INNOVA

PRODUCT GUIDE

01.2017

Cooling

Heating

CHAPTER 1

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

Cooling

Heating

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating
- Fans

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Radial

Fan
- Axial
- Radial
- EC Inverter Radial
- Tangential EC Inverter
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell & Tube
- Flooded Shell & Tube
- Microchannel

Solution
- FC Free-Cooling
- Domestic Hot Water
- AquaLogik
- 4P 4-Pipe system
- Web Monitoring
- A CLASS
- Single skin
- Double Skin
- SL Silenced
- SSL Super silenced
- MS Mixing box
- ECO Economizer
- REC Economizer and Cross-flow Heat Recovery
- REC Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R134a
- R407C
- H_2O

Cooling

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CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

Power (kW) *Page*

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WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

Power (kW) Page

LEGENDA

Version
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Power (kW) Page

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CHAPTER 4

DRY-COOLERS & HYDRONIC MODULES

CHAPTER 5
PACKAGED ROOF TOP UNITS

IROTKT/EC/WP 218R÷345R

Single Skin packaged Roof Top units with Digital Scroll compressors and EC Inverter Plug-Fans

IROTK/EC/WP 218R÷345R

Single Skin packaged Roof Top units with Scroll compressors and EC Inverter Plug-Fans

IROTKII/EC 217÷472

Double Skin packaged Roof Top units with Inverter Scroll compressors and EC Inverter Plug-Fans

IROTKII/EC/MS 217÷472

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans and Mixing Box

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CHAPTER 5

PACKAGED ROOFTOP UNITS

Power (kW) Page

IROTKII/EC/ECO 217÷472

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans and Economizer

56-244 kW

58-254 kW

162 - 163

IROTKII/EC/ECO/REC-FX 217÷472

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

56-244 kW

58-254 kW

164 - 165

IROTKII/EC/ECO/REC-WH 217÷472

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

56-244 kW

58-254 kW

166 - 167

IROTK 218÷480

Double Skin packaged Roof Top units with Scroll compressors and radial fans or EC Inverter Plug-Fans

56-244 kW

58-254 kW

168 - 169

IROTK/MS 218÷480

Double Skin packaged Roof Top units with Scroll compressors, radial fans or EC Inverter Plug-Fans and Mixing Box

56-244 kW

58-254 kW

170 - 171

IROTK/ECO 218÷480

Double Skin packaged Roof Top units with Scroll compressors, radial fans or EC Inverter Plug-Fans and Economizer

56-244 kW

58-254 kW

172 - 173

IROTK/ECO/REC-FX 218÷480

0 125 250

Double Skin packaged Roof Top units with Scroll compressors, radial fans or EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

56-244 kW
58-254 kW

174 - 175

IROTK/ECO/REC-WH 218÷480

0 125 250

Double Skin packaged Roof Top units with Scroll compressors, radial fans or EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

56-244 kW
58-254 kW

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CONDENSING UNITS

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CHAPTER 7

FAN COIL UNITS

Power (kW) Page

IFCS 301÷407

Fan Coil units with cabinet and 3-Speed or EC Inverter radial fans

1.31-7.26 kW

3.2-16.19 kW

190 - 191

IFCC 301÷407

Fan Coil units for built-in installation with 3-Speed or EC Inverter radial fans

1.31-7.26 kW

3.2-16.19 kW

192 - 193

IHW/EC 202÷602

Wall mounted Fan Coil units with EC Inverter tangential fan

2.07-5.38 kW

2.7-6.85 kW

194 - 195

IWC 202÷312

Water Cassette with 3-Speed or EC Inverter radial fan

-

2.9-18.9 kW

196 - 197

ITDU 306÷454

Ductable Fan Coil units with 3-Speed or EC Inverter radial fans

4.6-42.8 kW

9.8-97.1 kW

198 - 199

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CHAPTER 1

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

FROM 5,4 KW TO 14 KW.

IACAK/II/WP 101.5÷106

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH EC INVERTER AXIAL FANS, INVERTER ROTARY/SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

IACAK/II/WP 101.5÷106 reversible Heat Pumps with A CLASS energy efficiency are designed for small domestic or service sector environments. Equipped with R410A refrigerant, INVERTER Rotary/Scroll compressors and EC INVERTER axial fans, they are extremely functional and reliable units. The Inverter device controls and continuously modulates the compressor speed, keeping the temperature of the water delivered to the system stable and constant and adapting it perfectly to the thermal load of the places where terminal units it feeds are installed. This obtains high energy efficiencies and ESEER/IPLV values higher than conventional unit, and a reduction of compressor starting peak currents, thus considerably reducing the risk of malfunctioning or breakages. The EC Inverter axial fans vay their speed according to the required thermal load, with consequent benefits in terms of energy efficiency and silent operation. Moreover, IACAK/II/WP 101.5÷106 does not require inertial storage tanks, since the refrigerating capacity delivered is constantly equal to that required while guaranteeing very quiet operation because the fans adjust their speed to the real load of the system, with benefits above all during the night. It also prevents shutdown due to unexpected overloads, by means of an innovative control system which, on being activated, reduces the refrigerating capacity delivered while keeping the unit running.

VERSION

IACAK/II/WP

Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Rotary / Twin Rotary / Scroll compressor, complete with overload protection and crankase heater.
- EC INVERTER axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan and protection guards.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water flow switch and an antifreeze heater.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: modulating circulating pump with high efficiency DC Brushless motor, flow switch, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.
- Communication with Modbus RTU protocol through RS485 serial interface.

ACCESSORIES

FACTORY FITTED ACCESSORIES

KDS Dual set-point kit

LOOSE ACCESSORIES

CR Remote control panel

AG Rubber shock absorbers

IACAK/II/WP 101.5÷106

MODEL			101.5	102.5	104	106
Heating	Heating capacity (1)	kW	5.4	8.6	11.4	13.5
	Absorbed power (1)	kW	1.7	2.8	3.5	4.4
	COP (1)		3.18	3.07	3.26	3.07
	Heating capacity (2)	kW	5.7	8.9	12.1	13.9
	Absorbed power (2)	kW	1.5	2.3	3.1	3.6
	COP (2)		3.80	3.87	3.90	3.86
Heating (EN14511)	Heating capacity (1)	kW	5.3	8.5	11.3	13.4
	Absorbed power (1)	kW	1.6	2.7	3.4	4.3
	COP (1)		3.31	3.15	3.32	3.12
	EUROVENT Class		A	A	A	A
	Heating capacity (2)	kW	5.6	8.8	12.0	13.8
	Absorbed power (2)	kW	1.4	2.2	3.0	3.5
	COP (2)		4.00	4.00	4.00	3.94
	SCOP (3)		2.83	2.63	2.60	2.58
	Energy Efficiency (3)	%	110	102	101	100
	Energy Class (3)		A+	A+	A+	A+
Cooling	Cooling capacity (4)	kW	3.8	5.9	7.5	9.5
	Absorbed power (4)	kW	1.3	2.1	2.7	3.5
	EER (4)		2.92	2.81	2.78	2.71
	Cooling capacity (5)	kW	4.9	8.0	11.1	12.6
	Absorbed power (5)	kW	1.4	2.2	3.0	3.6
	EER (5)		3.50	3.64	3.70	3.50
Cooling (EN14511)	Cooling capacity (4)	kW	3.8	5.9	7.6	9.6
	Absorbed power (4)	kW	1.3	2.0	2.6	3.4
	EER (4)		2.92	2.81	2.78	2.71
	ESEER		4.32	3.96	3.92	4.16
	EUROVENT Class		B	B	B	B
	Cooling capacity (5)	kW	4.9	8.1	11.3	12.8
	Absorbed power (5)	kW	1.3	2.2	2.9	3.4
	EER (5)		3.77	3.68	3.90	3.76
Compressor	Quantity	n°	1	1	1	1
	Type		Rotary		Twin Rotary	Scroll
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			400/3+N/50
	Max. running current	A	12	20	25	11
	Max. starting current	A	8	10	16	10
Water circuit	Water flow	l/s	0.28	0.44	0.60	0.68
	Pump available static pressure	kPa	57	32	45	38
	Water connections	"G	1"M	1"M	1"M	1"M
Sound pressure	STD version (6)	dB(A)	51	54	55	55
Weights	Transport weight	Kg	70	87	140	145
	Operating weight	Kg	73	92	147	152

DIMENSIONS			101.5	102.5	104	106
L	STD	mm	1100	1200	1220	1220
W	STD	mm	370	370	445	445
H	STD	mm	720	860	1400	1400

CLEARANCE AREA

IACAK/II/WP 101.5÷102.5

500 | 500 | 800 | 500

IACAK/II/WP 104÷106

500 | 500 | 800 | 500

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 10,0 KW TO 83 KW.

IACAK/CP 101.5÷108

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, ROTARY/SCROLL COMPRESSOR, PLATE EXCHANGER AND PUMP KIT.

The IACAK/CP 101.5÷108 series is the winning choice for ideal comfort in residential and commercial environments. The range, in A CLASS energy efficiency, excels for its compact sizes, quietness and optimised water circuit, on a peraluman structure. The IACAK/CP 101.5÷108 series features R410A refrigerant, ensuring high efficiency with reduced heat exchange surfaces and environment respect thanks to the low quantities of refrigerant used. Particular design features enable immediate and effective use, easy installation and lasting reliability. These extremely compact and high-tech units offer you ideal comfort in all seasons.
Particular design features enable immediate and effective use, easy installation and lasting reliability.

VERSION

IACAK/CP	***IACAK/CP/WP***
Cooling only with tank and pump	Reversible Heat Pump with tank and pump

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame.
- Rotary / Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded plates type, built-in the storage tank.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor contact and pump contact (105÷108).
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: water differential pressure switch, insulated tank, circulating pump, safety valve, gauge and expansion vessel inserted in the storage tank.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards

IACAK/CP 101.5÷108

MODEL			101.5	101.8	102	102.5	103	104	105	106	107	108
Cooling	Cooling capacity (1)	kW	4.1	4.9	6.2	7.3	8.3	10.1	11.8	14.8	18.0	19.9
	Absorbed power (1)	kW	1.4	1.7	2.1	2.5	2.9	3.5	4.0	5.1	6.1	6.7
	EER (1)		2.93	2.88	2.95	2.92	2.86	2.89	2.95	2.90	2.95	2.97
Cooling (EN14511)	Cooling capacity (1)	kW	4.2	5.0	6.3	7.4	8.4	10.2	12.1	15.1	18.3	20.2
	Absorbed power (1)	kW	1.3	1.6	2.0	2.4	2.8	3.4	3.7	4.7	5.8	6.5
	EER (1)		3.23	3.13	3.15	3.08	3.00	3.00	3.27	3.21	3.16	3.11
	ESEER		3.01	3.15	3.27	3.31	3.27	3.22	3.24	3.28	3.32	3.34
	EUROVENT Class		A	A	A	B	B	B	A	A	A	A
Heating	Heating capacity (2)	kW	4.9	5.8	7.8	8.4	10.0	12.0	14.4	18.2	21.2	23.7
	Absorbed power (2)	kW	1.7	2.0	2.6	2.9	3.5	4.2	4.8	6.3	7.2	8.1
	COP (2)		2.88	2.90	3.00	2.90	2.86	2.86	3.00	2.89	2.94	2.93
Heating (EN14511)	Heating capacity (2)	kW	4.8	5.7	7.7	8.3	9.9	11.9	14.1	17.9	21.0	23.5
	Absorbed power (2)	kW	1.6	2.0	2.5	2.8	3.4	4.1	4.5	6.0	7.0	7.9
	COP (2)		3.00	2.85	3.08	2.96	2.91	2.90	3.13	2.98	3.00	2.97
	EUROVENT Class		B	C	B	C	C	C	B	C	B	C
	SCOP (3)		2.95	3.06	3.17	2.95	3.00	2.99	3.06	3.16	3.18	3.17
	Energy Efficiency (3)	%	115	119	124	115	117	117	119	123	124	124
	Energy Class (3)		A	A	A+	A	A	A	A	A	A+	A+
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1	1
	Type		Rotary				Scroll					
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50			
	Max. running current	A	9	11	14	15	18	23	13	15	17	18
	Max. starting current	A	38	44	63	64	77	88	54	75	78	78
Water circuit	Water flow	l/s	0.19	0.23	0.30	0.35	0.40	0.49	0.56	0.71	0.86	0.95
	Pump available static pressure	kPa	52	48	35	45	41	42	140	123	90	80
	Tank water volume	l	25	25	25	25	25	25	50	50	50	50
	Water connections	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1"
Sound pressure	STD version (4)	dB(A)	50	50	50	50	52	53	53	53	53	53
Weights	Transport weight	Kg	96	98	106	110	118	120	192	194	196	198
	Operating weight	Kg	121	123	131	135	143	145	242	244	246	248

DIMENSIONS			101.5	101.8	102	102.5	103	104	105	106	107	108
L	STD	mm	870	870	870	870	870	870	1160	1160	1160	1160
W	STD	mm	320	320	320	320	320	320	500	500	500	500
H	STD	mm	1100	1100	1100	1100	1100	1100	1270	1270	1270	1270

CLEARANCE AREA

IACAK/CP 101.5÷104

200 | 200 | 800 | 200

IACAK/CP 105÷108

200 | 200 | 800 | 200

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 11 KW TO 22 KW.

IACA/MD/ST 104÷107

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

IACA/MD/ST 104÷107 is the line of Heat Pumps dedicated to hot water production up to 60 °C and operations up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic kit. The unit, featuring A CLASS energy efficiency, is designed to singly handle winter heating, summer air conditioning and the production of high temperature hot water, making use of the electrical energy and heat accumulated in the clean air source, free and infinite, which can also transfer heat to homes. Flexibility is the main feature of the series, which is also combined with heating units and managed by the innovative, intelligent AQUALOGIK control system, optimizing the water setpoint and regulating power supply voltage to the pump and fans, making use of an inertial tank unnecessary. This results in performance with elevated energy efficiency, silent functioning, optimized dimensions and costs. The unit is also able to operate in extreme conditions where the external air temperature is very low, as well as intelligently managing integrated elements such as furnaces and electrical heaters. Based on the external air sensor, the microprocessor activates the single integration elements in the system.

VERSION

IACA/MD/ST	***IACA/MD/ST/WP***
Heat Pump with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame.
- Scroll compressor with internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch and antifreeze heater.
- R407C refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

EH	Supplementary electrical heater
KC	Gas burner integration Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards

IACA/MD/ST 104÷107

MODEL			104M	104T	105M	105T	107
Heating	Heating capacity (1)	kW	11.2	15.5	11.2	15.5	21.8
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.6
	COP (1)		3.50	3.37	3.50	3.37	3.30
	Heating capacity (2)	kW	11.0	15.3	11.0	15.3	21.7
	Absorbed power (2)	kW	2.7	3.8	2.7	3.8	5.5
	COP (2)		4.07	4.03	4.07	4.03	3.95
Heating (EN14511)	Heating capacity (1)	kW	11.5	15.9	11.5	15.9	22.3
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.6
	COP (1)		3.59	3.46	3.59	3.46	3.38
	EUROVENT Class		A	A	A	A	A
	SCOP (3)		3.93	4.04	3.93	4.04	3.82
	Energy Efficiency (3)	%	151	155	151	155	148
	Energy Class (3)		A++	A++	A++	A++	A+
Cooling	Cooling capacity (4)	kW	7.1	10.2	7.1	10.2	15.5
	Absorbed power (4)	kW	2.5	3.6	2.5	3.6	5.3
	EER (4)		2.84	2.83	2.84	2.83	2.92
	Cooling capacity (5)	kW	10.5	15.0	10.5	15.0	20.6
	Absorbed power (5)	kW	2.7	4.0	2.7	4.0	6.2
	EER (5)		3.89	3.75	3.89	3.75	3.32
Cooling (EN14511)	Cooling capacity (4)	kW	6.8	9.9	6.8	9.9	15.1
	Absorbed power (4)	kW	2.8	3.9	2.8	3.9	5.7
	EER (4)		2.43	2.54	2.43	2.54	2.65
	ESEER		2.72	3.03	2.72	3.03	3.02
	EUROVENT Class		E	D	E	D	D
Compressor	Quantity	n°	1	1	1	1	1
Supplementary electrical heater	Power supply	V/Ph/Hz	230/1/50				
	Heating capacity	kW	4/6	4/6	4/6	4/6	4/6
	Absorbed current	A	18/26	18/26	18/26	18/26	18/26
	Steps	n°	2	2	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3+N/50		
	Max. running current	A	26	35	13	15	19
	Max. starting current	A	102	165	45	69	106
Water circuit	Water flow	l/s	0.54	0.75	0.54	0.75	1.07
	Pump available static pressure	kPa	231	185	231	185	156
	Water connections	"G	1"	1"	1"	1"	1"
Sound pressure	STD version (6)	dB(A)	53	53	53	53	53
Weights	Transport weight	Kg	205	208	205	208	210
	Operating weight	Kg	209	212	209	212	214

DIMENSIONS			104M	104T	105M	105T	107
L	STD	mm	1160	1160	1160	1160	1160
W	STD	mm	500	500	500	500	500
H	STD	mm	1270	1270	1270	1270	1270

CLEARANCE AREA

IACA/MD/ST 104M÷107

200	200	800	200

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

N.B. * = Single phase

N.B. ** = Three phase

FROM 29 KW TO 52 KW.

IACA/MD/ST 109÷115

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

IACA/MD/ST 109÷115, featuring A CLASS energy efficiency, is the innovative series of Heat Pumps dedicated to production of hot water up to 60 °C and operation up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic unit. The unit, designed to originate and control – throughout the year – the best comfort conditions in rooms with a high rate of daily attendance, such as enclosed areas destined to the activities of the service sector, autonomously handles winter heating, summer air conditioning and the production of high temperature sanitary hot water. The series, designed with an extremely compact structure for simple installation operations, uses only the electric energy and the heat accumulated in the air, to transfer heat to the rooms, thus allowing considerable energy savings, a high rate of reliability and the shortest start-up times. Flexibility is the main feature of the series, which is indeed combined with terminal units and managed by the innovative, intelligent AQUALOGIK control and optimization system, which makes the use of an inertial tank unnecessary and guarantees performances with elevated energy efficiency and silent functioning.

VERSION

IACA/MD/ST	***IACA/MD/ST/WP***
Heat Pump with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch and antifreeze heater.
- R407C refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

EH	Supplementary electrical heater
KC	Gas burner integration Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IACA/MD/ST 109÷115

MODEL			109	110	115
Heating	Heating capacity (1)	kW	30.1	39.4	51.5
	Absorbed power (1)	kW	8.1	11.0	13.7
	COP (1)		3.72	3.58	3.76
	Heating capacity (2)	kW	29.2	39.2	49.2
	Absorbed power (2)	kW	6.8	9.3	11.5
	COP (2)		4.29	4.22	4.28
Heating (EN14511)	Heating capacity (1)	kW	30.8	40.3	52.4
	Absorbed power (1)	kW	8.1	11.0	13.7
	COP (1)		3.80	3.66	3.82
	EUROVENT Class		A	A	A
	SCOP (3)		3.93	3.74	3.74
	Energy Efficiency (3)	%	153	145	145
	Energy Class (3)		A++	A+	A+
Cooling	Cooling capacity (4)	kW	20.0	28.3	36.6
	Absorbed power (4)	kW	6.7	9.4	11.8
	EER (4)		2.99	3.01	3.10
	Cooling capacity (5)	kW	27.0	38.5	46.8
	Absorbed power (5)	kW	7.8	10.8	12.9
	EER (5)		3.46	3.56	3.63
Cooling (EN14511)	Cooling capacity (4)	kW	19.4	27.6	35.8
	Absorbed power (4)	kW	7.3	10.1	12.6
	EER (4)		2.66	2.73	2.84
	ESEER		3.05	3.10	3.20
	EUROVENT Class		D	C	C
Compressor	Quantity	n°	1	1	1
Supplementary electrical heater	Power supply	V/Ph/Hz	400/3/50		
	Heating capacity	kW	6/10	6/10	6/10
	Absorbed current	A	26/43	26/43	26/43
	Steps	n°	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50		
	Max. running current	A	28	36	42
	Max. starting current	A	109	139	179
Water circuit	Water flow	l/s	1.44	1.88	2.46
	Pump available static pressure	kPa	230	227	195
	Water connections	"G	1"	1"	1"
Sound pressure	STD version (6)	dB(A)	62	63	65
Weights	Transport weight	Kg	220	235	265
	Operating weight	Kg	224	239	269

DIMENSIONS			109	110	115
L	STD	mm	1850	1850	1850
W	STD	mm	1000	1000	1000
H	STD	mm	1300	1300	1300

CLEARANCE AREA

IACA/MD/ST 109÷115

500	800	800	800

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 55 KW TO 112 KW.

IACA/MD/ST 218P÷230P

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER AND HYDRONIC KIT.

IACA/MD/ST 218P÷230P, featuring A CLASS energy efficiency, is the innovative series of Heat Pumps dedicated to production of hot water up to 60 °C and operation up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic unit. The unit, designed to originate and control – throughout the year – the best comfort conditions in rooms with a high rate of daily attendance, such as enclosed areas destined to the activities of the service sector, autonomously handles winter heating, summer air conditioning and the production of high temperature sanitary hot water. The series, designed with an extremely compact structure for simple installation operations, uses only the electric energy and the heat accumulated in the air, to transfer heat to the rooms, thus allowing considerable energy savings, a high rate of reliability and the shortest start-up times. Flexibility is the main feature of the series, which is indeed combined with terminal units and managed by the innovative, intelligent AQUALOGIK control and optimization system, which makes the use of an inertial tank unnecessary and guarantees performances with elevated energy efficiency and silent functioning.

VERSION

IACA/MD/ST	***IACA/MD/ST/SSL***
Heat Pump with AQUALOGIK technology	Super silenced Heat Pump with AQUALOGIK technology
IACA/MD/ST/WP	***IACA/MD/ST/WP/SSL***
Reversible Heat Pump with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with flow switch and antifreeze heater.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and pump, thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
DS	Desuperheater
KC	Gas burner integration Kit
SS	Soft start
TX	Coil with pre-coated fins
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACA/MD/ST 218P÷230P

MODEL			218P	220P	226P	230P
Heating	Heating capacity (1)	kW	56.1	76.7	90.8	112
	Absorbed power (1)	kW	16.5	21.0	26.0	34.0
	COP (1)		3.40	3.65	3.49	3.29
	Heating capacity (2)	kW	54.6	72.9	89.3	110
	Absorbed power (2)	kW	13.8	17.6	21.7	27.4
	COP (2)		3.96	4.14	4.12	4.01
Heating (EN14511)	Heating capacity (1)	kW	56.8	77.6	91.7	114
	Absorbed power (1)	kW	16.5	21.0	26.0	34.0
	COP (1)		3.44	3.70	3.53	3.35
	EUROVENT Class		A	A	A	A
	SCOP (3)		4.36	3.93	3.87	3.72
	Energy Efficiency (3)	%	170	153	151	145
	Energy Class (3)		A++	A++	A++	A+
Cooling	Cooling capacity (4)	kW	43.4	59.2	77.0	99
	Absorbed power (4)	kW	16.6	23.8	35.1	39.5
	EER (4)		2.61	2.49	2.19	2.51
	Cooling capacity (5)	kW	59.1	80.2	99	127
	Absorbed power (5)	kW	18.9	27.8	38.0	42.6
	EER (5)		3.13	2.88	2.61	2.98
Cooling (EN14511)	Cooling capacity (4)	kW	42.7	58.4	76.1	97.7
	Absorbed power (4)	kW	17.3	24.6	36.1	40.8
	EER (4)		2.47	2.37	2.11	2.39
	ESEER		3.02	2.93	2.75	2.90
	EUROVENT Class		E	E	F	E
Compressor	Quantity	n°	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2
	Capacity steps	n°	2			
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	44	56	68	84
	Max. starting current	A	125	159	205	246
Water circuit	Water flow	l/s	2.73	3.74	4.43	5.46
	Pump available static pressure	kPa	150	130	110	135
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (6)	dB(A)	61	62	63	65
	With SL accessory (6)	dB(A)	59	60	61	63
	SSL version (6)	dB(A)	57	58	59	61
Weights	Transport weight	Kg	746	837	856	913
	Operating weight	Kg	755	855	875	935

DIMENSIONS			218P	220P	226P	230P
L	STD	mm	2350	2350	2350	2350
	SSL	mm	2350	2350	2350	3550
W	STD/SSL	mm	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220
	SSL	mm	2220	2220	2220	2220

CLEARANCE AREA

IACA/MD/ST 218P÷230P

300	800	800	1800

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.


INNOVA
A
CLASS
R410A

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

FROM 22 KW TO 51 KW.

IACAKII/WP 109÷215

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS AND PLATE EXCHANGER.

NEW

The reversible Heat Pumps of the IACAKII/WP 109÷215 series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients and feature A CLASS energy efficiency.
They are used, combined with terminal units, for the heating or air conditioning of the rooms and are supplied with Modbus RTU protocol through RS485 serial interface.
Units are equipped with axial fans, Inverter Scroll compressors and plate-type exchangers.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAKII/WP

Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water flow switch and an antifreeze heater.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.
- Communication with Modbus RTU protocol through RS485 serial interface.

ACCESSORIES

FACTORY FITTED ACCESSORIES

SL	Unit silencement
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump

LOOSE ACCESSORIES

CR	Remote control panel
AG	Rubber shock absorbers

IACAKII/WP 109÷215

MODEL			109	210	213	215
Heating	Heating capacity (1)	kW	21.5	32.4	40.4	48.2
	Absorbed power (1)	kW	6.6	10.2	12.8	15.7
	COP (1)		3.26	3.18	3.16	3.07
	Heating capacity (2)	kW	24.2	33.1	47.6	50.8
	Absorbed power (2)	kW	5.8	8.7	12.3	13.0
	COP (2)		4.17	3.80	3.87	3.91
Heating (EN14511)	Heating capacity (1)	kW	21.4	32.2	40.2	47.8
	Absorbed power (1)	kW	6.5	10.0	12.5	15.3
	COP (1)		3.29	3.22	3.22	3.12
	EUROVENT Class		A	A	A	A
	Heating capacity (2)	kW	24.0	32.9	47.2	50.4
	Absorbed power (2)	kW	5.7	8.5	12.0	12.7
	COP (2)		4.21	3.87	3.93	3.97
	SCOP (3)		2.58	2.58	2.58	2.58
	Energy Efficiency (3)	%	100	100	100	100
	Energy Class (3)		A+	A+	A+	A+
Cooling	Cooling capacity (4)	kW	20.3	26.5	34.9	41.3
	Absorbed power (4)	kW	6.6	9.2	12.8	14.3
	EER (4)		3.08	2.88	2.73	2.89
	Cooling capacity (5)	kW	29.3	35.1	46.9	55.0
	Absorbed power (5)	kW	7.1	9.2	12.9	14.4
	EER (5)		4.13	3.82	3.64	3.82
Cooling (EN14511)	Cooling capacity (4)	kW	20.4	26.7	35.2	41.7
	Absorbed power (4)	kW	6.5	9.0	12.5	13.9
	EER (4)		3.14	2.97	2.82	3.00
	ESEER		3.81	3.93	3.50	4.59
	EUROVENT Class		A	B	B	A
	Cooling capacity (5)	kW	29.5	35.3	47.3	55.5
	Absorbed power (5)	kW	6.9	9.0	12.6	14.0
	EER (5)		4.28	3.92	3.75	3.96
Compressor	Quantity	n°	1	2	2	2
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Evaporator	Water flow	l/s	0.98	1.28	1.69	2.00
	Pressure drops	kPa	30	34	48	60
	Water connections	"G	2"	2"	2"	2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	22	28	42	45
	Max. starting current	A	14	18	27	32
Unit with pump	Pump available static pressure	kPa	85	75	70	85
	Water connections	"G	2"	2"	2"	2"
Sound pressure	STD version (6)	dB(A)	56	58	61	63
	With SL accessory (6)	dB(A)	54	56	59	61
Weights	Transport weight	Kg	365	420	440	460
	Operating weight	Kg	355	415	420	440

DIMENSIONS			109	210	213	215
L	STD	mm	1200	1200	1200	1200
W	STD	mm	1200	1200	1200	1200
H	STD	mm	1670	1670	1740	1740

CLEARANCE AREA

IACAKII/WP 109÷215

850	1000	1500	500

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 24 KW TO 41 KW.

IACAK 109÷115

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSOR AND PLATE EXCHANGER.

The liquid Chillers and Heat Pumps of the IACAK 109÷115 series, with R410A refrigerant, are designed to satisfy the needs of small and medium domestic and service sector environments.
With a peraluman structure corrosion-resistant over time, these units can be combined with terminal units or with intermediate heat exchangers for process cooling applications.
Available in the versions with or without pumping kit, these units are equipped with particular technical and design adjustments that enable an immediate and efficient use, in addition to remarkably quiet operation.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAK	***IACAK/SP***
Cooling only	Cooling only with tank and pump
IACAK/WP	***IACAK/WP/SP***
Reversible Heat Pump	Reversible Heat Pump with tank and pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
PS	Single circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IACAK 109÷115

MODEL			109	110	113	115
Cooling	Cooling capacity (1)	kW	24.3	28.0	32.7	41.4
	Absorbed power (1)	kW	8.4	10.8	11.8	14.6
	EER (1)		2.89	2.59	2.77	2.84
Cooling (EN14511)	Cooling capacity (1)	kW	24.1	27.7	32.5	41.1
	Absorbed power (1)	kW	8.6	11.1	12.0	14.9
	EER (1)		2.80	2.50	2.71	2.76
	ESEER		3.30	2.98	3.16	3.21
Heating	Heating capacity (2)	kW	30.0	36.0	40.8	54.2
	Absorbed power (2)	kW	9.8	11.9	12.9	17.5
	COP (2)		3.06	3.03	3.16	3.10
Heating (EN14511)	Heating capacity (2)	kW	30.0	36.0	40.8	54.2
	Absorbed power (2)	kW	9.9	11.9	13.0	17.6
	COP (2)		3.03	3.03	3.14	3.08
	SCOP (3)		3.11	3.08	3.18	3.21
	Energy Efficiency (3)	%	121	120	124	125
	Energy Class (3)		A	A	A+	A+
Compressor	Quantity	n°	1	1	1	1
Evaporator	Water flow	l/s	1.16	1.34	1.57	1.98
	Pressure drops	kPa	39	51	37	39
	Water connections	"G	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	21	24	27	33
	Max. starting current	A	144	146	151	201
Unit with tank and pump	Pump available static pressure	kPa	212	169	178	161
	Tank water volume	l	300	300	300	300
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	52	53	53	53
Weights	Transport weight (5)	Kg	220	235	265	279
	Operating weight (5)	Kg	223	238	268	282

DIMENSIONS			109	110	113	115
L	STD/SP	mm	1850	1850	1850	1850
W	STD/SP	mm	1000	1000	1000	1000
H	STD/SP	mm	1300	1300	1300	1300

CLEARANCE AREA

IACAK 109÷115

500	800	800	800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 24 KW TO 41 KW.

IACAK/ST 109÷115

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.

IACAK/ST 109÷115 series liquid Chillers and Heat Pumps, with R410A refrigerant and AQUALOGIK technology, are designed to meet the needs of small and medium-sized domestic or service sector ambients.
With a corrosion-resistant peraluman structure, they are combined with terminal units and managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
Particular design features enable immediate and effective use, easy installation and lasting reliability.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

IACAK/ST	***IACAK/WP/ST***
Cooling only with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IACAK/ST 109÷115

MODEL			109	110	113	115
Cooling	Cooling capacity (1)	kW	24.3	28.0	32.7	41.4
	Absorbed power (1)	kW	8.4	10.8	11.8	14.6
	EER (1)		2.89	2.59	2.77	2.84
Cooling (EN14511)	Cooling capacity (1)	kW	24.1	27.7	32.5	41.1
	Absorbed power (1)	kW	8.6	11.1	12.0	14.9
	EER (1)		2.80	2.50	2.71	2.76
	ESEER		3.30	2.98	3.16	3.21
Heating	Heating capacity (2)	kW	30.0	36.0	40.8	54.2
	Absorbed power (2)	kW	9.8	11.9	12.9	17.5
	COP (2)		3.06	3.03	3.16	3.10
Heating (EN14511)	Heating capacity (2)	kW	30.0	36.0	40.8	54.2
	Absorbed power (2)	kW	9.9	11.9	13.0	17.6
	COP (2)		3.03	3.03	3.14	3.08
	SCOP (3)		3.11	3.08	3.18	3.21
	Energy Efficiency (3)	%	121	120	124	125
	Energy Class (3)		A	A	A+	A+
Compressor	Quantity	n°	1	1	1	1
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	25	28	32	38
	Max. starting current	A	148	150	156	206
Water circuit	Water flow	l/s	1.18	1.37	1.60	2.02
	Pump available static pressure	kPa	221	181	250	181
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD version (4)	dB(A)	52	53	53	53
Weights	Transport weight	Kg	230	245	280	294
	Operating weight	Kg	233	248	283	297

DIMENSIONS			109	110	113	115
L	STD	mm	1850	1850	1850	1850
W	STD	mm	1000	1000	1000	1000
H	STD	mm	1300	1300	1300	1300

CLEARANCE AREA

IACAK/ST 109÷115

500	800	800	800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 27 KW TO 42 KW.

IACAK/FC 109÷115

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSOR AND PLATE EXCHANGER.

The liquid Chillers of the IACAK/FC 109÷115 series, with R410A refrigerant, offer innovative technology to meet the needs of systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.

VERSION

IACAK/FC	*IACAK/FC/SP*
Cooling only	Cooling only with tank and pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

PS	Single circulating pump
BT	Low water temperature Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IACAK/FC 109÷115

MODEL			109	110	113	115
Cooling	Cooling capacity (1)	kW	27.1	30.5	36.2	41.5
	Absorbed power (1)	kW	9.6	11.1	14.0	15.8
	EER (1)		2.51	2.60	2.45	2.30
Free-Cooling cycle	Air temperature (2)	°C	-1.7	-2.7	0.5	-1.2
	Absorbed power (2)	kW	0.98	0.98	1.96	1.96
Compressor	Quantity	n°	1	1	1	1
Water circuit	Water flow	l/s	1.55	1.74	2.07	2.37
	Pressure drops	kPa	117	142	132	141
	Water connections	"G	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	20	22	29	32
	Max. starting current	A	144	144	162	201
Unit with tank and pump	Pump available static pressure	kPa	109	152	150	129
	Tank water volume	l	150	150	150	150
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	52	53	53	53
Weights	Transport weight (4)	Kg	495	510	550	565
	Operating weight (4)	Kg	667	682	729	745

DIMENSIONS			109	110	113	115
L	STD/SP	mm	1850	1850	1850	1850
W	STD/SP	mm	900	900	900	900
H	STD/SP	mm	1840	1840	1840	1840

CLEARANCE AREA

IACAK/FC 109÷115

500	800	800	800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

Electrical board side

FROM 49 KW TO 175 KW.

IACAK/II 217P÷457P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS, MICROCHANNEL CONDENSING COILS AND PLATE EXCHANGER.

The A CLASS energy efficiency liquid Chillers of the IACAK/II 217P÷457P series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients.
They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Inverter Scroll compressors, Microchannel condensing coils and plate-type exchanger, even in the super silent version. The Microchannel condensing coils ensure an high efficiency (high EER), having a better heat exchange than traditional coils. A better efficiency at partial loads (ESEER/IPLV) is guaranteed by the Inverter control on Scroll compressor. Furthermore, Inverter control is also available on circulating pump and fans (EC Inverter) for a further efficiency improvement. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAK/II	***IACAK/II/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 217P÷237P models; with two independent circuits on the refrigerant side and one on the water side in 448P and 457P models, complete with water differential pressure switch.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/II 217P÷457P

MODEL			217P	219P	221P	213P	227P	230P	235P	237P	448P	457P
Cooling	Cooling capacity (1)	kW	48.9	56.5	64.4	73.3	84.2	95.7	110	127	149	175
	Absorbed power (1)	kW	15.6	18.1	20.4	23.6	27.0	30.3	35.0	40.5	47.2	55.6
	EER (1)		3.13	3.12	3.16	3.11	3.12	3.16	3.14	3.14	3.16	3.15
Cooling (EN14511)	Cooling capacity (1)	kW	48.6	56.3	64.1	72.9	83.7	95.3	110	126	148	174
	Absorbed power (1)	kW	15.9	18.4	20.7	24.0	27.5	30.8	35.6	41.1	47.8	56.2
	EER (1)		3.06	3.06	3.10	3.04	3.04	3.09	3.09	3.07	3.10	3.10
	ESEER		4.03	4.09	3.99	3.95	3.89	4.05	3.97	3.98	3.93	3.96
	EUROVENT Class		B	B	A	B	B	B	B	B	A	A
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	2.33	2.70	3.08	3.50	4.02	4.58	5.24	6.09	7.11	8.38
	Pressure drops	kPa	41	40	32	39	47	40	35	44	33	30
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	45	45	54	54	63	69	89	89	112	129
	Max. starting current	A	128	128	176	176	187	237	230	230	245	297
Unit with pump	Pump available static pressure	kPa	130	120	120	105	125	160	150	125	105	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (2)	dB(A)	58	58	62	62	62	62	63	63	63	63
	With SL accessory (2)	dB(A)	56	56	60	60	60	60	61	61	61	61
	SSL version (2)	dB(A)	54	54	58	58	57	57	58	58	---	---
Weights	Transport weight	Kg	584	653	712	721	730	817	1036	1045	1379	1424
	Operating weight	Kg	590	660	720	730	740	830	1050	1060	1400	1450

DIMENSIONS			217P	219P	221P	213P	227P	230P	235P	237P	448P	457P
L	STD	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

IACAK/II 217P÷457P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 50 KW TO 181 KW.

