89/336/EEC and related standards.

The board may be accessed through a door after the main switch has been put off.

All the remote controls use 24 V signals powered by an insulating transformer situated on the electric control board.

A temperature control kit comprising a thermostat and an auxiliary fan is available on request.

The protection rating of the unit is IP 43.



CONTROL MICROPROCESSOR

Available in a basic and advanced version, the onboard microprocessor of the chiller allows the various operating parameters to be controlled via a keypad on the electrical control board:

- Switching on/off of compressor to maintain the temperature set point of the chiller inlet water temperature
- Alarm management High / low pressure Antifreeze Flow switch
 - Pump alarm
- Alarm signalling
- Display of operating parameters
- Anti-frost protection of evaporator
- Control of maximum number of compressor starts
- RS232, RS485 serial output management (optional)

Phase sequence error [Not displayed by the μ P, but prevents the compressor from starting up]



	RATE	D TECHN	IICAL DA	TA OF LE	W WATE	R CHILL	ERS				
Approx. capacity (kW)		5	50	6	60	7	0	8	30	9	0
Efficiency pack		1	2	1	2	1	2	1	2	1	2
LEW CS / CL		041	042	051	052	061	062	071	072	081	082
Cooling capacity	kW	51,94	51,11	60,23	60,14	69,12	69,17	77,94	77,91	89,13	89,1
Rated input power	kW	9,27	8,65	11,18	11,19	12,37	12,37	14,27	14,28	15,86	15,8
EER		5,60	5,91	5,39	5,37	5,59	5,59	5,46	5,46	5,62	5,6
Pressure drops, evaporator side	kPa	38	37	51	51	40	40	50	50	39	39
Pressure drops - condenser side	kPa	7	7	9	9	12	12	15	15	18	18
Power supply	V - ph - Hz					400 - 31	N - 50Hz				
Scroll compressors / cooling circuits	No.	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 /
Water connections VIC-TAULIC type	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/
Height	mm	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.59
Length	mm	1.174	1.174	1.174	1.174	1.174	1.174	1.174	1.174	1.174	1.17
Depth	mm	772	772	772	772	772	772	772	772	772	772
LEW-CS: Sound power level	dB(A)	69	69	69	69	69	69	70	70	70	70
LEW-CL: Sound power level	dB(A)	67	67	67	67	67	67	68	68	68	68
	RATED TE	CHNICAI	L DATA 0	F LEW V	VATER CI	HILLERS					
Approx. capacity (kW)		1	00	1:	20	10	30		150		
Efficiency pack		1	2	1	2	1	2	1	2	4	
LEW CS / CL		091	092	111	112	131	132	141	142	144	
Cooling capacity	kW	99,27	99,28	118,88	118,92	135,62	135,52	157,2	157,33	156,88	
Rated input power	kW	18,03	18,04	21,33	21,34	24,64	24,64	27,9	27,86	28,81	
EER		5,51	5,50	5,57	5,57	5,50	5,50	5,63	5,65	5,45	
Pressure drops, evaporator side	kPa	48	48	39	39	50	50	47	47	47	
Pressure drops - condenser side	kPa	22	22	30	30	38	38	19	19	19	
Power supply	V - ph - Hz				40	00 - 3N - 50	Hz		•		
Scroll compressors / cooling circuits	No.	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	
Water connections VIC-TAULIC type	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	
Height	mm	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.854	
Length	mm	1.174	1.174	1.674	1.674	1.674	1.674	1.674	1.674	2.374	
Depth	mm	772	772	772	772	772	772	772	772	877	
LEW-CS: Sound power level	dB(A)	70	70	71	71	71	71	73	73	73	
LEW-CL: Sound power level	dB(A)	68	68	69	69	69	69	71	71	71	

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	RATED	TECHNI	CAL DA	TA OF LE	W WAT	ER CHIL	LERS					
Approx. capacity (kW)			170			200		220	230	2	70	
Efficiency pack		1	2	4	1	2	4	4	4	3	4	
LEW CS / CL		161	162	164	181	182	184	204	214	243	244	
Cooling capacity	kW	174,86	175,08	176,18	204,53	204,76	198,9	219,07	235,14	267,91	278,95	
Rated input power	kW	32,05	32,05	31,89	37,85	37,88	36,4	39,34	42,66	47,75	47,88	
EER		5,46	5,46	5,52	5,40	5,41	5,46	5,57	5,51	5,61	5,83	
Pressure drops, evaporator side	kPa	51	51	52	54	54	51	51	57	51	55	
Pressure drops - condenser side	kPa	23	23	23	30	31	29	28	33	21	23	
Power supply	V - ph - Hz					400 - 31	N - 50Hz					
Scroll compressors / cooling circuits	No.	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	4 / 2	4 / 2	4 / 2	3 / 1	4 / 2	
Water connections VIC-TAULIC type	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	1
Height	mm	1.594	1.594	1.854	1.594	1.594	1.854	1.854	1.854	1.854	1.854	
Length	mm	1.674	1.674	2.374	1.674	1.674	2.374	2.374	2.374	2.374	2.374	
Depth	mm	772	772	877	772	772	877	877	877	877	877	
LEW-CS: Sound power level	dB(A)	73	73	73	73	73	73	73	73	73	73	
LEW-CL: Sound power level	dB(A)	71	71	71	71	71	71	71	71	71	71	
RATED TECHNICAL DATA OF LEW WATER CHILLERS												
Approx. capacity (kW)		3	10	350	370	410	450	480	480	530	570	630
Efficiency pack		3	4	4	4	4	4	4	n.a.	n.a.	n.a.	n.a.
LEW CS / CL		283	284	314	344	374	424	484	485	535	576	636
Cooling capacity	kW	312,96	316,39	349,67	377,36	410,6	453,5	520,7	506,6	574,7	612,3	681,1
Rated input power	kW	56,44	56,32	64,69	70,4	74,47	81,62	92,5	93,9	104,4	114	126,9
EER		5,55	5,62	5,41	5,36	5,51	5,56	5,63	5,4	5,5	5,37	2,37
Pressure drops, evaporator side	kPa	40	41	49	56	54	56	53	53	55	53	65
Pressure drops - condenser side	kPa	28	28	35	36	33	33	39	23	28	32	39
Power supply	V - ph - Hz					40	0 - 3N - 50)Hz				
Scroll compressors / cooling circuits	No.	3 / 1	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	5 / 2	5 / 2	6/2	5 / 2
Water connections VIC-TAULIC type	inches	3	3	3	3	3	3	3	5	5	5	5
Height	mm	1.854	1.854	1.854	1.854	1.854	1.854	1854	1490	1490	1490	1490
Length	mm	2.374	2.374	2.374	2.374	2.374	2.374	2374	3530	3530	3530	3530
Depth	mm	877	877	877	877	877	877	877	1200	1200	1200	1200
LEW-CS: Sound power level	dB(A)	73	73	73	75	75	75	86	84	84	85	85
LEW-CL: Sound power level	dB(A)	71	71	71	73	73	73	82	80	80	81	81

