



**R410A**



n° 1370  
according to  
87/253/EEC (P.E.D.)



BUREAU  
VERITAS



**AIRCOOLED CONDENSING  
UNITS WITH AXIAL FANS  
AND SCROLL COMPRESSORS**  
FROM 45 kW TO 160 kW (FROM 13 TON TO 46 TON)



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### **GENERAL DESCRIPTION**

Aircooled condensing units with axial fans for outdoor installation. The range consists of 10 models covering a cooling capacity from 45 to 160 kW (from 13 TON to 46 TON).

### **VERSIONS:**

**IKM MHAXT/K 45 - 160** - cooling only

### **TECHNICAL FEATURES:**

**Frame.** 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.

**Compressors.** Scroll with oil sight glass. They are furnished with an internal overheat protection and crankcase, installed on rubber shock absorbers.

**Fans.** Axial fans directly coupled to a three-phase electric motor with external rotor. A safety fan guard is fitted on the air flow discharge.

**Condenser** Made up of a finned battery with copper pipes and aluminum fins. Circuits on the refrigerant side are made to create one circuit in models 45kW to 70kW and two independent circuits in models 80kW- 160kW.

**Electrical board.** Includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans, interface relays, electrical terminals for external connections.

**Microprocessor** for automatic control of the unit allowing continuous display of the operational status of the unit, control set and real water temperature and, in case of partial or total block of the unit, indication of security device that intervened.

**Refrigerant circuit versions IKM MHAXT/K 45 - 160.** Produced in copper tubing, all models have the following components: high and low pressure switches (with fixed setting).

### **FACTORY FITTED ACCESSORIES:**

**IM - Magnetothermic switches** instead of fuses and thermal relays.

**SL - Unit silencing.** The compressors are equipped with sound-absorbing covering.

**CT - Thermostatic condensation control** obtained by means of stopping some fans.

**CC - Pressostatic condensation control** obtained by means of continuous adjustment of the fan rotation speed up.

**TX - Epoxy treated condensing** coil fins.

**RF - Cooling circuit shut off valves** on liquid, hot gas and suction lines.

**RL - Liquid receiver** to guarantee the liquid phase of the cooling fluid.

**VS - Solenoid valve** on the liquid side to avoid liquid reflux.

**BP - Gas by-pass with hot injection** to prevent frosting on internal unit.

**FF - Filter drier and flow sight glass** as a further warranty of the perfect working of the machine.

**CP - Potential free contacts** for remote alarm and control.

**LOOSE ACCESSORIES:**

**MN - High and low pressure gauges** for every refrigeration circuit.

**CR - Remote control panel to be inserted** in the room for remote control of the unit, with the same functions as that inserted in the machine.

**IS - RS 485 serial interface** for connection to controls and centralized supervision Systems.

**RP - Coil protection guards** in steel with cataphoresis treatment and painting.

**AG - Rubber vibration dampers** to be inserted at the bottom of the unit to dampen possible vibrations due to the type of floor where the machine is installed.

**REFERENCE CONDITIONS**

All technical data, indicated on pages 5 & 6, refer to the following

**Unit operating conditions:**

**Cooling:**

- Evaporator temperature 6°C
- Ambient air temperature 46°C.

**Sound Pressure Level (DIN 45635):**

Measured in free field conditions at 1 m from the unit and at 1,5 m from the ground. According to DIN 45635.

**Sound Pressure Level (ISO 3744):**

Measured in free field conditions at 1 m. As defined by ISO 3744.

The power supply is 400V/3Ph/50Hz; auxiliary supply is 230V/1Ph/50Hz.

OPERATING RANGE	COOLING	
	min	max
Evaporator temperature	- 2 °C	10 °C
Average condensing temperature	---	---
Ambient air temperature	10 °C *	55 °C

\*This value can be reduced until -20°C with an optional accessory supplied prefabricated (CC).