IACAK/T 218P÷460P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, DIGITAL SCROLL COMPRESSORS, MICROCHANNEL CONDENSING COILS AND PLATE EXCHANGER.

The A CLASS energy efficiency liquid Chillers of the IACAK/T 218P÷460P series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients.
They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Digital Scroll compressors, Microchannel condensing coils and plate-type exchanger, even in the super silent version. The Microchannel condensing coils ensure an high efficiency (high EER), having a better heat exchange than traditional coils. A better efficiency at partial loads (ESEER/IPLV) is guaranteed by the Digital Scroll technology on compressor. Furthermore, Inverter control is available on circulating pump and fans (EC Inverter) for a further efficiency improvement. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAK/T	*IACAK/T/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DIGITAL Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/T 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	50.4	58.2	67.5	77.6	88.8	101	118	134	154	181
	Absorbed power (1)	kW	16.3	18.8	21.9	25.1	28.6	32.5	38.1	43.5	50.2	59.1
	EER (1)		3.09	3.10	3.08	3.09	3.10	3.11	3.10	3.08	3.07	3.06
Cooling (EN14511)	Cooling capacity (1)	kW	50.1	57.8	67.2	77.2	88.3	100	117	133	153	180
	Absorbed power (1)	kW	16.6	19.2	22.2	25.6	29.1	33.0	38.6	44.2	50.8	59.7
	EER (1)		3.02	3.01	3.03	3.02	3.03	3.03	3.03	3.01	3.01	3.02
	ESEER		3.81	3.82	3.84	3.75	3.81	3.71	3.68	3.81	3.69	3.91
	EUROVENT Class		B	B	B	B	B	B	B	B	B	B
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	2.41	2.78	3.22	3.70	4.24	4.82	5.62	6.42	7.35	8.66
	Pressure drops	kPa	42	41	33	40	48	42	36	45	34	31
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	38	44	51	57	68	73	85	102	113	136
	Max. starting current	A	132	142	148	172	212	169	200	246	229	280
Unit with pump	Pump available static pressure	kPa	130	120	115	105	130	160	155	135	115	125
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (2)	dB(A)	58	58	62	62	62	62	63	63	63	63
	With SL accessory (2)	dB(A)	56	56	60	60	60	60	61	61	61	61
	SSL version (2)	dB(A)	54	54	58	58	57	57	58	58	---	---
Weights	Transport weight	Kg	564	643	692	701	710	837	976	985	1359	1394
	Operating weight	Kg	570	650	700	710	720	850	990	1000	1380	1420

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

IACAK/T 218P÷460P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 55 KW TO 193 KW.

IACAK/E/WP 218P÷460P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The reversible Heat Pumps of the IACAK/E/WP 218P÷460P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients and feature A CLASS energy efficiency.
They are used, combined with terminal units, for the heating or air conditioning of the rooms and are supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAK/E/WP	***IACAK/E/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/E/WP 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Heating	Heating capacity (1)	kW	54.6	62.3	70.0	80.0	92.3	107	122	139	160	193
	Absorbed power (1)	kW	17.1	19.7	22.0	24.6	28.5	33.6	37.6	43.6	50.4	59.6
	COP (1)		3.19	3.16	3.18	3.25	3.24	3.18	3.24	3.19	3.17	3.24
Heating (EN14511)	Heating capacity (1)	kW	54.9	62.6	70.3	80.3	92.7	107	122	140	161	194
	Absorbed power (1)	kW	17.3	20.0	22.4	25.0	28.9	34.0	38.2	44.5	51.4	60.8
	COP (1)		3.17	3.13	3.14	3.21	3.21	3.15	3.19	3.15	3.13	3.19
	EUROVENT Class		B	B	B	A	A	B	B	B	B	B
	SCOP (2)		3.47	3.38	3.40	3.58	3.68	3.56	3.75	3.65	3.71	3.72
	Energy Efficiency (2)	%	135	132	133	140	144	139	147	143	145	146
	Energy Class (2)		A+	A+	A+	A+	-	-	-	-	-	-
Cooling	Cooling capacity (3)	kW	47.2	53.8	61.3	70.5	80.7	92.6	106	123	136	158
	Absorbed power (3)	kW	16.0	18.9	20.9	23.9	28.8	32.3	36.0	42.2	48.5	57.3
	EER (3)		2.95	2.85	2.93	2.95	2.80	2.87	2.94	2.91	2.80	2.76
Cooling (EN14511)	Cooling capacity (3)	kW	47.0	53.5	61.0	70.2	80.4	92.3	106	122	135	157
	Absorbed power (3)	kW	16.2	19.2	21.2	24.2	29.1	32.6	36.4	42.8	49.1	58.0
	EER (3)		2.90	2.79	2.88	2.90	2.76	2.83	2.91	2.85	2.75	2.71
	ESEER		3.64	3.63	3.64	3.73	3.82	3.77	3.59	3.56	3.70	3.60
	EUROVENT Class		B	C	C	B	C	C	B	C	C	C
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.25	2.57	2.93	3.37	3.85	4.43	5.06	5.85	6.51	7.54
	Pressure drops	kPa	28	30	31	28	28	23	29	39	38	37
	Water connections	"G	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	72	81	102	109	132
	Max. starting current	A	130	140	144	169	209	169	197	246	225	276
Unit with tank and pump	Pump available static pressure	kPa	140	135	130	125	160	175	160	140	130	140
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	58	58	62	62	62	62	63	63	63	63
	With SL accessory (4)	dB(A)	56	56	60	60	60	60	61	61	61	61
	SSL version (4)	dB(A)	54	54	58	58	57	57	58	58	58	59
Weights	Transport weight (5)	Kg	635	644	693	760	807	926	1076	1126	1235	1414
	Operating weight (5)	Kg	640	650	700	770	820	940	1090	1140	1250	1430

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK/E/WP 218P÷460P

300	800	800	1800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 55 KW TO 193 KW.

IACAK/E/WP/ST 218P÷460P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.

IACAK/E/WP/ST 218P÷460P series reversible Heat Pumps, with R410A refrigerant, AQUALOGIK technology and A CLASS energy efficiency, are designed for medium-sized service sector or industrial-type ambients.
They are used, together with terminal units, for the heating or air conditioning of rooms and are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, they are complete with a hydronic unit. A wide range of accessories, factory fitted or supplied separately, completes the extreme versatility and functionality of this range.

VERSION

IACAK/E/WP/ST	***IACAK/E/WP/SSL/ST***
Reversible Heat Pump with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/E/WP/ST 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Heating	Heating capacity (1)	kW	54.6	62.3	70.0	80.0	92.3	107	122	139	160	193
	Absorbed power (1)	kW	17.1	19.7	22.0	24.6	28.5	33.6	37.6	43.6	50.4	59.6
	COP (1)		3.19	3.16	3.18	3.25	3.24	3.18	3.24	3.19	3.17	3.24
Heating (EN14511)	Heating capacity (1)	kW	54.9	62.6	70.3	80.3	92.7	107	122	140	161	194
	Absorbed power (1)	kW	17.3	20.0	22.4	25.0	28.9	34.0	38.2	44.5	51.4	60.8
	COP (1)		3.19	3.16	3.18	3.25	3.24	3.18	3.24	3.19	3.17	3.24
	EUROVENT Class		B	B	B	A	A	B	A	B	B	A
	SCOP (2)		3.47	3.38	3.40	3.58	3.68	3.56	3.75	3.65	3.71	3.72
	Energy Efficiency (2)	%	135	132	133	140	144	139	147	143	145	146
	Energy Class (2)		A+	A+	A+	A+	-	-	-	-	-	-
Cooling	Cooling capacity (3)	kW	47.2	53.8	61.3	70.5	80.7	92.6	106	123	136	158
	Absorbed power (3)	kW	16.0	18.9	20.9	23.9	28.8	32.3	36.0	42.2	48.5	57.3
	EER (3)		2.95	2.85	2.93	2.95	2.80	2.87	2.94	2.91	2.80	2.76
Cooling (EN14511)	Cooling capacity (3)	kW	47.0	53.5	61.0	70.2	80.4	92.3	106	122	135	157
	Absorbed power (3)	kW	16.2	19.2	21.2	24.2	29.1	32.6	36.4	42.8	49.1	58.0
	EER (3)		2.90	2.79	2.88	2.90	2.76	2.83	2.91	2.85	2.75	2.71
	ESEER		3.64	3.63	3.64	3.73	3.82	3.77	3.59	3.56	3.70	3.60
	EUROVENT Class		B	C	C	B	C	C	B	C	C	C
Compressors	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	77	86	106	114	136
	Max. starting current	A	133	143	148	173	212	173	201	250	229	280
Water circuit	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pump available static pressure	kPa	140	135	130	125	160	150	145	130	120	105
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	58	58	62	62	62	62	63	63	63	63
	With SL accessory (4)	dB(A)	56	56	60	60	60	60	61	61	61	61
	SSL version (4)	dB(A)	54	54	58	58	57	57	58	58	58	59
Weights	Transport weight	Kg	650	659	708	775	822	946	1096	1146	1255	1434
	Operating weight	Kg	655	665	715	785	830	960	1110	1160	1270	1450

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK/E/WP/ST 218P÷460P

300	800	800	1800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 47 KW TO 174 KW.

IACAK 218P÷460P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The liquid Chillers and Heat Pumps of the IACAK 218P÷460P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.
They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAK	***IACAK/SSL***
Cooling only	Super silenced cooling only
IACAK/WP	***IACAK/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	46.6	53.8	62.2	71.4	81.7	94.0	108	124	144	174
	Absorbed power (1)	kW	16.3	19.0	22.0	25.3	28.6	31.9	38.3	43.7	50.6	58.8
	EER (1)		2.86	2.83	2.83	2.82	2.86	2.95	2.82	2.84	2.85	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	46.4	53.4	61.8	71.0	81.2	93.4	108	123	144	173
	Absorbed power (1)	kW	16.6	19.4	22.4	25.7	29.0	32.6	38.9	44.3	51.4	59.8
	EER (1)		2.80	2.75	2.76	2.76	2.80	2.87	2.78	2.78	2.80	2.89
	ESEER		3.57	3.45	3.43	3.57	3.77	3.55	3.33	3.44	3.45	3.57
Heating	Heating capacity (2)	kW	53.0	60.6	70.0	78.7	88.6	104	118	132	151	183
	Absorbed power (2)	kW	17.5	19.8	23.3	25.7	29.1	33.7	38.9	44.2	51.0	61.0
	COP (2)		3.03	3.06	3.00	3.06	3.04	3.09	3.03	2.99	2.96	3.00
Heating (EN14511)	Heating capacity (2)	kW	53.0	60.6	70.0	78.7	88.6	104	118	132	151	183
	Absorbed power (2)	kW	17.5	19.8	23.3	25.7	29.1	33.7	38.9	44.2	51.0	61.0
	COP (2)		3.03	3.06	3.00	3.06	3.04	3.09	3.03	2.99	2.96	3.00
	SCOP (3)		3.33	3.29	3.22	3.38	3.46	3.48	3.51	3.41	3.50	3.48
	Energy Efficiency (3)	%	130	128	125	132	135	136	137	133	137	136
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.22	2.57	2.97	3.41	3.90	4.49	5.16	5.94	6.90	8.32
	Pressure drops	kPa	45	48	43	48	43	58	46	53	48	48
	Water connections	"G	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
Unit with tank and pump	Pump available static pressure	kPa	120	110	110	110	140	150	140	120	110	100
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (4)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (4)	dB(A)	53	53	57	57	57	56	56	56	57	---
Weights	Transport weight (5)	Kg	595	624	663	682	791	878	927	1036	1135	1374
	Operating weight (5)	Kg	600	630	670	690	800	890	940	1050	1150	1390

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK 218P÷460P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 47 KW TO 174 KW.

IACAK/ST 218P÷460P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.

IACAK/ST 218P÷460P series liquid Chillers and Heat Pumps, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial-type ambients.
They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes.
They are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, they are complete with a hydronic unit. A wide range of accessories, factory fitted or supplied separately, completes the extreme versatility and functionality of this range.

VERSION

IACAK/ST	***IACAK/SSL/ST***
Cooling only with AQUALOGIK technology	Super silenced cooling only with AQUALOGIK technology
IACAK/WP/ST	***IACAK/WP/SSL/ST***
Reversible Heat Pump with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
TX	Coil with pre-coated fins
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/ST 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	46.6	53.8	62.2	71.4	81.7	94.0	108	124	144	174
	Absorbed power (1)	kW	16.3	19.0	22.0	25.3	28.6	31.9	38.3	43.7	50.6	58.8
	EER (1)		2.86	2.83	2.83	2.82	2.86	2.95	2.82	2.84	2.85	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	46.4	53.4	61.8	71.0	81.2	93.4	108	123	144	173
	Absorbed power (1)	kW	16.6	19.4	22.4	25.7	29.0	32.6	38.9	44.3	51.4	59.8
	EER (1)		2.80	2.75	2.76	2.76	2.80	2.87	2.78	2.78	2.80	2.89
	ESEER		3.57	3.45	3.43	3.57	3.77	3.55	3.33	3.44	3.45	3.57
Heating	Heating capacity (2)	kW	53.0	60.6	70.0	78.7	88.6	104	118	132	151	183
	Absorbed power (2)	kW	17.5	19.8	23.3	25.7	29.1	33.7	38.9	44.2	51.0	61.0
	COP (2)		3.03	3.06	3.00	3.06	3.04	3.09	3.03	2.99	2.96	3.00
Heating (EN14511)	Heating capacity (2)	kW	53.0	60.6	70.0	78.7	88.6	104	118	132	151	183
	Absorbed power (2)	kW	17.5	19.8	23.3	25.7	29.1	33.7	38.9	44.2	51.0	61.0
	COP (2)		3.03	3.06	3.00	3.06	3.04	3.09	3.03	2.99	2.96	3.00
	SCOP (3)		3.33	3.29	3.22	3.38	3.46	3.48	3.51	3.41	3.50	3.48
	Energy Efficiency (3)	%	130	128	125	132	135	136	137	133	137	136
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Compressors	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
Water circuit	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pump available static pressure	kPa	120	110	110	100	140	130	125	110	95	65
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (4)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (4)	dB(A)	53	53	57	57	57	56	56	56	57	---
Weights	Transport weight	Kg	610	639	678	697	806	898	947	1056	1155	1394
	Operating weight	Kg	615	645	685	705	815	910	960	1070	1170	1410

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK/ST 218P÷460P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 51 KW TO 169 KW.

IACAK/FC 218P÷460P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The liquid Chillers of the IACAK/FC 218P÷460P series, with R410A refrigerant, offer innovative technology for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.

VERSION

IACAK/FC
Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/FC 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	51.1	57.7	66.1	74.4	83.1	96.1	111	126	146	169
	Absorbed power (1)	kW	18.3	20.5	23.5	26.4	29.6	37.2	42.6	48.9	54.9	65.5
	EER (1)		2.91	2.93	2.92	2.94	2.92	2.69	2.70	2.69	2.78	2.68
Free-Cooling cycle	Air temperature (2)	°C	2.1	1.3	0.0	-2.4	-3.5	1.0	0.0	-1.1	-3.0	-4.8
	Absorbed power (2)	kW	2	2	2	2	2	6	6	6	8	8
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Water circuit	Water flow	l/s	2.72	3.07	3.52	3.96	4.43	5.09	5.88	6.70	7.78	8.93
	Pressure drops	kPa	115	105	120	100	100	100	135	145	102	106
	Water connections	"G	2"	2"	2"	2"	2"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	76	85	102	113	136
	Max. starting current	A	130	140	144	169	209	173	201	246	229	280
Unit with tank and pump	Pump available static pressure	kPa	125	130	115	125	115	195	155	135	165	155
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (3)	dB(A)	60	60	60	60	60	61	61	61	62	62
	With SL accessory (3)	dB(A)	58	58	58	58	58	59	59	59	60	60
Weights	Transport weight (4)	Kg	923	932	951	980	999	1308	1317	1350	1472	1510
	Operating weight (4)	Kg	970	980	1000	1030	1050	1390	1400	1435	1560	1600

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD	mm	3550	3550	3550	3550	3550	4700	4700	4700	4700	4700
W	STD	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	2220	2220	2220	2220	2220	2235	2235	2235	2235	2235

CLEARANCE AREA

IACAK/FC 218P÷460P

300	800	800	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

Electrical board side

FROM 48 KW TO 175 KW.

IACAK 218÷460

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER

The liquid Chillers and Heat Pumps of the IACAK 218÷460 series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.
They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and shell and tube exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAK	***IACAK/SSL***
Cooling only	Super silenced cooling only
IACAK/WP	***IACAK/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 218÷345 models; with two independent circuits on the refrigerant side and one on the water side in 452 and 460 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAK 218÷460

MODEL			218	220	224	226	230	336	339	345	452	460
Cooling	Cooling capacity (1)	kW	48.0	53.9	61.2	71.8	82.6	93.3	107	126	146	175
	Absorbed power (1)	kW	16.8	19.0	21.7	25.6	28.9	31.9	37.9	44.1	51.2	59.4
	EER (1)		2.86	2.84	2.82	2.80	2.86	2.92	2.82	2.86	2.85	2.95
Cooling (EN14511)	Cooling capacity (1)	kW	47.8	53.6	60.8	71.3	82.2	92.8	106	125	145	174
	Absorbed power (1)	kW	17.0	19.3	22.1	26.1	29.3	32.4	38.5	44.7	51.9	60.1
	EER (1)		2.81	2.78	2.75	2.73	2.81	2.86	2.75	2.80	2.79	2.90
	ESEER		3.67	3.50	3.37	3.53	3.77	3.53	3.30	3.54	3.47	3.60
Heating	Heating capacity (2)	kW	54.6	60.7	68.8	79.1	89.6	103	117	134	153	184
	Absorbed power (2)	kW	18.0	19.8	23.0	26.0	29.4	33.7	38.5	44.6	51.6	61.6
	COP (2)		3.03	3.07	2.99	3.04	3.05	3.06	3.04	3.00	2.97	2.99
Heating (EN14511)	Heating capacity (2)	kW	54.9	61.0	69.3	79.7	90.1	104	118	135	154	185
	Absorbed power (2)	kW	18.2	20.2	23.7	26.9	30.1	34.5	39.5	45.6	52.8	62.9
	COP (2)		3.02	3.02	2.92	2.96	2.99	3.01	2.99	2.96	2.92	2.94
	SCOP (3)		3.33	3.29	3.22	3.37	3.47	3.46	3.51	3.44	3.50	3.47
	Energy Efficiency (3)	%	130	128	125	131	135	135	137	134	137	136
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.26	2.55	2.89	3.39	3.90	4.41	5.05	5.97	6.90	8.28
	Pressure drops	kPa	22	29	50	55	40	39	45	36	43	38
	Water connections	"G	1 ½"	1 ½"	2"	2"	2 ½"	2 ½"	2 ½"	3"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
Unit with tank and pump	Pump available static pressure	kPa	140	125	105	100	140	165	140	135	110	110
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (4)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (4)	dB(A)	53	53	57	57	57	56	56	56	57	---
Weights	Transport weight (5)	Kg	641	661	701	719	844	931	971	1112	1192	1428
	Operating weight (5)	Kg	660	680	720	740	870	960	1000	1150	1230	1470

DIMENSIONS			218	220	224	226	230	336	339	345	452	460
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK 218÷460

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 48 KW TO 175 KW.

IACAK/ST 218÷460

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS, SHELL AND TUBE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.

IACAK/ST 218÷460 series liquid Chillers and Heat Pumps, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial-type ambients.
They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes.
They are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
Equipped with axial fans, Scroll compressors and shell and tube exchanger, even in the super silent version, they are complete with a hydronic unit. A wide range of accessories, factory fitted or supplied separately, completes the extreme versatility and functionality of this range.

VERSION

IACAK/ST	***IACAK/SSL/ST***
Cooling only with AQUALOGIK technology	Super silenced cooling only with AQUALOGIK technology
IACAK/WP/ST	***IACAK/WP/SSL/ST***
Reversible Heat Pump with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 218÷345 models; with two independent circuits on the refrigerant side and one on the water side in 452 and 460 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAK/ST 218÷460

MODEL			218	220	224	226	230	336	339	345	452	460
Cooling	Cooling capacity (1)	kW	48.0	53.9	61.2	71.8	82.6	93.3	107	126	146	175
	Absorbed power (1)	kW	16.8	19.0	21.7	25.6	28.9	31.9	37.9	44.1	51.2	59.4
	EER (1)		2.86	2.84	2.82	2.80	2.86	2.92	2.82	2.86	2.85	2.95
Cooling (EN14511)	Cooling capacity (1)	kW	47.8	53.6	60.8	71.3	82.2	92.8	106	125	145	174
	Absorbed power (1)	kW	17.0	19.3	22.1	26.1	29.3	32.4	38.5	44.7	51.9	60.1
	EER (1)		2.81	2.78	2.75	2.73	2.81	2.86	2.75	2.80	2.79	2.90
	ESEER		3.67	3.50	3.37	3.53	3.77	3.53	3.30	3.54	3.47	3.60
Heating	Heating capacity (2)	kW	54.6	60.7	68.8	79.1	89.6	103	117	134	153	184
	Absorbed power (2)	kW	18.0	19.8	23.0	26.0	29.4	33.7	38.5	44.6	51.6	61.6
	COP (2)		3.03	3.07	2.99	3.04	3.05	3.06	3.04	3.00	2.97	2.99
Heating (EN14511)	Heating capacity (2)	kW	54.9	61.0	69.3	79.7	90.1	104	118	135	154	185
	Absorbed power (2)	kW	18.2	20.2	23.7	26.9	30.1	34.5	39.5	45.6	52.8	62.9
	COP (2)		3.02	3.02	2.92	2.96	2.99	3.01	2.99	2.96	2.92	2.94
	SCOP (3)		3.33	3.29	3.22	3.37	3.47	3.46	3.51	3.44	3.50	3.47
	Energy Efficiency (3)	%	130	128	125	131	135	135	137	134	137	136
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Compressors	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
Water circuit	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pump available static pressure	kPa	140	125	105	100	140	140	125	130	105	75
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (4)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (4)	dB(A)	53	53	57	57	57	56	56	56	57	---
Weights	Transport weight	Kg	655	675	715	735	860	950	990	1130	1210	1450
	Operating weight	Kg	660	690	730	750	875	970	1010	1150	1230	1470

DIMENSIONS			218	220	224	226	230	336	339	345	452	460
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK/ST 218÷460

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 10,0 KW TO 83 KW.

IACRK 101.5÷113

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, ROTARY/SCROLL COMPRESSOR AND PLATE EXCHANGER.

The indoor liquid Chillers and Heat Pumps of the IACRK 101.5÷113 series, with R410A refrigerant, are designed for small and medium domestic or service sector systems with particular difficulty in positioning units outside the building.
With a prepainted plate structure, these units can be combined with terminal units or with intermediate heat exchangers for process cooling applications.
Available in the versions with or without pumping kit, these units are equipped with particular technical and design adjustments that enable an immediate and efficient use, in addition to remarkably quiet operation and a significant useful head of the fan.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACRK	***IACRK/SP***
Cooling only	Cooling only with tank and pump
IACRK/WP	***IACRK/WP/SP***
Reversible Heat Pump	Reversible Heat Pump with tank and pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Double inlet radial type fan statically and dynamically balanced directly driven by a electric motor (101.5÷108) or belt driven connected to a three-phase electric motor (109÷113).
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch (105÷113).
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
PS	Single circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IACRK 101.5÷113

MODEL			101.5	101.8	102	102.5	103	104	105
Cooling	Cooling capacity (1)	kW	4.1	4.9	6.2	7.3	8.3	10.1	11.8
	Absorbed power (1)	kW	1.5	1.8	2.2	2.6	3.0	3.6	4.8
	EER (1)		2.73	2.72	2.82	2.81	2.77	2.81	2.46
Cooling (EN14511)	Cooling capacity (1)	kW	4.1	4.9	6.1	7.2	8.2	10.0	11.7
	Absorbed power (1)	kW	1.5	1.9	2.3	2.7	3.1	3.7	4.9
	EER (1)		2.73	2.58	2.65	2.67	2.65	2.70	2.39
	ESEER		2.69	2.85	3.04	3.04	3.06	3.08	2.70
Heating	Heating capacity (2)	kW	4.9	5.8	7.8	8.4	10.0	12.0	14.4
	Absorbed power (2)	kW	1.9	2.2	2.8	3.1	3.7	4.4	5.7
	COP (2)		2.58	2.64	2.79	2.71	2.70	2.73	2.53
Heating (EN14511)	Heating capacity (2)	kW	4.9	5.8	7.8	8.4	10.0	12.0	14.4
	Absorbed power (2)	kW	1.9	2.2	2.8	3.1	3.7	4.4	5.7
	COP (2)		2.58	2.64	2.79	2.71	2.70	2.73	2.53
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.19	0.23	0.30	0.35	0.40	0.49	0.56
	Pressure drops	kPa	18	24	35	20	29	37	35
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Available static pressure	STD version	Pa	90	90	80	80	80	80	115
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	10	12	13	14	17	21	11
	Max. starting current	A	40	46	65	65	82	89	61
Unit with tank and pump	Pump available static pressure	kPa	46	40	45	50	51	42	145
	Tank water volume	l	50	50	50	50	50	50	150
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	49	49	49	49	51	52	52
Weights	Transport weight (4)	Kg	128	129	131	134	139	141	200
	Operating weight (4)	Kg	129	130	132	135	140	142	202

MODEL			106	107	108	109	110	113
Cooling	Cooling capacity (1)	kW	14.8	18.0	19.9	24.1	27.7	32.4
	Absorbed power (1)	kW	5.9	6.9	7.5	10.1	12.0	13.8
	EER (1)		2.51	2.61	2.65	2.39	2.31	2.35
Cooling (EN14511)	Cooling capacity (1)	kW	14.7	17.9	19.7	23.9	27.5	32.2
	Absorbed power (1)	kW	6.0	7.0	7.7	10.3	12.3	14.0
	EER (1)		2.45	2.56	2.56	2.32	2.24	2.30
	ESEER		2.77	2.93	2.95	2.64	2.61	2.62
Heating	Heating capacity (2)	kW	18.2	21.2	23.7	29.7	35.6	40.4
	Absorbed power (2)	kW	7.1	8.0	8.9	11.5	13.1	14.9
	COP (2)		2.56	2.65	2.66	2.58	2.72	2.71
Heating (EN14511)	Heating capacity (2)	kW	18.2	21.2	23.7	29.7	35.6	40.4
	Absorbed power (2)	kW	7.1	8.0	8.9	11.6	13.1	14.9
	COP (2)		2.56	2.65	2.66	2.56	2.72	2.71
Compressor	Type		Scroll					
	Quantity	n°	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.71	0.86	0.95	1.14	1.33	1.55
	Pressure drops	kPa	23	32	37	39	51	37
	Water connections	"G	1"	1"	1"	1"	1"	1"
Available static pressure	STD version	Pa	115	115	115	150	150	160
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50					
	Max. running current	A	14	14	15	27	33	36
	Max. starting current	A	64	61	77	146	151	148
Unit with tank and pump	Pump available static pressure	kPa	146	123	108	205	182	165
	Tank water volume	l	150	150	150	150	150	150
	Water connections	"G	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	52	53	62	62	62	63
Weights	Transport weight (4)	Kg	210	212	214	349	355	370
	Operating weight (4)	Kg	212	214	216	352	358	373

DIMENSIONS			101.5	101.8	102	102.5	103	104	105	106	107	108	109	110	113
L	STD/SP	mm	900	900	900	900	900	900	900	900	900	900	1500	1500	1500
W	STD/SP	mm	550	550	550	550	550	550	690	690	690	690	800	800	800
H	STD/SP	mm	1425	1425	1425	1425	1425	1425	1725	1725	1725	1725	1425	1425	1425

CLEARANCE AREA

IACRK 101.5÷104

100	800	800	800

IACRK 105÷108

100	800	800	1000

IACRK 109÷113

1200	800	800	100

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 47 KW TO 174 KW.

IACRK 218P÷460P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The indoor liquid Chillers and Heat Pumps of the IACRK 218P÷460P series, with R410A refrigerant, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.
They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with radial fans, Scroll compressors and plate-type exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACRK	***IACRK/AP***
Cooling only	Cooling only with high ESP fans
IACRK/WP	***IACRK/WP/AP***
Reversible Heat Pump	Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACRK 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	46.6	53.8	62.2	71.4	81.7	94.0	144	124	144	174
	Absorbed power (1)	kW	17.2	20.6	24.4	27.7	30.9	34.1	55.6	47.8	55.6	65.0
	EER (1)		2.71	2.61	2.55	2.58	2.64	2.76	2.59	2.59	2.59	2.68
Cooling (EN14511)	Cooling capacity (1)	kW	46.4	53.4	61.8	71.0	81.2	92.9	144	123	144	173
	Absorbed power (1)	kW	17.7	21.0	24.9	28.2	31.4	35.5	56.4	48.5	56.4	66.0
	EER (1)		2.62	2.54	2.48	2.52	2.59	2.62	2.55	2.54	2.55	2.62
	ESEER		3.22	2.98	2.92	3.00	3.14	3.08	2.78	2.85	2.78	2.77
Heating	Heating capacity (2)	kW	53.0	60.6	70.0	78.7	88.6	104	151	132	151	183
	Absorbed power (2)	kW	18.4	21.5	25.8	28.1	31.5	36.2	56.1	48.3	56.1	67.5
	COP (2)		2.88	2.82	2.71	2.80	2.81	2.87	2.69	2.73	2.69	2.71
Heating (EN14511)	Heating capacity (2)	kW	53.2	61.7	70.3	79.0	88.9	105	152	132	152	183
	Absorbed power (2)	kW	18.6	22.7	26.1	28.4	31.8	37.6	56.6	48.7	56.6	68.1
	COP (2)		2.86	2.72	2.69	2.78	2.80	2.79	2.69	2.71	2.69	2.69
	SCOP (3)		3.25	3.11	3.02	3.12	3.15	3.23	3.10	3.10	3.08	3.10
	Energy Efficiency (3)	%	127	121	118	122	123	126	121	121	120	121
	Energy Class (3)		A+	A	A	A	A	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	4	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	2	1	2	2
	Capacity steps	n°	2					3	4	3	4	
Evaporator	Water flow	l/s	2.22	2.57	2.97	3.41	3.90	4.49	6.90	5.94	6.90	8.32
	Pressure drops	kPa	45	48	43	48	43	50	48	53	48	48
	Water connections	"G	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	400	---	---	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	38	45	52	58	69	74	116	106	116	145
	Max. starting current	A	132	144	149	174	213	170	232	250	232	289
Unit with tank and pump	Pump available static pressure	kPa	120	110	110	110	140	150	130	120	130	100
	Tank water volume	l	400	400	400	400	400	400	600	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	66	66	67	67	67	68	68	68	68	68
	STD version with SL accessory (4)	dB(A)	63	63	64	64	64	65	65	65	65	65
	High ESP version (4)	dB(A)	67	67	68	68	68	69	69	---	---	---
	High ESP version with SL accessory (4)	dB(A)	64	64	65	65	65	66	66	---	---	---
Weights	Transport weight (5)	Kg	665	674	738	757	781	938	991	1011	1240	1354
	Operating weight (5)	Kg	670	680	745	765	790	950	1005	1025	1255	1370

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

IACRK 218P÷460P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 47 KW TO 174 KW.

IACRK/ST 218P÷460P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.

The indoor liquid Chillers and Heat Pumps of the IACRK/ST 218P÷460P series, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.
They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes and are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
Equipped with radial fans, Scroll compressors and plate-type exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACRK/ST	***IACRK/AP/ST***
Cooling only with AQUALOGIK technology	Cooling only with high ESP fans and AQUALOGIK technology
IACRK/WP/ST	***IACRK/WP/AP/ST***
Reversible Heat Pump with AQUALOGIK technology	Reversible Heat Pump with high ESP fans and AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device allows also the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACRK/ST 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	46.6	53.8	62.2	71.4	81.7	94.0	144	124	144	174
	Absorbed power (1)	kW	17.2	20.6	24.4	27.7	30.9	34.1	55.6	47.8	55.6	65.0
	EER (1)		2.71	2.61	2.55	2.58	2.64	2.76	2.59	2.59	2.59	2.68
Cooling (EN14511)	Cooling capacity (1)	kW	46.4	53.4	61.8	71.0	81.2	92.9	144	123	144	173
	Absorbed power (1)	kW	17.7	21.0	24.9	28.2	31.4	35.5	56.4	48.5	56.4	66.0
	EER (1)		2.62	2.54	2.48	2.52	2.59	2.62	2.55	2.54	2.55	2.62
	ESEER		3.22	2.98	2.92	3.00	3.14	3.08	2.78	2.85	2.78	2.77
Heating	Heating capacity (2)	kW	53.0	60.6	70.0	78.7	88.6	104	151	132	151	183
	Absorbed power (2)	kW	18.4	21.5	25.8	28.1	31.5	36.2	56.1	48.3	56.1	67.5
	COP (2)		2.88	2.82	2.71	2.80	2.81	2.87	2.69	2.73	2.69	2.71
Heating (EN14511)	Heating capacity (2)	kW	53.2	61.7	70.3	79.0	88.9	105	152	132	152	183
	Absorbed power (2)	kW	18.6	22.7	26.1	28.4	31.8	37.6	56.6	48.7	56.6	68.1
	COP (2)		2.86	2.72	2.69	2.78	2.80	2.79	2.69	2.71	2.69	2.69
	SCOP (3)		3.25	3.11	3.02	3.12	3.15	3.23	3.10	3.10	3.08	3.10
	Energy Efficiency (3)	%	127	121	118	122	123	126	121	121	120	121
	Energy Class (3)		A+	A	A	A	A	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	4	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	2	1	2	2
	Capacity steps	n°	2					3	4	3	4	
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	400	---	---	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	41	48	55	61	73	78	121	111	121	149
	Max. starting current	A	135	147	152	177	217	175	236	255	236	293
Water circuit	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	7.04	6.06	7.04	8.49
	Pump available static pressure	kPa	120	110	110	100	140	130	95	110	95	65
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	66	66	67	67	67	68	68	68	68	68
	STD version with SL accessory (4)	dB(A)	63	63	64	64	64	65	65	65	65	65
	High ESP version (4)	dB(A)	67	67	68	68	68	69	69	---	---	---
	High ESP version with SL accessory (4)	dB(A)	64	64	65	65	65	66	66	---	---	---
Weights	Transport weight	Kg	680	689	753	772	796	958	1011	1031	1260	1374
	Operating weight	Kg	685	695	760	780	805	970	1025	1045	1275	1390

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

IACRK/ST 218P÷460P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 48 KW TO 175 KW.

IACRK 218÷460

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The indoor liquid Chillers and Heat Pumps of the IACRK 218÷460 series, with R410A refrigerant, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.
They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with radial fans, Scroll compressors and shell and tube exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACRK	***IACRK/AP***
Cooling only	Cooling only with high ESP fans
IACRK/WP	***IACRK/WP/AP***
Reversible Heat Pump	Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 218÷345 models; with two independent circuits on the refrigerant side and one on the water side in 452 and 460 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACRK 218÷460

MODEL			218	220	224	226	230	336	339	345	452	460
Cooling	Cooling capacity (1)	kW	48.0	53.9	61.2	71.8	82.6	93.3	146	126	146	175
	Absorbed power (1)	kW	17.8	20.8	24.2	28.1	31.3	34.4	56.4	48.1	56.4	65.9
	EER (1)		2.70	2.59	2.53	2.56	2.64	2.71	2.59	2.62	2.59	2.66
Cooling (EN14511)	Cooling capacity (1)	kW	47.4	53.6	60.8	71.3	82.2	92.8	145	125	145	174
	Absorbed power (1)	kW	18.1	20.9	24.4	28.6	31.6	35.5	57.0	48.9	57.0	66.6
	EER (1)		2.62	2.56	2.49	2.49	2.60	2.61	2.54	2.56	2.54	2.61
	ESEER		3.29	2.99	2.84	2.97	3.17	3.01	2.80	2.88	2.80	2.81
Heating	Heating capacity (2)	kW	54.6	60.7	68.8	79.1	89.6	103	153	134	153	184
	Absorbed power (2)	kW	19.0	21.5	25.4	28.5	31.8	36.2	56.8	48.8	56.8	68.2
	COP (2)		2.87	2.82	2.71	2.78	2.82	2.85	2.69	2.75	2.69	2.70
Heating (EN14511)	Heating capacity (2)	kW	54.9	61.0	69.3	79.7	90.1	104	154	135	154	185
	Absorbed power (2)	kW	19.2	21.9	26.1	29.4	32.5	37.0	58.0	49.7	58.0	69.5
	COP (2)		2.86	2.79	2.66	2.71	2.77	2.81	2.66	2.72	2.66	2.66
	SCOP (3)		3.25	3.11	3.01	3.09	3.16	3.19	3.09	3.11	3.09	3.09
	Energy Efficiency (3)	%	127	121	117	121	123	125	121	121	121	121
	Energy Class (3)		A+	A	A	A	A	A+	A	A	A	A
Compressor	Quantity	n°	2	2	2	2	2	3	4	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	2	1	2	2
	Capacity steps	n°	2					3	4	3	4	
Evaporator	Water flow	l/s	2.26	2.55	2.89	3.39	3.90	4.41	6.90	5.97	6.90	8.28
	Pressure drops	kPa	22	29	50	55	40	39	45	36	43	38
	Water connections	"G	1 ½"	1 ½"	2"	2"	2 ½"	2 ½"	2 ½"	3"	3"	3"
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	400	---	---	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	38	45	52	58	69	74	116	106	116	145
	Max. starting current	A	132	144	149	174	213	170	232	250	232	289
Unit with tank and pump	Pump available static pressure	kPa	140	125	105	100	140	165	110	135	110	110
	Tank water volume	l	470	470	470	470	470	470	660	470	660	660
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	66	66	67	67	67	68	68	68	68	68
	STD version with SL accessory (4)	dB(A)	63	63	64	64	64	65	65	65	65	65
	High ESP version (4)	dB(A)	67	67	68	68	68	69	69	---	---	---
	High ESP version with SL accessory (4)	dB(A)	64	64	65	65	65	66	66	---	---	---
Weights	Transport weight (5)	Kg	711	711	776	794	834	991	1036	1087	1297	1408
	Operating weight (5)	Kg	730	730	795	815	860	1020	1065	1125	1335	1450

DIMENSIONS			218	220	224	226	230	336	339	345	452	460
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

IACRK 218÷460

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 48 KW TO 175 KW.

