

MULTIPO SCREW: Multifunction chillers for outdoor installation, equipped with screw compressors and axial fans.

Cooling Capacity: 189,0 ÷ 1084,0 kW

Heating Capacity: 232,0 ÷ 1304,0 kW



multiplo screw rcgroup airconditioning



MAIN FEATURES

- Multifunction chiller
- 15 models available, for a wide selection opportunity..
- Average step of 60kW.
- EER up to
- COP up to
- ESEER up to
- Twin-screw compressors.
- Double refrigerant circuit.
- R134a refrigerant charge.
- Shell and tube heat exchangers.
- AC axial fans.
- Double air circuit.
- Electronic expansion valves.
- Suitable for indoor installation.

IDEA® DEFROSTING SYSTEM

"Patented" defrosting system with dynamic reading of working parameters. Thanks to proprietary software it senses the real presence of brine on the coil starting defrosting cycles only in that situation. This brings a remarkable energy saving (more than 20-30% on the average) and a higher working continuity compared with traditional systems.

WORKING LIMITS IN COOLING MODE

Evaporator chilled water outlet temperature: -10÷15°C
Ambient temperature: -20÷50°C

WORKING LIMITS IN HEATING MODE

Condenser hot water outlet temperature: 20÷63°C
Ambient temperature: -10÷20°C

MAIN BENEFITS

- Defrosting dynamics control system IDEA®.
- Availability of pumping groups.
- Availability of partial heat recovery system.
- Availability of kit for the reduction of the noise.
- Availability of EC fans for a higher efficiency.
- Easily of maintenance.

ELECTRONIC EXPANSION VALVE

The electronic expansion valves are synonymous of an higher energy efficiency and stability of the system.



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1963-2013
fifty cool years

MAIN COMPONENTS**FRAMEWORK**

- Base, self supporting frame and panelling in steel plate with protective surfaces treatment in compliance with UNI ISO 9227/ASTMB117 and ISO 7253, and painted with epoxy powders.
- Compressors compartment.
- Colour: RAL 9002

COMPRESSORS

- Twin screw semi-hermetic compressors with highly efficient screw profile and high peripheral speed, optimized for R134a refrigerant.
- Integrated discharge check valve.
- Flanged-on oil separator.
- Integrated safety relief valve (overpressure inner valve).
- Replaceable cartridge type oil filter.
- Oil flow switch.
- Valves for oil filling and discharge.
- Sight glass
- Electronic protection device that includes:
 - Electric motor thermal protection via internal winding temperature sensors.
 - Phase sequence electronic relay
 - Sensor on refrigerant discharge for temperature monitoring,
- 2-pole 3-phase electric motor with Part-Winding starting from model 200 V2 U04 up to model 530 V2 U08 included.
- 2-pole 3-phase electric motor with Star / Delta starting from model 580 V2 U10 up to model 1070 V2 U14.
- Steps capacity control, 0-50-100% for each compressor.
- Crankcase heater.
- Terminal box with IP54 enclosure class.
- Rubber supports.

EVAPORATOR (for chilled water production)

From model 200 V2 U04 up to model 280 V2 U06

- Copper brazed plate type with cover plates, plates and connections in AISI 316 stainless steel.
- Single circuit on water side and independent circuits, one for each compressor, on refrigerant side.
- Anticondensate insulation made of polyurethane.
- Temperature sensors on water inlet and outlet.
- Antifreeze heater.

From model 330 V2 U08 up to model 1070 V2 U14

- Shell and tube evaporator optimized for R134a refrigerant.
- Tubes with a helical rifled internal surface.
- Intermediate baffles positioned to ensure optimum speed of the fluid and low pressure drops.
- Single circuit on water side and independent circuits, one for each compressor, on refrigerant side.
- Shell, header, tube sheets, made of carbon steel, tubes in Cu.
- Anticondensate insulation made of polyurethane.
- Temperature sensors on water inlet and outlet.
- Antifreeze heater.

GAS/AIR HEAT EXCHANGER (heat exchanger for exhaustion)

- Heat exchanger coil with high efficiency aluminium fins, specifically developed to provide high heat transfer and lower pressure drops. The combination of two factors, special tubes and fins, allow to optimally combine the following aspects:
 - Maximum capacity relative to the size of the exchanger.
 - Minimum charge of refrigerant.
 - Reduction of the air flow required for the heat exchange.
- Sub-cooling circuit to allow a significant increase in cooling capacity. The circuit is active only when the heat exchanger operates as an air cooled condenser.
- Frame in galvanized steel.