## TECHNICAL DATA

MODEL		45	55	60	70	80
<b>Cooling:</b>						
Cooling Capacity (1)	kW	45,3	54,5	59,8	70,4	80,3
	TON	12,9	15,5	17,0	20,0	22,8
Absorbed power (1)	kW	20,1	21,4	25,8	28,6	32,2
Cooling Capacity (2)	kW	49,6	58,1	65,4	77,0	87,9
	TON	14,1	16,5	18,6	21,9	25,0
Absorbed power (2)	kW	18,1	19,3	23,1	25,8	29,0
<b>Compressors:</b>						
Quantity	n°	2	2	2	2	4
Refrigerant Circuits	n°	1	1	1	1	2
Cooling Capacity divisione	%	100	100	100	100	50/50
Capacity steps	%	<-----50/100----->				25/50/75/100
<b>Compressor:</b>						
Unitary absorbed power (1)	kW	9,1	9,7	11,9	12,3	7,1
Unitary absorbed current (1)	A	17	17	21	21	14
Oil charge	Kg	3,3	3,3	3,3	3,3	3,3
<b>Standard version and with SL accessory:</b>						
Airflow	m <sup>3</sup> /s	7,1	7,1	7,1	9,1	11,3
	cfm	15038	15038	15038	19274	23933
Fans	n°	2	2	2	2	2
Nominal fans power	kW	2,0	2,0	2,0	4,0	4,0
Nominal fans current	A	5,0	5,0	5,0	8,0	8,0
Sound pressure level - DIN (1)	dB(A)	70	70	70	71	71
Sound press. level with SL accessory - DIN (1)	dB(A)	68	68	68	69	69
Sound pressure level - ISO (1)	dB(A)	60	60	60	61	61
Sound press. level with SL accessory - ISO (1)	dB(A)	58	58	58	59	59
Lenght	mm	2350	2350	2350	2350	3550
Width	mm	1100	1100	1100	1100	1100
Height	mm	1920	1920	1920	1920	2220
Transport weight	Kg	600	605	615	665	930
Transport weight with SL accessory	kg	610	615	625	675	950
<b>Connections:</b>						
Suction line	Ø mm	<-----1 x 35----->			<-- 2 x 35 -->	
Liquid line	Ø mm	<-----1 x 22----->			<-- 2 x 22 -->	
<b>Total electrical consumption:</b>						
Power supply	V/Ph/Hz	<-----400/3/50----->				
Max. Current	A	40	46	51	56	69
Starting current	A	133	143	146	170	149

(1) Referential conditions at page 4.

(2) Evaporating temperatur 5 °C, ambient air temperature 35 °C.

**TECHNICAL DATA**

90	105	120	140	160	MODEL	
<b>Cooling:</b>						
91,4	104	120	140	162	kW	Cooling Capacity (1)
26,0	29,6	34,1	39,8	46,1	TON	
40,1	44,4	51,0	58,5	69,7	kW	Absorbed power (1)
100	114	131	153	177	kW	Cooling Capacity (2)
28,4	32,4	37,2	43,5	50,3	TON	
36,0	39,8	45,9	52,6	62,5	kW	Absorbed power (2)
<b>Compressors:</b>						
4	4	4	4	4	n°	Quantity
2	2	2	2	2	n°	Refrigerant Circuits
50/50	50/50	50/50	50/50	50/50	%	Cooling Capacity divisione
<----- 25/50/75/100 ----->					%	Capacity steps
<b>Compressor:</b>						
8,5	9,6	11,5	13,1	15,9	kW	Unitary absorbed power (1)
16	18	22	22	30	A	Unitary absorbed current (1)
3,3	3,3	3,3	3,3	3,6	Kg	Oil charge
<b>Standard version and with SL accessory:</b>						
16,5	16,5	15,0	15,0	15,0	m³/s	Airflow
34947	34947	31770	31770	31770	cfm	
3	3	3	3	3	n°	Fans
5,6	5,6	5,6	5,6	5,6	kW	Nominal fans power
12,0	12,0	12,0	12,0	12,0	A	Nominal fans current
71	71	72	72	72	dB(A)	Sound pressure level - DIN (1)
69	69	70	70	70	dB(A)	Sound press. level with SL accessory - DIN (1)
62	62	62	62	62	dB(A)	Sound pressure level - ISO (1)
60	60	60	60	60	dB(A)	Sound press. level with SL accessory - ISO (1)
3550	3550	3550	3550	3550	mm	Lenght
1100	1100	1100	1100	1100	mm	Width
2220	2220	2220	2220	2220	mm	Height
990	1000	1040	1080	1190	Kg	Transport weight
1010	1020	1060	1100	1210	kg	Transport weight with SL accessory
<b>Connections:</b>						
<----- 2 x 35 ----->					Ø mm	Suction line
<----- 2 x 22 ----->					Ø mm	Liquid line
<b>Total electrical consumption:</b>						
<----- 400/3/50 ----->					V/Ph/Hz	Power supply
81	94	103	114	132	A	Max. Current
175	191	198	228	276	A	Starting current

(1) Referential conditions at page 4.