IACRK/ST 218÷460

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS, SHELL AND TUBE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.

The indoor liquid Chillers and Heat Pumps of the IACRK/ST 218÷460 series, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.
They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes and are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
Equipped with radial fans, Scroll compressors and shell and tube exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACRK/ST	***IACRK/AP/ST***
Cooling only with AQUALOGIK technology	Cooling only with high ESP fans and AQUALOGIK technology
IACRK/WP/ST	***IACRK/WP/AP/ST***
Reversible Heat Pump with AQUALOGIK technology	Reversible Heat Pump with high ESP fans and AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452 and 460 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device allows also the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACRK/ST 218÷460

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	48.0	53.9	61.2	71.8	82.6	93.3	146	126	146	175
	Absorbed power (1)	kW	17.8	20.8	24.2	28.1	31.3	34.4	56.4	48.1	56.4	65.9
	EER (1)		2.70	2.59	2.53	2.56	2.64	2.71	2.59	2.62	2.59	2.66
Cooling (EN14511)	Cooling capacity (1)	kW	47.4	53.6	60.8	71.3	82.2	92.8	145	125	145	174
	Absorbed power (1)	kW	18.1	20.9	24.4	28.6	31.6	35.5	57.0	48.9	57.0	66.6
	EER (1)		2.62	2.56	2.49	2.49	2.60	2.61	2.54	2.56	2.54	2.61
	ESEER		3.29	2.99	2.84	2.97	3.17	3.01	2.80	2.88	2.80	2.81
Heating	Heating capacity (2)	kW	54.6	60.7	68.8	79.1	89.6	103	153	134	153	184
	Absorbed power (2)	kW	19.0	21.5	25.4	28.5	31.8	36.2	56.8	48.8	56.8	68.2
	COP (2)		2.87	2.82	2.71	2.78	2.82	2.85	2.69	2.75	2.69	2.70
Heating (EN14511)	Heating capacity (2)	kW	54.9	61.0	69.3	79.7	90.1	104	154	135	154	185
	Absorbed power (2)	kW	19.2	21.9	26.1	29.4	32.5	37.0	58.0	49.7	58.0	69.5
	COP (2)		2.86	2.79	2.66	2.71	2.77	2.81	2.66	2.72	2.66	2.66
	SCOP (3)		3.25	3.11	3.01	3.09	3.16	3.19	3.09	3.11	3.09	3.09
	Energy Efficiency (3)	%	127	121	117	121	123	125	121	121	121	121
	Energy Class (3)		A+	A	A	A	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	4	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	2	1	2	2
	Capacity steps	n°	2					3	4	3	4	
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	400	---	---	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	41	48	55	61	73	78	121	111	121	149
	Max. starting current	A	135	147	152	177	217	175	236	255	236	293
Water circuit	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	7.04	6.09	7.04	8.45
	Pump available static pressure	kPa	140	125	105	100	140	140	105	130	105	75
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	66	66	67	67	67	68	68	68	68	68
	STD version with SL accessory (4)	dB(A)	63	63	64	64	64	65	65	65	65	65
	High ESP version (4)	dB(A)	67	67	68	68	68	69	69	---	---	---
	High ESP version with SL accessory (4)	dB(A)	64	64	65	65	65	66	66	---	---	---
Weights	Transport weight	Kg	725	725	790	810	850	1010	1055	1105	1315	1430
	Operating weight	Kg	730	740	805	825	865	1030	1075	1125	1335	1450

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

IACRK/ST 218P÷460P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 192 KW TO 655 KW.

IACAK/II 476P÷6235P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS, MICROCHANNEL CONDENSING COILS AND PLATE EXCHANGER.

The IACAK/II 476P÷6235P **MULTIPOWER** units are characterized by the highest efficiency, all in A CLASS energy efficiency, featuring Microchannel condensing coils and Scroll Inverter compressor: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0) and providing high energy efficiency. This results in heat loads less than 50% EER surpassing any traditional cooler. In this way, the machine can obtain high energy yield with decisively elevated ESEER/IPLV values, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series making them highly reliable and management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.

VERSION

IACAK/II	*IACAK/II/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 4100P÷6235P models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/II 476P÷6235P

MODEL			476P	478P	4100P	4105P	4115P	6125P	6145P	6160P	6175P	6235P
Cooling	Cooling capacity (1)	kW	192	229	281	310	342	375	414	449	505	655
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	163	211
	EER (1)		3.15	3.14	3.12	3.16	3.14	3.13	3.11	3.12	3.10	3.10
Cooling (EN14511)	Cooling capacity (1)	kW	191	228	280	309	341	374	413	448	504	653
	Absorbed power (1)	kW	62	74	91	99	110	121	134	145	164	213
	EER (1)		3.08	3.08	3.08	3.12	3.10	3.09	3.08	3.09	3.07	3.07
	ESEER		3.99	3.93	3.97	3.99	4.08	4.02	4.10	4.17	4.19	4.24
	EUROVENT Class		B	B	B	A	A	B	B	B	B	B
Compressor	Quantity	n°	2+2	2+2	2+2	2+2	2+2	3+3	3+3	3+3	3+3	3+3
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	9.17	10.96	13.44	14.80	16.34	17.93	19.76	21.44	24.12	31.28
	Pressure drops	kPa	38	36	35	37	40	32	33	36	32	37
	Water connections	DN	80	80	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	137	156	194	211	173	250	202	320	355	460
	Max. starting current	A	305	334	407	424	386	428	415	534	617	800
Unit with pump	Pump available static pressure	kPa	200	170	175	235	220	210	195	210	200	165
	Water connections	DN	100	100	100	100	100	150	150	150	150	150
Sound pressure	STD version (2)	dB(A)	68	69	69	73	73	74	74	75	75	75
	With SL accessory (2)	dB(A)	65	66	66	70	70	71	71	72	72	72
	SSL version (2)	dB(A)	63	63	63	64	64	65	65	66	66	---
Weights	Transport weight	Kg	1951	2064	2211	2461	2511	2806	2868	3228	3416	3912
	Operating weight	Kg	1970	2090	2250	2500	2550	2850	2920	3280	3480	3990

DIMENSIONS			476P	478P	4100P	4105P	4115P	6125P	6145P	6160P	6175P	6235P
L	STD	mm	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200
	SSL	mm	5000	5000	5000	6200	6200	6200	6200	7200	7200	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

IACAK/II 476P÷6235P

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 222 KW TO 747 KW.

IACAK/E/WP 672P÷12240P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The IACAK/E/WP 672P÷12240P **MULTIPOWER** reversible Heat Pumps are characterized by the highest efficiency, all in A CLASS energy efficiency. MULTIPOWER is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0) and providing high energy efficiency. The machine can obtain an high energy yield with decisively elevated ESEER/IPLV values, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series making them highly reliable and the management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.

VERSION

IACAK/E/WP	*IACAK/E/WP/SSL*
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the unit is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 8104P÷12240P models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/E/WP 672P÷12240P

MODEL			672P	678P	682P	690P	8104P	8112P	8120P
Heating	Heating capacity (1)	kW	222	251	267	288	335	362	381
	Absorbed power (1)	kW	67	76	82	86	103	107	113
	COP (1)		3.31	3.30	3.26	3.35	3.25	3.38	3.37
Heating (EN14511)	Heating capacity (1)	kW	223	252	268	289	336	363	382
	Absorbed power (1)	kW	69	78	84	88	106	109	116
	COP (1)		3.23	3.23	3.19	3.28	3.17	3.33	3.29
	EUROVENT Class		A	A	B	A	B	A	A
	SCOP (2)		4.05	4.17	3.99	4.08	4.02	4.14	4.10
	Energy Efficiency (2)	%	159	164	157	160	158	163	161
Cooling	Cooling capacity (3)	kW	190	213	234	254	288	316	332
	Absorbed power (3)	kW	69	76	79	86	101	108	114
	EER (3)		2.75	2.80	2.96	2.95	2.85	2.93	2.91
Cooling (EN14511)	Cooling capacity (3)	kW	189	212	233	253	287	315	331
	Absorbed power (3)	kW	70	77	80	87	102	109	115
	EER (3)		2.70	2.75	2.91	2.91	2.81	2.89	2.88
	ESEER		3.57	3.62	3.71	3.81	3.71	3.95	3.93
	EUROVENT Class		C	C	B	B	C	C	C
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	6				8		
Evaporator	Water flow	l/s	9.08	10.16	11.19	12.12	13.77	15.07	15.88
	Pressure drops	kPa	44	55	42	38	49	37	41
	Water connections	DN	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	152	166	187	199	224	241	258
	Max. starting current	A	276	299	354	367	357	409	426
Unit with pump	Pump available static pressure	kPa	195	165	230	220	240	235	230
	Water connections	DN	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	70	68	69	69	69	70	71
	With SL accessory (4)	dB(A)	67	65	66	66	66	67	68
	SSL version (4)	dB(A)	59	61	62	62	62	63	63
Weights	Transport weight	Kg	1954	2291	2409	2437	2567	2820	2830
	Operating weight	Kg	1970	2310	2430	2460	2590	2850	2860

MODEL			10130P	10150P	12168P	12180P	12210P	12240P
Heating	Heating capacity (1)	kW	412	466	521	555	663	747
	Absorbed power (1)	kW	126	142	159	171	204	228
	COP (1)		3.27	3.28	3.28	3.25	3.25	3.28
Heating (EN14511)	Heating capacity (1)	kW	414	468	522	557	665	749
	Absorbed power (1)	kW	129	145	162	174	208	232
	COP (1)		3.21	3.23	3.22	3.20	3.20	3.23
	EUROVENT Class		A	A	A	A	A	A
	SCOP (2)		4.06	4.04	4.05	-	-	-
	Energy Efficiency (2)	%	159	159	159	-	-	-
Cooling	Cooling capacity (3)	kW	352	413	466	502	585	658
	Absorbed power (3)	kW	128	145	164	174	209	243
	EER (3)		2.75	2.85	2.84	2.89	2.80	2.71
Cooling (EN14511)	Cooling capacity (3)	kW	351	411	465	500	583	656
	Absorbed power (3)	kW	129	147	165	176	211	245
	EER (3)		2.72	2.80	2.82	2.84	2.76	2.68
	ESEER		3.86	3.88	3.90	3.91	3.85	3.89
	EUROVENT Class		C	C	C	C	C	D
Compressor	Quantity	n°	5+5	5+5	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	8		10			
Evaporator	Water flow	l/s	16.81	19.71	22.24	23.97	27.95	31.42
	Pressure drops	kPa	46	46	32	37	33	30
	Water connections	DN	80	80	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	274	324	358	391	446	500
	Max. starting current	A	407	492	525	558	623	678
Unit with pump	Pump available static pressure	kPa	215	185	205	190	185	175
	Water connections	DN	100	100	100	100	150	150
Sound pressure	STD version (4)	dB(A)	71	74	74	74	74	75
	With SL accessory (4)	dB(A)	68	71	71	71	71	72
	SSL version (4)	dB(A)	63	64	65	66	1	1
Weights	Transport weight	Kg	3019	3164	3702	3832	4660	4698
	Operating weight	Kg	3050	3200	3750	3880	4720	4770

DIMENSIONS			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P	12180P	12210P	12240P
L	STD	mm	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	4000	4000	5000	5000	5000	5000	5000	5000	6200	6200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

IACAK/E/WP 672P÷12240P

500	1800	1000	1800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
4. Sound power level according to Standard ISO 3744 and Eurovent 8/1.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 195 KW TO 1030 KW.

IACAK 672P÷12360P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

IACAK 672P÷12360P is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0), and features high energy yield, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series, making them highly reliable, and the management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.

VERSION

IACAK	***IACAK/SSL***
Cooling only	Super silenced cooling only
IACAK/WP	***IACAK/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On Heat Pump units is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 8104P÷12360P models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK 672P÷12360P

MODEL			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P
Cooling	Cooling capacity (1)	kW	195	221	246	270	298	328	360	395	435
	Absorbed power (1)	kW	70	81	86	95	105	114	123	133	157
	EER (1)		2.79	2.73	2.86	2.84	2.84	2.88	2.93	2.97	2.77
Cooling (EN14511)	Cooling capacity (1)	kW	194	221	245	270	297	327	358	394	433
	Absorbed power (1)	kW	71	82	87	96	106	116	125	135	159
	EER (1)		2.73	2.70	2.82	2.81	2.80	2.82	2.86	2.92	2.72
	ESEER		3.47	3.58	3.59	3.69	3.68	3.80	3.66	3.82	3.68
Heating	Heating capacity (2)	kW	223	250	277	304	331	362	393	432	500
	Absorbed power (2)	kW	74	84	91	104	109	122	133	142	166
	COP (2)		3.01	2.98	3.04	2.92	3.04	2.97	2.95	3.04	3.01
Heating (EN14511)	Heating capacity (2)	kW	223	250	277	305	331	363	394	433	501
	Absorbed power (2)	kW	74	84	91	104	109	123	134	143	167
	COP (2)		3.01	2.98	3.04	2.93	3.04	2.95	2.94	3.03	3.00
	SCOP (3)		3.69	3.76	3.81	3.61	3.67	3.67	3.64	3.79	3.76
	Energy Efficiency (3)	%	145	147	149	141	144	144	143	149	147
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.32	10.58	11.75	12.93	14.23	15.69	17.18	18.87	20.79
	Pressure drops	kPa	40	51	62	54	50	49	59	47	59
	Water connections	DN	80	80	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	199	167	228	215	237	225	201	194	155
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	67	67	68	70	68	70	71	69	70
	With SL accessory (4)	dB(A)	64	64	65	67	65	66	67	66	67
	SSL version (4)	dB(A)	58	58	60	62	59	61	63	60	62
Weights	Transport weight	Kg	1654	1674	1763	1961	2199	2457	2566	2610	3179
	Operating weight	Kg	1670	1690	1780	1980	2220	2480	2590	2640	3210

MODEL			12168P	12180P	12210P	12240P	12270P	12300P	12330P	12360P
Cooling	Cooling capacity (1)	kW	485	535	590	658	736	828	923	1,030
	Absorbed power (1)	kW	172	186	213	245	278	306	339	369
	EER (1)		2.82	2.88	2.77	2.69	2.65	2.71	2.72	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	483	533	587	656	734	825	920	1,026
	Absorbed power (1)	kW	174	188	216	248	280	309	342	373
	EER (1)		2.78	2.84	2.72	2.65	2.62	2.67	2.69	0.00
	ESEER		3.64	3.65	3.60	3.68	3.60	3.62	3.66	3.73
Heating	Heating capacity (2)	kW	553	608	670	760	844	943	1,056	1,186
	Absorbed power (2)	kW	184	204	225	251	285	315	352	387
	COP (2)		3.01	2.98	2.98	3.03	2.96	2.99	0.00	0.00
Heating (EN14511)	Heating capacity (2)	kW	554	609	671	761	845	944	1,057	1,187
	Absorbed power (2)	kW	185	205	226	253	286	316	354	388
	COP (2)		2.99	2.97	2.97	3.01	2.95	2.99	0.00	0.00
	SCOP (3)		-	-	-	-	-	-	-	-
	Energy Efficiency (3)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	23.18	25.57	28.18	31.42	35.16	39.56	44.11	49.21
	Pressure drops	kPa	49	60	58	49	41	51	42	52
	Water connections	DN	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
Unit with pump	Pump available static pressure	kPa	191	173	166	161	212	183	171	131
	Water connections	DN	100	100	150	150	150	150	150	150
Sound pressure	STD version (4)	dB(A)	69	71	73	74	74	74	74	75
	With SL accessory (4)	dB(A)	66	68	70	71	71	71	71	72
	SSL version (4)	dB(A)	61	63	65	66	65	66	1	1
Weights	Transport weight	Kg	3294	3463	3517	3682	4200	4518	4918	5044
	Operating weight	Kg	3330	3500	3560	3730	4260	4580	5238	5354

DIMENSIONS			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P	12180P	12210P	12240P	12270P	12300P	12330P	12360P
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

IACAK 672P÷12360P

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 202 KW TO 1069 KW.

IACAK/FC 672P÷12360P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The liquid Chillers of the IACAK/FC 672P÷12360P series, with R410A refrigerant, provide advanced technology, flexible and reliable, through an intelligent control module which optimizes the operating times and the powers delivered by the Scroll compressors, according to the needs of the systems, both civil and industrial, where the production of chilled water is required in continuous service throughout the year. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly, by way of the forced convection of outside air through the condensing coil, thus reducing the energy required for the Scroll compressors operation that the units are equipped with. A system of 3-way valves, controlled by the electronic microprocessor controller that manages the entire unit, can, depending on outside air temperature, operate in the CHILLER, FREE-COOLING or MIXED (CHILLER and FREE-COOLING at the same time) mode. IACAK/FC 672P÷12360P allows the reduction of inrush currents generated, the elimination of inertial accumulation tanks and an excellent silent functioning, as the fans adjust their speed to the actual load of the system, providing great benefits especially at night.

VERSION

IACAK/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 8104P÷12360P models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/FC 672P÷12360P

MODEL			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P
Cooling	Cooling capacity (1)	kW	202	229	255	281	318	354	389	428	469
	Absorbed power (1)	kW	77	88	89	99	109	124	133	148	165
	EER (1)		2.74	2.71	2.99	2.96	3.04	2.97	3.04	3.00	2.96
Free-Cooling cycle	Air temperature (2)	°C	-2.0	-2.8	-2.5	-0.2	-2.7	-3.5	-1.0	-2.0	-1.0
	Absorbed power (2)	kW	7.0	7.0	10.5	10.5	14.0	14.0	14.0	14.0	17.5
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4							6	
Water circuit	Water flow	l/s	10.69	12.01	13.45	14.85	16.80	18.76	20.57	22.63	24.75
	Pressure drops	kPa	102	126	165	124	112	106	115	100	120
	Water connections	DN	100	100	100	100	100	100	100	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	187	199	232	249	266	282	332
	Max. starting current	A	276	299	354	367	365	417	433	415	500
Unit with pump	Pump available static pressure	kPa	155	165	115	140	125	110	130	140	115
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (3)	dB(A)	67	68	69	70	70	71	71	71	72
	With SL accessory (3)	dB(A)	65	65	66	67	67	68	68	68	68
Weights	Transport weight	Kg	2175	2185	2360	2435	2990	3020	3220	3510	3920
	Operating weight	Kg	2310	2320	2500	2630	3190	3220	3470	3770	4250

MODEL			12168P	12180P	12210P	12240P	12270P	12300P	12330P	12360P
Cooling	Cooling capacity (1)	kW	520	572	645	716	802	892	984	1,069
	Absorbed power (1)	kW	181	201	232	269	308	343	372	416
	EER (1)		2.99	2.96	2.89	2.77	2.71	2.71	2.76	2.67
Free-Cooling cycle	Air temperature (2)	°C	-2.2	-2.7	-3.0	-3.5	-2.5	-0.1	0.1	-0.4
	Absorbed power (2)	kW	17.5	17.5	17.5	21.0	24.5	28.0	31.5	31.5
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	8							
Water circuit	Water flow	l/s	27.43	30.16	34.06	37.72	42.33	47.06	51.90	56.39
	Pressure drops	kPa	121	132	148	152	172	151	162	173
	Water connections	DN	125	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	365	391	438	500	561	622	699	769
	Max. starting current	A	533	558	615	678	774	835	961	1031
Unit with pump	Pump available static pressure	kPa	155	135	105	180	145	140	110	100
	Water connections	DN	125	125	125	150	150	150	150	150
Sound pressure	STD version (3)	dB(A)	72	72	75	76	76	76	76	77
	With SL accessory (3)	dB(A)	68	69	71	72	72	72	72	73
Weights	Transport weight	Kg	4180	4220	5060	5240	5830	6880	7410	7530
	Operating weight	Kg	4520	4560	5460	5650	6320	7600	8220	8340

DIMENSIONS			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P	12180P	12210P	12240P	12270P	12300P	12330P	12360P
L	STD	mm	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	6200	7200	7200	8400	9600	10600	10600
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360

CLEARANCE AREA

IACAK/FC 672P÷12360P

500	1800	1000	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 196 KW TO 1041 KW.

IACAK 672÷12360

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER

IACAK 672÷12360 is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0), and features high energy yield, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series, making them highly reliable, and the management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.

VERSION

IACAK	***IACAK/SSL***
Cooling only	Super silenced cooling only
IACAK/WP	***IACAK/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 8104÷12360 models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAK 672÷12360

MODEL			672	678	682	690	8104	8112	8120	10130	10150
Cooling	Cooling capacity (1)	kW	196	220	243	265	296	321	360	396	436
	Absorbed power (1)	kW	71	81	87	98	106	116	122	137	160
	EER (1)		2.76	2.72	2.79	2.70	2.79	2.77	2.95	2.89	2.73
Cooling (EN14511)	Cooling capacity (1)	kW	195	219	242	264	295	319	358	395	435
	Absorbed power (1)	kW	72	82	88	99	107	118	124	138	161
	EER (1)		2.71	2.67	2.75	2.67	2.76	2.70	2.89	2.86	2.70
	ESEER		3.40	3.62	3.63	3.55	3.65	3.65	3.72	3.75	3.78
Heating	Heating capacity (2)	kW	224	247	274	298	329	355	393	433	502
	Absorbed power (2)	kW	75	84	92	107	110	124	131	146	169
	COP (2)		2.99	2.94	2.98	2.79	2.99	2.86	3.00	2.97	2.97
Heating (EN14511)	Heating capacity (2)	kW	224	247	274	299	329	356	394	434	503
	Absorbed power (2)	kW	75	84	92	108	110	125	132	147	170
	COP (2)		2.99	2.94	2.98	2.77	2.99	2.85	2.98	2.95	2.96
	SCOP (3)		3.69	3.72	3.71	3.44	3.74	3.55	3.69	3.70	3.71
	Energy Efficiency (3)	%	145	146	145	135	147	139	145	145	145
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.25	10.37	11.48	12.50	13.97	15.18	16.98	18.70	20.59
	Pressure drops	kPa	45	42	45	50	48	56	55	45	33
	Water connections	DN	100	100	100	100	100	100	100	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	195	175	235	210	230	220	200	190	170
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	67	67	68	70	68	70	71	69	70
	With SL accessory (4)	dB(A)	64	64	65	67	65	66	67	66	67
	SSL version (4)	dB(A)	58	58	60	62	59	61	63	60	62
Weights	Transport weight	Kg	1703	1723	1813	2003	2253	2532	2642	2691	3283
	Operating weight	Kg	1750	1770	1860	2050	2310	2600	2710	2780	3380

MODEL			12168	12180	12210	12240	12270	12300	12330	12360
Cooling	Cooling capacity (1)	kW	500	540	602	670	751	845	942	1,041
	Absorbed power (1)	kW	176	188	216	253	284	310	343	373
	EER (1)		2.84	2.87	2.79	2.65	2.64	2.73	2.75	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	498	538	599	668	748	841	939	1,037
	Absorbed power (1)	kW	178	190	219	255	287	314	346	377
	EER (1)		2.80	2.83	2.74	2.62	2.61	2.68	2.71	0.00
	ESEER		3.70	3.68	3.62	3.69	3.53	3.60	3.68	3.72
Heating	Heating capacity (2)	kW	569	613	684	775	860	961	1,078	1,198
	Absorbed power (2)	kW	188	206	228	260	291	319	357	392
	COP (2)		3.03	2.98	3.00	2.98	2.96	3.01	0.00	0.00
Heating (EN14511)	Heating capacity (2)	kW	570	614	685	776	861	962	1,079	1,199
	Absorbed power (2)	kW	189	207	229	261	292	320	358	393
	COP (2)		3.02	2.97	2.99	2.97	2.95	3.01	0.00	0.00
	SCOP (3)		-	-	-	-	-	-	-	-
	Energy Efficiency (3)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	23.60	25.50	28.41	31.65	35.45	39.90	44.47	49.15
	Pressure drops	kPa	43	54	59	46	55	62	47	52
	Water connections	DN	125	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
Unit with pump	Pump available static pressure	kPa	195	175	165	165	195	170	165	130
	Water connections	DN	100	100	150	150	150	150	150	150
Sound pressure	STD version (4)	dB(A)	69	71	73	74	74	74	74	75
	With SL accessory (4)	dB(A)	66	68	70	71	71	71	71	72
	SSL version (4)	dB(A)	61	63	65	66	65	66	1	1
Weights	Transport weight	Kg	3383	3565	3605	3840	4385	4705	5210	5330
	Operating weight	Kg	3480	3670	3720	3970	4540	4860	5470	5590

DIMENSIONS			672	678	682	690	8104	8112	8120	10130	10150	12168	12180	12210	12240	12270	12300	12330	12360
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

IACAK 672÷12360

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 47 KW TO 184 KW.

IACAK/MF 218P÷369P

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

NEW

IACAK/MF 218P÷369P is the range of high efficiency multifunctional units for 4-Pipe systems.
The units IACAK/MF 218P÷369P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER and ESEER/IPLV energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. The units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. As option also with EC Inverter axial fans.

VERSION

IACAK/MF	*IACAK/MF/SSL*
Multifunctional unit	Super silenced multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Two copper tube and aluminum finned coils.
- Condenser AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side. On the unit is always installed an antifreeze heater.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch. On the unit it is always installed an antifreeze heater.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
PSH	Single circulating pump heating side
PSIH	Inverter single circulating pump heating side
PDH	Double circulating pump heating side
PDIH	Inverter double circulating pump heating side
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
TS	Touch screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/MF 218P÷369P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	250P	360P	369P
Cooling only	Cooling capacity (1)	kW	47.1	54.2	61.3	70.0	79.3	89.9	102	114	130	154	184
	Absorbed power (1)	kW	17.0	19.5	22.1	24.6	28.2	32.8	38.4	42.7	47.0	58.0	69.2
	EER (1)		2.77	2.78	2.77	2.85	2.81	2.74	2.66	2.67	2.77	2.66	2.66
Heating only	Heating capacity (2)	kW	50.6	57.9	65.0	73.2	83.4	95.4	108	123	138	166	197
	Absorbed power (2)	kW	16.2	18.9	21.4	23.6	26.8	30.3	35.5	39.9	43.2	53.0	61.8
	COP (2)		3.12	3.06	3.04	3.10	3.11	3.15	3.04	3.08	3.19	3.13	3.19
Cooling + Heating	Cooling capacity (3)	kW	48.1	54.8	61.0	69.6	80.8	91.2	107	122	136	163	197
	Heating capacity (3)	kW	63.0	71.7	80.0	91.3	106	119	139	158	176	210	253
	Absorbed power (3)	kW	15.5	17.6	19.8	22.5	25.5	29.7	32.9	37.6	41.1	49.5	59.0
	TER (3)		7.18	7.19	7.13	7.15	7.33	7.09	7.45	7.46	7.58	7.55	7.64
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	2	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3		2	3	
Evaporator - cooling side	Water flow	l/s	2.32	2.67	3.02	3.45	3.91	4.43	5.02	5.64	6.40	7.60	9.08
	Pressure drops	kPa	35	41	53	50	49	51	38	46	50	52	52
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Condenser - heating side	Water flow (3)	l/s	2.42	2.76	3.10	3.50	3.99	4.56	5.14	5.89	6.58	7.92	9.41
	Pressure drops (3)	kPa	31	35	38	42	40	35	34	42	48	43	45
	Water connections (3)	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	40	46	54	59	66	77	84	95	100	128	151
	Max. starting current	A	164	166	178	191	234	201	217	263	314	304	359
Unit with pump - cooling side	Pump available static pressure	kPa	145	135	120	110	135	130	125	105	150	130	105
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Unit with pump - heating side	Pump available static pressure	kPa	150	140	125	115	145	140	115	155	145	135	110
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Sound pressure	STD version (4)	dB(A)	61	63	63	64	64	64	66	66	70	71	71
	With SL accessory (4)	dB(A)	59	61	61	62	62	62	64	64	68	69	69
	SSL version (4)	dB(A)	56	58	58	59	59	59	61	61	65	66	66
Weights	Transport weight	Kg	750	760	815	905	925	1030	1055	1085	1295	1500	1545
	Operating weight	Kg	765	775	830	925	950	1060	1085	1115	1335	1545	1595

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	250P	360P	369P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	3550	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

IACAK/MF 218P÷369P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 162 KW TO 624 KW.

IACAK/MF 460P÷6240P

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

NEW

IACAK/MF 460P÷6240P is the range of high efficiency multifunctional units for 4-Pipe systems.
The units CHA/K/EP 182-P÷693-P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER and ESEER/IPLV energy values. The units are characterized by double cooling circuit. Thanks to the advanced control system, The units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. The units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. As option also with EC Inverter axial fans.

VERSION

IACAK/MF	***IACAK/MF/SSL***
Multifunctional unit	Super silenced multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Two copper tube and aluminum finned coils.
- Condenser AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side. On the unit is always installed an antifreeze heater.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the unit is always installed an antifreeze heater.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
PSH	Single circulating pump heating side
PSIH	Inverter single circulating pump heating side
PDH	Double circulating pump heating side
PDIH	Inverter double circulating pump heating side
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
TS	Touch screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

IACAK/MF 460P÷6240P

MODEL			460P	472P	480P	490P	4100P	4110P	6120P	6150P	6180P	6200P	6220P	6240P
Cooling only	Cooling capacity (1)	kW	162	184	210	234	256	292	329	383	445	506	566	624
	Absorbed power (1)	kW	58	70	76	86	94	105	115	141	171	195	212	227
	EER (1)		2.79	2.63	2.76	2.72	2.72	2.78	2.86	2.72	2.60	2.59	2.67	2.75
Heating only	Heating capacity (2)	kW	175	198	224	249	273	308	350	414	500	553	613	672
	Absorbed power (2)	kW	56	65	73	80	87	98	110	129	161	170	197	210
	COP (2)		3.13	3.05	3.07	3.11	3.14	3.14	3.18	3.21	3.11	3.25	3.11	3.20
Cooling + Heating	Cooling capacity (3)	kW	165	189	208	236	262	294	324	393	451	527	576	632
	Heating capacity (3)	kW	213	247	273	308	340	384	423	511	595	691	754	824
	Absorbed power (3)	kW	51	61	68	76	82	94	103	123	149	171	185	199
	TER (3)		7.49	7.20	7.10	7.18	7.37	7.22	7.25	7.34	6.99	7.14	7.19	7.32
Compressor	Quantity	n°	4	4	4	4	4	4	6	6	6	6	6	6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4						6					
Evaporator - cooling side	Water flow	l/s	7.98	9.08	10.32	11.51	12.61	14.38	16.20	18.87	21.93	24.94	27.85	30.72
	Pressure drops	kPa	34	33	36	35	42	36	45	44	53	43	34	40
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Condenser - heating side	Water flow (3)	l/s	8.34	9.46	10.71	11.91	13.03	14.73	16.73	19.79	23.87	26.41	29.29	32.12
	Pressure drops (3)	kPa	35	36	39	30	37	33	43	43	42	49	48	54
	Water connections (3)	DN	100	100	100	100	100	100	100	100	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	133	151	171	186	201	227	255	301	386	416	453	483
	Max. starting current	A	301	328	347	400	415	488	432	515	647	755	792	822
Unit with pump - cooling side	Pump available static pressure	kPa	175	170	145	140	125	145	145	140	100	160	160	140
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Unit with pump - heating side	Pump available static pressure	kPa	165	160	145	145	125	140	140	135	105	150	140	120
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Sound pressure	STD version (4)	dB(A)	71	71	72	72	72	73	75	75	77	78	79	80
	With SL accessory (4)	dB(A)	69	69	70	70	70	71	73	73	75	76	77	78
	SSL version (4)	dB(A)	65	65	66	66	66	67	67	67	71	71	72	73
Weights	Transport weight	Kg	2200	2230	2350	2390	2420	3180	3420	3530	4530	4600	5320	5350
	Operating weight	Kg	2300	2330	2450	2500	2530	3310	3560	3680	4730	4840	5630	5670

DIMENSIONS			460P	472P	480P	490P	4100P	4110P	6120P	6150P	6180P	6200P	6220P	6240P
L	STD	mm	3350	3350	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200	7200	7200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

IACAK/MF 460P÷6240P

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 275 KW TO 1122 KW.

IACAY/II/MF 2135÷2440

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, INVERTER SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

IACAY/II/MF 2135÷2440 is the range of high efficiency multifunctional units for 4-Pipe systems.
The units IACAY/II/MF 2135÷2440, with R134a refrigerant, are provided with the new technological Inverter mono-Screw compressors with satellite, the units reach high EER and ESEER/IPLV energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. The units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. As option also with EC Inverter axial fans.

VERSION

IACAY/II/MF	***IACAY/II/MF/SSL***
Multifunctional unit	Super silenced multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- INVERTER and ON/OFF Screw compressors, with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Two copper tube and aluminum finned coils.
- Shell and tube type condenser, with two independent circuits on the refrigerant side and one on the water side.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PUI	Inverter single circulating pump
PDI	Inverter double circulating pump
FI	Antifreeze heater for evaporator and condenser
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
TS	Touch screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAY/II/MF 2135÷2440

MODEL			2135	2140	2160	2180	2195	2230	2270	2330	2390	2440
Cooling only	Cooling capacity (1)	kW	275	309	362	419	479	558	669	814	968	1,122
	Absorbed power (1)	kW	90	101	117	134	155	179	212	261	318	369
	EER (1)		3.06	3.06	3.09	3.13	3.09	3.12	3.16	3.12	3.04	0.00
Heating only	Heating capacity (2)	kW	280	317	371	427	485	566	665	830	980	1,144
	Absorbed power (2)	kW	87	92	108	123	140	161	192	233	274	316
	COP (2)		3.22	3.45	3.44	3.47	3.46	3.52	3.46	3.56	3.58	0.00
Cooling + Heating	Cooling capacity (3)	kW	273	315	366	425	487	569	679	826	986	1,169
	Heating capacity (3)	kW	355	400	464	539	615	719	856	1,043	1,248	1,480
	Absorbed power (3)	kW	84	88	100	116	131	154	181	222	268	317
	TER (3)		7.50	8.14	8.30	8.29	8.39	8.39	8.49	8.41	8.35	8.35
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator - cooling side	Water flow	l/s	13.28	14.91	17.49	20.21	23.12	26.95	32.30	39.27	46.73	54.13
	Pressure drops	kPa	33	43	51	48	48	46	48	47	52	64
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Condenser - heating side	Water flow (3)	l/s	16.98	19.11	22.19	25.73	29.37	34.34	40.92	49.86	59.65	70.72
	Pressure drops (3)	kPa	34	37	31	29	28	32	29	32	32	34
	Water connections (3)	DN	100	100	125	125	125	150	150	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	237	237	269	301	309	393	445	580	664	720
	Max. starting current	A	281	281	345	361	369	504	534	785	827	855
Unit with pump	Pump available static pressure	kPa	180	165	190	160	180	160	150	170	140	150
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Sound pressure	STD version (4)	dB(A)	78	78	78	79	79	79	80	81	81	82
	With SL accessory (4)	dB(A)	74	74	75	76	75	76	77	77	77	78
	SSL version (4)	dB(A)	68	68	69	70	70	71	71	73	73	73
Weights	Transport weight	Kg	4090	4110	4820	5460	5970	6950	8100	9340	9760	10430
	Operating weight	Kg	4330	4460	5280	5980	6480	7570	8880	10200	10740	11800

DIMENSIONS			2135	2140	2160	2180	2195	2230	2270	2330	2390	2440
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2500	2500	2500	2500	2500	2500

CLEARANCE AREA

IACAY/II/MF 2135÷2440

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 279 KW TO 1137 KW.