CONDENSER (for hot water production)

From model 200 V2 U04 up to model 280 V2 U06

- Copper brazed plate type with cover plates, plates and connections in AISI 316 stainless steel.
- Single circuit on water side and independent circuits, one for each compressor, on refrigerant side.
- Anticondensate insulation made of polyurethane.
- Temperature sensors on water inlet and outlet.
- Antifreeze heater.

From model 330 V2 U08 up to model 1070 V2 U14

- Shell and tube evaporator optimized for R134a refrigerant.
- Tubes with a helical rifled internal surface.
- Intermediate baffles positioned to ensure optimum speed of the fluid and low pressure drops.
- Single circuit on water side and independent circuits, one for each compressor, on refrigerant side.
- Shell, header, tube sheets, made of carbon steel, tubes in Cu.
- Anticondensate insulation made of polyurethane.
- Temperature sensors on water inlet and outlet.
- Antifreeze heater.

FANS SECTION

- Axial fans with sickle-shaped blades, fan guard and optimized for low noise levels.
- AC type electric motor with external rotor and stepless variable speed for condensing pressure control.
- IP54 enclosure class.

REFRIGERANT CIRCUIT

Component for each refrigerant circuit:

- Electronic expansion valve (one valve for each heat exchanger) that allows high performance and system efficiency thanks to a timely and accurate response to changes in temperature and pressure. The expansion valve is equipped with energy reserve to allow the closure of the valve in the event of lack of power supply.
- Reversing valve for refrigeration cycle inversion.
- Sight glass.
- Filter dryer on liquid line.
- Solenoid valves on liquid lines.
- Service valves.
- Service valves on gas discharge.
- Safety valve on low pressure side.
- Safety valve on high pressure side.
- Pressure transducers with indication, control and protection functions, on low and high refrigerant pressure.
- High pressure safety switch with manual reset.
- Check valves.
- IDEA® defrosting system.
RC Group patented defrosting system based on a dynamic reading of the evaporating parameters. Through sensors the microprocessor realize the real ice presence on the gas/air heat exchanger and activates the defrosting cycle only when necessary, with consequent energy saving.
- Refrigerant circuit with copper tubing with anticondensate insulation of the suction line.
- Plastic capillary hoses for pressure sensors connection.
- R134a refrigerant charge.

ELECTRICAL PANEL

In accordance with EN60204-1 norms, suitable for outdoor installation, complete with:

- Main switch with door lock safety.
- Magnetothermic switch or fuses for each compressor.
- Magnetothermic switches for fans or water pumps (if scheduled).

- Contactors for each load.
- Compressor Part-Winding start system from model 200 V2 U04 up to model 530 V2 U08 included.
- Compressor Star / Delta start system from model 580 V2 U10 up to model 1070 V2 U14.
- Transformer for auxiliary circuit and microprocessor supply.
- Ambient temperature sensor.
- Panel with machine controls.
- Power supply 400/3/50.

CONTROL SYSTEM

- MP.COM microprocessor system with graphic display for control and monitor of operating and alarms status. The system includes:
 - Voltage free contact for remote general alarm.
 - Main components hour-meter.
 - Nonvolatile "Flash" memory for data storage.
 - Menu with protection password.
 - LAN connection.

HYDRAULIC CONNECTIONS OF HEAT EXCHANGERS

- The heat exchangers' threaded hydraulic connections are available up to a diameter of 3 " included, and correspond to ISO 228/1 – G M.
- The pipes' threaded hydraulic connections are available up to a diameter of 3 " included, and correspond to ISO 7/1 – R.
- The hydraulic connections with flange (FL) are supplied as standard with counter flange.
- The hydraulic connections with grooved end are supplied as standard with flexible joint and adapter pipe.