(2) Evaporating temperatur 5 °C, ambient air temperature 35 °C.

**COOLING CAPACITY**

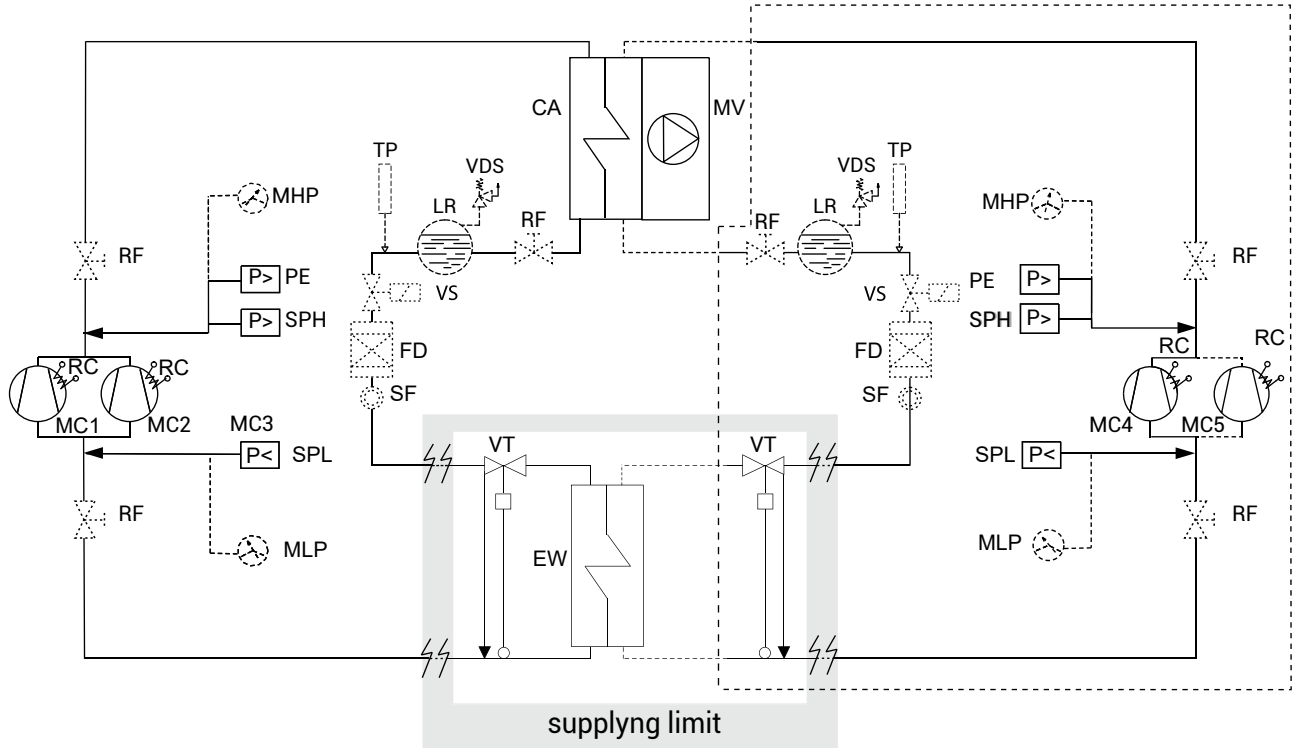
MOD.	Te (°C)	AMBIENT AIR TEMPERATURE °C																	
		30			35			40			46			48			52		
		kWf	TONf	kWe	kWf	TONf	kWe	kWf	TONf	kWe	kWf	TONf	kWe	kWf	TONf	kWe	kWf	TONf	kWe
45	4	50,2	14,3	17,3	47,8	13,6	18,1	45,2	12,9	18,9	42,0	11,9	20,1	40,9	11,6	20,5	38,6	11,0	21,3
	5	52,1	14,8	17,3	<b>49,6</b>	<b>14,1</b>	<b>18,1</b>	46,9	13,3	19,0	43,6	12,4	20,1	42,5	12,1	20,5	40,2	11,4	21,3
	6	54,1	15,4	17,3	51,4	14,6	18,1	48,7	13,8	19,0	<b>45,3</b>	<b>12,9</b>	<b>20,1</b>	44,1	12,5	20,5	41,8	11,9	21,3
	7	56,0	15,9	17,3	53,3	15,2	18,1	50,5	14,4	19,0	47,0	13,4	20,1	45,8	13,0	20,5	43,4	12,3	21,3
	8	58,1	16,5	17,3	55,3	15,7	18,2	52,4	14,9	19,0	48,8	13,9	20,1	47,6	13,5	20,5	45,1	12,8	21,3
9	60,2	17,1	17,4	57,3	16,3	18,2	54,3	15,4	19,0	50,6	14,4	20,2	49,4	14,0	20,5	46,8	13,3	21,3	
55	4	58,4	16,6	18,5	56,0	15,9	19,3	53,6	15,2	20,2	50,6	14,4	21,4	49,6	14,1	21,8	47,5	13,5	22,6
	5	60,5	17,2	18,5	<b>58,1</b>	<b>16,5</b>	<b>19,3</b>	55,6	15,8	20,2	52,5	14,9	21,4	51,5	14,6	21,8	49,4	14,0	22,6
	6	62,8	17,9	18,5	60,2	17,1	19,3	57,7	16,4	20,2	<b>54,5</b>	<b>15,5</b>	<b>21,4</b>	53,4	15,2	21,8	51,2	14,6	22,6
	7	65,0	18,5	18,5	62,4	17,7	19,3	59,8	17,0	20,3	56,5	16,1	21,4	55,4	15,8	21,8	53,2	15,1	22,6
	8	67,4	19,2	18,5	64,7	18,4	19,4	62,0	17,6	20,3	58,6	16,7	21,4	57,5	16,4	21,8	55,2	15,7	22,7
9	69,8	19,8	18,5	67,0	19,1	19,4	64,2	18,3	20,3	60,8	17,3	21,4	59,6	16,9	21,8	57,2	16,3	22,7	
60	4	66,3	18,9	22,0	63,0	17,9	23,1	59,7	17,0	24,2	55,4	15,8	25,8	54,0	15,4	26,3	51,0	14,5	27,4
	5	68,8	19,6	22,0	<b>65,4</b>	<b>18,6</b>	<b>23,1</b>	61,9	17,6	24,3	57,6	16,4	25,8	56,1	16,0	26,3	53,0	15,1	27,4
	6	71,4	20,3	22,1	67,9	19,3	23,1	64,3	18,3	24,3	<b>59,8</b>	<b>17,0</b>	<b>25,8</b>	58,3	16,6	26,3	55,1	15,7	27,4
	7	74,0	21,0	22,1	70,4	20,0	23,2	66,7	19,0	24,3	62,1	17,7	25,8	60,5	17,2	26,4	57,3	16,3	27,5
	8	76,7	21,8	22,1	73,0	20,8	23,2	69,2	19,7	24,4	64,4	18,3	25,8	62,8	17,9	26,4	59,5	16,9	27,5