Cooling capacity refers to the following conditions: water temperature at evaporator 12/7°C – water temperature at condenser 15 - 30°C Heating capacity: water temperature at evaporator 15-10°C, water temperature at condenser 40 - 45°C. Sound power measured according to standards ISO 3741 - ISO 3744 and EN 29614-1



	LI	EW HEAT	T PUMPS	RATED	TECHNIC	AL DATA					
Approx. capacity (kW)		5	0	6	0	7	0	80		9	0
Efficiency pack		1	2	1	2	1	2	1	2	1	2
LEW HS / HL		041	042	051	052	061	062	071	072	081	082
Cooling capacity	kW	51,94	51,11	60,23	60,14	69,72	69,73	78,34	78,51	90,38	90,45
Rated input power	kW	9,27	8,65	11,18	11,19	12,17	12,17	14,06	14,04	15,34	15,34
EER		5,60	5,91	5,39	5,37	5,73	5,73	5,57	5,59	5,89	5,90
Pressure drops, user side	kPa	37	36	50	50	52	52	49	49	39	39
Pressure drops, dissipator side	kPa	5	5	7	7	6	6	7	7	5	5
Heating capacity	kW	60,17	59	70,91	70,9	80,5	80,52	91,69	91,72	104,38	104,38
Rated input power	kW	12,8	12,13	15,29	15,3	16,85	16,85	19,46	19,47	21,42	21,43
COP		4,70	4,86	4,64	4,63	4,78	4,78	4,71	4,71	4,87	4,87
Pressure drops, user side	kPa	47	45	65	65	49	49	64	64	49	49
Pressure drops, dissipator side	kPa	32	31	44	44	44	44	43	43	33	33
Power supply	V - ph - Hz					400 - 31	N - 50Hz				
Scroll compressors / cooling circuits	No.	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1
Water connections VIC-TAULIC type	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Height	mm	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.594	1.594
Length	mm	1.174	1.174	1.174	1.174	1.174	1.174	1.174	1.174	1.174	1.174
Depth	mm	772	772	772	772	772	772	772	772	772	772
LEW-HS: Sound power level	dB(A)	69	69	69	69	69	69	70	70	70	70
LEW-HL: Sound power level	dB(A)	67	67	67	67	67	67	68	68	68	68
	LEW I	HEAT PU	MPS RAT	TED TECH	INICAL D	DATA					
Approx. capacity (kW)		1	00	12	20	13	30		150		
Efficiency pack		1	2	1	2	1	2	1	2	4	
LEW HS / HL		091	092	111	112	131	132	141	142	144	
Cooling capacity	kW	100,82	100,97	122,01	122,07	139,04	139,22	155,73	159,54	159,28	
Rated input power	kW	17,42	17,41	20,17	20,16	23,24	23,22	27,01	27,01	27,92	
EER		5,79	5,80	6,05	6,06	5,98	6,00	5,77	5,91	5,70	
Pressure drops, user side	kPa	49	49	42	42	52	52	49	49	48	
Pressure drops, dissipator side	kPa	7	7	6	6	7	7	7	7	7	
Heating capacity	kW	140,29	140,31	140,29	140,31	160,24	160,28	184,3	184,18	185,49	
Rated input power	kW	28,56	28,55	28,56	28,55	33,19	33,16	37,89	37,87	38,71	
COP		4,91	4,91	4,91	4,91	4,83	4,83	4,86	4,86	4,79	
				 				60	60	61	
Pressure drops, user side	kPa	61	61	50	50	64	64	1 00	00	01	
Pressure drops, user side Pressure drops, dissipator side	kPa kPa	61 42	61 42	50 36	50 36	64 44	64 44	42	42	42	
Pressure drops, dissipator side	kPa				36	44	44				
Pressure drops, dissipator side Power supply	kPa V - ph - Hz	42	42	36	36	44 0 - 3N - 50	44 Hz	42	42	42	
Pressure drops, dissipator side	kPa V - ph - Hz No.	42	42	36	36 40 2 / 1	44 0 - 3N - 50 2 / 2	44 Hz 2 / 1	42	42 2 / 1	42	
Pressure drops, dissipator side Power supply Scroll compressors / cooling circuits	kPa V - ph - Hz	42	42	36	36 40	44 0 - 3N - 50	44 Hz	42	42	42	
Pressure drops, dissipator side Power supply Scroll compressors / cooling circuits Water connections VIC-TAULIC type Height	kPa V - ph - Hz No. inches	2 / 2 2 1/2 1.594	2 / 1 2 1/2	36 2 / 2 2 1/2 1.594	36 40 2 / 1 2 1/2	44 0 - 3N - 50 2 / 2 2 1/2	44 Hz 2 / 1 2 1/2	42 2 / 2 2 1/2	42 2 / 1 2 1/2	42 4 / 2 2 1/2	
Pressure drops, dissipator side Power supply Scroll compressors / cooling circuits Water connections VIC-TAULIC type Height Length	kPa V - ph - Hz No. inches mm	2 / 2 2 1/2 1.594 1.174	2 / 1 2 1/2 1.594	36 2 / 2 2 1/2	36 40 2 / 1 2 1/2 1.594	44 0 - 3N - 50 2 / 2 2 1/2 1.594	44 Hz 2 / 1 2 1/2 1.594	2 / 2 2 1/2 1.594	2 / 1 2 1/2 1.594	42 4 / 2 2 1/2 1.854	
Pressure drops, dissipator side Power supply Scroll compressors / cooling circuits Water connections VIC-TAULIC type Height	kPa V - ph - Hz No. inches mm	2 / 2 2 1/2 1.594	2 / 1 2 1/2 1.594 1.174	36 2 / 2 2 1/2 1.594 1.674	36 40 2 / 1 2 1/2 1.594 1.674	44 0 - 3N - 50 2 / 2 2 1/2 1.594 1.674	44 Hz 2 / 1 2 1/2 1.594 1.674	42 2 / 2 2 1/2 1.594 1.674	2 / 1 2 1/2 1.594 1.674	42 4 / 2 2 1/2 1.854 2.374	



