

# PRODUCT CATALOGUE



**R410A**



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

**FROM 40kW TO 155kW (FROM 12 TON TO 44 TON)**

### GENERAL DESCRIPTION

The liquid Chillers and Heat Pumps of the IKM CHAXT/K/AF 40/P-155/P 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 Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes. Equipped with axial fans, Scroll compressors and plate exchanger, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.

The AQUALOGIK smart control system 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. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series. The Heat Pump versions are designed for hot water production up to 55°C.

### VERSIONS:

**IKM CHAXT/K/AF** - cooling only

**IKM CHAXT/K/AF/WP** - Reversible Heat Pump

**IKM CHAXT/K/AF/ST** - Cooling only with AQUALOGIK technology

**IKM CHAXT/K/AF/WP/ST** - Reversible Heat Pump with AQUALOGIK technology

### FEATURES:

**Self-supporting** galvanized steel frame protected with additional protection achieved via 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 copper tubes 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 40/P-115/P models; with two independent circuits on the refrigerant side and one on the water side in 130/P-155/P 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, thermal protection relays for compressors and thermocontacts for fans.

**Electrical board** with dedicated components sizing and ventilation system for unit operation at high outdoor ambient temperature.

**On ST versions** water circuit includes INVERTER circulating pump, safety valve and expansion vessel.

**On ST versions** Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.

**Functioning in** heating mode with outside air temperature down to -15 °C.

**Microprocessor control** and regulation system (with AQUALOGIK technology on ST versions).

**Operating outdoor** ambient air temperature up to 55 °C.

**FACTORY FITTED ACCESSORIES:**

- IM** - Automatic circuit breakers
- SL** - Unit silencing
- 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** - Coils protection metallic guards
- AG** - Rubber shock absorbers
- AM** - Spring shock absorbers

**IKM CHAXT/K/AF 40/P - 155/P**

MODEL			40	50	60	65	75	85	95	115	130	155
Cooling	Cooling Capacity (1)	KW	42.3	50.7	57.6	63.1	75.2	85.7	94.7	114	128	157
		TON	12.0	14.4	16.4	17.9	21.4	24.4	26.9	32.4	36.4	44.6
	Absorbed power (1)	kW	19.6	22.5	25.3	29.8	33.7	37.5	44.0	50.7	59.5	69.6
	Cooling Capacity (2)	kW	51.1	59.1	67.2	76.9	87.9	100	115	133	156	183
		TON	14.5	16.8	19.1	21.8	25.0	28.4	32.7	37.8	44.4	52.0
	Absorbed power (2)	kW	16.0	18.5	20.9	24.2	27.6	31.0	35.8	41.5	48.3	56.9
	EER (2)		3.19	3.19	3.22	3.17	3.18	3.23	3.21	3.20	3.23	3.22
Cooling (EN14511)	Cooling capacity (2)	kW	50.8	58.7	66.9	76.2	87.4	99.5	114	132	155	182
		TON	14.4	16.7	19.0	21.7	24.9	28.3	32.4	37.5	44.1	51.7
	Absorbed power (2)	kW	16.3	18.9	21.2	24.6	28.1	31.5	36.3	42.2	48.9	57.5
	EER (2)		3.12	3.11	3.16	3.10	3.11	3.16	3.14	3.13	3.17	3.17
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
Heating	Heating capacity (3)	kW	55.4	64.1	72.9	83.1	95.3	109	124	144	169	198
		TON	15.8	18.2	20.7	23.6	27.1	31.0	35.3	40.9	48.1	56.3
	Absorbed power (3)	kW	16.8	19.4	22.0	25.4	28.8	32.5	37.4	43.4	51.0	59.7
	COP (3)		3.30	3.30	3.31	3.27	3.31	3.35	3.29	3.32	3.31	3.32
Heating (EN14511)	Heating capacity (3)	kW	55.8	64.5	73.3	83.6	95.6	110	125	145	170	199
		TON	15.9	18.3	20.8	23.8	27.3	31.3	35.5	41.2	48.3	56.6
	Absorbed power (3)	kW	17.3	19.9	22.5	26.1	29.7	33.4	38.6	44.7	52.1	61.2
	COP (3)		3.23	3.24	3.26	3.20	3.23	3.29	3.24	3.24	3.26	3.25
	EUROVENT Class		A	A	A	A	A	A	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	2.44	2.82	3.21	3.66	4.20	4.78	5.49	6.35	7.45	8.74
		gpm	38.7	44.7	50.9	58.0	66.6	75.8	87.0	101	118	139
	Pressure drops	kPa	43	42	33	41	49	42	37	46	35	31
		ft WG	14.3	14.0	11.0	13.7	16.3	14.0	12.3	15.3	11.7	10.3
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	132	148	172	212	169	200	246	229	280
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	42	48	54	60	71	78	90	106	118	140
	Max. starting current	A	135	145	152	176	215	173	204	250	223	284
Unit with tank and pump	Pump available static pressure	kPa	140	135	130	125	160	175	160	140	130	140
		ft WG	46.7	45.0	43.3	41.7	53.3	58.3	53.3	46.7	43.3	46.7
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
		gal	106	106	106	106	106	106	106	106	159	159
Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	
Unit ST versions	Water flow	l/s	2.44	2.82	3.21	3.66	4.20	4.78	5.49	6.35	7.45	8.74
		gpm	38.7	44.7	50.9	58.0	66.6	75.8	87.0	101	118	139
	Pump available static pressure	kPa	140	135	130	125	160	150	145	130	120	105
		ft WG	46.7	45.0	43.3	41.7	53.3	50.0	48.3	43.3	40.0	35.0
Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	
Sound pressure	STD and ST versions (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
Weights	Transport weight (5)	Kg	574	606	625	679	728	836	973	1015	1305	1367
	Operating weight (5)	Kg	578	610	630	685	734	843	982	1024	1320	1387
Weights (ST versions)	Transport weight	Kg	589	621	640	694	743	856	993	1035	1325	1387
	Operating weight	Kg	593	625	645	700	749	863	1002	1044	1340	1407

Series IKM CHAXT/K/AF 40/P - 155/P

DIMENSIONS			40	50	60	65	75	85	95	115	130	155
L	STD-ST	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
W	STD-ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-ST	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220

### NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 46 °C.
  2. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
  3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
  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.

### DIMENSIONAL & CLEARANCE AREA

IKM CHAXT/K/AF 40/P - 155/P

300	800	800	1800
-----	-----	-----	------

 Electrical board side