9	79,5	22,6	22,2	75,7	21,5	23,2	71,8	20,4	24,4	66,9	19,0	25,9	65,2	18,5	26,4	61,8	17,6	27,5	
70	4	78,1	22,2	24,7	74,2	21,1	25,8	70,2	20,0	27,0	65,3	18,6	28,6	63,5	18,1	29,1	60,1	17,1	30,3
	5	81,0	23,0	24,7	<b>77,0</b>	<b>21,9</b>	<b>25,8</b>	72,9	20,7	27,0	67,8	19,3	28,6	66,0	18,8	29,1	62,4	17,7	30,3
	6	84,0	23,9	24,7	79,9	22,7	25,9	75,7	21,5	27,0	<b>70,4</b>	<b>20,0</b>	<b>28,6</b>	68,6	19,5	29,1	64,9	18,5	30,3
	7	87,1	24,8	24,8	82,9	23,6	25,9	78,5	22,3	27,1	73,1	20,8	28,6	71,2	20,2	29,2	67,4	19,2	30,3
	8	90,3	25,7	24,8	86,0	24,5	25,9	81,5	23,2	27,1	75,9	21,6	28,6	73,9	21,0	29,2	70,0	19,9	30,3
9	93,6	26,6	24,8	89,1	25,3	25,9	84,5	24,0	27,1	78,7	22,4	28,7	76,7	21,8	29,2	72,7	20,7	30,4	
80	4	89,1	25,3	27,7	84,7	24,1	29,0	80,1	22,8	30,4	74,4	21,2	32,1	72,5	20,6	32,8	68,5	19,5	34,1
	5	92,4	26,3	27,7	<b>87,9</b>	<b>25,0</b>	<b>29,0</b>	83,2	23,7	30,4	77,3	22,0	32,2	75,3	21,4	32,8	71,2	20,2	34,1
	6	95,8	27,2	27,8	91,2	25,9	29,1	86,3	24,5	30,4	<b>80,3</b>	<b>22,8</b>	<b>32,2</b>	78,2	22,2	32,8	74,0	21,0	34,1
	7	99,4	28,3	27,8	94,6	26,9	29,1	89,6	25,5	30,5	83,4	23,7	32,2	81,2	23,1	32,9	76,9	21,9	34,2
	8	103	29,3	27,9	98,0	27,9	29,1	92,9	26,4	30,5	86,5	24,6	32,3	84,3	24,0	32,9	79,9	22,7	34,2
9	107	30,4	27,9	102	29,0	29,2	96,3	27,4	30,5	89,8	25,5	32,3	87,5	24,9	32,9	82,9	23,6	34,2	
90	4	101	28,7	34,3	96,4	27,4	36,0	91,2	25,9	37,7	84,7	24,1	40,0	82,5	23,5	40,8	78,0	22,2	42,5
	5	105	29,9	34,4	<b>100</b>	<b>28,4</b>	<b>36,0</b>	94,7	26,9	37,8	88,0	25,0	40,1	85,7	24,4	40,9	81,1	23,1	42,6
	6	109	31,0	34,4	104	29,6	36,1	98,3	28,0	37,8	<b>91,4</b>	<b>26,0</b>	<b>40,1</b>	89,0	25,3	40,9	84,2	23,9	42,6
	7	113	32,1	34,5	108	30,7	36,1	102	29,0	37,9	94,9	27,0	40,1	92,5	26,3	40,9	87,5	24,9	42,6
	8	117	33,3	34,5	112	31,8	36,2	106	30,1	37,9	98,5	28,0	40,2	96,0	27,3	41,0	90,9	25,8	42,6
9	122	34,7	34,6	116	33,0	36,2	110	31,3	37,9	102	29,0	40,2	99,6	28,3	41,0	94,4	26,8	42,7	
105	4	115	32,7	38,0	110	31,3	39,8	104	29,6	41,8	96,4	27,4	44,3	93,9	26,7	45,2	88,7	25,2	47,1
	5	120	34,1	38,0	<b>114</b>	<b>32,4</b>	<b>39,8</b>	108	30,7	41,8	100	28,4	44,4	97,5	27,7	45,3	92,2	26,2	47,1