	LE	W HEAT	PUMPS	RATED	TECHNIC	CAL DAT	Α					
Approx. capacity (kW)			170			200		220	230	27	70	1
Efficiency pack	1	2	4	1	2	4	4	4	3	4	1	
LEW HS / HL		161	162	164	181	182	184	204	214	243	244	1
Cooling capacity	kW	177,95	177,84	179,33	212,16	212,16	206,42	223,93	244,76	276,41	288,36	1
Rated input power	kW	30,93	30,95	30,76	35,9	35,9	34,44	37,51	40,28	45,77	45,8	1
EER		5,75	5,75	5,83	5,91	5,91	5,99	5,97	6,08	6,04	6,30	1
Pressure drops, user side	kPa	54	54	54	48	48	46	53	50	53	35]
Pressure drops, dissipator side	kPa	7	7	8	7	7	6	7	7	8	4]
Heating capacity	kW	206,27	206,37	207,12	244,39	244,28	237,95	257,95	281,31	318,04	329,52	
Rated input power	kW	42,83	42,82	43,08	49,94	49,95	48,24	52,89	57	63,37	65,38	
COP		4,82	4,82	4,81	4,89	4,89	4,93	4,88	4,94	5,02	5,04	
Pressure drops, user side	kPa	66	66	67	58	58	56	66	63	67	39	
Pressure drops, dissipator side	kPa	46	46	46	41	41	40	45	43	47	30	
Power supply	V - ph - Hz						V - 50Hz			,]
Scroll compressors / cooling circuits	No.	2 / 2	2 / 1	4 / 2	2 / 2	2 / 1	4 / 2	4 / 2	4 / 2	3 / 1	4 / 2	_
Water connections VIC-TAULIC type	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3
Height	mm	1.594	1.594	1.854	1.594	1.594	1.854	1.854	1.854	1.854	1.854	
Length	mm	1.674	1.674	2.374	1.674	1.674	2.374	2.374	2.374	2.374	2.374	1
Depth	mm	772	772	877	772	772	877	877	877	877	877	1
LEW-HS: Sound power level	dB(A)	73	73	73	73	73	73	73	73	73	73	1
LEW-HL: Sound power level	dB(A)	71	71	71	71	71	71	71	71	71	71	L
		LEW H	EAT PUI	MPS RAT	TED TEC	HNICAL	DATA					
Approx. capacity (kW)		3	10	350	370	410	450	480	480	530	570	Г
Efficiency pack		3	4	4	4	4	4	4	n.a.	n.a.	n.a.	Г
LEW HS / HL		283	284	314	344	374	424	484	485	535	576	
Cooling capacity	kW	319,45	322,97	357,45	390,41	422,28	470,49	541,5	526,7	587,9	627	Г
Rated input power	kW	53,85	53,78	61,87	66,85	72,03	78,21	88	80,4	98,7	107,6	j .
EER	•	5,93	6,01	5,78	5,84	5,86	6,02	6,16	5,89	5,95	5,86	
Pressure drops, user side	kPa	41	42	51	50	49	48	49	47	57	56	Г
Pressure drops, dissipator side	kPa	6	6	7	7	7	7	9	8	10	10	
Heating capacity	kW	367,61	371,69	413,83	451,62	487,71	538,48	617,2	607,5	678,3	725,8	
Rated input power	kW	75,13	75,62	85,81	93,13	100,44	109,69	126,8	124,8	144,7	150	
COP		4,89	4,92	4,82	4,85	4,86	4,91	4,87	4,87	4,69	4,84	L
Pressure drops, user side	kPa	49	51	63	61	60	58	63	58	71	70	
Pressure drops, dissipator side	kPa	36	37	44	43	42	41	42	41	49	49	
Power supply	V - ph - Hz					40	0 - 3N - 50					
Scroll compressors / cooling circuits	No.	3 / 1	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	5 / 2	5 / 2	6/2	
Water connections VIC-TAULIC type	inches	3	3	3	3	3	3	3	5	5	5	\perp
Height	mm	1.854	1.854	1.854	1.854	1.854	1.854	1.854	1490	1490	1490	
Length	mm	2.374	2.374	2.374	2.374	2.374	2.374	2.374	3530	3530	3530	
Depth	mm	877	877	877	877	877	877	877	1200	1200	1200	L
LEW-HS: Sound power level	dB(A)	73	73	73	75	75	75	86	84	84	85	\perp
LEW-HL: Sound power level	dB(A)	71	71	71	73	73	73	82	80	80	81	1



WATER CHILLERS WITH REMOTE CONDENSER

LER water chillers are units for air conditioning or cooling of process fluids, conceived for both residential and industrial use, with round-the-clock operation

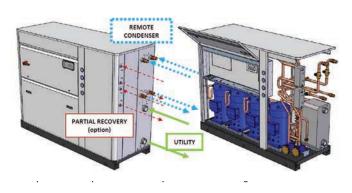
They cover a wide range of heating capacities, from 40 to 420 kW, guaranteeing a high thermodynamic efficiency and broad configurability, both in terms of accessories and cooling circuits.

LER chillers have been designed as fully enclosed units to ensure exceptionally quiet operation, so that they need not be installed in a closed-off area, and they feature an innovative rounded shape which softens their aesthetic impact.

The exclusive use of refrigerant R410A and components of utmost quality in the cooling, plumbing and electrical parts makes LER units cutting-edge chillers in terms of efficiency, reliability and noise emissions.

LER C chillers are designed for cooling only: the user circuit is set up only for the production of chilled water.

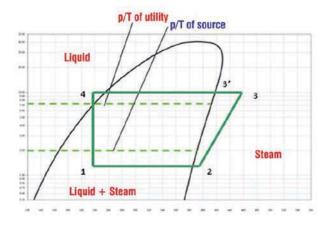
Partial heat recovery is an optional feature.



In air conditioning applications it is often requested to have heat available for the production of domestic hot water or for post-heating control in air handling units in which it is desired to have independent control of temperature and humidity.

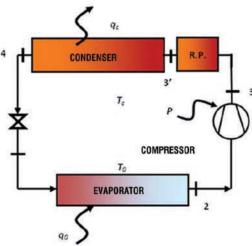
The heat necessary can be drawn from the condensation part of the thermodynamic circuit, which is at a higher temperature.

If the withdrawal of heat is partial, the sensible heat of the gas on the outlet side is sent, via a desuperheater, toward the third thermal source at a higher temperature.



All cooling-only units of the LER series can be equipped on request with a desuperheater for partial heat recovery; the available heating capacity, which may be used, for example, for domestic hot water or post-heating coils, depends on the unit's operating conditions.





LER units provide excellent thermodynamic efficiency and utmost flexibility of use, thanks to constant product research. The combined application of scroll compressors, advanced control systems and the refrigerant gas R410A results in compact circuits and high COPs.

The possibility of maintaining the evaporator inside makes it unnecessary to add glycol to the water in the system, with clear benefits in terms of thermodynamic efficiency, protection against corrosion and respect for the environment; it also enables all components requiring routine or special maintenance to be installed in an easily accessible place.

In buildings with large surface areas, the air conditioning system can be expanded step by step as new floors or areas are sold/leased, by installing an LER unit for every floor in a small control room. This allows you to spread your investment over time..

The overall dimensions of the units (depth of less than 90 cm even in sizes with the highest capacities) enable easy installation, as they can fit through any door.