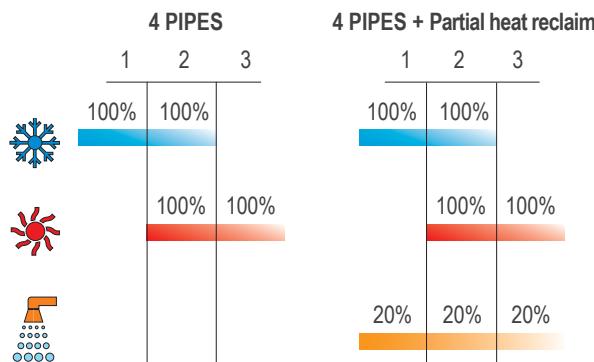
WORKING LOGIC

MULTIPLO SCREW is suitable for independent or simultaneous production of chilled water and hot water for 4-pipe plants. The unit is equipped with two screw compressors operating on two independent refrigerant circuits that allow, therefore, to satisfy differentiated thermal and cooling loads.

On request, the two circuits, can be equipped with plate type heat exchangers (desuperheaters) for domestic hot water production. Please note that the thermal power produced for the domestic water, corresponds to 15÷30% of the chiller thermal power, according to the domestic water temperature. The production of domestic hot water is subject to the operation of the machine in cooling only, heating only or contemporary (cooling + heating).

The unit cooling and heating functions are enabled by selectors placed on the electric board, while the domestic hot water production is always active. According to the request, MULTIPLO SCREW can produce chilled water and/or hot water in different percentage, as indicated in the working diagrams.

MULTIPLO SCREW can produce chilled water or hot water with variable loads up to 25% of the nominal. With request of simultaneous production of hot water and chilled water, the two compressors can partialize their operation so as to obtain different working conditions as per following table.



MULTIPLO SCREW					
Cool %	Heat %	Compressor (1)	Compressor (1) Capacity Control	Compressor (2)	Compressor (2) Capacity Control
25	-	●	-	-	-
50	-	●	-	●	-
75	-	●	●	●	-
100	-	●	●	●	●
-	25	●	-	-	-
-	50	●	-	●	-
-	75	●	●	●	-
-	100	●	●	●	●
25	25	●	-	-	-
25	50	●	-	●	-
25	75	●	-	●	●
25	100	x	x	x	x
50	25	●	-	●	-
50	50	●	-	●	-
50	75	●	●	●	-
50	100	●	●	●	●
75	25	●	●	●	-
75	50	●	-	●	●
75	75	●	-	●	●
75	100	x	x	x	x
100	25	x	x	x	x
100	50	●	●	●	●
100	75	x	x	x	x
100	100	●	●	●	●
Circuit 1 defrosting		●	●	x	x
Circuit 2 defrosting		x	x	●	●

● component on;

- component off;

x not possible operating condition.

OPTIONAL ACCESSORIES

MULTIPO SCREW SIZE	200 V2 U04	240 V2 U04	280 V2 U06	330 V2 U08	370 V2 U08	410 V2 U08	430 V2 U08	530 V2 U08
744 - CW Pumping group (1 pump)	●	●	●	●	●	●	●	●
758 - Pumping group AR-LN (1 pump)	●	●	●	●	●	●	●	●
748 - CW Pumping group (2 pumps)	●	●	●	●	●	●	●	●
766 - Pumping group AR-LN (2 pumps)	●	●	●	●	●	●	●	●
746 - HW Pumping group (1 pump)	●	●	●	●	●	●	●	●
759 - Pumping group AC-LN (1 pump)	●	●	●	●	●	●	●	●
750 - HW Pumping group (2 pumps)	●	●	●	●	●	●	●	●
767 - Pumping group AC-LN (2 pumps)	●	●	●	●	●	●	●	●
150 - LNO kit (noise reduction)	●	●	●	●	●	●	●	●
170 - Spring antivibration holders (kit)	●	●	●	●	●	●	●	●
172 - Rubber support (kit)	●	●	●	●	●	●	●	●
118 - Kit brine A	●	●	●	●	●	●	●	●
119 - Kit brine B	●	●	●	●	●	●	●	●
Evaporator flexible joint with adapter pipe (solder type)	●	●	●	●	●	●	●	●
Evaporator flexible joint with adapter for flange connection	●	●	●	●	●	●	●	●
Condenser flexible joint with adapter pipe (solder type)	●	●	●	●	●	●	●	●
Condenser flexible joint with adapter for flange connection	●	●	●	●	●	●	●	●
251 - Coils protection nets	●	●	●	●	●	●	●	●
351 - Coils with pre-painted fins	●	●	●	●	●	●	●	●
Coil in special execution	●	●	●	●	●	●	●	●
450 - Desuperheater	●	●	●	●	●	●	●	●
731 - Safety water flow switch	●	●	●	●	●	●	●	●
605 - Compr. power factor capacitor - 0,9	●	●	●	●	●	●	●	●
Service valve on compressor group suction	●	●	●	●	●	●	●	●
650 - Compressor thermal relay	●	●	●	●	●	●	●	●
101 - EC fan	●	●	●	●	●	●	●	●
923 - RC-Com MBUS/JBUS Serial board	●	●	●	●	●	●	●	●
926 - LON Serial board	●	●	●	●	●	●	●	●
931 - BACnet Ethernet - SNMP - TCP/IP Serial board	●	●	●	●	●	●	●	●
932 - BACnet MS/TP Serial board	●	●	●	●	●	●	●	●
942 - Serial card for GSM Modem	●	●	●	●	●	●	●	●
943 - Data Logger	●	●	●	●	●	●	●	●
889 - Master plant SEQUENCER	●	●	●	●	●	●	●	●
962 - Kit modem GSM	●	●	●	●	●	●	●	●
957 - Plantwatch without modem	●	●	●	●	●	●	●	●
930 - Remote graphic terminal kit	●	●	●	●	●	●	●	●