IACAY/II/WP 2135÷2440

A CLASS ENERGY EFFICIENCY REVERSIBLE HEAT PUMPS WITH AXIAL FANS, INVERTER SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The aircooled reversibile Heat Pump units of the line IACAY/II/WP 2135÷2440, in A CLASS and with R134a refrigerant, are suitable for big sizes installations, such as commercial or industrial buildings. The units are provided with the new technological Inverter mono-Screw compressors with satellite, axial fans and shell and tube evaporator and are available also with super low noise version; as option also with EC Inverter axial fans and with Inverter regulated circulating pumps. The designed large condensing coils, the high efficiency fans, the optimisation of the water and cooling circuits, the Inverter Screw compressors, allow the units to reach the A CLASS energy efficiency, if combined with a proper sizing of the end-user plant.

VERSION

IACAY/II/WP	***IACAY/II/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- INVERTER Screw compressors, with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
TX	Coil with pre-coated fins
PUI	Inverter single circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAY/II/WP 2135÷2440

MODEL			2135	2140	2160	2180	2195	2230	2270	2330	2390	2440
Heating	Heating capacity (1)	kW	279	320	371	424	509	564	664	829	990	1,137
	Absorbed power (1)	kW	89	95	112	127	152	166	198	239	280	323
	COP (1)		3.13	3.37	3.31	3.34	3.35	3.40	3.35	3.47	3.54	0.00
Heating (EN14511)	Heating capacity (1)	kW	280	321	373	426	511	566	666	832	994	1,141
	Absorbed power (1)	kW	91	97	115	130	156	170	203	246	289	335
	COP (1)		3.08	3.31	3.24	3.28	3.28	3.33	3.28	3.38	3.44	0.00
	EUROVENT Class		B	A	A	A	A	A	A	A	A	A
	SCOP (2)		3.34	3.53	3.22	3.16	3.30	3.71	-	-	-	-
	Energy Efficiency (2)	%	131	138	126	123	129	145	-	-	-	-
Cooling	Cooling capacity (3)	kW	275	309	362	419	479	558	669	814	968	1,122
	Absorbed power (3)	kW	90	101	117	134	155	179	212	261	318	369
	EER (3)		3.06	3.06	3.09	3.13	3.09	3.12	3.16	3.12	3.04	0.00
Cooling (EN14511)	Cooling capacity (3)	kW	274	308	361	417	477	556	667	811	964	1,117
	Absorbed power (3)	kW	91	102	119	136	157	181	214	264	322	374
	EER (3)		3.01	3.02	3.03	3.07	3.04	3.07	3.12	3.07	2.99	0.00
	ESEER		3.73	3.75	3.71	3.72	3.75	3.86	3.98	3.88	3.91	3.98
	EUROVENT Class		B	B	B	B	B	B	A	B	B	B
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	13.15	14.76	17.32	20.01	22.89	26.68	31.98	38.88	46.26	53.59
	Pressure drops	kPa	33	43	51	48	48	46	48	47	52	64
	Water connections	DN	125	125	150	150	150	200	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	237	237	269	301	309	393	445	580	664	720
	Max. starting current	A	281	281	345	361	369	504	534	785	827	855
Unit with pump	Pump available static pressure	kPa	180	165	190	160	180	160	150	170	140	150
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Sound pressure	STD version (4)	dB(A)	78	78	78	79	79	79	80	81	81	82
	With SL accessory (4)	dB(A)	74	74	75	76	75	76	77	77	77	78
	SSL version (4)	dB(A)	68	68	69	70	70	71	71	73	73	73
Weights	Transport weight	Kg	3780	3800	4360	4910	5380	6340	7260	8420	8675	9230
	Operating weight	Kg	3950	3970	4690	5270	5720	6760	7780	8990	9330	10150

DIMENSIONS			2135	2140	2160	2180	2195	2230	2270	2330	2390	2440
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2500	2500	2500	2500	2500	2500

CLEARANCE AREA

IACAY/II/WP 2135÷2440

500	1800	1000	1800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 258 KW TO 1113 KW.

IACAY/E 2130÷2480

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS, MICROCHANNEL CONDENSING COILS AND SHELL AND TUBE EXCHANGER.

The IACAY/E 2130÷2480 units in A CLASS energy efficiency have EER values higher than 3.1 due to reduced electrical absorption and a high efficiency of the compressor-exchanger combination.
The Microchannel condensing coils, the mono-Screw compressors with satellite and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressors, on circulating pumps and EC Inverter on fans are also available for getting the highest efficiency at part load. The super silenced version, obtained through acoustic insulation on compressors and wider exchangers, is particularly suitable for installations where extremely quiet operation are essential for the ideal execution of the system. The Inverter accessory is equipped with SYNCHRONIZER that allows you to extend the useful life of the compressor, ensuring the rotation at every boot, and significantly reduce the inrush current of the unit.

VERSION

IACAY/E	*IACAY/E/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TXB	Coil with epoxy treatment
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
II	Inverter on one compressor and Synchronizer
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAY/E 2130÷2480

MODEL			2130	2150	2170	2190	2200	2260	2300	2360	2420	2480
Cooling	Cooling capacity (1)	kW	258	307	352	405	455	563	682	822	940	1,113
	Absorbed power (1)	kW	81	95	113	129	144	177	217	254	302	348
	EER (1)		3.19	3.23	3.12	3.14	3.16	3.18	3.14	3.24	3.11	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	257	306	351	404	454	562	680	820	937	1,109
	Absorbed power (1)	kW	82	96	114	130	145	178	219	256	305	352
	EER (1)		3.13	3.19	3.08	3.11	3.13	3.16	3.11	3.20	3.07	0.00
	ESEER		3.85	3.97	3.89	3.97	3.99	3.94	3.87	3.99	3.97	3.96
	EUROVENT Class		A	A	B	A	A	A	A	A	B	A
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	12.32	14.65	16.81	19.34	21.73	26.87	32.59	39.29	44.90	53.19
	Pressure drops	kPa	30	26	49	44	34	28	42	34	39	48
	Water connections	DN	125	125	150	150	150	150	150	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	201	237	261	301	337	393	485	580	664	720
	Max. starting current	A	263	281	337	361	405	504	596	785	827	855
Unit with tank and pump	Pump available static pressure	kPa	145	184	200	165	205	185	205	185	150	160
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	---	---
	Water connections	DN	100	100	100	125	125	150	150	150	200	200
Sound pressure	STD version (2)	dB(A)	77	77	77	77	78	77	78	78	78	79
	With SL accessory (2)	dB(A)	74	74	74	74	75	74	75	75	75	76
	SSL version (2)	dB(A)	67	67	67	66	67	67	68	69	69	---
Weights	Transport weight (3)	Kg	3825	3289	3348	3707	4402	4802	5826	6750	6774	7513
	Operating weight (3)	Kg	5825	3420	3490	3890	4690	5140	6120	7390	7320	7970

DIMENSIONS			2130	2150	2170	2190	2200	2260	2300	2360	2420	2480
L	STD	mm	4400	4400	5000	5550	6200	6700	8900	11100	11100	11100
	SSL	mm	5550	5550	5550	6700	8900	8900	11100	11100	11100	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500
	SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	---

CLEARANCE AREA

IACAY/E 2130÷2480

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
3. Unit without tank and pump.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 217 KW TO 1565 KW.

IACAY 2120B÷2680B

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

IACAY 2120B÷2680B series liquid Chillers and Heat Pumps, with R134a refrigerant, are designed for large service sector or industrial-type ambients.
They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes. Equipped with axial fans, Screw compressors and shell and tube exchanger, even in the super silent version, they can be completed with a hydraulic circuit with tank, pump, or tank and pump. The use of large condensing coils and high unit efficiency fans, as well as optimisation of the hydraulic and refrigerant circuit and the use of latest-generation Screw compressors, combined with a adequate sizing of the user system, ensure high operating efficiency with a considerably reduction in energy consumption.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACAY	***IACAY/SSL***
Cooling only	Super silenced cooling only
IACAY/WP	***IACAY/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a step regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAY 2120B÷2680B

MODEL			2120B	2130B	2150B	2170B	2190B	2200B	2260B	2300B
Cooling	Cooling capacity (1)	kW	217	257	296	341	385	444	538	670
	Absorbed power (1)	kW	81	89	113	138	158	169	199	233
	EER (1)		2.68	2.89	2.62	2.47	2.44	2.63	2.70	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	216	256	295	340	383	442	536	667
	Absorbed power (1)	kW	82	90	114	140	160	170	201	236
	EER (1)		2.63	2.84	2.59	2.43	2.39	2.60	2.67	2.83
	ESEER		3.37	3.55	3.47	3.31	3.30	3.62	3.51	3.53
Heating	Heating capacity (2)	kW	221	250	283	331	382	448	525	649
	Absorbed power (2)	kW	76	79	92	106	121	139	162	193
	COP (2)		2.91	3.16	3.08	3.12	3.16	3.22	3.24	3.36
Heating (EN14511)	Heating capacity (2)	kW	221	250	283	331	382	448	525	652
	Absorbed power (2)	kW	76	79	92	107	122	144	163	199
	COP (2)		2.91	3.16	3.08	3.09	3.13	3.11	3.22	3.28
	SCOP (3)		3.07	3.23	3.25	3.18	3.30	2.99	3.12	3.39
	Energy Efficiency (3)	%	120	126	127	124	129	117	122	133
Compressor	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless							
Evaporator	Water flow	l/s	10.35	12.27	14.14	16.30	18.40	21.21	25.71	32.03
	Pressure drops	kPa	50	49	38	50	53	43	54	57
	Water connections	DN	100	100	125	125	125	125	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	194	194	230	254	286	321	377	421
	Max. starting current	A	256	256	274	330	346	389	488	510
Unit with tank and pump	Pump available static pressure	kPa	150	170	230	195	165	195	165	130
	Tank water volume	l	1100	1100	1100	1100	1100	2000	2000	2000
	Water connections	DN	100	100	100	100	125	125	150	150
Sound pressure	STD version (4)	dB(A)	78	78	78	78	77	77	78	78
	With SL accessory (4)	dB(A)	75	75	75	75	74	74	75	75
	SSL version (4)	dB(A)	68	68	68	67	68	68	68	69
Weights	Transport weight	Kg	2640	2730	2780	2920	3120	3800	4070	5270
	Operating weight	Kg	2740	2820	2920	3060	3250	3930	4330	5500

MODEL			2360B	2420B	2480B	2540B	2600B	2630B	2680B
Cooling	Cooling capacity (1)	kW	790	935	1,067	1,194	1,320	1,446	1,565
	Absorbed power (1)	kW	287	337	406	447	499	536	560
	EER (1)		2.75	2.77	0.00	0.00	0.00	0.00	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	787	931	1,062	1,189	1,315	1,440	1,557
	Absorbed power (1)	kW	290	341	411	452	504	542	568
	EER (1)		2.71	2.73	0.00	0.00	0.00	0.00	0.00
	ESEER		3.59	3.54	3.42	3.52	3.50	3.61	3.56
Heating	Heating capacity (2)	kW	752	833	1,023	1,149	1,280	1,409	0
	Absorbed power (2)	kW	227	263	321	354	399	422	0
	COP (2)		3.31	3.17	0.00	0.00	0.00	0.00	0
Heating (EN14511)	Heating capacity (2)	kW	755	836	1,027	1,152	1,285	1,414	0
	Absorbed power (2)	kW	233	269	331	364	410	435	0
	COP (2)		3.24	3.11	0.00	0.00	0.00	0.00	0
	SCOP (3)		-	-	-	-	-	-	---
	Energy Efficiency (3)	%	-	-	-	-	-	-	---
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	37.74	44.67	50.99	57.03	63.07	69.06	74.77
	Pressure drops	kPa	55	53	62	55	55	60	82
	Water connections	DN	200	200	200	200	200	200	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	549	641	705	705	873	896	912
	Max. starting current	A	754	804	840	840	1665	1541	1557
Unit with tank and pump	Pump available static pressure	kPa	165	130	170	150	200	180	150
	Tank water volume	l	2000	2000	---	---	---	---	---
	Water connections	DN	150	200	200	200	200	200	200
Sound pressure	STD version (4)	dB(A)	78	79	79	80	80	81	81
	With SL accessory (4)	dB(A)	75	76	76	77	77	78	78
	SSL version (4)	dB(A)	70	70	71	71	71	71	1
Weights	Transport weight	Kg	5480	6250	7255	7715	8160	8840	10100
	Operating weight	Kg	5770	6600	7710	8150	8700	9380	10620

DIMENSIONS

			2120B	2130B	2150B	2170B	2190B	2200B	2260B	2300B	2360B	2420B	2480B	2540B	2600B	2630B	2680B
L	STD	mm	3350	3350	3350	3350	4400	5550	5550	6700	6700	7750	10050	10050	10050	11100	13400
	SSL	mm	3350	3350	3350	4400	4400	5550	6700	7750	7750	10050	10050	11100	13400	13400	---
	WP	mm	4400	4400	4400	4400	5550	6700	6700	7750	7750	8900	12250	12250	13400	13400	---
	WP/SSL	mm	4400	4400	4400	5550	5550	6700	6700	7750	8900	11100	13400	13400	---	---	---
W	*	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL-WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	---

CLEARANCE AREA

IACAY 2120B÷2680B

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

* STD-SSL-WP-WP/SSL

Electrical board side

FROM 213 KW TO 1431 KW.

IACAY/FC 2120÷2600

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The liquid Chillers of the IACAY/FC 2120÷2600 series, with R134a refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.

VERSION

IACAY/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature Kit
EC	EC Inverter fans
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACAY/FC 2120÷2600

MODEL			2120	2130	2150	2170	2190	2200	2260
Cooling	Cooling capacity (1)	kW	213	253	309	368	410	464	558
	Absorbed power (1)	kW	84	98	115	149	159	186	212
	EER (1)		2.54	2.58	2.69	2.47	2.58	2.49	2.63
Free-Cooling cycle	Air temperature (2)	°C	-2.5	-2.0	-2.0	-4.5	-3.7	-4.0	-3.5
	Absorbed power (2)	kW	8	12	12	12	12	16	20
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Water circuit	Water flow	l/s	11.00	13.07	15.96	18.99	21.18	23.96	28.83
	Pressure drops	kPa	125	170	180	168	191	130	115
	Water connections	DN	100	100	100	125	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	194	201	237	261	293	337	393
	Max. starting current	A	256	263	281	337	353	405	504
Unit with tank and pump	Pump available static pressure	kPa	165	120	125	115	110	145	185
	Tank water volume	l	1100	1100	1100	1100	1100	1100	2000
	Water connections	DN	100	100	100	125	125	125	150
Sound pressure	STD version (3)	dB(A)	76	76	77	77	77	78	78
	With SL accessory (3)	dB(A)	73	73	74	74	74	75	75
Weights	Transport weight (4)	Kg	3650	3320	3620	3805	4180	4510	5310
	Operating weight (4)	Kg	4950	3520	3870	4060	4530	4850	5700

MODEL			2300	2360	2420	2480	2540	2600
Cooling	Cooling capacity (1)	kW	695	830	974	1,116	1,262	1,431
	Absorbed power (1)	kW	266	319	374	438	495	546
	EER (1)		2.61	2.60	2.60	0.00	0.00	0.00
Free-Cooling cycle	Air temperature (2)	°C	-4.3	-4.3	-4.6	-4.7	-4.1	-3.9
	Absorbed power (2)	kW	20	22	22	25	29	36
Compressor	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	Stepless					
Water circuit	Water flow	l/s	35.92	42.91	50.35	57.70	65.25	73.96
	Pressure drops	kPa	160	164	160	200	225	300
	Water connections	DN	150	150	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	437	565	649	713	720	896
	Max. starting current	A	526	770	812	848	855	1688
Unit with tank and pump	Pump available static pressure	kPa	100	120	140	160	125	130
	Tank water volume	l	2000	2000	2000	---	---	---
	Water connections	DN	150	150	200	200	200	200
Sound pressure	STD version (3)	dB(A)	78	80	80	80	80	81
	With SL accessory (3)	dB(A)	75	77	77	77	77	78
Weights	Transport weight (4)	Kg	6820	7710	8605	9590	10070	11750
	Operating weight (4)	Kg	7420	8350	9410	10550	10900	12970

DIMENSIONS			2120	2130	2150	2170	2190	2200	2260	2300	2360	2420	2480	2540	2600
L	STD	mm	4400	4400	4400	4400	5550	5550	6700	10050	10050	10050	10050	11100	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

IACAY/FC 2120÷2600

500	1800	1000	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

Electrical board side

FROM 170 KW TO 1500 KW.

IACA 270V÷2560V

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The liquid Chillers and Heat Pumps of the IACA 270V÷2560V series are designed to satisfy the needs of large-sized service sector or industrial areas.
They are used, in combination with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. Equipped with axial fans, Screw compressors and shell and tube exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. The use of large condensing coils and fans with high unit efficiency, as well as the optimization of the hydraulic and cooling circuit and the use of latest generation screw compressors, combined with a suitable sizing of the user system, allows to obtain high efficiency during operation with remarkably reduced energy consumption.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

VERSION

IACA	***IACA/SSL***
Cooling only	Super silenced cooling only
CHA/WP	***IACA/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors, with built-in oil separator, suction filter, cranckcase heater, oil sight glass and thermal protection.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic high and low pressure gauges.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RZ	Compressors stepless control
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACA 270V÷2560V

MODEL			270V	280V	290V	2110V	2120V	2150V	2160V	2180V	2200V	2220V
Cooling	Cooling capacity (1)	kW	170	198	227	259	290	338	386	433	480	541
	Absorbed power (1)	kW	67	77	87	97	107	125	141	161	171	189
	EER (1)		2.54	2.57	2.61	2.67	2.71	2.70	2.74	2.69	2.81	2.86
Cooling (EN14511)	Cooling capacity (1)	kW	169	197	226	258	289	337	385	432	479	539
	Absorbed power (1)	kW	68	78	88	98	108	126	142	163	172	191
	EER (1)		2.51	2.54	2.57	2.63	2.67	2.68	2.71	2.66	2.78	2.83
	ESEER		3.26	3.52	3.48	3.66	3.48	3.68	3.60	3.56	3.84	3.74
Heating	Heating capacity (2)	kW	190	215	253	280	314	372	417	478	514	585
	Absorbed power (2)	kW	72	82	92	102	114	132	149	172	179	201
	COP (2)		2.64	2.62	2.75	2.75	2.75	2.82	2.80	2.78	2.87	2.91
Heating (EN14511)	Heating capacity (2)	kW	190	216	254	281	316	373	418	480	516	587
	Absorbed power (2)	kW	73	83	94	105	117	134	152	176	182	206
	COP (2)		2.61	2.59	2.70	2.69	2.69	2.79	2.76	2.73	2.83	2.86
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6									
Evaporator	Water flow	l/s	8.12	9.46	10.85	12.37	13.86	16.15	18.44	20.69	22.93	25.85
	Pressure drops	kPa	30	34	45	50	55	25	36	42	35	42
	Water connections	DN	125	125	125	125	125	150	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	128	164	164	211	207	231	283	307	339	378
	Max. starting current	A	190	252	252	338	340	352	422	494	568	591
Unit with tank and pump	Pump available static pressure	kPa	180	160	140	155	165	195	165	175	170	160
	Tank water volume	l	1100	1100	1100	1100	2000	2000	2000	2000	2000	2000
	Water connections	DN	100	100	100	100	100	100	125	125	125	150
Sound pressure	STD version (3)	dB(A)	75	75	75	75	77	77	78	78	78	78
	With SL accessory (3)	dB(A)	72	72	72	72	74	74	75	75	75	75
	SSL version (3)	dB(A)	67	67	68	68	68	69	69	69	69	70
Weights	Transport weight	Kg	2120	2250	2270	2380	2730	3250	3870	3930	4105	4465
	Operating weight	Kg	2190	2320	2340	2450	2820	3380	4100	4160	4320	4680

MODEL			2240V	2320V	2330V	2340V	2360V	2400V	2420V	2460V	2500V	2560V
Cooling	Cooling capacity (1)	kW	608	687	758	828	910	992	1077	1235	1397	1500
	Absorbed power (1)	kW	212	235	259	281	306	336	368	410	473	504
	EER (1)		2.87	2.92	2.93	2.95	2.97	2.95	2.93	3.01	2.95	2.98
Cooling (EN14511)	Cooling capacity (1)	kW	606	685	756	826	907	989	1074	1232	1393	1496
	Absorbed power (1)	kW	214	238	261	283	309	339	371	413	477	508
	EER (1)		2.83	2.88	2.90	2.91	2.94	2.92	2.90	2.98	2.92	2.94
	ESEER		3.85	3.94	3.93	3.91	3.90	4.00	4.11	3.99	4.00	4.11
Heating	Heating capacity (2)	kW	640	720	809	893	936	1046	1113	1342	---	---
	Absorbed power (2)	kW	222	245	275	300	313	350	380	430	---	---
	COP (2)		2.88	2.94	2.94	2.98	2.99	2.99	2.93	3.12	---	---
Heating (EN14511)	Heating capacity (2)	kW	643	723	811	896	939	1049	1116	1346	---	---
	Absorbed power (2)	kW	227	251	280	306	319	357	387	440	---	---
	COP (2)		2.83	2.88	2.90	2.93	2.94	2.94	2.89	3.06	---	---
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6									
Evaporator	Water flow	l/s	29.05	32.82	36.22	39.56	43.48	47.40	51.46	59.01	66.75	71.67
	Pressure drops	kPa	46	48	33	36	40	35	35	38	43	42
	Water connections	DN	200	200	200	200	200	200	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	434	468	544	544	638	674	707	819	902	955
	Max. starting current	A	729	729	1037	1037	1149	1167	1293	1645	1835	1949
Unit with tank and pump	Pump available static pressure	kPa	155	130	165	140	135	205	200	180	160	150
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	3000	3000
	Water connections	DN	150	150	150	150	150	200	200	200	200	200
Sound pressure	STD version (3)	dB(A)	78	78	79	79	79	79	79	79	79	79
	With SL accessory (3)	dB(A)	75	75	76	76	76	76	76	76	76	76
	SSL version (3)	dB(A)	70	70	70	70	70	70	70	70	1	1
Weights	Transport weight	Kg	4505	5045	5690	5890	6240	6940	7365	8360	9240	9750
	Operating weight	Kg	4720	5240	5900	6100	6450	7240	7650	8780	9660	10230

DIMENSIONS			270V	280V	290V	2110V	2120V	2150V	2160V	2180V	2200V	2220V	2240V	2320V	2330V	2340V	2360V	2400V	2420V	2460V	2500V	2560V
L	STD	mm	3350	3350	3350	3350	4400	4400	5550	5550	5550	6700	6700	7750	8900	8900	10050	10050	10050	12250	13400	13400
	SSL	mm	3350	3350	4400	4400	4400	5550	6700	6700	6700	8900	8900	8900	10050	10050	10050	12250	12250	13400	---	---
	WP	mm	4400	4400	4400	4400	5550	5550	6700	6700	6700	7750	7750	7750	10050	10050	10050	10050	12250	13400	---	---
	WP/SSL	mm	4400	4400	5550	5550	5550	6700	7750	7750	7750	10050	10050	10050	10050	10050	10050	13400	13400	---	---	---
W	*	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD-WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500	---	---
	WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	---	---	---

CLEARANCE AREA

IACA 270V÷2560V

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions and units with tank and pump are specified on technical brochure.

* STD-SSL-WP-WP/SSL

Electrical board side

FROM 172 KW TO 1128 KW.

IACA/FC 270V÷2460V

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The liquid Chillers of the IACA/FC 270V÷2460V series offer innovative technology to meet the needs of large systems for industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.

VERSION

IACA/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors, with built-in oil separator, suction filter, cranckcase heater, oil sight glass and thermal protection.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic high and low pressure gauges.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature Kit
RZ	Compressors stepless control
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IACA/FC 270V÷2460V

MODEL			270V	280V	290V	2110V	2120V	2150V	2160V	2180V	2200V
Cooling	Cooling capacity (1)	kW	172	193	219	247	277	319	366	410	464
	Absorbed power (1)	kW	66	80	88	102	112	122	146	169	175
	EER (1)		2.72	2.52	2.60	2.52	2.58	2.72	2.60	2.53	2.76
Free-Cooling cycle	Air temperature (2)	°C	0.0	-1.5	-2.5	-3.3	-3.2	-1.0	-2.5	-3.2	-2.3
	Absorbed power (2)	kW	8	8	8	8	12	16	16	16	16
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°					6				
Water circuit	Water flow	l/s	8.88	9.98	11.33	12.78	14.35	16.50	18.91	21.21	23.97
	Pressure drops	kPa	77	95	110	122	112	45	55	62	83
	Water connections	"G	4	4	4	4	4	4	5	5	5
Electrical characteristics	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	128	164	164	211	207	238	283	307	339
	Max. starting current	A	190	252	252	338	340	360	422	494	568
Unit with tank and pump	Pump available static pressure	kPa	163	125	95	148	173	205	175	148	152
	Tank water volume	l	1100	1100	1100	1100	2000	2000	2000	2000	2000
	Water connections	"G	4"	4"	4"	4"	4"	4"	5"	5"	5"
Sound pressure	STD version (3)	dB(A)	75	75	75	75	77	78	78	78	78
	With SL accessory (3)	dB(A)	72	72	72	72	73	75	75	75	75
Weights	Transport weight (4)	Kg	2620	2750	2770	2800	2950	3920	4070	4140	4810
	Operating weight (4)	Kg	2800	2930	2950	2980	3180	4280	4430	4500	5230

MODEL			2220V	2240V	2320V	2330V	2340V	2360V	2400V	2420V	2460V
Cooling	Cooling capacity (1)	kW	518	566	636	704	771	837	917	1,005	1,128
	Absorbed power (1)	kW	201	217	250	286	303	315	337	371	445
	EER (1)		2.68	2.71	2.65	2.57	2.65	2.77	2.83	2.82	2.64
Free-Cooling cycle	Air temperature (2)	°C	-3.0	-3.0	-2.5	-3.8	-3.2	-4.0	-3.3	-4.3	-4.2
	Absorbed power (2)	kW	20	20	24	24	28	28	28	28	36
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°					6				
Water circuit	Water flow	l/s	26.78	29.24	32.89	36.40	39.87	43.27	47.38	51.95	58.32
	Pressure drops	kPa	83	84	130	135	165	176	152	145	203
	Water connections	"G	5	6	6	6	6	6	8	8	8
Electrical characteristics	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	378	434	476	544	552	638	674	707	819
	Max. starting current	A	591	729	736	1037	1045	1149	1167	1293	1645
Unit with tank and pump	Pump available static pressure	kPa	145	141	125	110	65	94	113	105	77
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	3000	3000
	Water connections	"G	6"	6"	6"	6"	6"	6"	8"	8"	8"
Sound pressure	STD version (3)	dB(A)	78	78	79	80	81	80	80	81	80
	With SL accessory (3)	dB(A)	75	75	76	77	78	77	77	78	77
Weights	Transport weight (4)	Kg	5080	5110	6350	6440	7190	7240	8250	8600	9940
	Operating weight (4)	Kg	5600	5630	6930	7040	7820	7870	8950	9430	10940

DIMENSIONS			270V	280V	290V	2110V	2120V	2150V	2160V	2180V	2200V	2220V	2240V	2320V	2330V	2340V	2360V	2400V	2420V	2460V
L	STD	mm	4400	4400	4400	4400	4400	5550	5550	5550	6700	6700	6700	8900	8900	10050	10050	10050	10050	12250
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750

CLEARANCE AREA

IACA/FC 270V÷2460V

500	1800	1000	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

Electrical board side


INNOVA
R410A

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

FROM 4,5 KW TO 48 KW.

IWCWK 101.5÷115

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH ROTARY/ SCROLL COMPRESSOR AND PLATE EXCHANGERS.

The IWCWK 101.5÷115 liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for small and medium domestic or industrial systems which require medium-low power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self-contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
These units can be combined with terminal units or with intermediate heat exchangers for process cooling applications.
Equipped with prepainted plate structure, Rotary/Scroll compressor and plate-type exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in the version with tank and pump.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

IWCWK	***IWCWK/SP***
Cooling only	Cooling only with tank and pump
IWCWK/WP	***IWCWK/WP/SP***
Reversible Heat Pump	Reversible Heat Pump with tank and pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Condenser AISI 316 stainless steel braze welded plates type, with pressostatic valve.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch (105÷115).
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
PS	Single circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
PV	Pressure valve (for cooling only versions)
VV	Pressure valve and solenoid valve (for WP versions)
AG	Rubber shock absorbers

IWCWK 101.5÷115

MODEL			101.5	101.8	102	102.5	103	104	105
Cooling	Cooling capacity (1)	kW	4.5	5.6	6.9	8.1	9.3	11.3	13.9
	Absorbed power (1)	kW	1.1	1.4	1.8	2.0	2.3	2.9	3.4
	EER (1)		4.09	4.00	3.83	4.05	4.04	3.90	4.09
Cooling (EN14511)	Cooling capacity (1)	kW	4.5	5.5	6.8	8.0	9.2	11.2	13.8
	Absorbed power (1)	kW	1.2	1.5	2.0	2.2	2.5	3.2	3.7
	EER (1)		3.75	3.67	3.40	3.64	3.68	3.50	3.73
	ESEER		4.32	4.12	4.04	4.27	4.32	4.13	4.37
Heating	Heating capacity (2)	kW	5.7	7.0	8.5	10.1	12.1	14.5	17.0
	Absorbed power (2)	kW	1.4	1.7	2.2	2.5	3.0	3.5	4.3
	COP (2)		4.07	4.12	3.86	4.04	4.03	4.14	3.95
Heating (EN14511)	Heating capacity (2)	kW	4.9	6.5	8.1	9.5	11.5	13.3	16.6
	Absorbed power (2)	kW	1.5	1.8	2.5	2.8	3.7	3.9	4.5
	COP (2)		3.27	3.61	3.24	3.39	3.11	3.41	3.69
	SCOP (3)		4.32	4.27	3.93	4.26	4.39	4.45	4.39
	Energy Efficiency (3)	%	165	163	149	162	168	170	168
	Energy Class (3)		A++	A++	A+	A++	A++	A++	A++
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.21	0.27	0.33	0.39	0.45	0.53	0.66
	Pressure drops	kPa	21	30	44	26	30	45	42
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.07	0.09	0.11	0.12	0.14	0.16	0.20
	Pressure drops	kPa	3	4	5	6	8	10	5
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	8	10	13	14	16	22	9
	Max. starting current	A	37	43	62	62	75	86	50
Unit with tank and pump	Pump available static pressure	kPa	40	33	38	55	50	35	128
	Tank water volume	l	50	50	50	50	50	50	50
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	37	37	37	37	38	40	40
Weights	Transport weight (5)	Kg	77	78	80	84	87	90	93
	Operating weight (5)	Kg	78	79	81	85	88	91	95

IWCWK 101.5÷115			106	107	108	109	110	113	115
Cooling	Cooling capacity (1)	kW	16.6	19.4	22.3	26.9	32.6	38.5	47.7
	Absorbed power (1)	kW	4.1	4.8	5.6	6.9	8.0	9.4	11.6
	EER (1)		4.05	4.04	3.98	3.90	4.08	4.10	4.11
Cooling (EN14511)	Cooling capacity (1)	kW	16.5	19.2	22.1	26.7	32.3	38.2	47.3
	Absorbed power (1)	kW	4.4	5.3	6.1	7.5	8.8	10.2	12.2
	EER (1)		3.75	3.62	3.62	3.56	3.67	3.75	3.88
	ESEER		4.26	4.35	4.29	4.27	4.50	4.51	4.53
Heating	Heating capacity (2)	kW	20.2	23.6	27.5	32.8	38.6	45.6	57.7
	Absorbed power (2)	kW	5.5	6.2	7.1	8.3	10.2	11.8	14.5
	COP (2)		3.67	3.81	3.87	3.95	3.78	3.86	3.98
Heating (EN14511)	Heating capacity (2)	kW	19.1	21.8	25.5	30.8	36.8	43.2	54.7
	Absorbed power (2)	kW	5.7	6.4	7.3	9.0	10.9	12.5	15.4
	COP (2)		3.35	3.41	3.49	3.42	3.38	3.46	3.55
	SCOP (3)		3.99	4.08	4.08	4.34	3.96	4.20	4.30
	Energy Efficiency (3)	%	152	155	155	166	150	160	164
	Energy Class (3)		A++	A++	A++	A++	A+	A++	A++
Compressor	Type		Scroll						
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.80	0.93	1.07	1.28	1.56	1.84	2.28
	Pressure drops	kPa	29	40	47	48	60	49	54
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.24	0.29	0.33	0.40	0.49	0.56	0.71
	Pressure drops	kPa	8	10	13	20	21	22	22
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	11	14	15	18	20	23	29
	Max. starting current	A	71	74	74	142	142	147	197
Unit with tank and pump	Pump available static pressure	kPa	131	100	93	187	160	131	155
	Tank water volume	l	50	50	50	150	150	150	150
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	41	42	44	44	44	45	45
Weights	Transport weight (5)	Kg	96	98	100	190	198	204	218
	Operating weight (5)	Kg	98	100	102	193	201	207	221

DIMENSIONS			101.5	101.8	102	102.5	103	104	105	106	107	108	109	110	113	115
L	STD	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREA

IWCWK 101.5÷115

200	500	800	500

IWCWK 109÷115

500	800	800	800

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 15 to 35 °C.
2. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 54 KW TO 189 KW.

IWCWK 218P÷460P

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

The IWCWK 218P÷460P liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium-sized domestic or industrial systems which require medium power, space-saving units and quiet operation. This range is ideal for indoor installation and, equipped with a self-contained structure, it reduces the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. These units are used to remove the heat developed during industrial processes or, combined with terminal units, for the air conditioning of the rooms. They can be supplied with Modbus RTU protocol through RS485 serial interface. Equipped with polyester powder plate painting structure, Scroll compressors and plate-type exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in the version with tank and pump; and a series of accessories, factory fitted or supplied separately, like desuperheater and total heat recovery, rounds off the variety of equipment in this product range.

VERSION

IWCWK	***IWCWK/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers

IWCWK 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	53.7	60.6	69.9	80.0	94.3	109	126	145	165	189
	Absorbed power (1)	kW	12.9	14.4	16.8	18.9	22.0	26.0	28.8	33.1	38.1	44.1
	EER (1)		4.16	4.21	4.16	4.23	4.29	4.19	4.38	4.38	4.33	4.29
Cooling (EN14511)	Cooling capacity (1)	kW	53.4	60.2	69.5	79.5	93.8	108	125	144	164	188
	Absorbed power (1)	kW	13.7	15.5	17.8	20.1	23.1	27.6	30.2	34.6	39.7	46.1
	EER (1)		3.90	3.88	3.90	3.96	4.06	3.91	4.14	4.16	4.13	4.08
	ESEER		4.91	4.80	4.88	5.04	5.41	4.75	5.10	5.31	5.11	5.33
Heating	Heating capacity (2)	kW	70.3	77.7	90.5	102	117	136	154	175	199	230
	Absorbed power (2)	kW	18.2	20.2	23.4	26.0	29.1	33.5	38.8	43.1	52.2	57.3
	COP		3.86	3.85	3.87	3.92	4.02	4.06	3.97	4.06	3.81	4.01
Heating (EN14511)	Heating capacity (2)	kW	64.5	71.3	84.0	95.7	107	122	139	165	178	216
	Absorbed power (2)	kW	18.9	20.9	24.4	27.9	30.1	34.9	39.9	45.3	51.3	58.8
	COP (2)		3.41	3.41	3.44	3.43	3.55	3.50	3.48	3.64	3.47	3.67
	SCOP (3)		4.26	4.15	4.47	4.62	4.65	4.61	4.90	4.71	4.63	4.67
	Energy Efficiency (3)	%	162	158	170	176	178	176	188	180	177	179
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.57	2.90	3.34	3.82	4.50	5.22	6.04	6.93	7.88	9.05
	Pressure drops	kPa	54	48	49	51	44	57	53	59	49	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Condenser	Water flow	l/s	3.16	3.56	4.11	4.69	5.52	6.40	7.36	8.45	9.62	11.07
	Pressure drops	kPa	47	51	52	43	46	54	36	39	43	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz					400/3/50					
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	105	110	100	135	120	130	120	110	120	100
	Tank water volume	l	300	300	300	300	300	300	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	56	57	57	58	59	58	58	60	60	61
	With SL accessory (4)	dB(A)	51	52	52	53	54	53	53	55	55	56
Weights	Transport weight (5)	Kg	384	393	411	423	453	622	658	681	767	803
	Operating weight (5)	Kg	390	400	420	435	470	640	680	705	790	830

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
UNIT	L	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
UNIT + SPU/SPD	L	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
	W	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
	H	mm	680	680	680	680	680	680	680	680	680	680

CLEARANCE AREA

IWCWK 218P÷460P

0	300	800	300

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of WP version are specified on technical brochure.

FROM 55 KW TO 190 KW.

IWCWK 218÷460

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The IWCWK 218÷460 liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium-sized domestic or industrial systems which require medium power, space-saving units and quiet operation. This range is ideal for indoor installation and, equipped with a self-contained structure, it reduces the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. These units are used to remove the heat developed during industrial processes or, combined with terminal units, for the air conditioning of the rooms. They can be supplied with Modbus RTU protocol through RS485 serial interface. Equipped with Scroll compressors and shell and tube exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in the version with tank and pump; a series of accessories, factory fitted or supplied separately, like desuperheater and total heat recovery, rounds off the variety of equipment in this product range.