The main innovations featured in this product are summed up below:

- Possibilty of using water without glycol added to it in the user circuit
- Electronically controlled electric throttle valve
- High EER (Coefficient of Performance) of the thermodynamical cycle
- Reduced refrigerant charge
- Reduced footprint (specific powers of up to 153 kW per square metre)
- Innovative aesthetics and total safety, given that the chillers are completely enclosed
- Reduced internal noise levels thanks to double sound-deadening insulation in the low noise versions



KAIED II	ECHNICAL	DATA OF	LER WA	TER CHI	LLERS (@ 12-7°	C; conde	nsation (50°C, gl	ycol 0%			
Efficiency pack		1	2	1	2	1	2	1	2	1	2	1	2
LER CS / CL		41	42	51	52	61	62	71	72	81	82	91	92
Cooling capacity	kW	42.4	42.4	50.2	50.2	56.9	56.9	65.2	65.2	74.1	74.1	82.9	82.9
Rated input power	kW	13.1	13.1	15.4	15.4	17.2	17.2	19.8	19.8	22.1	22.1	25	25
Pressure drops, evaporator side	kPa	27	27	37	37	30	30	37	37	29	29	35	35
Evaporator air flow rate	I/h	7286	7286	8636	8636	9785	9785	11218	11218	12738	12738		14261
Scroll compressors / cooling circuits	No.	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1	\rightarrow	2 / 2
Victaulic plumbing connections	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2		2 1/2
Height	mm	1594	1594	1594	1594	1594	1594	1594	1594	1594	1594		1594
Length	mm	1174	1174	1174	1174	1174	1174	1174	1174	1174	1174		1174
	_	772	772	772	772	772	772	772	772	772	772	772	772
Depth LER-CS: sound power level	mm dP(A)	69	69	69	69	69	69	70	70	70	70	70	70
	dB(A)	67	67	67	67	67	67	68	68	68	68	68	68
LER-CL: sound power level	dB(A)												
EER		3.24	3.24	3.25	3.25	3.3	3.3	3.3	3.3	3.36	3.36	3.32	3.32
Refrigerant pipes – connection to remote condenser Pipe length [m] 0 - 5													
		40 5/07	40 0/411	40 5/07	00 7/0"	40 0/45			00 7/0"	40 0/45	100 44	/O:I OO 7/O!I	Too 4 4 10
Diameter of outlet line (Gas)		16 - 5/8"										/8" 22 - 7/8"	
Diameter of inlet line (Liquid)		12 - 1/2"	16 - 5/8"	12 - 1/2"	19 - 3/4"	16 - 5/8"			19 - 3/4"	16 - 5/8"	22 - 7/8	8" 19 - 3/4"	22 - 7/8
Pipe length	[m]	40 =:0=	10 0:1:1	40 5:0"	00 7:0::1	40 0.4	6 -		00 7:0:1	10 0:1:	loo	(OIL OO = := :=	loo
Diameter of outlet line (Gas)		16 - 5/8"											29 - 1 1/8
Diameter of inlet line (Liquid)		12 - 1/2"	16 - 5/8"	12 - 1/2"	19 - 3/4"	16 - 5/8"			19 - 3/4"	16 - 5/8"	22 - 7/8	8" 19 - 3/4"	22 - 7/8
Pipe length	[m]						11 -						
Diameter of outlet line (Gas)		16 - 5/8"					22 - 7/8"	19 - 3/4"				/8" 22 - 7/8"	
Diameter of inlet line (Liquid)		12 - 1/2"	16 - 5/8"	16 - 5/8"	19 - 3/4"	16 - 5/8"			19 - 3/4"	16 - 5/8"	22 - 7/8	3" 19 - 3/4"	22 - 7/8"
Pipe length	[m]						16 -						
Diameter of outlet line (Gas)	[mm - in]	16 - 5/8"	19 - 3/4"	19 - 3/4"	22 - 7/8"	19 - 3/4"	22 - 7/8"	22 - 7/8"	22 - 7/8"	22 - 7/8"	29 - 1 1/	/8" 22 - 7/8"	29 - 1 1/8
Diameter of inlet line (Liquid)	[mm - in]	12 - 1/2"	16 - 5/8"	16 - 5/8"	19 - 3/4"	16 - 5/8"	19 - 3/4"	19 - 3/4"	19 - 3/4"	19 - 3/4"	22 - 7/8	3" 19 - 3/4"	22 - 7/8"
Pipe length	[m]						21 -						
Diameter of outlet line (Gas)	[mm - in]	16 - 5/8"	22 - 7/8"	19 - 3/4"	22 - 7/8"	19 - 3/4"	22 - 7/8"	22 - 7/8" 2	29 - 1 1/8"	22 - 7/8"	29 - 1 1/	/8" 22 - 7/8"	29 - 1 1/8
Diameter of inlet line (Liquid)													
Diameter of inlet line (Liquid) [mm - in] 12 - 1/2" 19 - 3/4" 16 - 5/8" 19 - 3/4" 16 - 5/8" 19 - 3/4" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4"													
Efficiency pack		1	2	1		2	1	2	4		1	2	4
LER CS / CL		111	112	13	1 .	132	141	142	144	10	61	162	164
Cooling capacity	kW	99,6	99,6			114,2	131,1	131,1	131,1		6.7	146,7	146,7
Rated input power	kW	29,5	29,5			34	38,9	38,9	38,9		3,9	43,9	43,9
Pressure drops, evaporator side	kPa	30	30	37		37	35	35	35		18	38	38
	_							22553					25229
Evaporator air flow rate	I/h	17138 2 / 2	17138			9642	22553	2/1	2255		229	25229	23229
Scroll compressors / cooling circuits	No.	2/2		1 2/	2							0/4	4 / 0
Victaille nlimbing connections	1						2 / 2		4-Feb		/ 2	2/1	4 / 2
Victaulic plumbing connections	inches	2 1/2	2 1/2	2 1/	/2 2	2 1/2	2 1/2	2 1/2	2 1/2	2	1/2	2 1/2	2 1/2
Height	mm	2 1/2 1594	2 1/2 1594	2 1/	/2 2 94	2 1/2 1594	2 1/2 1594	2 1/2 1594	2 1/2 1854	15	1/2	2 1/2 1594	2 1/2 1854
Height Length	mm mm	2 1/2 1594 1674	2 1/2 1594 1674	2 1/ 159	/2 2 94 -	2 1/2 1594 1674	2 1/2 1594 1674	2 1/2 1594 1674	2 1/2 1854 2374	2 15 16	1/2 i94 i74	2 1/2 1594 1674	2 1/2 1854 2374
Height Length Depth	mm mm mm	2 1/2 1594 1674 772	2 1/2 1594 1674 772	2 1/ 159 167 772	/2 2 94 - 74 -	2 1/2 1594 1674 772	2 1/2 1594 1674 772	2 1/2 1594 1674 772	2 1/2 1854 2374 772	15 16 7	1/2 194 574 72	2 1/2 1594 1674 772	2 1/2 1854 2374 772
Height Length Depth LER-CS: sound power level	mm mm	2 1/2 1594 1674 772 71	2 1/2 1594 1674 772 71	2 1/ 159 167 773	/2 2 94 - 74 -	2 1/2 1594 1674 772 71	2 1/2 1594 1674 772 73	2 1/2 1594 1674 772 73	2 1/2 1854 2374 772 73	2 15 16 7	1/2 594 574 72 73	2 1/2 1594 1674 772 73	2 1/2 1854 2374 772 73
Height Length Depth	mm mm mm	2 1/2 1594 1674 772 71 69	2 1/2 1594 1674 772 71 69	2 1/ 159 167 773 71 69	/2 2 94 74 2	2 1/2 1594 1674 772 71 69	2 1/2 1594 1674 772 73 71	2 1/2 1594 1674 772 73 71	2 1/2 1854 2374 772 73 71	2 15 16 7 7	1/2 594 574 72 73	2 1/2 1594 1674 772	2 1/2 1854 2374 772 73 71
Height Length Depth LER-CS: sound power level	mm mm mm dB(A)	2 1/2 1594 1674 772 71 69 3,38	2 1/2 1594 1674 772 71 69 3,38	2 1/ 159 167 773 71 69 3,3	/2 2 94	2 1/2 1594 1674 772 71 69 3,36	2 1/2 1594 1674 772 73 71 3,37	2 1/2 1594 1674 772 73	2 1/2 1854 2374 772 73	2 15 16 7 7	1/2 594 574 72 73	2 1/2 1594 1674 772 73	2 1/2 1854 2374 772 73
Height Length Depth LER-CS: sound power level LER-CL: sound power level	mm mm mm dB(A)	2 1/2 1594 1674 772 71 69 3,38	2 1/2 1594 1674 772 71 69 3,38	2 1/ 159 167 773 71 69	/2 2 94	2 1/2 1594 1674 772 71 69 3,36	2 1/2 1594 1674 772 73 71 3,37	2 1/2 1594 1674 772 73 71	2 1/2 1854 2374 772 73 71	2 15 16 7 7	1/2 594 574 72 73	2 1/2 1594 1674 772 73 71	2 1/2 1854 2374 772 73 71
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER	mm mm dB(A) dB(A)	2 1/2 1594 1674 772 71 69 3,38	2 1/2 1594 1674 772 71 69 3,38	2 1/ 159 167 773 71 69 3,3	/2 2 94	2 1/2 1594 1674 772 71 69 3,36	2 1/2 1594 1674 772 73 71 3,37	2 1/2 1594 1674 772 73 71 3,37	2 1/2 1854 2374 772 73 71	2 15 16 7 7	1/2 594 574 72 73	2 1/2 1594 1674 772 73 71	2 1/2 1854 2374 772 73 71
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length	mm mm dB(A) dB(A)	2 1/2 1594 1674 772 71 69 3,38	2 1/2 1594 1674 772 71 69 3,38 frigerant p	2 1/ 159 167 777 71 69 3,3	/2 2 04	2 1/2 1594 1674 772 71 69 3,36 remote co	2 1/2 1594 1674 772 73 71 3,37 ndenser	2 1/2 1594 1674 772 73 71 3,37	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 3,	1/2 694 674 72 73 71	2 1/2 1594 1674 772 73 71 3,34	2 1/2 1854 2374 772 73 71 3,34
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas)	mm mm dB(A) dB(A)	2 1/2 1594 1674 772 71 69 3,38 Ref	2 1/2 1594 1674 772 71 69 3,38 rigerant p	2 1/ 159 167 777 71 69 3,3 ipes – conr	/2 2 94	2 1/2 1594 1674 772 71 69 3,36 remote co	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 - 9 - 1 1/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8"	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 3,	1/2 594 674 72 73 71 34	2 1/2 1594 1674 772 73 71 3,34	2 1/2 1854 2374 772 73 71 3,34
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid)	mm mm dB(A) dB(A)	2 1/2 1594 1674 772 71 69 3,38	2 1/2 1594 1674 772 71 69 3,38 frigerant p	2 1/ 159 167 777 71 69 3,3 ipes – conr	/2 2 94	2 1/2 1594 1674 772 71 69 3,36 remote co	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 - 9 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 • 5 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 3,	1/2 594 674 72 73 71 34	2 1/2 1594 1674 772 73 71 3,34	2 1/2 1854 2374 772 73 71 3,34
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length	mm mm dB(A) dB(A) [m] [mm - in] [mm - in]	2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 rigerant p	2 1/ 159 167 772 71 69 3,3 ipes – conr /8" 29 - 1 8" 22 - 7	/2 2 2 4 7 4 7 4 7 4 7 4 7 5 6 6 7 6 6 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8	2 1/2 1594 1674 772 71 69 3,36 remote coi	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 - 9 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 3,	1/2 1994 1774 772 13 11 34 11 1/8" 3 7/8" 2	2 1/2 1594 1674 772 73 71 3,34 85 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas)	mm mm dB(A) dB(A) dB(A) [m] [mm - in] [m] [mm - in] [mm - in]	2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 frigerant p	2 1/ 159 167 77: 71 69 3,3 sipes – conr /8" 29 - 1 8" 22 - 7	/2 2 4 4 7 4 7 4 7 4 7 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9	2 1/2 1594 1674 772 71 69 3,36 remote col -1 1/8" 2 -1 1/8" 2 -1 1/8" 2 -1 3/8" 2	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 - 9 - 1 1/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8"	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 3, 8" 29 -	1/2 194 174 772 13 11 1/8" 3 7/8" 2	2 1/2 1594 1674 772 73 71 3,34 85 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 3	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8" 29 - 1 1/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid)	mm mm dB(A) dB(A) dB(A) [m] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in]	2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 rigerant p	2 1/ 159 167 77: 71 69 3,3 sipes – conr /8" 29 - 1 8" 22 - 7	/2 2 4 4 7 4 7 4 7 4 7 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9	2 1/2 