MULTIPO SCREW SIZE	580 V2 U10	660 V2 U10	780 V2 U12	870 V2 U12	920 V2 U12	950 V2 U12	1070 V2 U14
744 - CW Pumping group (1 pump)	●	●	●	●	●	●	●
758 - Pumping group AR-LN (1 pump)	●	●	●	●	●	●	●
748 - CW Pumping group (2 pumps)	●	●	●	●	●	●	●
766 - Pumping group AR-LN (2 pumps)	●	●	●	●	●	●	●
746 - HW Pumping group (1 pump)	●	●	●	●	●	●	●
759 - Pumping group AC-LN (1 pump)	●	●	●	●	●	●	●
750 - HW Pumping group (2 pumps)	●	●	●	●	●	●	●
767 - Pumping group AC-LN (2 pumps)	●	●	●	●	●	●	●
150 - LNO kit (noise reduction)	●	●	●	●	●	●	●
170 - Spring antivibration holders (kit)	●	●	●	●	●	●	●
172 - Rubber support (kit)	●	●	●	●	●	●	●
118 - Kit brine A	●	●	●	●	●	●	●
119 - Kit brine B	●	●	●	●	●	●	●
Evaporator flexible joint with adapter pipe (solder type)	●	●	●	●	●	●	●
Evaporator flexible joint with adapter for flange connection	●	●	●	●	●	●	●
Condenser flexible joint with adapter pipe (solder type)	●	●	●	●	●	●	●
Condenser flexible joint with adapter for flange connection	●	●	●	●	●	●	●
251 - Coils protection nets	●	●	●	●	●	●	●
351 - Coils with pre-painted fins	●	●	●	●	●	●	●
Coil in special execution	●	●	●	●	●	●	●
450 - Desuperheater	●	●	●	●	●	●	●
731 - Safety water flow switch	●	●	●	●	●	●	●
605 - Compr. power factor capacitor - 0,9	●	●	●	●	●	●	●
Service valve on compressor group suction	●	●	●	●	●	●	●
650 - Compressor thermal relay	●	●	●	●	●	●	●
101 - EC fan	●	●	●	●	●	●	●
923 - RC-Com MBUS/JBUS Serial board	●	●	●	●	●	●	●
926 - LON Serial board	●	●	●	●	●	●	●
931 - BACnet Ethernet - SNMP - TCP/IP Serial board	●	●	●	●	●	●	●
932 - BACnet MS/TP Serial board	●	●	●	●	●	●	●
942 - Serial card for GSM Modem	●	●	●	●	●	●	●
943 - Data Logger	●	●	●	●	●	●	●
889 - Master plant SEQUENCER	●	●	●	●	●	●	●
962 - Kit modem GSM	●	●	●	●	●	●	●
957 - Plantwatch without modem	●	●	●	●	●	●	●
930 - Remote graphic terminal kit	●	●	●	●	●	●	●