	6	124	35,3	38,1	118	33,6	39,9	112	31,8	41,9	<b>104</b>	<b>29,6</b>	<b>44,4</b>	101	28,7	45,3	95,9	27,3	47,2
	7	129	36,7	38,1	122	34,7	39,9	116	33,0	41,9	108	30,7	44,4	105	29,9	45,3	99,6	28,3	47,2
	8	133	37,8	38,2	127	36,1	40,0	120	34,1	41,9	112	31,8	44,5	109	31,0	45,4	103	29,3	47,2
9	138	39,2	38,2	132	37,5	40,0	125	35,5	42,0	116	33,0	44,5	113	32,1	45,4	107	30,4	47,3	
120	4	133	37,8	43,8	127	36,1	45,9	120	34,1	48,1	111	31,6	50,9	108	30,7	51,9	102	29,0	54,0
	5	138	39,2	43,9	<b>131</b>	<b>37,2</b>	<b>45,9</b>	124	35,3	48,1	116	33,0	51,0	113	32,1	52,0	106	30,1	54,1
	6	143	40,7	43,9	136	38,7	46,0	129	36,7	48,2	<b>120</b>	<b>34,1</b>	<b>51,0</b>	117	33,3	52,0	111	31,6	54,1
	7	149	42,4	44,0	141	40,1	46,0	134	38,1	48,2	125	35,5	51,0	121	34,4	52,0	115	32,7	54,1
	8	154	43,8	44,1	147	41,8	46,1	139	39,5	48,3	129	36,7	51,1	126	35,8	52,1	119	33,8	54,2
9	160	45,5	44,1	152	43,2	46,1	144	40,9	48,3	134	38,1	51,1	131	37,2	52,1	124	35,3	54,2	
140	4	155	44,1	50,1	148	42,1	52,5	140	39,8	55,1	130	37,0	58,4	126	35,8	59,6	119	33,8	62,0
	5	161	45,8	50,2	<b>153</b>	<b>43,5</b>	<b>52,6</b>	145	41,2	55,1	135	38,4	58,4	131	37,2	59,6	124	35,3	62,1
	6	167	47,5	50,3	159	45,2	52,6	151	42,9	55,2	<b>140</b>	<b>39,8</b>	<b>58,5</b>	136	38,7	59,7	129	36,7	62,1
	7	173	49,2	50,3	165	46,9	52,7	156	44,4	55,3	145	41,2	58,6	142	40,4	59,7	134	38,1	62,1
	8	180	51,2	50,4	171	48,6	52,8	162	46,1	55,3	151	42,9	58,6	147	41,8	59,8	139	39,5	62,2
9	186	52,9	50,5	177	50,3	52,8	168	47,8	55,4	157	44,6	58,7	153	43,5	59,8	145	41,2	62,2	
160	4	180	51,2	59,5	171	48,6	62,4	162	46,1	65,5	150	42,7	69,6	146	41,5	71,0	138	39,2	74,0
	5	186	52,9	59,6	<b>177</b>	<b>50,3</b>	<b>62,5</b>	168	47,8	65,6	156	44,4	69,6	152	43,2	71,1	144	40,9	74,0
	6	193	54,9	59,7	184	52,3	62,6	174	49,5	65,7	<b>162</b>	<b>46,1</b>	<b>69,7</b>	158	44,9	71,1	149	42,4	74,1
	7	200	56,9	59,8	191	54,3	62,7	181	51,5	65,8	168	47,8	69,8	164	46,6	71,2	155	44,1	74,1
	8	208	59,1	59,9	198	56,3	62,8	187	53,2	65,8	175	49,8	69,8	170	48,3	71,2	161	45,8	74,2
9	215	61,1	60,0	205	58,3	62,8	194	55,2	65,9	181	51,5	69,9	177	50,3	71,3	167	47,5	74,2	