1594 1674 772 71 69 3,36 remote col -1 1/8" 2 -1 1/8" 2 -1 1/8" 2 -1 3/8" 2	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 - 9 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 3, 8" 29 -	1/2 194 174 772 13 11 1/8" 3 7/8" 2	2 1/2 1594 1674 772 73 71 3,34 85 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 3	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length	mm mm dB(A) dB(A) dB(A) [m] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [m] [mm - in] [m]	2 1/2 1594 1674 772 71 69 3,38 Ret 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 frigerant p 29 - 11 22 - 7/	2 1/, 15% 15% 1677 77: 71 6% 3,3,3 ipes – conr /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote co - 1 3/8" 2 - 1 1/8" :	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 6 9 - 1 1/8" 22 - 7/8" 11 -	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37	2 15 16 7 7 7 7 7 3 3,	1/2 1/2 1/2 1/3 1/4 1/7 1/3 1/3 1/4 1/8" 3 1/8" 2 1/8" 3 1/8" 3 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 85 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 22 - 7/8" 22 - 7/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Liquid) Pipe length Diameter of outlet line (Liquid) Pipe length Diameter of outlet line (Gas)	mm mm dB(A) dB(A) dB(A) [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in]	2 1/2 1594 1674 772 71 69 3,38 Ret 22 - 7/8" 19 - 3/4" 22 - 7/8"	2 1/2 1594 1674 772 71 69 3,38 irigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/, 15% 1677 77: 71 68 3,3,3 ijpes – conr 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col -1 13/8" 2 -1 11/8" 2 -1 11/8" 2 -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 - 9 - 1 1/8" 22 - 7/8" 11- 9 - 1 1/8"	2 1/2 1594 1674 772 73 71 3,37 5 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 2 29 - 11	2 15 16 16 7 7 7 7 3 3, 8" 29 - 8" 22 - /8" 29 - 8" 22 -	1/2 694 674 772 73 71 34 1 1/8" 3 7/8" 2 1 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 30 - 1 3/8" 35 - 1 3/8" 35 - 1 3/8" 35 - 1 3/8" 35 - 1 3/8" 35 -	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8' 22 - 7/8" 29 - 1 1/8' 22 - 7/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length	mm mm dB(A) dB(A) dB(A) [m] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [m] [mm - in] [m]	2 1/2 1594 1674 772 71 69 3,38 Ret 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 frigerant p 29 - 11 22 - 7/	2 1/, 15% 1677 77: 71 68 3,3,3 ijpes – conr 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col -1 13/8" 2 -1 11/8" 2 -1 11/8" 2 -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 - 9 - 1 1/8" 22 - 7/8" 11- 9 - 1 1/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 2 29 - 11	2 15 16 16 7 7 7 7 3 3, 8" 29 - 8" 22 - /8" 29 - 8" 22 -	1/2 694 674 772 73 71 34 1 1/8" 3 7/8" 2 1 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 85 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 22 - 7/8" 22 - 7/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid)	mm mm dB(A) dB(A) dB(A) [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in]	2 1/2 1594 1674 772 71 69 3,38 Ret 22 - 7/8" 19 - 3/4" 22 - 7/8"	2 1/2 1594 1674 772 71 69 3,38 irigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/, 15% 1677 77: 71 68 3,3,3 ijpes – conr 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col -1 13/8" 2 -1 11/8" 2 -1 11/8" 2 -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13/8" -1 13	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 - 9 - 1 1/8" 22 - 7/8" 11- 9 - 1 1/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 2 29 - 11	2 15 16 16 7 7 7 7 3 3, 8" 29 - 8" 22 - /8" 29 - 8" 22 -	1/2 694 674 772 73 71 34 1 1/8" 3 7/8" 2 1 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 35 -	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8' 22 - 7/8" 29 - 1 1/8' 22 - 7/8"
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length	mm mm mm dB(A) dB(A) [m] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [m] [2 1/2 1594 1674 772 71 69 3,38 Ret 22 - 7/8" 19 - 3/4" 22 - 7/8"	2 1/2 1594 1674 772 71 69 3,38 frigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/, 159 167 77: 71 69 3,3 ijpes - conr /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote co - 1 3/8" 2 - 1 1/8" 2 - 1 1/8" 2 - 1 1/8" 3	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 6 - 9 - 1 1/8" 22 - 7/8" 11. 9 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8" 29 - 1 1/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 2 29 - 1 1 2 22 - 7/	2 15 16 7 7 7 7 3, 3, 8" 29 - 8" 22 -	1/2 1/2 1/3 1/4 1/7 1/3 1/3 1/4 1/3 1/4 1/4 1/8" 3 1/8" 2 1/8" 2 1/8" 2 1/8" 2	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8' 22 - 7/8'' 22 - 7/8'' 22 - 7/8''
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of outlet line (Gas) Diameter of outlet line (Gas)	mm mm mm dB(A) dB(A) [m] [mm - in] [m] [mm - in] [m] [mm - in] [2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8"	2 1/2 1594 1674 772 71 69 3,38 rigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/ 159 167 77: 71 69 3,3 3;ipes – conr /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col 1 1/8" 2 -	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 9 - 1 1/8" 9 - 1 1/8" 9 - 1 1/8" 9 - 1 1/8" 9 - 1 1/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8" 29 - 1 1/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 29 - 11 22 - 7/ 29 - 11	2 15 16 7 7 7 3 3, 3 29 - 8" 22 - 8" 22 - 8" 22 - 78" 29 - 8" 22 - 78" 29" 29" 29" 29" 29" 29" 29" 29" 29" 29	1/2 1/2 1/2 1/3 1/4 1/7 1/3 1/3 1/4 1/3 1/4 1/8" 3 1/8" 2 1/8" 2 1/8" 3 1/8" 2 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 35 - 1 3/8" 37 - 1 1/8" 37 - 1 1/8" 38 - 1 3/8" 39 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8' 22 - 7/8'' 29 - 1 1/8' 22 - 7/8'' 29 - 1 1/8' 22 - 7/8'' 29 - 1 1/8'' 21 - 1/8'' 22 - 1/8'' 29 - 1 1/8''
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of outlet line (Gas) Diameter of outlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of outlet line (Gas)	mm mm mm dB(A) dB(A) (mm - in) (mm - i	2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 frigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/ 159 167 77: 71 69 3,3 3;ipes – conr /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col 1 1/8" 2 -	2 1/2 1594 1674 772 73 71 3,37 ndenser 0 9 - 1 1/8" 22 - 7/8" 11 .8 9 - 1 1/8" 22 - 7/8" 16 .9 9 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 29 - 11 22 - 7/ 29 - 11	2 15 16 7 7 7 3 3, 3 29 - 8" 22 - 8" 22 - 8" 22 - 78" 29 - 8" 22 - 78" 29" 29" 29" 29" 29" 29" 29" 29" 29" 29	1/2 1/2 1/2 1/3 1/4 1/7 1/3 1/3 1/4 1/3 1/4 1/8" 3 1/8" 2 1/8" 2 1/8" 3 1/8" 2 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 35 - 1 3/8" 37 - 1 1/8" 37 - 1 1/8" 38 - 1 3/8" 39 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8' 22 - 7/8'' 29 - 1 1/8' 22 - 7/8'' 22 - 7/8''
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length	mm mm mm dB(A) dB(A) [m] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [mm - in] [m] [mm - in] [m] [2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4"	2 1/2 1594 1674 772 71 69 3,38 irigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/ 159 167 77: 71 69 3,3 3ipes – conr /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col -1 3/8" 2 -1 1/8"	2 1/2 1594 1674 772 73 71 3,37 ndenser 9 - 1 1/8" 22 - 7/8" 11 - 9 - 1 1/8" 22 - 7/8" 16 - 9 - 1 1/8" 22 - 7/8" 16 - 9 - 1 1/8" 22 - 7/8" 17 - 9 - 1 1/8" 22 - 7/8" 18 - 9 - 1 1/8" 22 - 7/8" 19 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8" 29 - 1 1/8" 29 - 1 1/8" 29 - 1 1/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 29 - 11 22 - 7/ 29 - 11 22 - 7/	2 15 16 7 7 7 7 3 3 16 16 16 16 16 16	1/2 1/2 1/2 1/3 1/4 1/2 1/3 1/3 1/3 1/3 1/4 1/3 1/4 1/8" 3 1/8" 2 1/8" 2 1/8" 3 1/8" 2 1/8" 2 1/8" 2 1/8" 3 1/8" 2	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8' 22 - 7/8'' 29 - 1 1/8' 22 - 7/8'' 22 - 7/8'' 22 - 7/8''
Height Length Depth LER-CS: sound power level LER-CL: sound power level EER Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Liquid) Pipe length Diameter of inlet line (Liquid) Pipe length Diameter of outlet line (Gas) Diameter of outlet line (Gas) Diameter of outlet line (Liquid) Pipe length Diameter of outlet line (Liquid) Pipameter of outlet line (Gas) Diameter of outlet line (Gas)	mm mm mm dB(A) dB(A) (mm - in) (mm - i	2 1/2 1594 1674 772 71 69 3,38 Ref 22 - 7/8" 19 - 3/4" 22 - 7/8" 19 - 3/4" 22 - 7/8"	2 1/2 1594 1674 772 71 69 3,38 rigerant p 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/ 29 - 1 1 22 - 7/	2 1/ 159 167 77: 71 69 3,3 ipes – conr /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7 /8" 29 - 1 8" 22 - 7	/2	2 1/2 1594 1674 772 71 69 3,36 remote col 1 1/8" 2 -	2 1/2 1594 1674 772 73 71 3,37 ndenser 9 - 1 1/8" 22 - 7/8" 11 - 9 - 1 1/8" 22 - 7/8" 16 - 9 - 1 1/8" 22 - 7/8" 16 - 9 - 1 1/8" 22 - 7/8" 17 - 9 - 1 1/8" 22 - 7/8" 18 - 9 - 1 1/8" 22 - 7/8" 19 - 1 1/8" 22 - 7/8"	2 1/2 1594 1674 772 73 71 3,37 5 35 - 1 3/8" 29 - 1 1/8" 10 35 - 1 3/8" 29 - 1 1/8" 29 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,37 29 - 11 22 - 7/ 29 - 11 22 - 7/ 29 - 11 22 - 7/ 29 - 11 22 - 7/	2 15 16 7 7 7 7 3 3 16 16 16 16 16 16	1/2 1/2 1/2 1/3 1/4 1/7 1/7 1/3 1/3 1/4 1/8" 3 1/8" 2 1/8" 2 1/8" 3 1/8" 2 1/8" 3 1/8" 2 1/8" 2 1/8" 3	2 1/2 1594 1674 772 73 71 3,34 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 29 - 1 1/8" 35 - 1 3/8" 35 - 1 3/8" 37 - 1 1/8" 37 - 1 1/8"	2 1/2 1854 2374 772 73 71 3,34 29 - 1 1/8" 22 - 7/8" 29 - 1 1/8" 22 - 7/8" 22 - 7/8"