● available accessory; - not available accessory

MULTIPO SCREW TECHNICAL DATA

MULTIPO SCREW SIZE		200 V2 U04	240 V2 U04	280 V2 U06	330 V2 U08	370 V2 U08	410 V2 U08	430 V2 U08	530 V2 U08	
STANDARD	Only cooling - Cooling capacity (1)	kW	199	237	282	333	371	411	434	528
	Unit power input	kW	67,5	79,8	94,6	112,1	125,3	137,5	146,1	177,8
	Evaporator water flow rate	m³/h	59,5	71,3	83,0	96,0	109,0	121,0	129,0	160,0
	Evaporator pressure drop	kPa	97,3	116,0	143,0	156,0	192,0	212,0	225,0	266,0
	Only heating - Heating capacity (2)	kW	232	279	327	402	445	494	521	633
	Unit power input	kW	72,3	84,8	102,2	115,2	125,7	136,5	150,1	180,3
	Condenser water flow rate	m³/h	40,4	48,4	56,9	69,8	77,4	85,9	90,5	110
	Condenser pressure drop	kPa	17	22	23	61	60	60	73	75
	Cooling + Heating (3)									
	Cooling capacity	kW	190	229	265	344	386	430	436	543
	Heating capacity	kW	256	308	358	447	502	560	578	718
	Unit power input	kW	74,0	86,4	104,2	118,6	130,6	144,6	158,0	191,0
	Compressors		twin-screw							
	Quantity	n.	2	2	2	2	2	2	2	
OPT	Capacity steps	n.	4	4	4	6	6	6	6	
	Axial fans	n.	4	4	6	8	8	8	8	
	Total air flow	m³/h	93124	89644	144498	193536	193536	193536	187992	187992
	Air circuits	n.	2	2	2	2	2	2	2	
	Refrigerant		R134a							
	Total refrigerant charge (optional excluded)	kg	84	112	124	171	171	171	171	
	Gas circuits	n.	2	2	2	2	2	2	2	
	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	
	Max unit operating current (FLA)	A	160,6	180,6	226,4	236,2	267,2	301,2	319,2	361,2
	Unit starting current (LRA)	A	365,6	401,6	497,4	414,2	500,2	661,2	670,2	842,2
	EER (1)	kW/kW	2,95	2,97	2,98	2,97	2,96	2,99	2,97	2,97
	COP (2)	kW/kW	3,21	3,29	3,20	3,49	3,54	3,62	3,47	3,51
	ESEER		3,47	3,51	3,51	3,50	3,49	3,50	3,49	3,54
	Sound power level [Lw] (4)	dB(A)	91,6	92,1	92,3	92,5	92,9	97,2	97,2	97,7
	Average sound pressure level [Lpm] (5)	dB(A)	72,3	72,8	72,3	71,7	72,1	76,4	76,4	76,9
	Net weight	kg	3415	3530	4206	6168	6264	6522	6534	6828
	Hydraulic connections									
	Evaporator/Condenser IN/OUT - OD (6)	Ø mm	88,9	88,9	88,9	168,3	168,3	219,1	219,1	219,1
LNO KIT 100%	Chilled/hot water pumping group	kW	2,2	2,2	2,2	3,0	3,0	5,5	5,5	5,5
	Chilled/hot water pumping group LN	kW	2,2	2,2	2,2	3,0	3,0	5,5	5,5	5,5
	Only cooling - Cooling capacity (1)	kW	199	237	282	333	371	411	434	528
	Unit power input	kW	67,5	79,8	94,6	112,1	125,3	137,5	146,1	177,8
	Only heating - Heating capacity (2)	kW	232	279	327	402	445	494	521	633
	Unit power input	kW	72,3	84,8	102,2	115,2	125,7	136,5	150,1	180,3
	Total air flow	m³/h	93124	89644	144498	193536	193536	193536	187992	187992
	EER (1)	kW/kW	2,95	2,97	2,98	2,97	2,96	2,99	2,97	2,97
	COP (2)	kW/kW	3,21	3,29	3,20	3,49	3,54	3,62	3,47	3,51
	Sound power level [Lw] (4)	dB(A)	89,6	90,1	90,3	90,5	90,9	95,2	95,2	95,7
	Average sound pressure level [Lpm] (5)	dB(A)	70,3	70,8	70,3	69,7	70,1	74,4	74,4	74,9
	Only cooling - Cooling capacity (1)	kW	196	233	278	328	365	404	427	519
	Unit power input	kW	67,6	80,3	94,9	111,6	125,0	138,4	147,2	180,8
LNO KIT 85%	Only heating - Heating capacity (2)	kW	232	279	327	402	445	494	521	633
	Unit power input	kW	71,2	83,5	100,6	112,9	123,3	134,2	148,0	178,3
	Total air flow	m³/h	79155	76197	122823	164505	164505	164505	159793	159793
	EER (1)	kW/kW	2,90	2,90	2,93	2,94	2,92	2,92	2,90	2,87
	COP (2)	kW/kW	3,26	3,34	3,25	3,56	3,61	3,68	3,52	3,55
	Sound power level [Lw] (4)	dB(A)	86,6	87,1	87,3	87,5	87,9	92,2	92,2	92,7
	Average sound pressure level [Lpm] (5)	dB(A)	67,3	67,8	67,3	66,7	67,1	71,4	71,4	71,9
LNO KIT 70%	Only cooling - Cooling capacity (1)	kW	192	228	273	322	358	394	416	506
	Unit power input	kW	65,1	76,8	91,6	108,4	120,9	131,8	140,1	170,4
	Only heating - Heating capacity (2)	kW	232	279	327	402	445	494	521	633
	Unit power input	kW	72,3	84,8	102,2	115,2	125,7	136,5	150,1	180,3
	Total air flow	m³/h	65186	62750	101148	135475	135475	135475	131594	131594
	EER (1)	kW/kW	2,95	2,97	2,98	2,97	2,96	2,99	2,97	2,97
	COP (2)	kW/kW	3,21	3,29	3,20	3,49	3,54	3,62	3,47	3,51
	Sound power level [Lw] (4)	dB(A)	83,6	84,1	84,3	84,5	84,9	89,2	89,2	89,7
	Average sound pressure level [Lpm] (5)	dB(A)	64,3	64,8	64,3	63,7	64,1	68,4	68,4	68,9