VERSION

IWCWK	***IWCWK/WP***
Cooling only	Reversible Heat Pump
IWCWK/SSL	***IWCWK/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Shell and tube type condenser with one circuit on the refrigerant side and one on the water side in 218÷345 models; with two independent circuits on the refrigerant side and one on the water side in 452 and 460 models.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 218÷345 models; with two independent circuits on the refrigerant side and one on the water side in 452 and 460 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
SP	Inertial tank
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWK 218÷460

MODEL			218	220	224	226	230	336	339	345	452	460
Cooling	Cooling capacity (1)	kW	55.3	60.7	68.8	80.4	95.4	108	125	146	167	190
	Absorbed power (1)	kW	13.3	14.4	16.6	19.1	22.2	26.0	28.5	33.4	38.6	44.5
	EER (1)		4.16	4.22	4.14	4.21	4.30	4.15	4.39	4.37	4.33	4.27
Cooling (EN14511)	Cooling capacity (1)	kW	55.0	60.3	68.3	79.7	94.7	107	124	146	166	189
	Absorbed power (1)	kW	13.8	15.0	17.4	20.1	23.3	27.2	29.7	34.8	40.1	46.2
	EER (1)		3.99	4.02	3.93	3.97	4.06	3.93	4.18	4.20	4.14	4.09
	ESEER		5.03	4.88	4.78	4.97	5.40	4.72	5.03	5.37	5.03	5.32
Heating	Heating capacity (2)	kW	72.4	77.9	88.9	103	118	135	153	177	202	231
	Absorbed power (2)	kW	18.8	20.2	23.1	26.3	29.4	33.5	38.4	43.5	52.8	57.9
	COP		3.85	3.86	3.85	3.92	4.01	4.03	3.98	4.07	3.83	3.99
Heating (EN14511)	Heating capacity (2)	kW	72.8	78.5	89.7	103	119	136	154	178	204	232
	Absorbed power (2)	kW	19.5	21.1	24.2	27.4	30.9	35.1	40.0	45.2	54.9	60.0
	COP (2)		3.73	3.72	3.71	3.76	3.85	3.87	3.85	3.94	3.72	3.87
	SCOP (3)		4.26	4.46	4.45	4.61	4.68	4.62	4.91	4.69	4.76	4.87
	Energy Efficiency (3)	%	162	170	170	176	179	176	188	179	182	187
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.64	2.90	3.29	3.84	4.56	5.14	5.98	6.99	7.97	9.08
	Pressure drops	kPa	32	42	55	74	62	55	57	49	63	49
	Water connections	"G	1 ½"	1 ½"	2"	2"	2"	2 ½"	2 ½"	3"	3"	3"
Condenser	Water flow	l/s	3.25	3.56	4.04	4.71	5.58	6.33	7.28	8.54	9.74	11.13
	Pressure drops	kPa	15	17	18	20	27	33	23	30	20	27
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	125	115	95	110	100	130	115	100	105	100
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
	Water connections	"G	2"	2"	2"	2"	2"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (4)	dB(A)	58	58	59	60	61	61	62	63	63	64
	With SL accessory (4)	dB(A)	55	55	56	57	58	58	59	60	60	61
	SSL version (4)	dB(A)	53	53	54	55	56	56	57	58	58	59
Weights	Transport weight (5)	Kg	465	470	478	488	504	590	606	657	840	856
	Operating weight (5)	Kg	495	500	510	520	540	630	650	710	900	920

DIMENSIONS			218	220	224	226	230	336	339	345	452	460
L	STD/SSL	mm	2100	2100	2300	2100	2700	2400	2400	2400	2400	2600
W	STD/SSL	mm	830	830	830	830	830	830	830	830	830	830
H	STD/SSL	mm	1300	1300	1300	1300	1300	1300	1300	1300	1450	1450

CLEARANCE AREA

IWCWK 218÷460

500	500	800	1500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 4,0 KW TO 40 KW.

IRMEK 101.5÷115

CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS WITH ROTARY/ SCROLL COMPRESSOR AND PLATE EXCHANGER.

The liquid Chillers and Heat Pumps for remote condensation of the IRMEK 101.5÷115, with R410A refrigerant, series are designed for domestic or service sector systems which require medium power, space-saving units and quiet operation. Combined with remote condenser, these units are ideal for indoor installation and, equipped with a self-contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
Equipped with prepainted plate structure, Rotary/Scroll compressor and plate-type exchanger, these units have cooling and hydraulic circuits designed for quick installation and high energy efficiency, even in the version with tank and pump.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

IRMEK	***IRMEK/SP***
Cooling only	Cooling only with tank and pump
IRMEK/WP	***IRMEK/WP/SP***
Reversible Heat Pump	Reversible Heat Pump with tank and pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch (105÷115).
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
PS	Single circulating pump
RL	Liquid receiver
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
AG	Rubber shock absorbers

IRMEK 101.5÷115

MODEL			101.5	101.8	102	102.5	103	104	105
Cooling	Cooling capacity (1)	kW	3.9	4.9	6.0	7.1	8.2	9.8	11.7
	Absorbed power (1)	kW	1.4	1.8	2.1	3.0	3.3	3.7	3.3
Heating	Heating capacity (2)	kW	4.9	6.2	8.0	9.1	10.4	12.8	15.0
	Absorbed power (2)	kW	1.5	1.9	2.4	2.7	3.0	4.2	4.5
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.18	0.23	0.29	0.34	0.40	0.47	0.56
	Pressure drops	kPa	15	15	20	18	20	25	35
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	12	12	12	12	12	12	16
	Liquid line	Ø mm	10	10	10	10	10	10	12
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	8	10	13	14	16	22	9
	Max. starting current	A	37	43	62	62	75	86	50
Unit with tank and pump	Pump available static pressure	kPa	50	45	75	70	70	60	180
	Tank water volume	l	50	50	50	50	50	50	50
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD version (3)	dB(A)	37	37	37	37	38	40	40
Weights	Transport weight (4)	Kg	74	75	77	81	84	87	86
	Operating weight (4)	Kg	75	76	78	82	85	88	88

MODEL			106	107	108	109	110	113	115
Cooling	Cooling capacity (1)	kW	14.1	16.5	19.4	23.4	27.9	32.9	40.3
	Absorbed power (1)	kW	5.3	6.1	7.2	7.9	9.4	11.0	13.4
Heating	Heating capacity (2)	kW	17.9	21.3	25.1	29.5	35.3	41.7	51.6
	Absorbed power (2)	kW	5.6	6.6	7.8	8.4	10.2	11.8	14.3
Compressor	Type		Scroll						
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.67	0.79	0.93	1.12	1.34	1.57	1.92
	Pressure drops	kPa	28	35	39	40	45	40	40
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	16	16	16	22	22	22	22
	Liquid line	Ø mm	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	11	14	15	18	20	23	29
	Max. starting current	A	71	74	74	142	142	147	197
Unit with tank and pump	Pump available static pressure	kPa	170	140	110	215	130	155	235
	Tank water volume	l	50	50	50	150	150	150	150
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD version (3)	dB(A)	41	42	44	44	44	45	45
Weights	Transport weight (4)	Kg	89	91	93	183	189	195	206
	Operating weight (4)	Kg	91	93	95	186	192	198	209

DIMENSIONS			101.5	101.8	102	102.5	103	104	105	106	107	108	109	110	113	115
L	STD	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREA

IRMEK 101.5÷115

200	500	800	500

IRMEK 109÷115

500	800	800	800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, condensing temperature 50 °C.
2. Heated water from 40 to 45 °C, evaporating temperature 0 °C.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

FROM 49 KW TO 171 KW.

IRMEK 218P÷460P

CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGER.

IRMEK 218P÷460P series liquid Chillers and Heat Pumps for remote condensation, with R410A refrigerant, are designed to meet the needs of residential or industrial-type systems requiring high power together with space-saving and quiet operation. These units are ideal for indoor installation and, equipped with a self-contained structure, minimise overall dimensions while also facilitating installation and maintenance operations. Equipped with polyester plate powder painting structure, Scroll compressors and plate-type exchanger they have refrigerant and hydraulic circuits, even in the version with tank, with pump or tank and pump, complete with everything necessary for quick installation operations and for high energy efficiencies. A number of accessories, factory fitted or supplied separately, such as the desuperheater or the total heat recuperator, enhance and complete the equipment of this range.

VERSION

IRMEK	***IRMEK/WP/SP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 218P÷345P models; with two independent circuits on the refrigerant side and one on the water side in 452P and 460P models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
AG	Rubber shock absorbers
AM	Spring shock absorbers

IRMEK 218P÷460P

MODEL			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
Cooling	Cooling capacity (1)	kW	49.3	55.4	62.4	71.4	84.5	95.8	111	130	145	171
	Absorbed power (1)	kW	15.6	17.5	19.2	21.8	26.1	29.7	33.2	39.1	43.9	52.0
Heating	Heating capacity (2)	kW	57.7	63.8	72.1	82.2	93.6	104	118	144	152	188
	Absorbed power (2)	kW	18.2	20.2	22.5	24.9	28.1	33.1	37.6	41.5	51.3	57.1
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.36	2.65	2.98	3.41	4.04	4.58	5.26	6.22	6.89	8.16
	Pressure drops	kPa	47	42	41	42	40	48	44	51	41	40
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Connections	Delivery line	Ø mm	28	28	28	28	28	28	28	28	2 x 28	2 x 28
	Liquid line	Ø mm	22	22	22	22	22	22	22	22	2 x 22	2 x 22
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Sound pressure	STD version (3)	dB(A)	56	57	57	58	59	58	58	60	60	61
	With SL accessory (3)	dB(A)	51	52	52	53	54	53	53	55	55	56
Weights	Transport weight (4)	Kg	347	357	376	386	397	562	581	595	669	708
	Operating weight (4)	Kg	350	360	380	390	405	570	590	605	680	720

DIMENSIONS			218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
UNIT	L	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
	W	mm	680	680	680	680	680	680	680	680	680	680
UNIT + SPU/SPD	L	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
	W	mm	680	680	680	680	680	680	680	680	680	680

CLEARANCE AREA

IRMEK 218P÷460P

0	300	800	300

NOTES

1. Chilled water from 12 to 7 °C, condensing temperature 50 °C.
2. Heated water from 40 to 45 °C, evaporating temperature 0 °C.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

IARCK 4011÷8042

REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the IARCK series are designed to be combined with evaporating units with R410A refrigerant (IRMEK).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IARCK

Base unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

IRMEK	101.5	101.8	102	102.5	103	104	105	106	107	108
IARCK	4011	4011	4011	4011	4011	4012	5011	5011	5012	5013

IRMEK	109	110	113	115						
IARCK	6011	6012	6013	5021						

IRMEK	218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
IARCK	6014	6021	6022	6023	6024	6025	6031	6032	8041	8042

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed controller

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

IARCK 4011÷8042

MODEL			4011	4012	5011	5012	5013	5021	6011	6012	6013	6014
Fan	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Connections	In	Ø mm	22	28	22	28	28	35	28	35	35	35
	Out	Ø mm	18	18	18	18	18	28	22	28	28	28
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50									400/3/50
	Absorbed power	kW	0.24	0.24	0.30	0.75	0.75	1.50	0.67	0.67	0.67	3.20
	Absorbed current	A	1.10	1.10	1.30	3.30	3.30	6.60	3.10	3.10	3.10	4.90
Sound pressure	STD version (1)	dB(A)	47	47	39	48	48	51	48	48	48	59
Weights	Transport weight	Kg	30	30	48	52	55	104	79	87	95	95
	Operating weight	Kg	31	32	49	54	57	109	82	92	101	101

MODEL			6021	6022	6023	6024	6025	6031	6032	8041	8042
Fan	Quantity	n°	2	2	2	2	2	3	3	4	4
Connections	In	Ø mm	35	42	35	42	42	42	54	2x35	2x35
	Out	Ø mm	28	35	28	35	35	35	35	2x28	2x28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	0.99	0.99	3.20	3.20	3.20	3.20	3.20	1.85	1.85
	Absorbed current	A	1.60	1.60	4.90	4.90	4.90	4.90	4.90	2.85	2.85
Sound pressure	STD version (1)	dB(A)	50	50	62	62	62	64	64	53	55
Weights	Transport weight	Kg	150	166	150	166	183	221	236	462	462
	Operating weight	Kg	156	175	156	175	195	230	250	480	476

DIMENSIONS			4011	4012	5011	5012	5013	5021	6011	6012	6013	6014	6021	6022	6023	6024	6025	6031	6032	8041	8042
L	STD	mm	1130	1130	1130	1130	1130	1910	1490	1490	1490	1490	2630	2630	2630	2630	2630	3770	3770	3230	3230
W	STD	mm	900	900	900	900	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	2400	2400
H	STD	mm	980	980	980	980	980	990	990	990	990	990	990	990	990	990	990	990	990	1565	1565

CLEARANCE AREA

IARCK 4011÷8042

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IARCK/SL 4011÷8042

SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the IARCK/SL series are designed to be combined with evaporating units with R410A refrigerant (IRMEK).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IARCK/SL

Silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

IRMEK	101.5	101.8	102	102.5	103	104	105	106	107	108
IARCK/SL	4011	4011	4011	4012	4013	5011	5012	5013	5021	5021

IRMEK	109	110	113	115						
IARCK/SL	5021	6011	6012	6020						

IRMEK	218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
IARCK/SL	6021	6022	6023	6024	6031	6032	6033	6034	8041	8042

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed controller

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

IARCK/SL 4011÷8042

MODEL			4011	4012	4013	5011	5012	5013	5021	6011	6012	6020
Fan	Quantity	n°	1	1	1	1	1	1	2	1	1	2
Connections	In	Ø mm	22	22	22	22	22	28	28	35	35	35
	Out	Ø mm	18	18	18	18	18	18	22	28	28	28
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50									
	Absorbed power	kW	0.13	0.13	0.13	0.24	0.30	0.30	0.60	0.67	0.67	1.34
	Absorbed current	A	0.58	0.58	0.58	1.10	1.30	1.30	2.60	3.10	3.10	6.20
Sound pressure	SL version (1)	dB(A)	35	35	35	42	42	42	45	48	48	50
Weights	Transport weight	Kg	30	30	30	48	48	52	89	87	95	150
	Operating weight	Kg	31	32	33	49	49	54	95	90	100	156

MODEL			6021	6022	6023	6024	6031	6032	6033	6034	8041	8042
Fan	Quantity	n°	2	2	2	2	3	3	3	3	2	2
Connections	In	Ø mm	35	42	35	42	42	42	54	54	2x35	2x42
	Out	Ø mm	28	35	28	35	35	35	35	35	2x28	2x35
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Absorbed power	kW	0.99	0.99	3.20	3.20	0.99	3.20	3.20	3.20	1.85	1.85
	Absorbed current	A	1.60	1.60	4.90	4.90	1.60	4.90	4.90	4.90	2.85	2.85
Sound pressure	SL version (1)	dB(A)	44	44	56	56	46	58	58	58	48	55
Weights	Transport weight	Kg	150	166	150	166	221	221	236	270	462	502
	Operating weight	Kg	156	175	156	175	230	230	250	288	476	524

DIMENSIONS			4011	4012	4013	5011	5012	5013	5021	6011	6012	6020	6021	6022	6023	6024	6031	6032	6033	6034	8041	8042
L	SL	mm	1130	1130	1130	1130	1130	1130	1910	1490	1490	2630	2630	2630	2630	2630	3770	3770	3770	3770	3230	3230
W	SL	mm	900	900	900	900	900	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	2400	2400
H	SL	mm	980	980	980	980	980	980	980	990	990	990	990	990	990	990	990	990	990	990	1565	1565

CLEARANCE AREA

IARCK/SL 4011÷8042

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IARCK/SSL 5011÷8042

SUPER SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the IARCK/SSL series are designed to be combined with evaporating units with R410A refrigerant (IRMEK).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IARCK/SSL
Super silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

IRMEK	101.5	101.8	102	102.5	103	104	105	106	107	108
IARCK/SSL	5011	5011	5011	5011	5011	5012	5012	6011	6011	6011

IRMEK	109	110	113	115						
IARCK/SSL	6012	6021	6021	6021						

IRMEK	218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
IARCK/SSL	6024	6031	6032	6033	6041	8021	8031	8032	8041	8042

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed controller

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

IARCK/SSL 5011÷8042

MODEL			5011	5012	6011	6012	6021	6024	6031	6032
Fan	Quantity	n°	1	1	1	1	2	2	3	3
Connections	In	Ø mm	22	28	28	35	35	42	42	42
	Out	Ø mm	18	18	22	28	28	35	35	35
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50					400/3/50		
	Absorbed power	kW	0.13	0.14	0.33	0.33	0.66	0.99	0.99	0.99
	Absorbed current	A	0.59	0.68	1.60	1.60	3.20	1.60	1.60	1.60
Sound pressure	SSL version (1)	dB(A)	35	35	40	40	42	43	37	45
Weights	Transport weight	Kg	48	52	79	95	150	166	221	221
	Operating weight	Kg	49	54	82	98	156	175	230	230

MODEL			6033	6041	8021	8031	8032	8041	8042
Fan	Quantity	n°	3	4	2	3	3	4	4
Connections	In	Ø mm	54	35	42	42	54	2x35	2x35
	Out	Ø mm	35	28	35	35	42	2x28	2x28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Absorbed power	kW	0.99	0.99	0.84	0.84	0.84	0.84	1.85
	Absorbed current	A	1.60	1.60	1.40	1.40	1.40	1.40	2.85
Sound pressure	SSL version (1)	dB(A)	45	46	44	46	46	46	55
Weights	Transport weight	Kg	236	292	324	413	447	462	462
	Operating weight	Kg	250	304	340	425	465	476	484

DIMENSIONS			5011	5012	6011	6012	6021	6024	6031	6032	6033	6041	8021	8031	8032	8041	8042
L	SSL	mm	1130	1130	1490	1490	2630	2630	3770	3770	3770	4910	3230	4580	4580	3230	3230
W	SSL	mm	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1380	1380	1380	2400	2400
H	SSL	mm	980	980	990	990	990	990	990	990	990	990	1565	1565	1565	1565	1565

CLEARANCE AREA

IARCK/SSL 5011÷8042

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

FROM 217 KW TO 1205 KW.

IWCWK 672P÷12360P

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

The IWCWK 672P÷12360P series liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium and large domestic or industrial systems which require medium-high power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. The unit is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system and providing elevated energy efficiency. The machine can obtain an high energy yield, elimination of generated power surges and elimination of inertial accumulation tanks. The use of components built in large series, making them highly reliable, and management of an high number of compressors allows increased life span and reduction of unit's stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to work with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.

VERSION

IWCWK	***IWCWK/WP***
Cooling only	Reversible Heat Pump
IWCWK/SSL	***IWCWK/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 8104P÷12360P models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers

IWCWK 672P÷12360P

MODEL			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P
Cooling	Cooling capacity (1)	kW	217	243	266	299	335	372	409	448	494
	Absorbed power (1)	kW	53	58	64	71	79	87	96	105	116
	EER (1)		4.09	4.19	4.16	4.21	4.24	4.28	4.26	4.27	4.26
Cooling (EN14511)	Cooling capacity (1)	kW	216	242	265	298	333	371	407	446	492
	Absorbed power (1)	kW	56	61	67	75	83	91	100	110	122
	EER (1)		3.86	3.97	3.96	3.97	4.01	4.08	4.07	4.05	4.03
	ESEER		5.01	5.11	5.09	5.29	5.10	5.34	5.40	5.07	5.40
Heating	Heating capacity (2)	kW	281	310	339	382	424	469	518	566	621
	Absorbed power (2)	kW	67	75	81	89	102	112	120	136	145
	COP (2)		4.19	4.13	4.19	4.29	4.16	4.19	4.32	4.16	4.28
Heating (EN14511)	Heating capacity (2)	kW	255	281	307	345	383	424	467	512	561
	Absorbed power (2)	kW	69	80	84	92	105	115	124	141	150
	COP (2)		3.70	3.51	3.65	3.75	3.65	3.69	3.77	3.63	3.74
	SCOP (3)		4.98	5.11	5.25	5.23	5.39	5.33	5.23	5.47	5.24
	Energy Efficiency (3)	%	191	196	202	201	208	205	201	211	202
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	10.38	11.58	12.70	14.28	15.99	17.75	19.56	21.41	23.59
	Pressure drops	kPa	54	51	56	56	60	47	52	60	57
	Water connections	DN	80	80	80	80	80	80	80	80	80
Condenser	Water flow	l/s	12.79	14.23	15.62	17.52	19.60	21.74	23.96	26.23	28.92
	Pressure drops	kPa	70	74	81	76	67	59	65	75	76
	Water connections	DN	80	80	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	136	151	163	176	201	218	234	251	293
	Max. starting current	A	261	284	331	344	334	385	402	384	461
Sound pressure	STD version (4)	dB(A)	63	65	66	66	66	67	67	67	68
	With SL accessory (4)	dB(A)	59	61	62	62	62	63	63	63	64
	SSL version (4)	dB(A)	56	57	58	58	58	59	59	59	60
Weights	Transport weight	Kg	1047	1103	1123	1159	1352	1422	1442	1642	1730
	Operating weight	Kg	1080	1140	1160	1200	1400	1480	1500	1700	1800

MODEL			12168P	12180P	12210P	12240P	12270P	12300P	12330P	12360P
Cooling	Cooling capacity (1)	kW	545	603	675	762	868	985	1,095	1,205
	Absorbed power (1)	kW	130	145	159	178	206	232	264	290
	EER (1)		4.19	4.16	4.25	4.28	4.21	4.25	0.00	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	542	600	672	760	864	981	1,090	1,199
	Absorbed power (1)	kW	136	153	166	185	215	241	276	304
	EER (1)		3.99	3.92	4.05	4.11	4.02	4.07	0.00	0.00
	ESEER		5.14	5.22	4.42	4.56	4.26	4.36	4.13	3.98
Heating	Heating capacity (2)	kW	689	760	848	956	1,080	1,217	1,349	1,485
	Absorbed power (2)	kW	166	183	205	226	262	292	324	361
	COP (2)		4.15	4.15	4.14	4.23	0.00	0.00	0.00	0.00
Heating (EN14511)	Heating capacity (2)	kW	623	686	765	863	975	1,099	1,220	1,343
	Absorbed power (2)	kW	172	189	211	232	270	300	334	372
	COP (2)		3.62	3.63	3.63	3.72	3.61	0.00	0.00	0.00
	SCOP (3)		-	-	-	-	-	-	-	-
	Energy Efficiency (3)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	26.04	28.83	32.25	36.42	41.48	47.04	52.32	57.56
	Pressure drops	kPa	70	59	60	53	66	61	70	79
	Water connections	DN	80	80	150	150	150	150	150	150
Condenser	Water flow	l/s	32.02	35.50	39.53	44.60	50.93	57.70	64.42	70.86
	Pressure drops	kPa	70	77	60	53	65	61	70	78
	Water connections	DN	80	80	150	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	326	352	399	454	506	559	629	699
	Max. starting current	A	494	519	576	631	720	773	891	961
Sound pressure	STD version (4)	dB(A)	68	69	72	73	74	74	75	75
	With SL accessory (4)	dB(A)	64	64	68	69	70	70	71	71
	SSL version (4)	dB(A)	60	60	64	65	66	66	67	67
Weights	Transport weight	Kg	1930	1968	2806	2884	3184	3558	3658	3708
	Operating weight	Kg	2000	2050	2900	3000	3300	3700	3800	3850

DIMENSIONS			672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P	12180P	12210P	12240P	12270P	12300P	12330P	12360P
L	STD/SSL	mm	2500	2500	2500	2500	3000	3000	3000	3550	3550	4000	4000	4650	4650	4650	4650	4650	4650
W	STD/SSL	mm	800	800	800	800	800	800	800	800	800	800	800	1350	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

CLEARANCE AREA

IWCWK 672P÷12360P

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 218 KW TO 1216 KW.

IWCWK 672÷12360

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The IWCWK 672÷12360 series liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium and large domestic or industrial systems which require medium-high power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. The unit is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system and providing elevated energy efficiency. The machine can obtain an high energy yield, elimination of generated power surges and elimination of inertial accumulation tanks. The use of components built in large series, making them highly reliable, and management of an high number of compressors allows increased life span and reduction of unit's stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to work with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.

VERSION

IWCWK	***IWCWK/WP***
Cooling only	Reversible Heat Pump
IWCWK/SSL	***IWCWK/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Shell and tube type condenser with two independent circuits on the refrigerant side and one on the water side.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 8104÷12360 models.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWK 672÷12360

MODEL			672	678	682	690	8104	8112	8120	10130	10150
Cooling	Cooling capacity (1)	kW	218	241	263	293	333	364	409	450	496
	Absorbed power (1)	kW	54	58	65	73	80	89	95	108	118
	EER (1)		4.04	4.16	4.05	4.01	4.16	4.09	4.31	4.17	4.20
Cooling (EN14511)	Cooling capacity (1)	kW	218	241	263	293	333	364	409	450	496
	Absorbed power (1)	kW	54	58	65	73	80	89	95	108	118
	EER (1)		4.04	4.16	4.05	4.01	4.16	4.09	4.31	4.17	4.20
	ESEER		5.06	5.14	5.24	5.30	5.22	5.34	5.74	5.19	5.54
Heating	Heating capacity (2)	kW	282	307	335	374	421	460	518	568	623
	Absorbed power (2)	kW	68	75	82	92	103	114	119	140	148
	COP (2)		4.15	4.09	4.09	4.07	4.09	4.04	4.35	4.06	4.21
Heating (EN14511)	Heating capacity (2)	kW	284	309	336	375	423	462	520	571	625
	Absorbed power (2)	kW	70	78	84	94	106	117	122	144	153
	COP (2)		4.06	3.96	4.00	3.99	3.99	3.95	4.26	3.97	4.08
	SCOP (3)		4.98	5.26	5.18	5.01	5.31	5.07	5.31	5.35	5.18
	Energy Efficiency (3)	%	191	202	199	192	204	195	204	206	199
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	10.43	11.49	12.56	14.00	15.90	17.38	19.56	21.50	23.68
	Pressure drops	kPa	38	38	24	27	31	25	25	36	31
Condenser	Water flow	l/s	12.88	14.13	15.53	17.33	19.56	21.46	23.91	26.46	29.10
	Pressure drops	kPa	31	28	31	36	35	36	31	35	44
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	136	151	163	176	201	218	234	251	293
	Max. starting current	A	261	284	331	344	334	385	402	384	461
Sound pressure	STD version (4)	dB(A)	63	65	66	66	66	67	67	67	68
	With SL accessory (4)	dB(A)	59	61	62	62	62	63	63	63	64
	SSL version (4)	dB(A)	56	57	58	58	58	59	59	59	60
Weights	Transport weight	Kg	1370	1399	1544	1554	1819	2024	2076	2449	2493
	Operating weight	Kg	1470	1500	1680	1690	1950	2230	2280	2650	2700

MODEL			12168	12180	12210	12240	12270	12300	12330	12360
Cooling	Cooling capacity (1)	kW	562	609	689	777	886	1,004	1,117	1,216
	Absorbed power (1)	kW	133	147	161	183	210	235	267	293
	EER (1)		4.23	4.14	4.28	4.25	4.22	0.00	0.00	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	562	609	689	777	886	1,004	1,117	1,216
	Absorbed power (1)	kW	133	147	162	184	210	235	268	294
	EER (1)		4.23	4.14	4.25	4.22	4.22	0.00	0.00	0.00
	ESEER		5.42	5.44	5.64	5.12	5.03	4.81	4.93	4.82
Heating	Heating capacity (2)	kW	709	767	864	975	1,101	1,242	1,376	1,500
	Absorbed power (2)	kW	170	185	208	233	267	295	328	365
	COP (2)		4.17	4.15	4.15	4.18	0.00	0.00	0.00	0.00
Heating (EN14511)	Heating capacity (2)	kW	712	770	867	979	1,106	1,248	1,382	1,507
	Absorbed power (2)	kW	175	191	214	240	276	306	338	377
	COP (2)		4.07	4.03	4.05	4.08	0.00	0.00	0.00	0.00
	SCOP (3)		-	-	-	-	-	-	-	-
	Energy Efficiency (3)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	26.83	29.10	32.90	37.12	42.31	47.97	53.39	58.11
	Pressure drops	kPa	34	34	27	38	38	59	45	53
Condenser	Water flow	l/s	32.95	35.87	40.27	45.51	51.95	58.76	65.62	71.56
	Pressure drops	kPa	42	47	49	43	55	30	35	40
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	326	352	399	454	506	559	629	699
	Max. starting current	A	494	519	576	631	720	773	891	961
Sound pressure	STD version (4)	dB(A)	68	69	72	73	74	74	75	75
	With SL accessory (4)	dB(A)	64	64	68	69	70	70	71	71
	SSL version (4)	dB(A)	60	60	64	65	66	66	67	67
Weights	Transport weight	Kg	2728	2863	3568	3446	3772	4300	4370	4440
	Operating weight	Kg	2960	3160	3950	3800	4110	4650	4720	4790

DIMENSIONS			672	678	682	690	8104	8112	8120	10130	10150	12168	12180	12210	12240	12270	12300	12330	12360
L	STD/SSL	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3300	3300	3300	4000	4000	4000	4000	4000
W	STD/SSL	mm	800	800	800	800	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

CLEARANCE AREA

IWCWK 672÷12360

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 310 KW TO 2411 KW.

IWCWK/E 190÷2620

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The liquid Chillers of the IWCWK/E 190÷2620 series, with A CLASS energy efficiency and R410A refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
Equipped with latest generation mono-Screw compressors with satellite, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on Screw compressor is also available for getting the highest efficiency at part load: it is equipped with SYNCHRONIZER that allows to extend the useful life of the compressor, ensuring the rotation at every boot, and significantly reduce the inrush current of the unit.

VERSION

IWCWK/E	*IWCWK/E/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each refrigerant circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and Synchronizer
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWK/E 190÷2620

MODEL			190	1110	1130	1150	1160	1200	1220	1240	1290	2190
Cooling	Cooling capacity (1)	kW	310	375	452	493	549	678	768	854	1,035	625
	Absorbed power (1)	kW	63	76	91	99	110	136	154	173	209	126
	EER (1)		4.92	4.93	4.97	4.98	4.99	4.99	4.99	4.94	0.00	4.96
Cooling (EN14511)	Cooling capacity (1)	kW	309	374	451	491	547	676	765	852	1,032	623
	Absorbed power (1)	kW	64	77	92	101	112	138	157	175	212	128
	EER (1)		4.83	4.86	4.90	4.86	4.88	4.90	4.87	4.87	0.00	4.87
	ESEER		5.18	5.25	5.22	5.19	5.35	5.58	5.55	5.46	5.44	5.20
	EUROVENT Class		B	B	B	B	B	B	B	B	A	B
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1	2
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	14.83	17.94	21.59	23.54	26.23	32.40	36.70	40.78	49.45	29.85
	Pressure drops	kPa	33	24	34	38	40	34	43	36	41	47
	Water connections	DN	150	150	150	150	150	200	200	200	200	150
Condenser	Water flow	l/s	17.70	21.41	25.76	28.08	31.28	38.65	43.75	48.70	59.04	35.64
	Pressure drops	kPa	22	22	25	30	29	32	35	37	31	22
	Water connections	DN	100	125	125	125	125	150	150	150	150	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	144	171	195	195	144	171	195	367	383	288
	Max. starting current	A	288	288	288	288	288	288	288	656	656	432
Sound pressure	STD version (2)	dB(A)	82	82	83	83	83	82	82	84	84	85
	SSL version (2)	dB(A)	78	78	79	79	79	78	78	80	80	81
Weights	Transport weight	Kg	2059	2431	2518	2558	2877	3298	3389	3984	4535	3884
	Operating weight	Kg	2270	2760	2880	2920	3240	3890	3980	4710	5310	4380

MODEL			2220	2260	2290	2320	2400	2450	2480	2580	2620
Cooling	Cooling capacity (1)	kW	758	868	992	1,104	1,369	1,536	1,713	2,078	2,411
	Absorbed power (1)	kW	154	175	198	221	274	304	340	408	479
	EER (1)		4.92	4.96	5.01	0.00	0.00	0.00	0.00	0.00	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	756	865	988	1,100	1,363	1,530	1,705	2,066	2,398
	Absorbed power (1)	kW	156	178	202	225	280	311	348	420	493
	EER (1)		4.85	4.86	4.89	0.00	0.00	0.00	0.00	0.00	0.00
	ESEER		5.28	5.24	5.25	5.41	5.63	5.64	5.51	5.34	5.25
	EUROVENT Class		B	B	B	A	A	A	A	A	A
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	36.19	41.48	47.41	52.74	65.39	73.41	81.85	99	115
	Pressure drops	kPa	32	48	53	49	49	57	62	63	72
	Water connections	DN	200	200	200	200	250	250	250	250	250
Condenser	Water flow	l/s	43.24	49.50	56.49	62.89	77.95	87.36	97	118	137
	Pressure drops	kPa	22	31	57	52	51	54	55	62	61
	Water connections	DN	125	125	100	125	125	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	342	390	390	504	612	644	734	766	812
	Max. starting current	A	459	483	483	707	761	777	1023	1039	1062
Sound pressure	STD version (2)	dB(A)	84	85	85	85	85	85	86	87	88
	SSL version (2)	dB(A)	80	81	81	81	81	81	82	83	84
Weights	Transport weight	Kg	4432	4589	4618	5432	5843	6001	7496	8426	8712
	Operating weight	Kg	5050	5200	5370	6200	6830	6960	8650	9940	10360

DIMENSIONS			190	1110	1130	1150	1160	1200	1220	1240	1290	2190	2220	2260	2290	2320	2400	2450	2480	2580	2620
L	STD/SSL	mm	3150	3350	3500	3500	3500	3700	3700	3750	3750	3700	3700	3700	4600	4600	4800	4800	4850	4850	4850
W	STD/SSL	mm	1000	1200	1200	1200	1200	1350	1350	1450	1450	1250	1300	1300	1300	1400	1400	1400	1400	1400	1400
H	STD/SSL	mm	1850	1950	1950	1950	1950	2050	2050	2200	2200	1900	2100	2100	2100	2200	2200	2200	2550	2550	2550

CLEARANCE AREA

IWCWK/E 190÷2620

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 374 KW TO 1396 KW.

IWCWY/II/WP 2135÷2440

WATERCOOLED REVERSIBLE HEAT PUMPS WITH INVERTER SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The watercooled reversibile Heat Pump units of the IWCWY/II/WP 2135÷2440 line, with R134a refrigerant, are designed to fulfill with the requirements of big sizes installations, such as commercial and industrial plants. The units are provided with the new technological Inverter mono-Screw compressors with satellite, shell and tube exchangers, and are available also in super low noise version. The optimisation of water and cooling circuits and the Inverter Screw compressors allow the units to reach a very high efficiency and reduced power consumption, if combined with a proper sizing of the end-user plant.

VERSION

IWCWY/II/WP	***IWCWY/II/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- INVERTER Screw compressors, with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each refrigerant circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWY/II/WP 2135÷2440

MODEL			2135	2140	2160	2180	2195	2230	2270	2330	2440
Heating	Heating capacity (1)	kW	374	440	509	570	676	799	1,002	1,203	1,396
	Absorbed power (1)	kW	83	97	113	127	148	175	220	263	301
	COP (1)		4.51	4.54	4.50	4.49	4.57	4.57	0.00	0.00	0.00
Heating (EN14511)	Heating capacity (1)	kW	340	396	464	519	616	728	907	1,087	1,254
	Absorbed power (1)	kW	82	98	113	125	147	174	222	271	308
	COP (1)		4.15	4.04	4.11	4.15	4.19	4.18	4.09	0.00	0.00
	SCOP (2)		3.36	3.17	3.20	3.18	-	-	-	-	-
	Energy Efficiency (2)	%	126	119	120	119	-	-	-	-	-
Cooling	Cooling capacity (3)	kW	309	364	420	475	559	665	823	977	1,136
	Absorbed power (3)	kW	66	77	89	101	118	138	175	207	239
	EER (3)		4.68	4.73	4.72	4.70	4.74	4.82	4.70	4.72	0.00
Cooling (EN14511)	Cooling capacity (3)	kW	308	363	418	474	557	663	820	973	1,132
	Absorbed power (3)	kW	69	80	93	105	123	144	182	217	250
	EER (3)		4.46	4.54	4.49	4.51	4.53	4.60	4.51	4.48	0.00
	ESEER		5.73	5.72	5.64	5.62	5.87	6.38	6.19	6.01	5.50
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	14.78	17.38	20.07	22.71	26.69	31.80	39.30	46.67	54.27
	Pressure drops	kPa	33	40	47	35	43	44	45	56	51
	Water connections	DN	125	150	150	150	200	200	200	200	200
Condenser	Water flow	l/s	17.80	20.90	24.14	27.34	32.12	38.14	47.32	56.17	65.25
	Pressure drops	kPa	49	58	68	51	61	63	66	81	73
	Water connections	DN	125	150	150	150	200	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	214	214	238	270	270	354	398	518	658
	Max. starting current	A	258	258	314	330	330	465	487	723	793
Sound pressure	STD version (4)	dB(A)	76	77	77	77	77	77	78	80	81
	SSL version (4)	dB(A)	72	73	73	73	73	73	74	76	77
Weights	Transport weight	Kg	2550	2940	3010	3400	4090	4500	5060	5650	6300
	Operating weight	Kg	2810	3470	3510	3860	4800	5250	5810	6620	7450

DIMENSIONS			2135	2140	2160	2180	2195	2230	2270	2330	2440
L	STD/SSL	mm	4000	4300	4300	4300	4300	4300	4300	4600	4600
W	STD/SSL	mm	1200	1400	1400	1400	1500	1600	2200	2200	2200
H	STD/SSL	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000

CLEARANCE AREA

IWCWY/II/WP 2135÷2440

500	500	800	500

NOTES

1. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
3. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 272 KW TO 1250 KW.