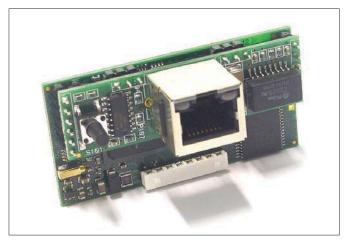
RATED TECHNICAL DATA OF LER WATER CHILLERS @ 12-7°C; condensation 50°C, glycol 0%												
Efficiency pack		1	2	3	4	4	4	4	4	4	4	4
LER CS / CL		181	182	184	204	214	244	284	314	344	374	424
Cooling capacity	kW	171.5	171.5	171.5	183.1	197.6	231.9	265.1	294.7	317.3	343.8	379.2
Rated input power	kW	51.4	51.4	51.4	54.5	59	68	77.9	87.7	95.2	102.8	112.3
Pressure drops, evaporator side	kPa	40	40	38	38	43	24	31	37	42	40	42
Evaporator air flow rate	l/h	29501	29501	29501	31495	33980	39890	45594	50692	54579	59134	65219
Scroll compressors / cooling circuits	No.	2 / 2	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4/2	4 / 2
VicTaulic plumbing connections	inches	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3	3	3
Height	mm	1594	1594	1854	1854	1854	1854	1854	1854	1854	1854	1854
Length	mm	1674	1674	2374	2374	2374	2374	2374	2374	2374	2374	2374
Depth	mm	772	772	772	772	772	772	772	772	772	772	772
LER-CS: sound power level	dB(A)	73	73	73	73	73	73	73	73	75	75	75
LER-CL: sound power level	dB(A)	71	71	71	71	71	71	71	71	73	73	73
EER		3.34	3.34	3.34	3.36	3.35	3.41	3.4	3.36	3.33	3.35	3.38
		Ref	frigerant pip	oes – conne	ction to ren	note conden	ser					
Pipe length	[m]						0 - 5					
Diameter of outlet line (Gas)							35 - 1 3/8"					
Diameter of inlet line (Liquid)	[mm - in]	29 - 1 1/8"	35 - 1 3/8"	22 - 7/8"	22 - 7/8"	22 - 7/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8
Pipe length	[m]						6 - 10					
Diameter of outlet line (Gas)							35 - 1 3/8"					
Diameter of inlet line (Liquid)	[mm - in]	29 - 1 1/8"	35 - 1 3/8"	22 - 7/8"	22 - 7/8"	22 - 7/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8
Pipe length	[m]						11 - 15					
Diameter of outlet line (Gas)	[mm - in]	35 - 1 3/8"	41 - 1 5/8"	29 - 1 1/8"			35 - 1 3/8"					
Diameter of inlet line (Liquid)	[mm - in]	29 - 1 1/8"	35 - 1 3/8"	22 - 7/8"	22 - 7/8"	22 - 7/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8
Pipe length	[m]						16 - 20					
Diameter of outlet line (Gas)	[mm - in]	35 - 1 3/8"	41 - 1 5/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8"	35 - 1 3/8"	35 - 1 3/8"	41 - 1 5/8"	41 - 1 5/8
Diameter of inlet line (Liquid)	[mm - in]	29 - 1 1/8"	35 - 1 3/8"	22 - 7/8"	22 - 7/8"	22 - 7/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8
Pipe length	[m]						21 - 25					
Diameter of outlet line (Gas)							35 - 1 3/8"					
Diameter of inlet line (Liquid)	Imm - inl	29 - 1 1/8"	35 - 1 3/8"	22 - 7/8"	22 - 7/8"	22 - 7/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	29 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8