Series IKM MHAHT/K 45 - 160

kWf : Cooling capacity (kW);  
 kWe : Absorbed power (kW);

TONf : Cooling capacity (TON);  
 Te : Evaporating temperature;

## REFRIGERATION CIRCUIT DIAGRAM ONLY COOLING UNITS



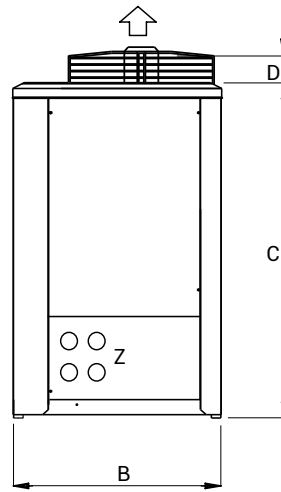
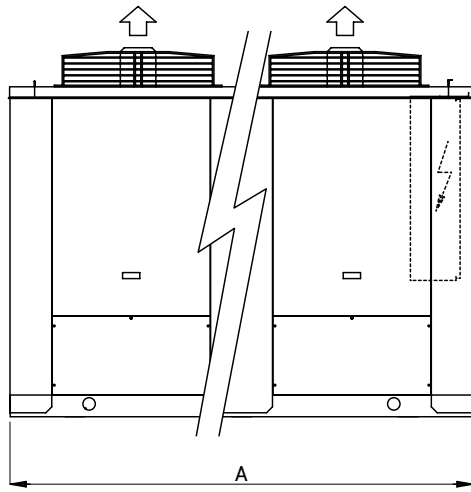
The components enclosed within the dotted are referred to for compressors models (80-160).