IWCWY/E 2130÷2480

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS.

The liquid chillers of the IWCWY/E 2130÷2480 series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power. These units are characterized by an high efficiency, in A CLASS, with EER higher than 5,05 thanks to the dedicated technical solutions as flooded shell and tube exchangers and mono-Screw compressors with satellite.
Units are equipped with latest generation Screw compressors, flooded shell and tube exchangers and connections for condensation with tower water or well water or with a Dry-Cooler. Furthermore, they have a series of accessories which are factory fitted or supplied separately such as desuperheater, total heat recovery and, if neccessary, a device for operating a heat pump. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. The units can be equipped with Inverter control on one or on both the Screw compressors.The single Inverter accessory comes with SYNCHRONIZER that allows to extend the useful life of the compressor, ensuring the rotation at every start up and significantly reduce the inrush current of the unit. The solution with double Inverter allows, in addition to the above described, to increase the power efficiency of the unit in the same size, adapting to the different needs and solutions.

VERSION

IWCWY/E	***IWCWY/E/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with suction filter, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and Synchronizer
ID	Inverter on both compressors
SS	Soft start
DP	Device for heat pump operation
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWY/E 2130÷2480

MODEL			2130	2150	2170	2190	2200	2260	2280	2300	2360	2420	2480
Cooling	Cooling capacity (1)	kW	272	331	380	435	492	607	690	768	932	1,092	1,250
	Absorbed power (1)	kW	51	61	70	80	89	109	122	133	162	190	219
	EER (1)		5.33	5.43	5.43	5.44	5.53	5.57	5.66	5.77	5.75	0.01	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	271	330	379	433	490	604	687	765	928	1,088	1,245
	Absorbed power (1)	kW	52	62	71	82	91	112	125	136	166	194	224
	EER (1)		5.21	5.32	5.34	5.28	5.38	5.39	5.50	5.63	5.59	0.01	0.00
	ESEER		6.60	6.63	6.66	6.33	6.36	6.45	6.40	6.60	6.63	6.62	6.49
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A	A
Cooling *	Cooling capacity (1)	kW	319	389	445	511	577	712	808	900	1,091	1,279	1,465
	Absorbed power (1)	kW	61	74	85	97	108	132	149	163	196	230	266
	EER (1)		5.23	5.26	5.24	5.27	5.34	5.39	5.42	5.52	0.01	0.00	0.00
Cooling * (EN14511)	Cooling capacity (1)	kW	318	387	444	508	574	708	803	895	1,085	1,273	1,457
	Absorbed power (1)	kW	62	76	86	100	111	136	155	168	202	237	274
	EER (1)		5.13	5.09	5.16	5.08	5.17	5.21	5.18	5.33	0.00	0.00	0.00
	ESEER		7.62	7.63	7.68	7.22	7.40	7.39	7.45	7.58	7.52	7.61	7.45
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A	A
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless										
Evaporator	Water flow	l/s	12.98	15.80	18.17	20.76	23.49	29.01	32.95	36.70	44.53	52.19	59.74
	Pressure drops	kPa	28	32	26	60	54	57	57	54	56	57	61
	Water connections	DN	100	100	100	125	125	125	125	150	150	150	150
Condenser	Water flow	l/s	15.30	18.59	21.37	24.42	27.58	34.02	38.56	42.83	51.95	60.90	69.79
	Pressure drops	kPa	46	39	42	62	52	60	62	65	58	58	59
	Water connections	DN	80	100	100	100	125	125	125	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	178	214	238	270	292	354	398	438	456	536	622
	Max. starting current	A	240	258	314	330	434	465	487	549	558	598	775
Sound pressure	STD version (2)	dB(A)	77	77	78	78	78	78	78	80	80	81	81
	SSL version (2)	dB(A)	73	73	74	74	74	74	74	76	76	77	77
Weights	Transport weight	Kg	3185	3207	4012	4270	5141	5262	5568	6880	7466	7951	8376
	Operating weight	Kg	3300	3350	4180	4450	5360	5520	5860	7200	7900	8460	8950

DIMENSIONS			2130	2150	2170	2190	2200	2260	2280	2300	2360	2420	2480
L	STD/SSL	mm	3500	3500	3500	4200	4200	4200	4200	4200	4200	4200	4200
W	STD/SSL	mm	1300	1300	1300	1400	1400	1400	1400	1400	1800	1800	1800
H	STD/SSL	mm	2100	2100	2100	2200	2200	2200	2200	2200	2300	2300	2300

CLEARANCE AREA

IWCWY/E 2130÷2480

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

* Unit provided with Inverter on both compressors.

Electrical board side

FROM 273 KW TO 1836 KW.

IWCWK 190÷2580

WATERCOOLED LIQUID CHILLERS WITH SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The liquid Chillers of the IWCWK 190÷2580 series, with R410A refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power. Equipped with latest generation mono-Screw compressors with satellite, shell and tube exchangers and connections for condensation with tower water or well water or with a Dry-Cooler, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation.

VERSION

IWCWK	***IWCWK/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each refrigerant circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
FE	Antifreeze heater for evaporator
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWK 190÷2580

MODEL			190	1110	1130	1150	1160	1200	1220	1240	1290
Cooling	Cooling capacity (1)	kW	273	336	387	443	485	600	681	758	918
	Absorbed power (1)	kW	69	83	96	109	121	147	168	180	217
	EER (1)		3.96	4.05	4.03	4.06	4.01	4.08	4.05	4.21	4.23
Cooling (EN14511)	Cooling capacity (1)	kW	272	335	386	442	483	598	679	755	915
	Absorbed power (1)	kW	70	84	97	110	123	150	170	183	220
	EER (1)		3.89	3.99	3.98	4.02	3.93	3.99	3.99	4.13	4.16
	ESEER		4.18	4.33	4.35	4.39	4.38	4.59	4.63	4.72	4.72
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	13.03	16.03	18.49	21.18	23.17	28.68	32.53	36.19	43.84
	Pressure drops	kPa	51	37	31	26	44	54	43	43	47
	Water connections	DN	100	125	125	150	150	150	150	150	200
Condenser	Water flow	l/s	16.17	19.84	22.89	26.18	28.73	35.45	40.23	44.45	53.81
	Pressure drops	kPa	49	52	52	38	45	48	49	47	55
	Water connections	DN	80	80	80	100	100	100	125	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	144	171	195	195	144	171	195	367	383
	Max. starting current	A	288	288	288	288	288	288	288	656	656
Sound pressure	STD version (2)	dB(A)	82	82	83	83	83	83	83	85	85
	SSL version (2)	dB(A)	78	78	79	79	79	79	79	81	81
Weights	Transport weight	Kg	1517	1601	1639	1860	2130	2191	2353	2906	2960
	Operating weight	Kg	1590	1710	1760	2040	2310	2370	2560	3220	3270

MODEL			2190	2220	2260	2290	2320	2400	2450	2480	2580
Cooling	Cooling capacity (1)	kW	544	671	774	886	971	1,199	1,361	1,515	1,836
	Absorbed power (1)	kW	138	168	192	218	242	296	335	361	435
	EER (1)		3.94	3.99	4.03	4.06	4.01	0.00	0.00	0.00	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	542	668	770	883	967	1,194	1,356	1,510	1,829
	Absorbed power (1)	kW	140	171	196	221	246	301	340	366	442
	EER (1)		3.87	3.91	3.93	4.00	3.93	0.00	0.00	0.00	0.00
	ESEER		4.24	4.32	4.30	4.37	4.45	4.56	4.59	4.69	4.48
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	26.00	32.07	36.99	42.31	46.40	57.28	65.02	72.39	87.73
	Pressure drops	kPa	48	49	65	53	50	59	54	52	59
	Water connections	DN	125	150	150	150	150	150	200	200	200
Condenser	Water flow	l/s	32.35	39.76	45.78	52.32	57.51	70.86	80.40	88.94	108
	Pressure drops	kPa	19	16	20	19	18	28	20	25	31
	Water connections	DN	80	80	80	80	80	80	100	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	288	342	390	390	504	612	644	734	766
	Max. starting current	A	432	459	483	483	707	761	777	1023	1039
Sound pressure	STD version (2)	dB(A)	85	85	86	86	85	85	85	87	88
	SSL version (2)	dB(A)	81	81	82	82	81	81	81	83	84
Weights	Transport weight	Kg	2954	3223	3247	3278	4157	4205	4582	5877	6090
	Operating weight	Kg	3190	3470	3510	3530	4580	4610	5020	6600	6820

DIMENSIONS			190	1110	1130	1150	1160	1200	1220	1240	1290	2190	2220	2260	2290	2320	2400	2450	2480	2580
L	STD/SSL	mm	2600	2600	2850	2850	2850	2850	3150	3150	3150	3550	3550	3550	3550	4300	4300	4300	4450	4450
W	STD/SSL	mm	1000	1000	1000	1000	1150	1150	1150	1150	1150	1100	1100	1100	1100	1250	1250	1250	1350	1350
H	STD/SSL	mm	1850	1850	1850	1850	1850	1850	1950	2000	2000	1850	1850	1850	1850	1950	1950	1950	2250	2250

CLEARANCE AREA

IWCWK 190÷2580

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 259 KW TO 2399 KW.

IWCWY 2130B÷3900B

WATERCOOLED LIQUID CHILLERS WITH SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The liquid Chillers of the IWCWY 2130B÷3900B series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
Equipped with latest generation Screw compressors, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units can also be produced in super silent versions. Furthermore, they have a series of accessories which are factory fitted or supplied separately such as heat recuperator in series or in parallel, soft start and, if necessary, a device for operating a Heat Pump. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation.

VERSION

IWCWY	*IWCWY/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each refrigerant circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube type evaporator, with two or three independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
DP	Device for heat pump operation
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IWCWY 2130B÷3900B

MODEL			2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B
Cooling	Cooling capacity (1)	kW	259	313	363	413	473	560	640	728	865
	Absorbed power (1)	kW	58	70	81	91	100	124	137	152	184
	EER (1)		4.47	4.47	4.48	4.54	4.73	4.52	4.67	4.79	4.70
Cooling (EN14511)	Cooling capacity (1)	kW	258	312	361	411	471	557	637	725	862
	Absorbed power (1)	kW	60	73	84	95	104	129	143	159	191
	EER (1)		4.30	4.27	4.30	4.33	4.53	4.32	4.45	4.56	4.51
	ESEER		5.24	5.27	5.11	5.11	5.34	5.10	5.01	5.13	5.29
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	12.38	14.97	17.33	19.74	22.62	26.74	30.58	34.76	41.34
	Pressure drops	kPa	51	43	55	60	48	61	67	66	47
	Water connections	DN	100	125	125	125	125	150	150	150	200
Condenser	Water flow	l/s	15.02	18.15	21.02	23.93	27.16	32.43	36.86	41.70	49.78
	Pressure drops	kPa	43	49	51	47	36	52	48	45	57
	Water connections	DN	65	65	65	65	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	178	214	238	270	306	354	398	438	518
	Max. starting current	A	240	258	314	330	374	465	487	549	723
Sound pressure	STD version (2)	dB(A)	77	77	77	77	77	77	77	78	79
	SSL version (2)	dB(A)	73	73	73	73	73	73	73	74	75
Weights	Transport weight	Kg	2124	2183	2309	2340	2973	3121	3174	4274	4613
	Operating weight	Kg	2240	2350	2480	2510	3160	3440	3490	4580	5050

MODEL			2420B	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B
Cooling	Cooling capacity (1)	kW	1,018	1,124	1,247	1,395	1,564	1,735	1,922	2,138	2,399
	Absorbed power (1)	kW	212	236	259	290	326	361	399	447	505
	EER (1)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling (EN14511)	Cooling capacity (1)	kW	1,014	1,120	1,243	1,389	1,556	1,727	1,913	2,129	2,382
	Absorbed power (1)	kW	221	246	272	302	342	378	419	468	533
	EER (1)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	ESEER		5.02	4.88	4.79	4.97	5.04	5.01	4.97	4.92	5.07
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	3
	Refrigerant circuits	n°	2	2	2	2	2	3	3	3	3
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	48.62	53.71	59.60	66.64	74.71	82.91	91.81	102	114
	Pressure drops	kPa	62	51	59	65	81	77	74	65	119
	Water connections	DN	200	200	200	200	200	250	250	250	250
Condenser	Water flow	l/s	58.36	64.55	71.46	79.95	89.68	100	111	122	138
	Pressure drops	kPa	49	66	77	66	63	66	78	73	63
	Water connections	DN	100	100	100	100	125	100	100	100	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	602	602	658	818	834	903	987	1228	1251
	Max. starting current	A	765	765	793	1610	1479	1066	1122	2019	1896
Sound pressure	STD version (2)	dB(A)	80	81	81	82	83	82	83	84	86
	SSL version (2)	dB(A)	76	77	77	78	79	1	1	1	1
Weights	Transport weight	Kg	4645	4650	5360	5440	6000	7050	8450	8600	9250
	Operating weight	Kg	5100	5220	5940	6100	6690	7800	9350	9550	10270

DIMENSIONS			2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B
L	STD/SSL	mm	3550	3550	3300	3300	3300	3500	3500	3600	3600	3600	4800	4800	5200	5200	5200	5200	5500	5500
W	STD/SSL	mm	800	800	1400	1400	1400	1450	1450	1650	1650	1650	1800	1800	1800	1800	2200	2200	2200	2200
H	STD/SSL	mm	2000	2000	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150

CLEARANCE AREA

IWCWY 2130B÷3900B

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 228 KW TO 2103 KW.

IRMEY 2130B÷3900B

CONDENSERLESS LIQUID CHILLERS WITH SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The liquid Chillers for remote condensation of IRMEY 2130B÷3900B series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems which require high power with continual refrigerant delivery, space-saving units and quiet operation.
Combined with the remote condenser, these units are ideal for indoor installation and, equipped with a self-supporting structure that sustains the main components, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
Equipped with latest generation screw compressors and shell and tube exchanger, these units can also be produced in a super silent version. They have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency. A series of accessories, factory fitted or supplied separately, rounds off the variety of equipment in this product range.

VERSION

IRMEY	***IRMEY/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, cranckcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type evaporator, with two or three independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Electronic high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

IRMEY 2130B÷3900B

MODEL			2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B
Cooling	Cooling capacity (1)	kW	228	271	315	364	411	510	581	652	755
	Absorbed power (1)	kW	74	86	104	119	134	160	178	195	230
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	10.89	12.93	15.06	17.38	19.65	24.38	27.76	31.15	36.05
	Pressure drops	kPa	49	34	39	41	34	50	48	55	51
	Water connections	DN	100	125	125	125	125	150	150	150	150
Connections	Delivery line	Ø mm	2 x 42	2 x 42	2 x 54	2 x 54	2 x 54	2 x 64	2 x 64	2 x 76	2 x 76
	Liquid line	Ø mm	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 42	2 x 42	2 x 42	2 x 54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	178	214	238	270	306	354	398	438	518
	Max. starting current	A	240	258	314	330	374	465	487	549	723
Sound pressure	STD version (2)	dB(A)	77	77	77	77	77	77	77	78	79
	SSL version (2)	dB(A)	73	73	73	73	73	73	73	74	75
Weights	Transport weight	Kg	1480	1820	1840	1860	1900	2420	2540	2590	3190
	Operating weight	Kg	1570	1960	1990	2010	2040	2680	2820	2850	3460

MODEL			2420B	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B
Cooling	Cooling capacity (1)	kW	878	985	1,106	1,244	1,390	1,519	1,681	1,852	2,103
	Absorbed power (1)	kW	265	299	330	368	421	461	503	556	637
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	3
	Refrigerant circuits	n°	2	2	2	2	2	3	3	3	3
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	41.94	47.04	52.84	59.41	66.42	72.58	80.32	88.47	101
	Pressure drops	kPa	57	55	56	52	69	78	57	67	95
	Water connections	DN	150	200	200	200	200	250	250	250	250
Connections	Delivery line	Ø mm	2 x 76	2 x 76	2 x 89	2 x 89	2 x 89	3 x 76	3 x 89	3 x 89	3 x 89
	Liquid line	Ø mm	2 x 54	2 x 54	2 x 54	2 x 54	2 x 54	3 x 54	3 x 54	3 x 54	3 x 54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	602	602	658	818	834	903	987	1228	1251
	Max. starting current	A	765	765	793	1610	1479	1066	1122	2019	1896
Sound pressure	STD version (2)	dB(A)	80	81	81	82	83	82	83	84	86
	SSL version (2)	dB(A)	76	77	77	78	79	1	1	1	1
Weights	Transport weight	Kg	3225	3525	4445	4530	4600	4980	6430	6555	6740
	Operating weight	Kg	3480	3980	4980	5040	5100	5570	7130	7290	7440

DIMENSIONS			2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B
L	STD/SSL	mm	3300	3300	3700	3700	3700	3800	4000	4000	4300	4300	4300	5100	5100	5100	4800	5300	5300	5300
W	STD/SSL	mm	800	800	800	800	800	1080	1080	1080	1080	1080	1080	1080	1080	1080	1600	1600	1600	1600
H	STD/SSL	mm	1700	1700	1700	1700	1700	1700	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

IRMEY 2130B÷3900B

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, condensing temperature 50 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

IARCY 8041÷9162

REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the IARCY series are designed to be combined with evaporating units with R134a refrigerant (IRMEY).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IRMEY

Base unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

IRMEY	2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B
IARCY	8041	8051	8061	8071	8072	8101	8121	8141	8161	8162

IRMEY	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B		
IARCY	9121	9141	9161	9162	3x8101	3x8102	3x8122	3x8142		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed controller

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

IARCY 8041÷9162

MODEL			8041	8051	8061	8071	8072	8101	8102	8121	8122
Fan	Quantity	n°	4	5	6	7	7	10	10	12	12
Connections	In	Ø mm	2X64	2X64	2X76	2X76	2X76	2X64	2X64	2X76	2X76
	Out	Ø mm	2x42	2x42	2x42	2x54	2x54	2x42	2x42	2x42	2x42
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	7.40	9.25	11.10	12.95	12.95	9.25	9.25	11.10	11.10
	Absorbed current	A	11.40	14.25	17.10	19.95	19.95	14.25	14.25	17.10	17.10
Sound pressure	STD version (1)	dB(A)	56	57	58	58	58	59	59	60	60
Weights	Transport weight	Kg	637	794	950	1027	1107	1325	1222	1461	1585
	Operating weight	Kg	669	833	1022	1091	1192	1395	1276	1561	1716

MODEL			8141	8142	8161	8162	9121	9141	9161	9162
Fan	Quantity	n°	14	14	16	16	12	14	16	16
Connections	In	Ø mm	2X76	2X76	2X76	2X76	2X76	2X76	2X76	2X76
	Out	Ø mm	2x54	2x54	2x54	2x54	2X64	2X64	2X64	2X64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Absorbed power	kW	12.95	12.95	14.80	14.80	12.60	14.70	16.80	16.80
	Absorbed current	A	19.95	19.95	22.80	22.80	19.20	22.40	25.60	25.60
Sound pressure	STD version (1)	dB(A)	60	60	61	61	58	58	59	59
Weights	Transport weight	Kg	1702	1845	1942	2106	3056	3515	3974	3974
	Operating weight	Kg	1855	1998	2074	2280	3187	3666	4145	4145

DIMENSIONS			8041	8051	8061	8071	8072	8101	8102	8121	8122	8141	8142	8161	8162	9121	9141	9161	9162
L	STD	mm	5930	7280	8630	9980	9980	7280	7280	8630	8630	9980	9980	11330	11330	7990	9240	10490	10490
W	STD	mm	1380	1380	1380	1380	1380	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	STD	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	2260	2260	2260	2260

CLEARANCE AREA

IARCY 8041÷8162

IARCY 9121÷9162

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IARCY/SL 8041÷9162

SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the IARCY/SL series are designed to be combined with evaporating units with R134a refrigerant (IRMEY).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IRMEY/SL

Silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

IRMEY	2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B
IARCY/SL	8061	8062	8081	8082	8101	8121	8141	8161	9121	9141

IRMEY	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B		
IARCY/SL	9161	9162	2x8142	2x8162	3x9071	3x9072	3x9101	3x9102		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed controller

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

IARCY/SL 8041÷9162

MODEL			8061	8062	8081	8082	8101	8121	8141	8142	8161
Fan	Quantity	n°	6	6	8	8	10	12	14	14	16
Connections	In	Ø mm	2x54	2x54	2x54	2x54	2X64	2X76	2X76	2X76	2X76
	Out	Ø mm	2x42	2x42	2x35	2x42	2x42	2x42	2x54	2x54	2x54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	5.55	5.55	7.40	7.40	9.25	11.10	12.95	12.95	14.80
	Absorbed current	A	8.55	8.55	11.40	11.40	14.25	17.10	19.95	19.95	22.80
Sound pressure	SL version (1)	dB(A)	50	50	51	51	52	53	53	53	54
Weights	Transport weight	Kg	742	804	982	1065	1222	1461	1702	1845	1942
	Operating weight	Kg	775	847	1025	1121	1276	1561	1819	1998	2074

MODEL			8162	9071	9072	9101	9102	9121	9141	9161	9162
Fan	Quantity	n°	16	7	7	10	10	12	14	16	16
Connections	In	Ø mm	2X76	2X76	2X76	2X76	2X76	2X76	2X76	2X76	2X76
	Out	Ø mm	2x54	2x54	2x54	2x54	2x54	2x54	2X64	2X64	2X64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	14.80	14.70	14.70	10.50	10.50	12.60	14.70	16.80	16.80
	Absorbed current	A	22.80	22.40	22.40	16.00	16.00	19.20	22.40	25.60	25.60
Sound pressure	SL version (1)	dB(A)	54	49	49	51	51	52	52	53	64
Weights	Transport weight	Kg	2106	1747	1902	2451	2597	3056	3515	3974	3974
	Operating weight	Kg	2280	1833	2015	2536	2707	3187	3666	4145	4145

DIMENSIONS			8061	8062	8081	8082	8101	8121	8141	8142	8161	8162	9071	9072	9101	9102	9121	9141	9161	9162
L	SL	mm	4580	4580	5930	5930	7280	8630	9980	9980	11330	11330	10275	10275	6740	6740	7990	9240	10490	10490
W	SL	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	1170	1170	2400	2400	2400	2400	2400	2400
H	SL	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1805	1805	2260	2260	2260	2260	2260	2260

CLEARANCE AREA

IARCY/SL 8061÷8162

IARCY/SL 9162÷9162

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IARCY/SSL 8051÷9161

SUPER SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the IARCY/SSL series are designed to be combined with evaporating units with R134a refrigerant (IRMEY).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IRMEY/SSL
Super silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

IRMEY	2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B
IARCY/SSL	8051	8061	8071	8101	8101	8121	8142	8162	9141	9142

IRMEY	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B		
IARCY/SSL	9161	2x8141	2x8161	2x8162	3x8121	3x8141	3x8142	3x8161		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed controller

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

IARCY/SSL 8051÷9161

MODEL			8051	8061	8071	8101	8121	8141	8142	8161	8162	9141	9142	9161
Fan	Quantity	n°	5	6	7	10	12	14	14	16	16	14	14	16
Connections	In	Ø mm	2X64	2X76	2X76	2X64	2X76	2X76	2X76	2x54	2x54	2X76	2X76	2X76
	Out	Ø mm	2x42	2x42	2x54	2x42	2x42	2x54	2x54	2x54	2x54	2X64	2X64	2X64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	4.20	5.04	5.88	4.20	5.04	5.88	5.88	6.72	6.72	11.06	11.06	12.64
	Absorbed current	A	7.0	8.4	9.8	7.0	8.4	9.8	9.8	11.2	11.2	17.5	17.5	20.0
Sound pressure	SSL version (1)	dB(A)	48	49	49	50	51	51	51	52	52	51	51	52
Weights	Transport weight	Kg	794	950	1107	1222	1585	1702	1845	1942	2106	3309	3515	3974
	Operating weight	Kg	833	1022	1192	1276	1716	1855	1958	2116	2238	3426	3666	4145

DIMENSIONS			8051	8061	8071	8101	8121	8141	8142	8161	8162	9141	9142	9161
L	SSL	mm	7280	8630	9980	7280	8630	9980	9980	11330	11330	9240	9240	10490
W	SSL	mm	1380	1380	1380	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	SSL	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	2262	2262	2262

CLEARANCE AREA

IARCY/SL 8051÷8162

IARCY/SL 9141÷9161

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

FROM 1050 KW TO 9000 KW.

IWCWY/CC 1403÷21168

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) CENTRIFUGAL COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS.

The CWW / CCY 4031÷11682 units, with R134a refrigerant and innovative technology, are the technologic and innovative heart of the most selective air conditioning and refrigeration systems. These units, provided with touch screen interface and featuring A CLASS energy efficiency, are designed especially for large size systems, intensively used throughout the year. The units, equipped with Inverter technology, combined with the use of last generation Centrifugal compressors, reach outstanding EER and ESEER/IPLV energy coefficients: respectively up to 6,2 at full load and up to 10 at partial load. The extremely high reliability of the series is achieved through the careful control of power, even at partial loads, which minimizes the number of stops and starts and extends the useful life of the compressor. The solidity of the mechanical parts and the wide range of solutions in terms of accessories and system arrangements make the unit sturdy, but at the same time flexible, suitable for any type of application. In addition, the units are equipped with a WEB MONITORING system, for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by using a specific webpage, have access to the Monitoring, Managing and Statistics activities.

VERSION

IWCWY/CC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Single stage gear driven semi – hermetic Centrifugal compressor with high strength aluminum alloy impeller. The compressor is complete with gear drive and loading and unloading mechanism consisting of inlet guide vanes. The electric motor is an accessible hermetically sealed liquid refrigerant cooled squirrel cage two pole induction motor.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- R134a refrigerant.
- Lubrication system with submersible oil pump, to prevent any sudden changes in tension.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- CENTRISOFT control and regulation system is fitted with RS485 serial interface and Web monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

MW	Marine water boxes
PW	High water pressure heat exchangers
CK	Cupro – Nickel or Stainless Steel tubes
FE	Antifreeze heater for evaporator
IV	Inverter on compressor
SS	Soft start

IWCWY/CC 1403÷21168

MODEL			1403	1463	1524	1584	2806	2926	21048	21168
Cooling capacity (1)		kW	1050÷2150	1950÷3000	2650÷3000	3000÷4400	1400÷2300	2100÷4300	4000÷6000	5600÷9000
Weights	Transport weight	Kg	9350	14550	15900	15900	20200	20200	26850	26850
	Operating weight	Kg	10100	17100	19000	19000	23400	23400	31300	31300

DIMENSIONS			1403	1463	1524	1584	2806	2926	21048	21168
Max length	STD	mm	4270	4450	4450	4450	5560	5560	5710	5710
Max width	STD	mm	2670	2700	2700	2700	2540	2540	2970	2970
Max height	STD	mm	2030	2490	2650	2650	2350	2350	3130	2870

CLEARANCE AREA

IWCWY/CC 1403÷21168

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.

Electrical board side


INNOVA

CHAPTER 4

DRY-COOLERS & HYDRONIC MODULES

IDCA 6021÷9162

DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the IDCA series are designed to be combined with watercooled liquid Chillers (IWCW).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IDCA

Base unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

COMBINATIONS

IWCWK	218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
IDCA	6021	8011	6032	6034	8021	8022	6041	8031	8032	6051

IWCWK	218	220	224	226	230	336	339	345	452	460
IDCA	6021	8011	6032	6034	8021	8022	6041	8031	8032	6051

IWCWK	672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P
IDCA	8041	8041	8052	8052	8081	8081	8082	8083	8083	8102

IWCWK	12180P	12210P	12240P	12270P	12300P	12330P	12360P			
IDCA	8121	9121	9121	9141	9162	9162	2x8122			

IWCWK	672	678	682	690	8104	8112	8120	10130	10150	12168
IDCA	8041	8041	8052	8052	8081	8081	8082	8083	8083	8102

IWCWK	12180	12210	12240	12270	12300	12330	12360			
IDCA	8121	9121	9121	9141	9162	9162	2x8122			

IWCWY/E	2130	2150	2170	2190	2200	2260	2280	2300	2360	2420
IDCA	8052	8081	8081	8082	8083	8121	9121	9121	9141	9162

IWCWY/E	2480									
IDCA	2x8122									

IWCWY	2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B
IDCA	8051	8061	8081	8082	8083	8102	8121	9121	9141	9162

IWCWY	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B		
IDCA	9162	2x8122	2x9121	2x9122	2x9141	2x9161	3x8122	3x9121		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed controller

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

IDCA 6021÷9162

MODEL			6021	6031	6032	6033	6034	6041	6051	8011	8021	8022	8031	8032	8041	8051	8052
Fan	Air flow	m³/s	4.67	7.32	7.01	6.56	12.31	15.44	17.86	5.18	10.83	10.37	16.25	15.55	20.73	27.08	25.92
	Quantity	n°	12	3	3	3	3	4	5	1	2	2	3	3	4	5	5
Connections	In	Ø mm	42	42	54	54	54	54	80	42	70	70	80	102	102	70	70
	Out	Ø mm	42	42	54	54	54	54	80	42	70	70	80	102	102	70	70
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50														
	Absorbed power	kW	1.32	1.98	1.98	1.98	4.95	6.60	8.25	2.00	4.00	4.00	6.00	6.00	8.00	10.00	10.00
	Absorbed current	A	2.6	3.9	3.9	3.9	9.3	12.4	15.5	4.0	8.0	8.0	12.0	12.0	16.0	20.0	20.0
Sound pressure	STD version (1)	dB(A)	50	52	52	52	58	59	60	50	53	53	54	54	55	56	56
Weights	Transport weight	Kg	145	191	205	245	239	337	516	182	308	326	470	497	646	684	724
	Operating weight	Kg	160	211	225	265	259	367	566	197	333	351	520	547	706	754	794

MODEL			8061	8062	8081	8082	8083	8101	8102	8121	8122	9121	9122	9141	9161	9162
Fan	Air flow	m³/s	31.96	30.45	44.80	42.62	40.60	53.28	50.75	63.93	65.33	68.50	65.33	76.22	91.33	87.11
	Quantity	n°	6	6	8	8	8	10	10	12	12	12	12	14	16	16
Connections	In	Ø mm	102	2x102	102	102	2x102	2x102	3x102	3x102	3x102	4x80	4x80	6x102	4x102	6x102
	Out	Ø mm	102	2x102	102	102	2x102	2x102	3x102	3x102	3x102	4x80	4x80	6x102	4x102	6x102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50													
	Absorbed power	kW	12.00	12.00	16.00	16.00	16.00	20.00	20.00	24.00	24.00	24.00	24.00	28.00	32.00	32.00
	Absorbed current	A	24.0	24.0	32.0	32.0	32.0	40.0	40.0	48.0	48.0	48.0	48.0	56.0	64.0	64.0
Sound pressure	STD version (1)	dB(A)	57	57	58	58	58	59	59	59	60	60	60	60	61	61
Weights	Transport weight	Kg	860	910	994	1204	1274	1548	1638	1892	3390	3060	3390	3890	3960	4380
	Operating weight	Kg	950	1000	1094	1304	1374	1658	1748	2032	3530	3360	3690	4240	4360	4780

DIMENSIONS			6021	6031	6032	6033	6034	6041	6051	8011	8021	8022	8031	8032	8041	8051	8052
L	STD	mm	2425	3525	3525	3525	3525	4625	5725	1803	3278	3278	4753	4753	6228	7703	7703
W	STD	mm	630	630	630	630	630	630	630	795	795	795	795	795	795	795	795
H	STD	mm	1098	1098	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	1272	1272	1272

DIMENSIONS			8061	8062	8081	8082	8083	8101	8102	8121	8122	9121	9122	9141	9161	9162
L	STD	mm	4783	4783	6258	6258	6258	7733	7733	9208	9208	6920	6920	8020	9120	9120
W	STD	mm	878	878	878	878	878	878	878	878	878	2350	2350	2350	2350	2350
H	STD	mm	2322	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450	2450

CLEARANCE AREA

IDCA 6021÷9122

IDCA 9141÷9162

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IDCA/SL 6022÷9161

SILENCED DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the IDCA/SL series are designed to be combined with watercooled liquid Chillers (IWCW).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IDCA/SL

Silenced unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

COMBINATIONS

IWCWK	218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
IDCA/SL	6022	6031	6041	8021	8031	6051	6052	8032	8042	8042

IWCWK	218	220	224	226	230	336	339	345	452	460
IDCA/SL	6022	6031	6041	8021	8031	6051	6052	8032	8042	8042

IWCWK	672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P
IDCA/SL	8052	8052	8061	8061	8082	8083	8101	8102	8102	8122

IWCWK	12180P	12210P	12240P	12270P	12300P	12330P	12360P			
IDCA/SL	9121	9141	9141	9161	2x8102	2x8121	2x9122			

IWCWK	672	678	682	690	8104	8112	8120	10130	10150	12168
IDCA/SL	8052	8052	8061	8061	8082	8083	8101	8102	8102	8122

IWCWK	12180	12210	12240	12270	12300	12330	12360			
IDCA/SL	9121	9141	9141	9161	2x8102	2x8121	2x9122			

IWCWY/E	2130	2150	2170	2190	2200	2260	2280	2300	2360	2420
IDCA/SL	8061	8082	8083	8101	8102	9121	9141	9141	9161	2x8121

IWCWY/E	2480
IDCA/SL	2x9122

IWCWY	2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B
IDCA/SL	8052	8081	8082	8101	8102	8122	9121	9141	9161	2x8102

IWCWY	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B		
IDCA/SL	2x8121	2x9122	2x9141	2x9142	2x9161	3x9121	3x9122	3x9141		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed controller

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

IDCA/SL 6022÷9161

MODEL			6022	6031	6032	6041	6051	6052	8021	8031	8032	8041	8042	8051	8052
Fan	Air flow	m³/s	4.67	6.01	5.66	8.01	9.04	10.90	8.24	13.10	11.78	16.49	15.71	20.61	19.64
	Quantity	n°	2	3	3	4	5	5	2	3	3	4	4	5	5
Connections	In	Ø mm	42	54	54	54	70	80	54	70	70	80	102	102	102
	Out	Ø mm	42	54	54	54	70	80	54	70	70	80	102	102	102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Absorbed power	kW	1.32	1.20	1.20	1.60	2.00	3.30	2.50	3.75	3.75	5.00	5.00	6.25	6.25
	Absorbed current	A	2.6	2.1	2.1	2.8	3.5	6.5	4.6	6.9	6.9	9.2	9.2	11.5	11.5
Sound pressure	SL version (1)	dB(A)	50	45	45	46	47	53	46	48	48	49	49	50	50
Weights	Transport weight	Kg	145	145	145	145	388	448	308	388	497	611	646	684	724
	Operating weight	Kg	160	165	165	175	438	498	333	438	547	671	706	754	794

MODEL			8061	8081	8082	8083	8101	8102	8121	8122	9121	9122	9141	9142	9161
Fan	Air flow	m³/s	21.95	34.90	32.26	29.27	40.32	36.58	48.39	43.90	52.33	49.08	61.06	57.26	65.44
	Quantity	n°	6	8	8	8	10	10	12	12	12	12	14	14	16
Connections	In	Ø mm	2x102	102	102	102	2x102	2x102	3x102	3x102	2x102	2x102	2x102	4x80	4x80
	Out	Ø mm	2x102	102	102	102	2x102	2x102	3x102	3x102	2x102	2x102	2x102	4x80	4x80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Absorbed power	kW	7.50	10.00	10.00	10.00	12.50	12.50	15.00	15.00	15.00	15.00	17.50	17.50	20.00
	Absorbed current	A	13.8	18.4	18.4	18.4	23.0	23.0	27.6	27.6	27.6	27.6	32.2	32.2	36.8
Sound pressure	SL version (1)	dB(A)	51	52	52	52	52	52	53	53	53	53	54	54	54
Weights	Transport weight	Kg	910	994	1204	1274	1548	1638	1892	2200	3060	3390	3510	3890	4380
	Operating weight	Kg	1000	1094	1304	1374	1658	1748	2032	2340	3360	3690	3860	4240	4780

DIMENSIONS			6022	6031	6032	6041	6051	6052	8021	8031	8032	8041	8042	8051	8052
L	SL	mm	2425	3525	3525	4625	5725	5725	3278	4753	4753	6228	6228	7703	7703
W	SL	mm	630	630	630	630	630	630	795	795	795	795	795	795	795
H	SL	mm	1098	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	1272	1272

DIMENSIONS			8061	8081	8082	8083	8101	8102	8121	8122	9121	9122	9141	9142	9161
L	SL	mm	4783	6258	6258	6258	7733	7733	9208	9208	6920	6920	8020	8020	9120
W	SL	mm	878	878	878	878	878	878	878	878	2350	2350	2350	2350	2350
H	SL	mm	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450	2450

CLEARANCE AREA

IDCA/SL 6022÷8122

IDCA/SL 9121÷9161

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IDCA/SSL 6032÷9162

SUPER SILENCED DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the IDCA/SSL series are designed to be combined with watercooled liquid Chillers (IWCW).
These units, available in three configurations depending on the level of noiselessness required: Standard, Silenced (SL) and Super Silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

IDCA/SSL

Super silenced unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

COMBINATIONS

IWCWK	218P	220P	224P	226P	230P	336P	339P	345P	452P	460P
IDCA/SSL	6032	6041	6051	8031	8032	8041	8051	8052	8061	8081

IWCWK	218	220	224	226	230	336	339	345	452	460
IDCA/SSL	6032	6041	6051	8031	8032	8041	8051	8052	8061	8081

IWCWK	672P	678P	682P	690P	8104P	8112P	8120P	10130P	10150P	12168P
IDCA/SSL	8082	8082	8102	8102	8122	8122	8124	9141	9141	9162

IWCWK	12180P	12210P	12240P	12270P	12300P	12330P	12360P			
IDCA/SSL	2x8121	2x8122	2x8123	2x9121	2x9162	2x9162	3x8124			

IWCWK	672	678	682	690	8104	8112	8120	10130	10150	12168
IDCA/SSL	8082	8082	8102	8102	8122	8122	8124	9141	9141	9162

IWCWK	12180	12210	12240	12270	12300	12330	12360			
IDCA/SSL	2x8121	2x8122	2x8123	2x9121	2x9162	2x9162	3x8124			

IWCWY/E	2130	2150	2170	2190	2200	2260	2280	2300	2360	2420
IDCA/SSL	8102	8122	8122	8124	9141	2x8121	2x8122	2x8123	2x9121	2x9162

IWCWY/E	2480
IDCA/SSL	3x8124

IWCWY	2130B	2150B	2170B	2190B	2200B	2260B	2280B	2300B	2360B	2420B
IDCA/SSL	8101	8103	8122	8124	9141	9162	2x8121	2x8122	2x9121	2x9162

IWCWY	2440B	2480B	2540B	2600B	3660B	3720B	3810B	3900B		
IDCA/SSL	2x9162	3x8124	2x9141	2x9162	3x9162	4x9121	4x9141	4x9162		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed controller

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

IDCA/SSL 6032÷9162

MODEL			6032	6041	6042	6051	6052	6031	6032	8041	8051	8052	8061	8081
Fan	Air flow	m³/s	3.83	5.51	5.11	6.88	6.38	7.80	7.64	9.87	13.11	12.33	15.58	20.78
	Quantity	n°	3	4	4	5	5	3	3	4	5	5	6	8
Connections	In	Ø mm	54	54	54	70	70	70	70	80	80	80	102	102
	Out	Ø mm	54	54	54	70	70	70	70	80	80	80	102	102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	0.57	0.76	0.76	0.95	0.95	1.41	1.41	1.48	1.85	1.85	2.22	2.96
	Absorbed current	A	1.1	1.5	1.5	1.9	1.9	3.0	3.0	4.8	6.0	6.0	7.2	9.6
Sound pressure	SSL version (1)	dB(A)	36	37	37	38	38	39	39	39	39	39	40	41
Weights	Transport weight	Kg	191	256	273	332	363	470	497	611	562	684	710	994
	Operating weight	Kg	211	286	303	382	413	520	547	671	632	754	800	1094

MODEL			8082	8101	8102	8103	8121	8122	8123	8124	9121	9141	9161	9162
Fan	Air flow	m³/s	19.53	25.97	24.40	24.40	31.17	29.29	30.56	27.35	31.50	36.75	39.66	36.77
	Quantity	n°	8	10	10	10	12	12	12	12	12	14	16	16
Connections	In	Ø mm	102	102	2x102	102	102	2x102	3x102	2x102	2x102	2x102	2x102	4x80
	Out	Ø mm	102	102	2x102	102	102	2x102	3x102	2x102	2x102	2x102	2x102	4x80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	2.96	3.70	3.70	3.70	4.40	4.40	5.64	5.64	4.44	5.18	7.52	7.52
	Absorbed current	A	9.6	12.0	12.0	12.0	14.4	14.4	12.0	12.0	14.4	16.8	16.0	16.0
Sound pressure	SSL version (1)	dB(A)	41	42	42	42	43	43	44	44	43	43	45	45
Weights	Transport weight	Kg	1204	1278	1548	1548	1562	1892	1892	2200	3060	3510	3960	4380
	Operating weight	Kg	1304	1388	1658	1658	1702	2032	2032	2340	3360	3860	4360	4780

DIMENSIONS			6032	6041	6042	6051	6052	8031	8032	8041	8051	8052	8061	8081
L	SSL	mm	3525	4625	4625	5725	5725	4753	4753	6228	7703	7703	4783	6258
W	SSL	mm	630	630	630	630	630	795	795	795	795	795	878	878
H	SSL	mm	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	2322	2322

DIMENSIONS			8082	8101	8102	8103	8121	8122	8123	8124	9121	9141	9161	9162
L	SSL	mm	6258	7733	7733	7733	9208	9208	9208	9208	6920	8020	9120	9120
W	SSL	mm	878	878	878	878	878	878	878	878	2350	2350	2350	2350
H	SSL	mm	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450

CLEARANCE AREA

IDCA/SSL 6032÷8124

IDCA/SSL 9121÷9162

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

IRWM 150÷250

REMOTE HYDRONIC MODULES WITH PUMP KIT.