solutions

dedicated controls | SUPERVISION SOFTWARE MYCHILLER MYCHILLER ACS



SUPERVISION SOFTWARE



TECHNICAL CHARACTERISTICS

- Ethernet Connection RJ45 10Mbps
- Linux operating system 2.4.21

INSTALLATION

- Direct installation on the serial port of the advanced controller
- Static or dynamic IP address with DHCP function

WEB SERVER FUNCTION

- Display of unit status
- Display of current alarms and alarm history
- Data recording 10 settable variables
- Record download via web browser or FTP
- Editing of main parameters
- Sending of e-mail to 5 recipients in case of alarm

CONNECTION IN SUPERVISION SYSTEM

- With SNMP v1 & v2c protocol
- With BACnet Ethernet or BACnet/IP protocol



TOUCH SCREEN GRAPHIC DISPLAY



TECHNICAL CHARACTERISTICS

- 1/4 VGA colour Display
- 5.7" Touch screen320x240 pixel Resolution
- · Buzzer alarm

VERSIONS

- · Board installation model
- · Wall-mounted model with separate kit

FUNCTIONALITY

- · Connection of multiple units in LAN
- · Display of system status
- · Display of individual connected units
- · Display of temperature and humidity graphs
- · Editing of main parameters in local mode (for individual units) or in global mode (for all units)

COMMUNICATION PROTOCOLS

- CAREL PROPRIETARY
- MODBUS®
- LONWORKS
- BACNET
- SNMP
- TREND
- OPC

APPLICABLE TO

The solution can be adopted in all water chillers and heat pumps equipped with advanced microprocessor control.



REMOTE CONTROL PANEL FOR CHILLER

MYCHILLER is the new remote control for Galletti water chillers and heat pumps that simplifies and improves management thanks to the large LCD display and the possibility to view and edit the main operating parameters.