1. Referred to chilled water temperature 12/7°C; ambient temperature 35°C.
2. Referred to hot water outlet temperature 45°C; 7°C ambient temperature.
3. Referred to chilled water temperature 12/7°C; ambient temperature 35°C and hot water temperature 40/45°C.
4. Sound power level [Lw] according to ISO EN 9614 - 2
5. Average sound pressure level [Lpm] 1m far according to ISO EN 3744.
6. Hydraulic connection with grooved end. The flexible joint is an optional accessory.

MULTIPO SCREW TECHNICAL DATA

MULTIPO SCREW SIZE		580 V2 U10	660 V2 U10	780 V2 U12	870 V2 U12	920 V2 U12	950 V2 U12	1070 V2 U14
Only cooling - Cooling capacity (1)	kW	590	670	787	873	924	958	1084
Unit power input	kW	194,7	218,2	265,9	294,9	310,1	323,6	363,8
Evaporator water flow rate	m³/h	174,0	197,0	240,0	268,0	284,0	296,0	331,0
Evaporator pressure drop	kPa	293,0	326,0	374,0	373,0	449,0	479,0	560,0
Only heating - Heating capacity (2)	kW	698	794	941	1050	1105	1163	1304
Unit power input	kW	195,0	208,9	258,5	280,7	286,3	301,3	343,2
Condenser water flow rate	m³/h	121	138	164	183	192	202	227
Condenser pressure drop	kPa	63	60	54	71	54	61	69
Cooling + Heating (3)								
Cooling capacity	kW	608	717	830	936	1014	1035	1155
Heating capacity	kW	797	924	1083	1216	1292	1332	1492
Unit power input	kW	207,3	224,3	274,6	302,6	300,6	320,4	364,3
Compressors		twin-screw	twin-screw	twin-screw	twin-screw	twin-screw	twin-screw	twin-screw
Quantity	n.	2	2	2	2	2	2	2
Capacity steps	n.	6	6	6	6	6	6	6
Axial fans	n.	10	10	12	12	12	12	14
Total air flow	m³/h	241920	241920	281988	281988	281988	271824	317128
Air circuits	n.	2	2	2	2	2	2	2
Refrigerant		R134a	R134a	R134a	R134a	R134a	R134a	R134a
Total refrigerant charge (optional excluded)	kg	215	215	256	256	256	341	397
Gas circuits	n.	2	2	2	2	2	2	2
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
Max unit operating current (FLA)	A	406	453	520,8	582,8	613,8	661,8	764,6
Unit starting current (LRA)	A	583,0	607,0	657,8	767,8	873,8	949,8	1112,6
EER (1)	kW/kW	3,03	3,07	2,96	2,96	2,98	2,96	2,98
COP (2)	kW/kW	3,58	3,80	3,64	3,74	3,86	3,86	3,80
ESEER		3,56	3,59	3,54	3,56	3,59	3,56	3,57
Sound power level [Lw] (4)	dB(A)	97,7	100,4	101,7	101,4	99,8	99,8	102,9
Average sound pressure level [Lpm] (5)	dB(A)	76,5	79,2	80,1	79,8	78,2	78,2	80,9
Net weight	kg	7727	7901	9273	9329	9433	9712	11044
Hydraulic connections								
Evaporator/Condenser IN/OUT - OD (6)	Ø mm	219,1	219,1	219,1	219,1	219,1	219,1	219,1
OPT								
Chilled/hot water pumping group	kW	5,5	7,5	7,5	11,0	11,0	11,0	11,0