The Remote Hydronic Modules with pump kit of the IRWM 150÷250 series are designed to solve technical problems resulting from thermal inertia in air conditioning systems for both residential and industrial use.
Installing a tank for cooled water allows units to reduce the operating cycles of the compressors, thus extending the useful life of the machines. It also results in a greater capacity of the system itself, a remarkable operational saving and a greater flexibility, being able to work with temperatures other than the design temperatures. The tanks are available with a capacity of 1500 and 2500 litres, with circulating pump or double circulating pump accessory and are complete with all the components necessary for a quick on-site installation.

VERSION

IRWM	***IRWM***
With 1500 lt. tank	With 2500 lt. tank

FEATURES

- Self-supporting galvanized steel frame further protected with polyester powder painting. Easy to remove panels allow access to the inside of the unit for maintenance and other necessary operations.
- Electrical board. Present only with the accessories circulating pump, it includes main switch with door safety interlock; automatic switches for protection of circulating pumps, of secondary circuit and of antifreeeze heaters, signalling lamps, interface relay and clamps for external connections.
- Water circuit includes: insulated inertial tank, safety valve, automatic air release valves, expansion vessel, gauge, automatic filling group, plant charge and discharge water shut-off valve.

ACCESSORIES

FACTORY FITTED ACCESSORIES

PU1-PU5	Single circulating pump
PD1-PD5	Double circulating pump
FA	Antifreeze heater for tank
FUM	Antifreeze heater for tank, single pump and pipes
FDM	Antifreeze heater for tank, double pump and pipes

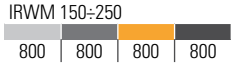
IRWM 150÷250

MODEL			150	250
Pump kit	Tank water volume	l	1500	2500
	Expansion vessel	l	2x25	3x25
	Safety valve	bar	3	3
	Water connections	"G	4"	4"
Transport weight	STD version	Kg	470	520
	STD+PU1	Kg	513	565
	STD+PU2	Kg	569	617
	STD+PU3	Kg	569	617
	STD+PU4	Kg	634	686
	STD+PU5	Kg	740	796
	STD+PD1	Kg	586	638
	STD+PD2	Kg	696	740
	STD+PD3	Kg	696	740
	STD+PD4	Kg	826	878
	STD+PD5	Kg	1055	990
Operating weight	STD version	Kg	1970	3020
	STD+PU1	Kg	2014	3066
	STD+PU2	Kg	2070	3118
	STD+PU3	Kg	2070	3118
	STD+PU4	Kg	2135	3187
	STD+PU5	Kg	2241	3297
	STD+PD1	Kg	2088	3140
	STD+PD2	Kg	2198	3242
	STD+PD3	Kg	2198	3242
	STD+PD4	Kg	2328	3380
	STD+PD5	Kg	2557	3492
PUMPS ELECTRICAL CHARACTERISTICS			XOC/P series	XOC/P series
Nominal absorbed power	PU1	kW	3	3
	PU2	kW	5.5	5.5
	PU3	kW	7.5	7.5
	PU4	kW	15	15
	PU5	kW	22	22
	PD1	kW	6	6
	PD2	kW	11	11
	PD3	kW	15	15
	PD4	kW	30	30
	PD5	kW	44	44
Max. running current	PU1	A	5.6	5.6
	PU2	A	11	11
	PU3	A	14.6	14.6
	PU4	A	28.6	28.6
	PU5	A	40.3	40.3
	PD1	A	11.2	11.2
	PD2	A	22	22
	PD3	A	29.2	29.2
	PD4	A	57.2	57.2
	PD5	A	80.6	80.6

DIMENSIONS			150	250
L	STD	mm	1900	1900
W	STD	mm	2260	2260
H	STD	mm	1780	1780

CLEARANCE AREA

IRWM 150÷250



Electrical board side


INNOVA
INNOVA

CHAPTER 5

PACKAGED ROOF TOP UNITS

FROM 61 KW TO 157 KW.

IROTKT/EC/WP 218R÷345R

SINGLE SKIN PACKAGED ROOF TOP UNITS WITH DIGITAL SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

NEW

The single skin packaged Roof Top units of the IROTKT/EC/WP 218R÷345R series are the ideal solution for air conditioning of medium-wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. The units are equipped with **Digital Scroll** compressors with R410A refrigerant, and are available in Reversible Heat Pump version also with **Free-Cooling** with 2 or 3 dampers. A better efficiency at partial loads is guaranteed by the Digital Scroll technology on compressor since its power is varied according to the requested thermal load. The unit is equipped with **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery, managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity. The unit can easily adapt to diverse engineering needs thanks to the possibility of selecting onsite the air flow direction, choosing among 8 positions of both intake and output air direction. The unit's structure is made of a frame with extruded aluminium profiles and prepainted panels, and features flat type filters with varying efficiency levels, maintaining high air quality and high comfort.

VERSION

IROTK/EC/WP	*IROTK/EC/WP/MS*	*IROTK/EC/WP/ECO*
Reversible Heat Pump	Reversible Heat Pump with Free-Cooling section (2 dampers)	Reversible Heat Pump with Economizer (Free-Cooling section with 3 dampers)

FEATURES

- Structure of base perimeter made of galvanised steel sheet elements. The frame is made of extruded aluminium alloy profiles connected by 3 way joints. The assembling of the base to the frame is of dual support and grants the walking on the base panels installation of which is effected without sticking out screws. The perimeter panels are realised in prepainted sheet steel, they can be easily removed and allow access inside the unit for maintenance and repair operations.
- DIGITAL Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- The air treatment section has removable panels allow selection of intake and output configurations that adapt to the specific needs of the system.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT	Plate filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
EX	External air intake damper (STD only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CS	Dampers rain hood
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IROTKT/EC/WP 218R÷345R

MODEL			218R	220R	224R	226R	230R	336R	339R	345R
Heating	Heating capacity (1)	kW	61.0	69.0	78.8	90.1	104	119	138	157
	Absorbed power (1),(2)	kW	18.8	21.9	25.5	28.4	31.3	38.5	43.0	50.6
Cooling	Cooling capacity (3)	kW	63.0	71.6	83.0	93.9	108	124	143	166
	Absorbed power (2),(3)	kW	21.1	24.4	27.5	30.3	35.8	41.5	46.4	54.6
Air treatment section	Air flow	m³/s	2.50	2.78	3.34	3.61	4.44	4.44	5.83	6.67
	Available static pressure	Pa	200	200	200	200	200	200	200	200
	Fan	n°	1	1	1	1	1	1	2	2
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.00	2.22	2.67	2.89	3.55	3.55	4.72	5.33
	Available static pressure	Pa	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3	
Hot water coil	Heating capacity (4)	kW	65.4	68.6	74.9	78.9	84.9	84.9	103	110
	Air pressure drops	Pa	16	19	26	30	43	43	68	86
	Water flow (4)	l/s	1.56	1.64	1.79	1.89	2.03	2.03	2.46	2.62
	Water pressure drops	kPa	12	14	15	17	18	18	24	28
	Water connections	"G	2	2	2	2	2	2	2	2
Electrical heater	Power supply	V/Ph/Hz	400/3/50							
	Heating capacity	kW	21	27	27	27	40	40	40	48
	Max. absorbed current	A	30	39	39	39	59	59	59	69
	Steps	n°	2	2	2	2	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	53	56	65	69	79	91	110	131
	Max. starting current	A	190	165	188	201	208	215	242	260
Sound pressure	STD/MS/ECO versions (5)	dB(A)	57	57	61	61	61	61	62	62
Weights	Transport weight	Kg	1280	1315	1370	1380	1475	1570	1920	2020
	Operating weight	Kg	1265	1300	1355	1365	1460	1555	1900	2000

MS - ECO

MS - Free-Cooling section with 2 dampers - Further to components of the basic version, includes two wing profile aluminium dampers with spring return servomotors (dampers with opposite movement).
ECO - Free-Cooling section with 3 dampers - Further to components of the basic version, includes return air EC INVERTER PLUG-FANS; motorized wing profile aluminium dampers (dampers with opposite movement). Supply, return and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the refrigerant circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

DIMENSIONS			218R	220R	224R	226R	230R	336R	339R	345R
L	STD/MS/ECO	mm	2930	2930	2930	2930	2930	2930	3930	3930
W	STD/MS/ECO	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MS/ECO	mm	2370	2370	2370	2370	2370	2370	2370	2370

CLEARANCE AREA

IROTKT/EC/WP 218R÷345R

1000	1800	1000	1000

NOTES

1. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Excluded the power absorbed by fans of air treatment section.
3. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of MS and ECO versions are specified on technical brochure.

Electrical board side

FROM 61 KW TO 157 KW.

IROTK/EC/WP 218R÷345R

SINGLE-SKIN PACKAGED ROOFTOP UNITS WITH SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

NEW

The single skin packaged Roof Top units of the IROTK/EC/WP 218R÷345R series are the ideal solution for air conditioning of medium-wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. The units are equipped with Scroll compressors with R410A refrigerant, and are available in Reversible Heat Pump version also with **Free-Cooling** with 2 or 3 dampers. The unit is equipped with **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery, managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity. The unit can easily adapt to diverse engineering needs thanks to the possibility of selecting onsite the air flow direction, choosing among 8 positions of both intake and output air direction. The unit's structure is made of a frame with extruded aluminium profiles and prepainted panels, and features flat type filters with varying efficiency levels, maintaining high air quality and high comfort.

VERSION

IROTK/EC/WP	*IROTK/EC/WP/MS*	*IROTK/EC/WP/ECO*
Reversible Heat Pump	Reversible Heat Pump with Free-Cooling section (2 dampers)	Reversible Heat Pump with Economizer (Free-Cooling section with 3 dampers)

FEATURES

- Structure of base perimeter made of galvanised steel sheet elements. The frame is made of extruded aluminium alloy profiles connected by 3 way joints. The assembling of the base to the frame is of dual support and grants the walking on the base panels installation of which is effected without sticking out screws. The perimeter panels are realised in prepainted sheet steel, they can be easily removed and allow access inside the unit for maintenance and repair operations.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- The air treatment section has removable panels allow selection of intake and output configurations that adapt to the specific needs of the system.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT	Plate filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
EX	External air intake damper (STD only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CS	Dampers rain hood
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers

IROTK/EC/WP 218R÷345R

MODEL			218R	220R	224R	226R	230R	336R	339R	345R
Heating	Heating capacity (1)	kW	61.0	69.0	78.8	90.1	104	119	138	157
	Absorbed power (1),(2)	kW	18.8	21.9	25.5	28.4	31.3	38.5	43.0	50.6
Cooling	Cooling capacity (3)	kW	63.0	71.6	83.0	93.9	108	124	143	166
	Absorbed power (2),(3)	kW	21.1	24.4	27.5	30.3	35.8	41.5	46.4	54.6
Air treatment section	Air flow	m³/s	2.50	2.78	3.34	3.61	4.44	4.44	5.83	6.67
	Available static pressure	Pa	200	200	200	200	200	200	200	200
	Fan	n°	1	1	1	1	2	2	2	2
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.00	2.22	2.67	2.89	3.55	3.55	4.72	5.33
	Available static pressure	Pa	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3	
Hot water coil	Heating capacity (4)	kW	65.4	68.6	74.9	78.9	84.9	84.9	103	110
	Air pressure drops	Pa	16	19	26	30	43	43	68	86
	Water flow (4)	l/s	1.56	1.64	1.79	1.89	2.03	2.03	2.46	2.62
	Water connections	"G	2	2	2	2	2	2	2	2
Electrical heater	Power supply	V/Ph/Hz	400/3/50							
	Heating capacity	kW	21	27	27	27	40	40	40	48
	Max. absorbed current	A	30	39	39	39	59	59	59	69
	Steps	n°	2	2	2	2	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	53	56	65	69	79	91	110	131
	Max. starting current	A	190	165	188	201	208	215	242	260
Sound pressure	STD/MS/ECO versions (5)	dB(A)	57	57	61	61	61	61	62	62
Weights	Transport weight	Kg	1280	1315	1370	1380	1475	1570	1920	2020
	Operating weight	Kg	1265	1300	1355	1365	1460	1555	1900	2000

MS - ECO

MS - Free-Cooling section with 2 dampers - Further to components of the basic version, includes two wing profile aluminium dampers with spring return servomotors (dampers with opposite movement).
ECO - Free-Cooling section with 3 dampers - Further to components of the basic version, includes return air EC INVERTER PLUG-FANS; motorized wing profile aluminium dampers (dampers with opposite movement). Supply, return and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the refrigerant circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

DIMENSIONS			218R	220R	224R	226R	230R	336R	339R	345R
L	STD/MS/ECO	mm	2930	2930	2930	2930	2930	2930	3930	3930
W	STD/MS/ECO	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MS/ECO	mm	2370	2370	2370	2370	2370	2370	2370	2370

CLEARANCE AREA

IROTK/EC/WP 218R÷345R

1000	1800	1000	1000

NOTES

1. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Excluded the power absorbed by fans of air treatment section.
3. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of MS and ECO versions are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTKII/EC 217÷472

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

NEW

The double skin packaged Roof Top units of the IROTKII/EC 217÷472 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature **Inverter Scroll** compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the **EC Inverter Plug-Fans** with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.

VERSION

IROTKII/EC	***IROTKII/EC/WP***
Cooling only with EC Inverter Plug-Fans	Reversible Heat Pump with EC Inverter Plug-Fans

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTKII/EC 217÷472

MODEL			217	219	221	223	227	230	235	237	448	457	472
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400	3180
	Operating weight	Kg	975	1035	1135	1235	1245	1430	1790	1840	2210	2380	3150

COMPLEMENTARY SECTIONS

UMI Section with preparation for Humidifier
UMI/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			217	219	221	223	227	230	235	237	448	457	472
L	STD	mm	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTKII/EC 217÷230

800 | 1700 | 800 | 1700

IROTKII/EC 235÷472

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTKII/EC/MS 217÷472

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND MIXING BOX.

NEW

The double skin packaged Roof Top units of the IROTKII/EC/MS 217÷472 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature **Inverter Scroll** compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the **EC Inverter Plug-Fans** with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The MS units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, a **MIXING BOX.**

VERSION

IROTKII/EC/MS	***IROTKII/EC/WP/MS***
Cooling only with EC Inverter Plug-Fans and Mixing Box	Reversible Heat Pump with EC Inverter Plug-Fans and Mixing Box

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTKII/EC/MS 217÷472

MODEL			217	219	221	223	227	230	235	237	448	457	472
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520	3465
	Operating weight	Kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500	3435

MIXING BOX

MS. Further to components of the basic section, includes two wing profile aluminium dampers with spring return servomotors (dampers with opposite movement).

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			217	219	221	223	227	230	235	237	448	457	472
L	STD	mm	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTKII/EC/MS 217÷230

800 | 1700 | 800 | 1700

IROTKII/EC/MS 235÷472

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTKII/EC/ECO 217÷472

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND ECONOMIZER.

NEW

The double skin packaged Roof Top units of the IROTKII/EC/ECO 217÷472 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature **Inverter Scroll** compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the **EC Inverter Plug-Fans** with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING.

VERSION

IROTKII/EC/ECO	***IROTKII/EC/WP/ECO***
Cooling only with EC Inverter Plug-Fans and Economizer	Reversible Heat Pump with EC Inverter Plug-Fans and Economizer

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTKII/EC/ECO 217÷472

MODEL			217	219	221	223	227	230	235	237	448	457	472
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370	4190
	Operating weight	Kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335	4150

ECONOMIZER

ECO. Further to components of the basic section, includes: return air fan with electrical motor, complete of adjustable transmission, mounted on elastic supports; motorized wing profile aluminium dampers (dampers with opposite movement). Supply, return and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the refrigerant circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			217	219	221	223	227	230	235	237	448	457	472
L	STD	mm	5260	5480	5570	5570	5650	6170	6900	6900	8080	8470	11020
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTKII/EC/ECO 217÷230

800 | 1700 | 800 | 1700

IROTKII/EC/ECO 235÷472

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTKII/EC/ECO/REC-FX 217÷472

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND CROSS-FLOW HEAT RECOVERY.

NEW

The double skin packaged Roof Top units of the IROTKII/EC/ECO/REC-FX 217÷472 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature **Inverter Scroll** compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the **EC Inverter Plug-Fans** with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-FX units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **CROSS-FLOW HEAT RECOVERY.**

VERSION

IROTKII/ECO/REC-FX	***IROTKII/WP/ECO/REC-FX***
Cooling only with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTKII/EC/ECO/REC-FX 217÷472

MODEL			217	219	221	223	227	230	235	237	448	457	472
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND CROSS-FLOW HEAT RECOVERY

ECO/REC-FX. Further to components of the basic section, includes: static recovery device made of aluminium with moisture drain pan, flat filters with inspection possible through hinged door with spring return (external air damper + supply air damper + 2 free-cooling dampers).

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			217	219	221	223	227	230	235	237	448	457	472
L	STD	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTKII/EC/ECO/REC-FX 217÷230

800 | 1700 | 800 | 1700

IROTKII/EC/ECO/REC-FX 235÷472

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 56 KW TO 244 KW.

IROTKII/EC/ECO/REC-WH 217÷472

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND WHEEL HEAT RECOVERY.

NEW

The double skin packaged Roof Top units of the IROTKII/EC/ECO/REC-WH 217÷472 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature **Inverter Scroll** compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the **Inverter Scroll** technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the **EC Inverter Plug-Fans** with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-WH units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **WHEEL HEAT RECOVERY,** able to treat up to 100% of total air flow.

VERSION

IROTKII/EC/ECO/REC-WH	***IROTKII/EC/WP/ECO/REC-WH***
Cooling only with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTKII/EC/ECO/REC-WH 217÷472

MODEL			217	219	221	223	227	230	235	237	448	457	472
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND WHEEL HEAT RECOVERY

ECO/REC-WH. Further to components of the basic section, includes: high efficiency wheel-type recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan, flat filters with inspection possible through hinged door with spring return (external air damper + supply air damper + 2 free-cooling dampers). Also the adjustment of this section is included into the unit control.

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			217	219	221	223	227	230	235	237	448	457	472
L	STD	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTKII/EC/ECO/REC-WH 217÷230

800 | 1700 | 800 | 1700

IROTKII/EC/ECO/REC-WH 235÷472

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTK 218÷480

DOUBLE SKIN PACKAGED ROOFTOP UNITS WITH SCROLL COMPRESSORS AND RADIAL FANS OR EC INVERTER PLUG-FANS.

The double skin packaged Roof Top units of the IROTK 218÷480 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans.** The **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.

VERSION

IROTK	***IROTK/WP***
Cooling only with radial fans	Reversible Heat Pump with radial fans
IROTK/EC	***IROTK/EC/WP***
Cooling only with EC Inverter Plug-Fans	Reversible Heat Pump with EC Inverter Plug-Fans

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTK 218÷480

MODEL			218	220	224	226	230	336	339	345	452	460	480
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz						400/3/50					
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	59	59	59	59	59	60	61	61	62	62	63
Sound pressure (EC version) (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1030	1085	1180	1280	1300	1540	1900	1950	2270	2480	3320
	Operating weight	Kg	1015	1070	1165	1265	1285	1520	1880	1930	2250	2460	3290
Weights (EC version)	Transport weight	Kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400	3180
	Operating weight	Kg	975	1035	1135	1235	1245	1430	1790	1840	2210	2380	3150

COMPLEMENTARY SECTIONS

UMI Section with preparation for Humidifier
UMI/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			218	220	224	226	230	336	339	345	452	460	480
L	STD/EC	mm	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
W	STD/EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTK 218÷336

800 | 1700 | 800 | 1700

IROTK 339÷480

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP and EC versions are specified on technical brochure.

FROM 56 KW TO 244 KW.

IROTK/MS 218÷480

DOUBLE SKIN PACKAGED ROOFTOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS AND MIXING BOX.

The double skin packaged Roof Top units of the IROTK/MS 218÷480 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans.** The **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The MS units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, a MIXING BOX.

VERSION

IROTK/MS	***IROTK/WP/MS***
Cooling only with radial fans and Mixing Box	Reversible Heat Pump with radial fans and Mixing Box
IROTK/ECO	***IROTK/WP/ECO***
Cooling only with EC Inverter Plug-Fans and Mixing Box	Reversible Heat Pump with EC Inverter Plug-Fans and Mixing Box

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTK/MS 218÷480

MODEL			218	220	224	226	230	336	339	345	452	460	480
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz						400/3/50					
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	59	59	59	59	59	60	61	61	62	62	63
Sound pressure (EC version) (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1110	1170	1285	1380	1400	1610	2000	2050	2370	2600	3570
	Operating weight	Kg	1095	1155	1265	1360	1380	1590	1980	2030	2350	2580	3540
Weights (EC version)	Transport weight	Kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520	3465
	Operating weight	Kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500	3435

MIXING BOX

MS. Further to components of the basic section, includes two wing profile aluminium dampers with spring return servomotors (dampers with opposite movement).

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			218	220	224	226	230	336	339	345	452	460	480
L	STD/EC	mm	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
W	STD/EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTK/MS 218÷336

800 | 1700 | 800 | 1700

IROTK/MS 339÷480

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP and EC versions are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTK/ECO 218÷480

DOUBLE SKIN PACKAGED ROOFTOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS AND ECONOMIZER.

The double skin packaged Roof Top units of the IROTK/ECO 218÷480 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans.** The **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in **FREE-COOLING** or FREE-HEATING.

VERSION

IROTK/ECO	***IROTK/WP/ECO***
Cooling only with radial fans and Economizer	Reversible Heat Pump with radial fans and Economizer
IROTK/EC/ECO	***IROTK/EC/WP/ECO***
Cooling only with EC Inverter Plug-Fans and Economizer	Reversible Heat Pump with EC Inverter Plug-Fans and Economizer

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery & intake radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTK/ECO 218÷480

MODEL			218	220	224	226	230	336	339	345	452	460	480
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	59	59	59	59	59	60	61	61	62	62	63
Sound pressure (EC version) (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1570	1690	1810	1910	1930	2160	2560	2610	3130	3500	4520
	Operating weight	Kg	1550	1670	1790	1890	1910	2135	2535	2585	3100	3465	4480
Weights (EC version)	Transport weight	Kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370	4190
	Operating weight	Kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335	4150

ECONOMIZER

ECO. Further to components of the basic section, includes: return air fan with electrical motor, complete of adjustable transmission, mounted on elastic supports; motorized wing profile aluminium dampers (dampers with opposite movement). Supply, return and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the refrigerant circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			218	220	224	226	230	336	339	345	452	460	480
L	STD/EC	mm	5260	5480	5570	5570	5650	6170	6900	6900	8080	8470	11020
W	STD/EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTK/ECO 218÷336

800	1700	800	1700

IROTK/ECO 339÷480

1000	1700	1000	1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP and EC versions are specified on technical brochure.

Electrical board side

FROM 56 KW TO 244 KW.

IROTK/ECO/REC-FX 218÷480

DOUBLE SKIN PACKAGED ROOFTOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS, ECONOMIZER AND CROSS-FLOW HEAT RECOVERY.

The double skin packaged Roof Top units of the IROTK/ECO/REC-FX 218÷480 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans.** The **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-FX units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in **FREE-COOLING** or FREE-HEATING and a **CROSS-FLOW HEAT RECOVERY.**

VERSION

IROTK/ECO/REC-FX	***IROTK/WP/ECO/REC-FX***
Cooling only with radial fans, Economizer and Cross-flow Heat Recovery	Reversible Heat Pump with radial fans, Economizer and Cross-flow Heat Recovery
IROTK/EC/ECO/REC-FX	***IROTK/EC/WP/ECO/REC-FX***
Cooling only with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery & intake radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTK/ECO/REC-FX 218÷480

MODEL			218	220	224	226	230	336	339	345	452	460	480
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (5)		dB(A)	59	59	59	59	59	60	61	61	62	62	63
Sound pressure (EC version) (5)		dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1715	1800	1980	2090	2110	2370	2800	2850	3370	3720	4720
	Operating weight	Kg	1690	1775	1955	2065	2085	2345	2770	2820	3335	3685	4680
Weights (EC version)	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND CROSS-FLOW HEAT RECOVERY

ECO/REC-FX. Further to components of the basic section, includes: static recovery device made of aluminium with moisture drain pan, flat filters with inspection possible through hinged door with spring return (external air damper + supply air damper + 2 free-cooling dampers).

COMPLEMENTARY SECTIONS

UMI Section with preparation for Humidifier
UMI/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			218	220	224	226	230	336	339	345	452	460	480
L	STD/EC	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD/EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTK/ECO/REC-FX 218÷336

800 | 1700 | 800 | 1700

IROTK/ECO/REC-FX 339÷480

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP and EC versions are specified on technical brochure.

FROM 56 KW TO 244 KW.

IROTK/ECO/REC-WH 218÷480

DOUBLE SKIN PACKAGED ROOFTOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS, ECONOMIZER AND WHEEL HEAT RECOVERY.

The double skin packaged Roof Top units of the IROTK/ECO/REC-WH 218÷480 series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans.** The **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling-only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-WH units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **WHEEL HEAT RECOVERY,** able to treat up to 100% of total air flow.

VERSION

IROTK/ECO/REC-WH	***IROTK/WP/ECO/REC-WH***
Cooling only with radial fans, Economizer and Wheel Heat Recovery	Reversible Heat Pump with radial fans, Economizer and Wheel Heat Recovery
IROTK/EC/ECO/REC-WH	***IROTK/EC/WP/ECO/REC-WH***
Cooling only with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery & intake radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator; fuses; thermal protection relays on compressors; thermo contacts for the fans of the condensing unit; contactors for the fan motors of the air handling unit.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

IROTK/ECO/REC-WH 218÷480

MODEL			218	220	224	226	230	336	339	345	452	460	480
Cooling	Cooling capacity (1)	kW	56.2	63.8	75.3	84.8	95.6	110	125	141	163	192	244
	Absorbed power (1),(2)	kW	19.6	22.0	24.8	26.5	31.1	38.2	40.8	43.7	55.1	62.1	86.0
Heating	Heating capacity (3)	kW	58.4	65.2	74.5	85.9	98	112	129	146	168	198	254
	Absorbed power (2),(3)	kW	17.0	18.1	20.4	23.0	25.5	32.5	34.3	40.4	46.2	50.9	71.2
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (4)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (4)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	(5)	dB(A)	59	59	59	59	59	60	61	61	62	62	63
Sound pressure (EC version)	(5)	dB(A)	58	58	58	58	58	59	60	60	61	61	62
Weights	Transport weight	Kg	1715	1800	1980	2090	2110	2370	2800	2850	3370	3720	4720
	Operating weight	Kg	1690	1775	1955	2065	2085	2345	2770	2820	3335	3685	4680
Weights (EC version)	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND WHEEL HEAT RECOVERY

ECO/REC-WH. Further to components of the basic section, includes: high efficiency wheel-type recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan, flat filters with inspection possible through hinged door with spring return (external air damper + supply air damper + 2 free-cooling dampers). Also the adjustment of this section is included into the unit control.

COMPLEMENTARY SECTIONS

UMI	Section with preparation for Humidifier
UMI/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			218	220	224	226	230	336	339	345	452	460	480
L	STD/EC	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD/EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

IROTK/ECO/REC-WH 218÷336

800 | 1700 | 800 | 1700

IROTK/ECO/REC-WH 339÷480

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Inlet air temperature 20 °C, water temperature 70/60 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP and EC versions are specified on technical brochure.

Electrical board side


INNOVA

CHAPTER 6

CONDENSING UNITS

FROM 8,0 KW TO 45 KW.

MOAK 101.5÷115

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH AXIAL FANS AND ROTARY/SCROLL COMPRESSOR.

The condensing units and reversible condensing units of the MOAK 101.5÷115 series, with R410A refrigerant, are designed for small and medium-sized domestic or industrial systems.
With a peraluman structure, these outdoor units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units, generally in air conditioning applications
They are equipped with Rotary/Scroll compressors and axial fans, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MOAK	***MOAK/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only (101.5÷108).
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor remote control switch.
- Microprocessor control and regulation system (only WP).

ACCESSORIES

FACTORY FITTED ACCESSORIES

CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve

LOOSE ACCESSORIES

RP	Coil protection metallic guards
AG	Rubber shock absorbers

MOAK 101.5÷115

MODEL			101.5	101.8	102	102.5	103	104	105
Cooling	Cooling capacity (1)	kW	4.4	5.4	6.6	7.8	8.9	10.5	12.8
	Absorbed power (1)	kW	1.4	1.8	2.1	2.5	2.9	3.7	4.1
Heating	Heating capacity (2)	kW	4.8	5.9	7.3	8.4	9.7	11.3	13.7
	Absorbed power (2)	kW	1.5	1.9	2.3	2.6	3.0	3.8	4.2
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Rotary				Scroll		
Connections	Suction line	Ø mm	16	16	16	16	16	16	18
	Liquid line	Ø mm	10	10	10	10	10	10	12
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	7	9	11	11	15	18	7
	Max. starting current	A	37	43	62	62	79	86	58
Sound pressure	STD version (3)	dB(A)	50	50	50	50	52	53	53
Weights	Transport weight	Kg	81	83	83	87	90	92	109
	Operating weight	Kg	8	84	84	88	91	93	111

MODEL			106	107	108	109	110	113	115
Cooling	Cooling capacity (1)	kW	15.3	18.5	20.6	25.6	30.0	35.5	44.5
	Absorbed power (1)	kW	5.2	6.3	7.2	8.7	9.3	11.6	14.3
Heating	Heating capacity (2)	kW	16.8	19.9	22.0	27.4	33.2	40.9	51.9
	Absorbed power (2)	kW	5.3	6.4	7.3	8.8	9.8	11.9	15.2
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Scroll						
Connections	Suction line	Ø mm	18	22	22	28	28	28	28
	Liquid line	Ø mm	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	10	10	12	23	29	30	39
	Max. starting current	A	61	58	74	142	147	142	167
Sound pressure	STD version (3)	dB(A)	53	53	53	54	55	56	57
Weights	Transport weight	Kg	111	113	115	218	232	252	266
	Operating weight	Kg	114	116	118	221	235	256	271

DIMENSIONS			101.5	101.8	102	102.5	103	104	105	106	107	108	109	110	113	115
L	STD	mm	870	870	870	870	870	870	1160	1160	1160	1160	1850	1850	1850	1850
W	STD	mm	320	320	320	320	320	320	500	500	500	500	1000	1000	1000	1000
H	STD	mm	1100	1100	1100	1100	1100	1100	1270	1270	1270	1270	1300	1300	1300	1300

CLEARANCE AREA

MOAK 101.5÷104

200	200	800	200

MOAK 105÷108

200	200	800	200

MOAK 109÷115

500	800	800	800

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 49 KW TO 182 KW.

MOAK 218÷460

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH AXIAL FANS AND SCROLL COMPRESSORS.

The condensing units and reversible condensing units of the MOAK 218÷460 series, with R410A refrigerant, are designed to satisfy the needs of medium and large-sized domestic or industrial systems.
These outdoor units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units in both air conditioning and industrial process cooling applications
They are equipped with Scroll compressors and axial fans, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MOAK	***MOAK/SSL***
Cooling only	Super silenced cooling only
MOAK/WP	***MOAK/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
EC	EC Inverter fans
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve
BP	Hot gas by-pass valve
FF	Dryer filter and sight glass
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

MOAK 218÷460

MODEL			218	220	224	226	230	336	339	345	452	460
Cooling	Cooling capacity (1)	kW	49.1	56.8	64.9	74.9	85.7	99	113	130	151	182
	Absorbed power (1)	kW	17.6	19.9	22.7	26.1	29.8	34.5	39.6	46.1	53.7	63.8
Heating	Heating capacity (2)	kW	53.8	61.6	71.4	81.4	91.7	106	121	138	157	187
	Absorbed power (2)	kW	14.8	16.2	19.3	21.9	24.6	28.2	33.0	37.0	42.1	50.0
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Connections	Suction line	Ø mm	1x35	1x35	1x35	1x35	1x35	1x42	1x42	1x42	2x35	2x35
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	1x28	1x28	2x22	2x22
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	40	43	52	56	65	75	85	98	111	132
	Max. starting current	A	163	165	175	188	232	199	218	265	243	299
Sound pressure	STD version (3)	dB(A)	56	56	60	60	60	60	61	61	61	61
	With SL accessory (3)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (3)	dB(A)	53	53	57	57	57	56	56	56	57	---
Weights	Transport weight	Kg	550	575	615	625	670	770	800	830	980	1090
	Operating weight	Kg	560	585	625	635	680	785	815	845	1005	1120

DIMENSIONS			218	220	224	226	230	336	339	345	452	460
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

MOAK 218÷460

300	800	800	1800

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 8,0 KW TO 36 KW.