Designed to complement the controls for MYCOMFORT hydronic units and available in two BASE and PLUS versions, MYCHILLER is the natural aesthetic and functional development and allows the remote management of the Carel $\mu chiller2$, $\mu chiller2$ SE, pCO1 and pCOXS electronic panels. It can therefore be applied to all air-cooled and water-cooled, outdoor or indoor, water chillers.

SIMPLE INSTALLATION

All that is needed is a bus connection with AWG24 cable to ensure communication between the unit and the control.

ACCESSING THE REGULATION FUNCTIONS

MyCHILLER makes it possible to change the temperature of cold water production (hot water in case of heat pumps) without using the controller installed in the unit whose access is sometimes difficult.

THE SEASONS AT HAND

The transition from heating to cooling only requires the push of a button and the display is ensured by special icons on the LCD display panel.

SIMPLIFIED MAINTENANCE

With its large display, MyCHILLER can also monitor the advanced parameters characteristic of the cooling cycle and thus facilitates diagnostics in case of malfunctions.

ALARMS UNDER CONTROL

The rapid detection of the alarm code is essential to optimize and speed up the service interventions: MYCHILLER immediately make this information available, which are normally accessible only on the unit.

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ALL that is needed is a bus connection with AWG24 cable to ensure communication between the unit and the control.

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Alarms under control

The rapid detection of the alarm code is essential to optimize and speed up the service interventions: MYCHILLER immediately make this information available, which are normally accessible only on the unit.



ENERGY SAVING

The ECONOMY function makes it possible to correct the set-point in order to reduce energy consumption. This function can be activated directly from the keyboard, or through the closing of the contact by means of a digital input.

PROGRAMMABLE

Through the weekly clock incorporated in the PLUS version it is possible to set for every day of the week the unit status or the operating temperature level

COMPARATIVE CHARACTERISTICS	BASE	LARGE
Reading and changing of unit parameters	Х	Χ
Alarm reading	Χ	Χ
Configurable ON/OFF digital input	Χ	Χ
Incorporated clock		X
ON/OFF setpoint by time slots		X



MICROPROCESSOR CONTROL FOR HEAT PUMPS AND DHW PRODUCTION

The MYCHILLER ACS remote controller can simultaneously manage a heat pump connected via a serial connection and demands for domestic hot water (via a probe or digital input) by modifying the heat pump setpoint and activating a diverter valve.

The production of domestic hot water through a heat exchange with technical water produced by a heat pump requires suitable temperature levels, under the foreseen working conditions, which should thus be verified on the technical datasheets of the individual units.

If an enabled user demands DHW, the controller switches off the heat pump, waits for the internal pump of the chiller to switch off, activates the diverter valve and - after a delay necessary for positioning the valve - switches on the heat pump in the heating mode, setting a specific DHW setpoint at the same time.

Once the demand for DHW has been satisfied, the controller restores the previous heating setpoint, switches off the unit, waits for the internal pump of the unit to switch off and - after the delay necessary for positioning the valve - switches the heat pump back on in the operating mode it was in before the demand for DHW.

If the user is disabled, the heat pump will normally be in an off state and be switched on by the controller only in the presence of a demand for DHW, and then return into an off state once it has finished producing hot water.

This type of operation may prove useful during the spring/autumn season when only the production of DHW is required.

If outdoor temperatures prevent the heat pump from producing water that is hot enough for sanitary use, the controller can activate a supplemental heating element via a 230V output. It will be switched on if the temperature of the outdoor air and of the water leaving the heat pump falls below two thresholds which can be set from the advanced parameters menu.

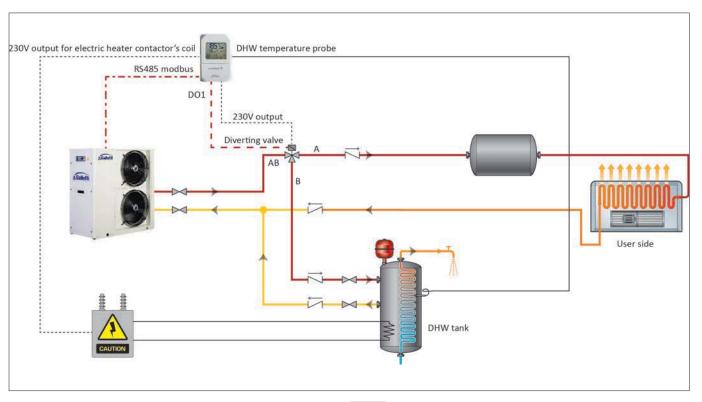


If a demand for DHW comes during defrosting of the heat pump, the controller will wait for it to be completed and only then switch on the unit to produce DHW.

If the controller is used in a system with hydraulic separation between the primary and secondary circuits, it can control a booster pump on the user side.

It is necessary to enable the function from the main parameters menu and connect an additional remote probe in the home interior. In the heating mode, the pump is switched on if the temperature falls below a threshold which can be set from the advanced parameters menu and switched off when the threshold+hysteresis has been exceeded; in the cooling mode the logic is reversed.

FUNCTIONAL DIAGRAM WITH REVERSIBLE HEAT PUMP CONNECTED TO HEATING/AIR CONDITIONING SYSTEM AND BUFFER TANK FOR DHW PRODUCTION.





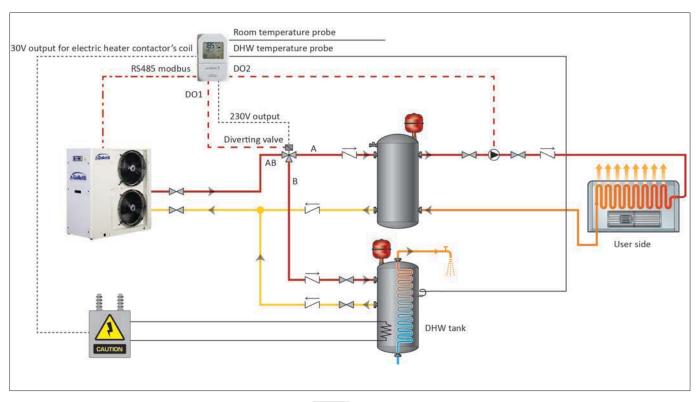


MAIN FUNCTIONS AND FEATURES:

- Switching on/off of the unit
- Control over the temperature setpoint of water entering the evaporator
- Selection of summer/winter mode
- Reading and changing of main unit parameters (differentials, minimum and maximum setpoints)
- Reading of advanced parameters (temperature of water leaving evaporator, condensation pressure)
- Display of active alarms on the unit

- Control of a buffer tank for domestic hot water
- No-voltage contact for external activation which may enable or disable unit operation
- No-voltage contact for remote enabling of the DHW mode
- Control of a diverter valve via a digital output
- Control of a booster pump on the user side
- Control of a supplemental heating element for DWH production
- The DHW MYCHILLER control panel is always supplied complete with a three-way valve for diverting technical water between the heating/air conditioning side and the tank side for the production of DHW.

FUNCTIONAL DIAGRAM WITH REVERSIBLE HEAT PUMP CONNECTED TO HEATING/AIR CONDITIONING SYSTEM VIA TANK WITH 4 CONNECTIONS AND BUFFER TANK FOR DHW PRODUCTION.





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