Chilled/hot water pumping group LN	kW	5,5	9,2	9,2	9,2	9,2	9,2	9,2
LNO KIT 100%								
Only cooling - Cooling capacity (1)	kW	590	670	787	873	924	958	1084
Unit power input	kW	194,7	218,2	265,9	294,9	310,1	323,6	363,8
Only heating - Heating capacity (2)	kW	698	794	941	1050	1105	1163	1304
Unit power input	kW	195,0	208,9	258,5	280,7	286,3	301,3	343,2
Total air flow	m³/h	241920	241920	281988	281988	281988	271824	317128
EER (1)	kW/kW	3,03	3,07	2,96	2,96	2,98	2,96	2,98
COP (2)	kW/kW	3,58	3,80	3,64	3,74	3,86	3,86	3,80
Sound power level [Lw] (4)	dB(A)	95,7	98,4	99,7	99,4	97,8	97,8	100,9
Average sound pressure level [Lpm] (5)	dB(A)	74,5	77,2	78,1	77,8	76,2	76,2	78,9
LNO KIT 85%								
Only cooling - Cooling capacity (1)	kW	580	657	773	856	903	936	1060
Unit power input	kW	197,3	221,2	269,3	300,4	315,7	330,7	370,6
Only heating - Heating capacity (2)	kW	698	794	941	1050	1105	1163	1304
Unit power input	kW	192,3	206,2	255,0	277,0	283,3	298,2	338,7
Total air flow	m³/h	205632	205632	239689	239689	239689	231050	269558
EER (1)	kW/kW	2,94	2,97	2,87	2,85	2,86	2,83	2,86
COP (2)	kW/kW	3,63	3,85	3,69	3,79	3,90	3,90	3,85
Sound power level [Lw] (4)	dB(A)	92,7	95,4	96,7	96,4	94,8	94,8	97,9
Average sound pressure level [Lpm] (5)	dB(A)	71,5	74,2	75,1	74,8	73,2	73,2	75,9
LNO KIT 70%								
Only cooling - Cooling capacity (1)	kW	568	641	753	831	874	903	1025
Unit power input	kW	187,5	208,8	254,4	280,7	293,3	305,1	344,0
Only heating - Heating capacity (2)	kW	698	794	941	1050	1105	1163	1304
Unit power input	kW	195,0	208,9	258,5	280,7	286,3	301,3	343,2
Total air flow	m³/h	169344	169344	197392	197392	197392	190276	221989
EER (1)	kW/kW	3,03	3,07	2,96	2,96	2,98	2,96	2,98
COP (2)	kW/kW	3,58	3,80	3,64	3,74	3,86	3,86	3,80
Sound power level [Lw] (4)	dB(A)	89,7	92,4	93,7	93,4	91,8	91,8	94,9
Average sound pressure level [Lpm] (5)	dB(A)	68,5	71,2	72,1	71,8	70,2	70,2	72,9

1. Referred to chilled water temperature 12/7°C; ambient temperature 35°C.
2. Referred to hot water outlet temperature 45°C; 7°C ambient temperature.
3. Referred to chilled water temperature 12/7°C; ambient temperature 35°C and hot water temperature 40/45°C.
4. Sound power level [Lw] according to ISO EN 9614 - 2
5. Average sound pressure level [Lpm] 1m far according to ISO EN 3744.
6. Hydraulic connection with grooved end. The flexible joint is an optional accessory.

DIMENSIONS (mm)**MULTIPO SCREW**

	a	b	c
U04	3815	2206	2015
U06	5215	2206	2015
U08	6045	2206	2525
U10	7175	2206	2525
U12	8305	2206	2525
U14	9435	2206	2525