MORK 101.5÷113

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH RADIAL FANS AND ROTARY/SCROLL COMPRESSOR.

The indoor condensing units and reversible condensing units of the MORK 101.5÷113 series, with R410A refrigerant, are intended to satisfy the needs of small and medium-sized domestic or industrial systems with particular difficulty in positioning units outside the building.
With a prepainted plate structure, these units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units, generally in air-conditioning applications.
They are equipped with Rotary/Scroll compressors and radial fans, with appreciable useful head, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MORK	***MORK/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Double inlet radial type fan statically and dynamically balanced directly driven by a electric motor (101.5÷108) or belt driven connected to a three-phase electric motor (109÷113).
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuse and overload protection for compressors.
- Microprocessor control and regulation system (only WP).

ACCESSORIES

FACTORY FITTED ACCESSORIES

CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve

LOOSE ACCESSORIES

RP	Coil protection metallic guards
AG	Rubber shock absorbers

MORK 101.5÷113

MODEL			101.5	101.8	102	102.5	103	104	105
Cooling	Cooling capacity (1)	kW	4.4	5.4	6.6	7.8	8.9	10.5	12.8
	Absorbed power (1)	kW	1.5	1.9	2.2	2.6	3.0	3.8	4.9
Heating	Heating capacity (2)	kW	4.7	5.7	7.1	8.1	9.4	11.0	13.3
	Absorbed power (2)	kW	1.6	2.0	2.4	2.7	3.1	3.9	5.1
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Rotary				Scroll		
Connections	Suction line	Ø mm	16	16	16	16	16	16	18
	Liquid line	Ø mm	10	10	10	10	10	10	12
Available static pressure		Pa	90	90	80	80	80	80	115
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	10	12	13	14	17	21	11
	Max. starting current	A	40	46	65	65	82	89	61
Sound pressure	STD version (3)	dB(A)	49	49	49	49	51	52	52
Weights	Transport weight	Kg	120	121	123	126	131	133	190
	Operating weight	Kg	121	122	124	127	132	134	192

MORK 101.5÷113			106	107	108	109	110	113
Cooling	Cooling capacity (1)	kW	15.3	18.5	20.6	25.6	30.0	35.5
	Absorbed power (1)	kW	6.0	7.1	8.0	10.4	10.5	13.6
Heating	Heating capacity (2)	kW	16.3	19.3	21.3	26.6	32.2	39.7
	Absorbed power (2)	kW	6.2	7.3	8.2	10.6	11.1	14.0
Compressor	Quantity	n°	1	1	1	1	1	1
	Type		Scroll					
Connections	Suction line	Ø mm	18	22	22	28	28	28
	Liquid line	Ø mm	12	12	12	12	12	12
Available static pressure		Pa	115	115	115	150	150	160
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50					
	Max. running current	A	14	14	15	27	33	36
	Max. starting current	A	64	61	77	146	151	148
Sound pressure	STD version (3)	dB(A)	52	53	62	62	62	63
Weights	Transport weight	Kg	200	202	204	313	319	334
	Operating weight	Kg	203	205	207	316	322	338

DIMENSIONS			101.5	101.8	102	102.5	103	104	105	106	107	108	109	110	113
L	STD	mm	900	900	900	900	900	900	900	900	900	900	1500	1500	1500
W	STD	mm	550	550	550	550	550	550	690	690	690	690	800	800	800
H	STD	mm	1425	1425	1425	1425	1425	1425	1725	1725	1725	1725	1425	1425	1425

CLEARANCE AREA

MORK 101.5÷104

100	800	800	800

MORK 105÷108

100	800	800	1000

MORK 109÷113

1200	800	800	100

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 49 KW TO 182 KW.

MORK 218÷460

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH RADIAL FANS AND SCROLL COMPRESSORS.

The indoor condensing units and reversible condensing units of the MORK 218÷460 series, with R410A refrigerant, are designed to satisfy the needs of medium-sized domestic or industrial systems with particular difficulty in positioning units outside the building.
These units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units in both air conditioning and industrial process cooling applications
They are equipped with Scroll compressors and radial fans even in a high-head version, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MORK	***MORK/AP***
Cooling only	Cooling only with high ESP fans
MORK/WP	***MORK/WP/AP***
Reversible Heat Pump	Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve
BP	Hot gas by-pass valve
FF	Dryer filter and sight glass
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

MORK 218÷460

MODEL			218	220	224	226	230	336	339	345	452	460
Cooling	Cooling capacity (1)	kW	49.1	56.8	64.9	74.9	85.7	99	151	130	151	182
	Absorbed power (1)	kW	18.5	21.6	25.1	28.5	32.2	37.0	58.8	50.1	58.8	69.9
Heating	Heating capacity (2)	kW	53.8	61.6	71.4	81.4	91.7	106	157	138	157	187
	Absorbed power (2)	kW	15.8	17.9	21.7	24.3	27.1	30.6	47.2	41.0	47.2	56.1
Compressor	Quantity	n°	2	2	2	2	2	3	4	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	2	1	2	2
	Capacity steps	n°	2					3	4	3	4	
Connections	Suction line	Ø mm	1x35	1x35	1x35	1x35	1x35	1x42	2x35	1x42	2x35	2x35
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	2x22	1x28	2x22	2x22
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	400	---	---	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	43	48	57	61	70	80	122	107	122	146
	Max. starting current	A	166	169	180	193	237	204	255	275	255	313
Sound pressure	STD version (3)	dB(A)	66	66	67	67	67	68	68	68	68	68
	STD version with SL accessory (3)	dB(A)	63	63	64	64	64	65	65	65	65	65
	High ESP version (3)	dB(A)	67	67	68	68	68	69	69	---	---	---
	High ESP version with SL accessory (3)	dB(A)	64	64	65	65	65	66	66	---	---	---
Weights	Transport weight	Kg	595	600	670	680	725	825	865	895	1080	1185
	Operating weight	Kg	605	610	680	690	735	840	880	910	1105	1215

DIMENSIONS			218	220	224	226	230	336	339	345	452	460
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	1705	1705	1705	1705	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

MORK 218÷460

300	800	800	1800

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

CHAPTER 7

FAN COIL UNITS

FROM 1,3 KW TO 7,3 KW.

IFCS 301÷407

FAN COIL UNITS WITH CABINET AND 3-SPEED OR EC INVERTER RADIAL FANS.

The hydronic Fan Coil units with cabinet of IFCS series feature a refined, exclusive design combined with the highest efficiency and noiseless operation.
Part of an hydronic system equipped with a liquid Chiller, IFCS generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. All installation needs are considered in the many standard features of the unit. It can be installed horizontally or vertically, with front, bottom or rear intake. There is also a series of accessories, also for 4-Pipe systems, that includes a control panel that is installed on-board or in the room.
Units are available both with 3-Speed or EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

IFCS/F/VP	***IFCS/F/VH***	***IFCS/F/VE***	***IFCS/F/VO***
Vertical unit with bottom inlet and vertical delivery	Vertical unit with front inlet and vertical delivery	Horizontal unit with rear inlet and horizontal delivery	Horizontal unit with bottom inlet and horizontal delivery
IFCS/EC/F/VP	***IFCS/EC/F/VH***	***IFCS/EC/F/VE***	***IFCS/EC/F/VO***
Vertical unit with EC Inverter fans, bottom inlet and vertical delivery	Vertical unit with EC Inverter fans, front inlet and vertical delivery	Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery	Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Structure made of galvanized sheet protected by a prepainted sheet covering cabinet and ABS details, complete with heat/sound insulation, regenerating filter, heat-resistant ABS polymer grills adjustable in 4 different directions and natural discharge condensation tray.
- Radial fan type directly coupled to a 6-Speed single phase electric motor, with 3 speeds connected in the standard configuration.
- Radial EC INVERTER fan (302÷407).
- Heat exchanger coils with copper pipes and aluminium fins with airvent on the distributors.

ACCESSORIES

LOOSE ACCESSORIES

Z	Couple of feet
C	Auxiliary moisture drain pan
WS	Hot water coil for 4-Pipe system
EH	Supplementary electrical heater
PP	Rear panel
TP	Rear closure
S	Manual damper
SG	Manual damper with grid
SMF	On/off motorized damper
SMG	On/off motorized damper with grid
RM	Wall connection for damper
DBA	On board automatic electronic control panel
DRA	Wall mounted automatic electronic control panel
DBM	On board manual electronic control panel
DRM	Wall mounted manual electronic control panel
VB	On board fan speed control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DBE	On board electromechanic control panel
DRE	Wall mounted electromechanic control panel
DBV	On board automatic electronic control panel for EC version
DRV	Wall mounted automatic electronic control panel for EC version
MCC	Multicontrol connection card
BC	Universal connecting terminal
TMB	Minimum temperature thermostat for VB and VR
TME	Minimum temperature thermostat for DBM and DRM
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system
MP	Moisture drain pump

IFCS 301÷407

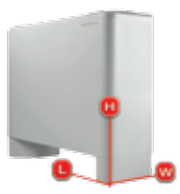
MODEL			301	401	302	402	303	403	304
Cooling	Total cooling capacity (1),(2)	kW	1.31	1.49	1.77	2.05	2.47	2.77	3.11
	Sensible cooling capacity (1),(2)	kW	1.09	1.26	1.45	1.68	1.96	2.16	2.42
	Water flow (1),(2)	l/h	225	256	304	353	425	476	535
	Pressure drops (1),(2)	kPa	5	1	11	6	8	5	14
Heating	Heating capacity (2),(3)	kW	3.20	3.45	4.19	4.53	5.70	6.35	7.03
	Water flow (2),(3)	l/h	275	297	360	390	490	546	605
	Pressure drops (2),(3)	kPa	4	1	8	2	6	4	11
Rows	Quantity	n°	3	4	3	4	3	4	3
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	240	240	340	340	430	430	540
	Med	m³/h	190	190	260	260	340	340	420
	Min	m³/h	140	140	170	170	250	250	280
Air flow (EC version)	Max	m³/h	---	---	340	340	430	430	540
	Min	m³/h	---	---	150	150	180	180	230
Additional coil	Heating capacity (2),(3)	kW	1.50	1.50	2.16	2.16	2.92	2.92	3.75
	Water flow (2),(3)	l/h	129	129	186	186	251	251	322
	Pressure drops (2),(3)	kPa	5	5	9	9	15	15	26
	Rows	n°	1	1	1	1	1	1	1
	Water connections	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	0.6	0.6	1.0	1.0	1.6	1.6	2.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.03	0.03	0.05	0.05	0.05	0.05	0.07
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	---		230/1/50				
	Max absorbed power	kW	---	---	0.02	0.02	0.03	0.03	0.04
Sound pressure	Max (4)	dB(A)	42	42	45	45	41	41	45
	Med (4)	dB(A)	35	35	39	39	35	35	38
	Min (4)	dB(A)	27	27	27	27	26	26	28
Sound pressure (EC version)	Max (4)	dB(A)	---	---	45	45	41	41	45
	Min (4)	dB(A)	---	---	26	26	25	25	27
Weights	Transport weight	Kg	16	16	19	19	24	25	28
	Operating weight	Kg	14	14	17	17	22	23	26

MODEL			404	305	405	306	406	307	407
Cooling	Total cooling capacity (1),(2)	kW	3.54	4.04	4.58	5.09	5.96	6.45	7.26
	Sensible cooling capacity (1),(2)	kW	2.71	3.12	3.47	3.86	4.63	5.07	5.57
	Water flow (1),(2)	l/h	609	695	788	875	1025	1109	1249
	Pressure drops (1),(2)	kPa	9	26	17	8	5	16	15
Heating	Heating capacity (2),(3)	kW	7.75	9.01	9.93	11.69	13.00	14.59	16.19
	Water flow (2),(3)	l/h	666	775	854	1005	1118	1255	1392
	Pressure drops (2),(3)	kPa	7	20	13	6	4	12	8
Rows	Quantity	n°	4	3	4	3	4	3	4
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	540	690	690	910	910	1180	1180
	Med	m³/h	420	530	530	730	730	810	810
	Min	m³/h	280	400	400	510	510	590	590
Air flow (EC version)	Max	m³/h	540	690	690	910	910	1180	1180
	Min	m³/h	230	300	300	420	420	500	500
Additional coil	Heating capacity (2),(3)	kW	3.75	4.65	4.65	6.01	6.01	7.84	7.84
	Water flow (2),(3)	l/h	322	400	400	517	517	674	674
	Pressure drops (2),(3)	kPa	26	18	18	13	13	24	24
	Rows	n°	1	1	1	1	1	1	1
	Water connections	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	2.0	2.5	2.5	3.0	3.0	4.0	4.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.07	0.09	0.09	0.16	0.16	0.19	0.19
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.04	0.07	0.07	0.09	0.09	0.13	0.13
Sound pressure	Max (4)	dB(A)	45	47	47	49	49	53	53
	Med (4)	dB(A)	38	40	40	44	44	43	43
	Min (4)	dB(A)	28	34	34	35	35	35	35
Sound pressure (EC version)	Max (4)	dB(A)	45	47	47	49	49	53	53
	Min (4)	dB(A)	27	30	30	29	29	34	34
Weights	Transport weight	Kg	29	33	34	43	44	54	56
	Operating weight	Kg	27	31	32	41	42	52	54

DIMENSIONS			301	401	302	402	303	403	304	404	305	405	306	406	307	407
L	STD/EC	mm	650	650	780	780	1040	1040	1170	1170	1430	1430	1430	1430	1690	1690
W	STD/EC	mm	210	210	210	210	210	210	210	210	210	210	275	275	275	275
H	STD/EC	mm	500	500	500	500	500	500	500	500	500	500	570	570	570	570
D (5)	STD/EC	mm	90	90	90	90	90	90	90	90	90	90	90	90	90	90

CLEARANCE AREA

IFCS 301÷407



NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
5. Feet height.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 1,3 KW TO 7,3 KW.

IFCC 301÷407

FAN COIL UNITS FOR BUILT-IN INSTALLATION WITH 3-SPEED OR EC INVERTER RADIAL FANS.

The hydronic Fan Coil units of IFCC series are designed for built-in installation: vertical floor-mounted or horizontal ceiling-mounted in domestic environments or service sector including offices, hotels, restaurants, gyms and shops.
Part of an hydronic system equipped with a liquid Chiller, IFCC Fan Coil generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. All installation needs are considered in the many standard features of the unit. It can be installed horizontally or vertically, with front, bottom or rear intake. There is also a series of accessories, also for 4-Pipe systems, that includes a control panel that is installed in the room.
Units are available both with 3-Speed or EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

IFCC/IV	***IFCC/IF***	***IFCC/IO***	***IFCC/II***
Vertical unit with bottom inlet and vertical delivery	Vertical unit with front inlet and vertical delivery	Horizontal unit with rear inlet and horizontal delivery	Horizontal unit with bottom inlet and horizontal delivery
IFCC/EC/IV	***IFCC/EC/IF***	***IFCC/EC/IO***	***IFCC/EC/II***
Vertical unit with EC Inverter fans, bottom inlet and vertical delivery	Vertical unit with EC Inverter fans, front inlet and vertical delivery	Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery	Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Structure made of galvanized sheet complete with heat/sound insulation, regenerating filter and natural discharge condensation tray.
- Radial fan type directly coupled to a 6-Speed single phase electric motor, with 3 speeds connected in the standard configuration.
- Radial EC INVERTER fan (302÷407).
- Heat exchanger coils with copper pipes and aluminium fins with airvent on the distributors.

ACCESSORIES

LOOSE ACCESSORIES

C	Auxiliary moisture drain pan
WS	Hot water coil for 4-Pipe system
EH	Supplementary electrical heater
S	Manual damper
SG	Manual damper with grid
SMF	On/off motorized damper
SMG	On/off motorized damper with grid
RM	Wall connection for damper
SF	Supply frame
DRA	Wall mounted automatic electronic control panel
DRM	Wall mounted manual electronic control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DRE	Wall mounted electromechanic control panel
DRV	Wall mounted automatic electronic control panel for EC version
MCC	Multicontrol connection card
BC	Universal connecting terminal
TMB	Minimum temperature thermostat for VB and VR
TME	Minimum temperature thermostat for DBM and DRM
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system
MP	Moisture drain pump

IFCC 301÷407

MODEL			301	401	302	402	303	403	304
Cooling	Total cooling capacity (1),(2)	kW	1.31	1.49	1.77	2.05	2.47	2.77	3.11
	Sensible cooling capacity (1),(2)	kW	1.09	1.26	1.45	1.68	1.96	2.16	2.42
	Water flow (1),(2)	l/h	225	256	304	353	425	476	535
	Pressure drops (1),(2)	kPa	5	1	11	6	8	5	14
Heating	Heating capacity (2),(3)	kW	3.20	3.45	4.19	4.53	5.70	6.35	7.03
	Water flow (2),(3)	l/h	275	297	360	390	490	546	605
	Pressure drops (2),(3)	kPa	4	1	8	2	6	4	11
Rows	Quantity	n°	3	4	3	4	3	4	3
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	240	240	340	340	430	430	540
	Med	m³/h	190	190	260	260	340	340	420
	Min	m³/h	140	140	170	170	250	250	280
Air flow (EC version)	Max	m³/h	---	---	340	340	430	430	540
	Min	m³/h	---	---	150	150	180	180	230
Additional coil	Heating capacity (2),(3)	kW	1.50	1.50	2.16	2.16	2.92	2.92	3.75
	Water flow (2),(3)	l/h	129	129	186	186	251	251	322
	Pressure drops (2),(3)	kPa	5	5	9	9	15	15	26
	Rows	n°	1	1	1	1	1	1	1
	Water connections	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	0.6	0.6	1.0	1.0	1.6	1.6	2.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.03	0.03	0.05	0.05	0.05	0.05	0.07
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	---		230/1/50				
	Max absorbed power	kW	---	---	0.02	0.02	0.03	0.03	0.04
Sound pressure	Max (4)	dB(A)	41	41	44	44	40	40	44
	Med (4)	dB(A)	34	34	38	38	34	34	37
	Min (4)	dB(A)	26	26	26	26	25	25	27
Sound pressure (EC version)	Max (4)	dB(A)	---	---	44	44	40	40	44
	Min (4)	dB(A)	---	---	25	25	24	24	26
Weights	Transport weight	Kg	12	12	14	14	18	19	21
	Operating weight	Kg	10	10	12	12	16	17	19

MODEL			404	305	405	306	406	307	407
Cooling	Total cooling capacity (1),(2)	kW	3.54	4.04	4.58	5.09	5.96	6.45	7.26
	Sensible cooling capacity (1),(2)	kW	2.71	3.12	3.47	3.86	4.63	5.07	5.57
	Water flow (1),(2)	l/h	609	695	788	875	1025	1109	1249
	Pressure drops (1),(2)	kPa	9	26	17	8	5	16	15
Heating	Heating capacity (2),(3)	kW	7.75	9.01	9.93	11.69	13.00	14.59	16.19
	Water flow (2),(3)	l/h	666	775	854	1005	1118	1255	1392
	Pressure drops (2),(3)	kPa	7	20	13	6	4	12	8
Rows	Quantity	n°	4	3	4	3	4	3	4
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	540	690	690	910	910	1180	1180
	Med	m³/h	420	530	530	730	730	810	810
	Min	m³/h	280	400	400	510	510	590	590
Air flow (EC version)	Max	m³/h	540	690	690	910	910	1180	1180
	Min	m³/h	230	300	300	420	420	500	500
Additional coil	Heating capacity (2),(3)	kW	3.75	4.65	4.65	6.01	6.01	7.84	7.84
	Water flow (2),(3)	l/h	322	400	400	517	517	674	674
	Pressure drops (2),(3)	kPa	26	18	18	13	13	24	24
	Rows	n°	1	1	1	1	1	1	1
	Water connections	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	2.0	2.5	2.5	3.0	3.0	4.0	4.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.07	0.09	0.09	0.16	0.16	0.19	0.19
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.04	0.07	0.07	0.09	0.09	0.13	0.13
Sound pressure	Max (4)	dB(A)	44	46	46	48	48	52	52
	Med (4)	dB(A)	37	39	39	43	43	42	42
	Min (4)	dB(A)	27	33	33	34	34	34	34
Sound pressure (EC version)	Max (4)	dB(A)	44	46	46	48	48	52	52
	Min (4)	dB(A)	26	29	29	28	28	33	33
Weights	Transport weight	Kg	22	24	25	33	34	42	44
	Operating weight	Kg	20	22	23	31	32	40	42

DIMENSIONS			301	401	302	402	303	403	304	404	305	405	306	406	307	407
L	STD/EC	mm	440	440	560	560	760	760	960	960	1160	1160	1135	1135	1410	1410
W	STD/EC	mm	195	195	195	195	195	195	195	195	195	195	260	260	260	260
H	STD/EC	mm	475	475	475	475	475	475	475	475	475	475	545	545	545	545

CLEARANCE AREA

IFCC 301÷407

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 2,1 KW TO 5,4 KW.

IHW/EC 202÷602

WALL MOUNTED FAN COIL UNITS WITH EC INVERTER TANGENTIAL FAN.

The hydronic Fan Coil units of the IHW/EC series are designed for wall-mounted installation in domestic environments or service sector including offices and shops.
Part of an hydronic system equipped with a liquid Chiller, the IHW/EC wall-mounted Fan Coil unit generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs.
A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms.
IHW/EC is provided with remote control, 3-Way valve, flexible hydraulic hook-ups for easy installation and maintenance operations, and is also pre-set for master-slave functioning, with RS485 serial interface. The units are equipped with EC Inverter motor that can modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

IHW/EC
Base unit with 3-Way valve and remote control

FEATURES

- High design appearance with rounded lines, structure in ABS with improved mechanical features resistant to aging.
- Heat exchanger coils with copper pipes and aluminium fins with elevated heat exchanging surfaces; equipped with air blowing in condensation drain.
- 3-Way water valve incorporated inside the unit.
- Tangential fan unit with EC INVERTER motor, maximum silent operations, air flow fins with adjustable horizontal direction and motorized deflector fin controllable via remote control.
- Microprocessor control with timer for on/off programming. Program for automatic operations, cooling, heating and ventilation; night wellness program and dehumidifier.
- Automatic restarting after power outage
- Flexible water connections for easy installation and maintenance operations.
- Easy removal and cleaning of air filter, maintaining appropriate air quality.
- Infrared remote control with wall support.

ACCESSORIES

LOOSE ACCESSORIES

EH	Supplementary electrical heater
DRC	Wall mounted automatic electronic control panel

IHW/EC 202÷602

MODEL			202	203	302	402	502	602
Cooling	Total cooling capacity (1)	kW	2.07	2.49	3.02	3.74	4.81	5.38
	Sensible cooling capacity (1)	kW	1.52	1.81	2.22	2.74	3.46	3.89
	Water flow (1)	l/h	355	427	525	642	826	924
	Pressure drops	kPa	22	28	39	38	45	52
Heating	Water flow (2)	l/h	355	427	525	642	826	924
	Heating capacity (2)	kW	2.70	3.21	3.93	4.87	6.10	6.85
	Pressure drops	kPa	18	23	32	29	34	40
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	500	500	645	788	980	1240
	Min	m³/h	290	290	370	570	600	600
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50					
	Max absorbed power	kW	0.014	0.014	0.020	0.030	0.042	0.060
Sound pressure	Max (3)	dB(A)	38	38	44	47	41	46
	Min (3)	dB(A)	27	27	30	35	31	31
Weights	Transport weight	Kg	14	15	15	16	18	18
	Operating weight	Kg	12	13	13	14	16	16

DIMENSIONS			202	203	302	402	502	602
L	STD	mm	875	875	875	875	1060	1060
W	STD	mm	220	220	220	220	240	240
H	STD	mm	300	300	300	300	310	310

CLEARANCE AREA

IHW/EC 202÷602

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Ambient air temperature 20 °C d.b., water temperature 50 °C.
3. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 70 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 2,4 KW TO 11 KW.

IWC 202÷312

WATER CASSETTE WITH 3-SPEED OR EC INVERTER RADIAL FAN.

The Water Cassette of the IWC series has been designed to be installed in false ceilings, in domestic environments or the services sector including offices, hotels, restaurants, gyms and shops.
Part of an hydronic system equipped with a liquid Chiller, the IWC Water Cassette generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level, and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. The IWC series, in addition to having a rich set of accessories to complete the unit, also has an attractive intake grid that integrates perfectly in the surrounding environment and adjustable deflectors to distribute the air in the room in an ideal manner. IWC Water Cassette features auxiliary moisture drain pan already included and are pre-set for master-slave functioning, with RS485 serial interface. Units are available both with 3-Speed and EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

IWC	***IWC/WB***
Base unit with remote control	Unit with remote control for 4-Pipe system
IWC/EC	***IWC/WB/EC***
Unit with EC Inverter fan and remote control	Unit with EC Inverter fan and remote control for 4-Pipe system

FEATURES

- Structure for insulated recess fitting, limited body depth (250/290 mm) and compact dimensions; specially designed for easy installation and maintenance of the hydraulic and electrical connections, accessible starting from the front panel grille.
- Casing in insulated galvanized sheet; combined air intake/suction grid; automatic adjustment of air diffusion on the four sides; suction in middle with regenerable filter; precut holes for connection to an external air intake and for connection to a branch duct for conditioning an adjoining room.
- Combined air diffusion/suction grid with air filter and adjustable air diffusion on the 4 sides with suction in middle.
- Radial fan turbine with direct feed. The motors, mounted on elastic suspension and equipped with internal thermal safety, are 3-Speed.
- Centrifugal fan turbine with direct feed. EC INVERTER motors, mounted on elastic suspension and equipped with internal thermal safety (32-53-73-122).
- Lift pump with float and detection at 3 levels (On-Off-Alarm) of condensation for lift in the upper part of the box. Discharge occurs by gravity, outside the appliance (lift height up to 500 mm).
- Heat exchanger in copper pipes and aluminium fins with air vent on the headers.
- Regenerable-type air filter, accessible after opening the combined air intake/suction grid.
- Microprocessor control with timer for on/off programming. Program for automatic operations, cooling, heating and ventilation; night wellness program and dehumidifier.
- Infrared remote control with wall support.

ACCESSORIES

LOOSE ACCESSORIES

EH	Supplementary electrical heater
DRC	Wall mounted automatic electronic control panel
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system

IWC 202÷312

MODEL			202	203	204	305	306	307	312
Cooling 2-Pipe unit	Total cooling capacity (1)	kW	2.4	3.2	4.1	4.9	6.1	6.9	10.9
	Sensible cooling capacity (1)	kW	1.7	2.5	3.0	3.5	4.9	5.1	7.9
	Water flow (1)	l/h	413	550	705	843	1049	1187	1875
	Pressure drops (1)	kPa	10	20	28	42	28	39	43
Cooling 2-Pipe unit (EC version)	Total cooling capacity (1)	kW	---	3.2	---	4.6	---	6.8	10.9
	Sensible cooling capacity (1)	kW	---	2.4	---	3.2	---	5.0	7.9
	Water flow (1)	l/h	---	550	---	791	---	1170	1875
	Pressure drops (1)	kPa	---	20	---	39	---	39	38
Heating 2-Pipe unit	Heating capacity (2)	kW	4.9	6.6	7.8	9.7	11.9	12.7	18.9
	Water flow (2)	l/h	422	568	672	834	1023	1090	1624
	Pressure drops (2)	kPa	8	17	25	40	24	26	32
Heating 2-Pipe unit (EC version)	Heating capacity (2)	kW	---	7.1	---	9.2	---	13.4	18.3
	Water flow (2)	l/h	---	610	---	791	---	1152	1574
	Pressure drops (2)	kPa	---	20	---	34	---	31	25
Cooling 4-Pipe unit	Total cooling capacity (1)	kW	---	---	3.1	3.9	---	5.8	7.9
	Sensible cooling capacity (1)	kW	---	---	2.4	2.9	---	4.5	6.0
	Water flow (1)	l/h	---	---	533	671	---	998	1359
	Pressure drops (1)	kPa	---	---	21	23	---	46	29
Cooling 4-Pipe unit (EC version)	Total cooling capacity (1)	kW	---	---	---	3.8	---	5.8	7.1
	Sensible cooling capacity (1)	kW	---	---	---	2.8	---	4.2	5.2
	Water flow (1)	l/h	---	---	---	654	---	998	1221
	Pressure drops (1)	kPa	---	---	---	21	---	52	24
Heating 4-Pipe unit	Heating capacity (2)	kW	---	---	3.8	4.3	---	5.0	9.7
	Water flow (2)	l/h	---	---	326	370	---	430	834
	Pressure drops (2)	kPa	---	---	11	12	---	15	27
Heating 4-Pipe unit (EC version)	Heating capacity (2)	kW	---	---	---	4.3	---	4.6	9.3
	Water flow (2)	l/h	---	---	---	370	---	395	800
	Pressure drops (2)	kPa	---	---	---	11	---	14	19
Water connections	2-Pipe. In / Out	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	4-Pipe. In / Out	"G	---	---	3/4"	3/4"	---	3/4"	3/4"
Air flow	Max	m³/h	380	580	730	810	1050	1300	2130
	Med	m³/h	240	290	520	617	820	960	1640
	Min	m³/h	200	200	450	450	700	700	1380
Air flow (EC version)	Max	m³/h	---	580	---	810	---	1300	2100
	Min	m³/h	---	200	---	200	---	360	820
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	1	1	2	2	3	3	4
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.04	0.06	0.06	0.09	0.11	0.15	0.30
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50				---	---	---
	Max absorbed power	kW	---	0.03	---	0.04	---	0.09	0.20
Sound pressure	Max (3)	dB(A)	39	42	46	48	51	53	55
	Med (3)	dB(A)	33	36	40	43	44	48	48
	Min (3)	dB(A)	31	31	34	34	39	39	42
Sound pressure (EC version)	Max (3)	dB(A)	---	42	---	48	---	53	54
	Min (3)	dB(A)	---	29	---	30	---	34	36
Weights	Transport weight	Kg	31	31	33	33	40	40	55
	Operating weight	Kg	28	28	30	30	36	36	50

DIMENSIONS			202	203	204	305	306	307	312
BODY	L	mm	580	580	580	580	730	730	830
	W	mm	580	580	580	580	730	730	830
	H	mm	250	250	290	290	260	260	290
PANEL	L	mm	680	680	680	680	830	830	980
	W	mm	680	680	680	680	830	830	980
	H	mm	28	28	28	28	28	28	28

CLEARANCE AREA

IWC 202÷312

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
3. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 80 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 4,6 KW TO 43 KW.

ITDU 306÷454

DUCTABLE FAN COIL UNITS WITH 3-SPEED OR EC INVERTER RADIAL FANS.

The modular Fan Coil units of the ITDU series are the ideal solution to meet the air treatment needs of systems including distribution through ducting or directly into the room and installation in false ceilings or in service rooms.
Part of an hydronic system equipped with a liquid Chiller, the ITDU modular ductable Fan Coil unit generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms.
This product range, available for 2-Pipe and 4-Pipe systems, is complete with various accessories such as: outdoor air intake plenum, mixing section with dampers room delivery plenum for flexible ducts and electrical heating section. Units are available both with 3-Speed and EC Inverter fans.The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

ITDU	***ITDU/EC***
Base unit	Unit with EC Inverter fans

FEATURES

- Structure in galvanized sheet (306÷427) or in prepainted metal sheet (333÷454), entirely lined with heat/sound insulation material.
- Radial type fan with double intake, statically and dynamically balanced to reduce vibration and noise to a minimum, directly coupled on single-phase 3-Speed electric motor (306÷427) or with belt and pulley transmission, connected to 3-phase single speed electric motor (333÷454).
- Radial type fan with double intake and EC INVERTER fan type (306÷427).
- Heat exchanger in copper pipes and aluminium fins, complete with air vent and drain pan.
- Air filter made of recyclable synthetic material class EU3; inspection is foreseen from the bottom part (306÷427) or side part (306÷454).
- Air bleed valves, positioned on the water connections of the coil, make it possible to bleed air from the coil.
- Electrical panel comprising a terminal board for wiring to room control panel and power supply.

ACCESSORIES

LOOSE ACCESSORIES

C	Auxiliary moisture drain pan
CW	Auxiliary moisture drain pan for units with WSF accessory
AF	Filtering section
SF	Supply frame
GRI/R	Intake grid with air filter
BM	Supply grid with adjustable fins
PR	Intake plenum
MB	Mixing box with damper
PM	Supply plenum
P3	Supply plenum for flexible ducts
WS	Hot water coil for 4-Pipe system
WSF	Hot water coil section for 4-Pipe system
EH1	Supplementary electrical heater section
EH2	Supplementary electrical heater section
SM	Servo-motor for damper
DRA	Wall mounted automatic electronic control panel
DRM	Wall mounted manual electronic control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DRE	Wall mounted electromechanic control panel
DRV	Wall mounted automatic electronic control panel for EC version
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system

ITDU 306÷454

MODEL			306	309	410	313	315	323	427	333	441	446	454
Cooling	Total cooling capacity (1),(2)	kW	4.6	7.5	9.1	10.5	13.1	15.7	20.7	25.9	31.7	38.1	42.8
	Sensible cooling capacity (1),(2)	kW	3.5	6.0	7.1	8.4	9.8	13.0	16.7	20.1	24.6	29.6	33.2
	Water flow (1),(2)	l/h	791	1290	1565	1806	2253	2700	3560	4455	5452	6553	7362
	Pressure drops (1),(2)	kPa	14	19	21	18	24	24	26	29	14	29	26
Heating	Heating capacity (2),(3)	kW	9.8	15.5	19.7	21.6	25.9	35.5	46.3	60.1	75.8	91.8	97.1
	Water flow (2),(3)	l/h	843	1333	1694	1858	2227	3053	3982	5169	6519	7895	8351
	Pressure drops (2),(3)	kPa	23	17	22	35	25	23	32	34	14	39	34
Rows	Quantity	n°	3	3	4	3	3	3	4	3	4	4	4
Water connections	In / Out	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 ½"	1 ½"	1 ½"	1 ½"
Additional coil	Heating capacity (2),(3)	kW	6.8	10.9	11.5	13.5	16.0	20.3	22.2	47.4	58.4	64.0	75.1
	Water flow (2),(3)	l/h	585	937	989	1161	1376	1746	1909	4076	5022	5504	6459
	Pressure drops (2),(3)	kPa	10	11	12	15	14	19	23	10	15	10	14
	Rows	n°	2	2	2	2	2	2	2	2	2	2	2
	Water connections	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Air flow	Med (4)	m³/h	800	1200	1300	1800	2000	3000	3800	---	---	---	---
	Max (4)	m³/h	1000	1600	1700	2200	2500	3900	4500	5500	6800	7700	9000
	Min (4)	m³/h	600	850	900	900	1300	1900	2000	---	---	---	---
Air flow (EC version)	Max (4)	m³/h	1000	1600	1700	2200	2500	3900	4500	XOC/P series	XOC/P series	XOC/P series	XOC/P series
	Min (4)	m³/h	530	760	810	810	1140	1700	1200	---	---	---	---
EH1 Electrical heater	Power supply	V/Ph/Hz	400/3+N/50							---			--
	Max. absorbed current	A	4.3	8.7	8.7	8.7	13.0	13.0	13.0	---	---	---	---
	Steps	n°	1	1	1	1	1	1	1	---	---	---	---
EH2 Electrical heater	Power supply	V/Ph/Hz	400/3+N/50							---			
	Max. absorbed current	A	8.7	17.4	17.4	17.4	26.1	26.1	26.1	---	---	---	---
	Steps	n°	1	1	1	1	1	1	1	---	---	---	---
Electrical characteristics	Max. absorbed current	A	1.0	2.1	2.1	2.1	2.1	3.9	6.1	1.8	2.6	2.6	3.3
	Power supply	V/Ph/Hz	230/1/50							400/3+N/50			
	Max absorbed power	kW	0.13	0.26	0.26	0.52	0.42	0.42	0.60	0.75	1.10	1.10	1.50
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50							---			
	Max absorbed power	kW	0.13	0.25	0.25	0.45	0.45	0.42	0.60	---	---	---	---
	Max. absorbed current	A								---	---	---	---
Sound pressure	Max (5)	dB(A)	46	45	46	48	50	52	56	57	58	58	59
	Med (5)	dB(A)	41	39	40	44	45	46	52	---	---	---	---
	Min (5)	dB(A)	35	31	32	29	36	36	38	---	---	---	---
Sound pressure (EC version)	Max (5)	dB(A)	46	45	46	48	50	52	56	---	---	---	---
	Min (5)	dB(A)	34	30	30	30	35	35	36	---	---	---	---
Weights	Transport weight	Kg	29	42	44	57	65	67	70	168	168	173	175
	Operating weight	Kg	27	40	42	55	63	65	68	166	166	171	173

DIMENSIONS			306	309	410	313	315	323	427	333	441	446	454
L	STD/EC	mm	645	1005	1005	1105	1345	1345	1345	1400	1400	1400	1400
W	STD/EC	mm	455	455	455	505	540	540	540	800	800	800	800
H	STD/EC	mm	295	295	295	325	325	375	375	800	800	1050	1050

CLEARANCE AREA

ITDU 306÷454

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. 3-phase single speed electrical motors for units 333, 414, 464, 544.
5. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side