	DESIGNATION
CA	Condenser
EW	Evaporator
FD	Filter-drier (accessory)
LR	Liquid receiver
MC1	Compressor
MC2	Compressor
MC4	Compressor (304÷604)
MC5	Compressor (304÷604)
MHP	High pressure gauge (accessory)
MLP	Low pressure gauge (accessory)
MV	Axial fans

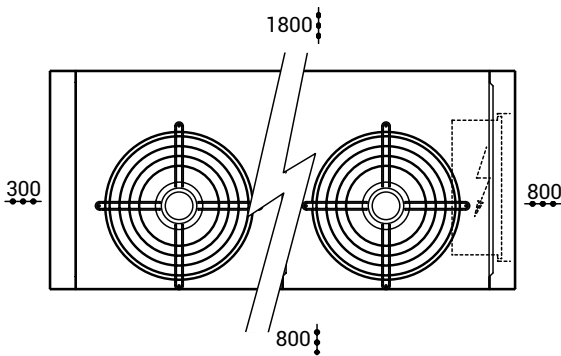
	DESIGNATION
PE	Capacity pressostat
RC	Crank case heater
RF	Cooling circuit shut off valves (accessory)
SF	Sight glass (accessory)
SPH	High pressure switch
SPL	Low pressure switch
TP	Pressure transducer (accessory)
VDS	Safety valve (accessory)
VS	Solenoid valve (accessory)
VT	Expansion valve



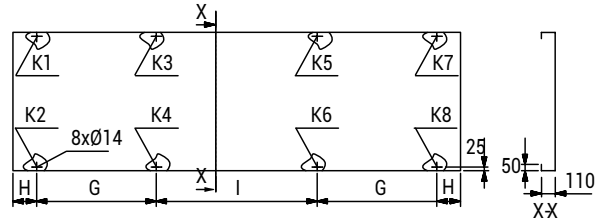
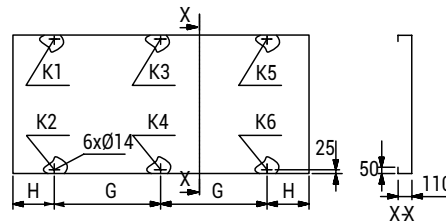
**DIMENSIONS, WEIGHTS AND CLEARANCES**



Z - Gas connections  
(opposite side electrical box)



●●● Clearance area



MOD.	45		55		60		70		80		90		105		120		140		160		
	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	
A mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550	3550	3550	3550	3550	3550	3550	3550	3550	3550
B mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
C mm	1675	1675	1675	1675	1675	1675	1675	1675	1975	1975	1975	1975	1975	1975	1975	1975	1975	1975	1975	1975	1975
D mm	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245
G mm	844	844	844	844	844	844	844	844	950	950	950	950	950	950	950	950	950	950	950	950	950
H mm	331	331	331	331	331	331	331	331	191	191	191	191	191	191	191	191	191	191	191	191	191
I mm	---	---	---	---	---	---	---	---	1268	1268	1268	1268	1268	1268	1268	1268	1268	1268	1268	1268	1268

MOD.	45		55		60		70		80		90		105		120		140		160	
	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL	STD	SL
K1 Kg	80	80	85	85	85	85	85	85	105	105	110	110	110	110	115	115	125	130	140	145
K2 Kg	100	100	80	80	70	70	100	100	90	95	95	100	95	100	95	100	115	115	125	125
K3 Kg	115	120	125	130	120	125	125	130	110	110	120	120	120	120	125	125	135	140	155	160
K4 Kg	90	90	90	90	100	100	100	100	95	100	105	110	110	115	110	115	115	115	125	125
K5 Kg	115	120	125	130	130	135	145	150	125	125	135	135	125	125	140	140	170	175	180	185
K6 Kg	100	100	100	100	110	110	110	110	115	120	125	130	140	145	140	145	130	130	145	145
K7 Kg	---	---	---	---	---	---	---	---	155	155	160	160	160	160	170	170	155	160	175	180
K8 Kg	---	---	---	---	---	---	---	---	135	140	140	145	140	145	145	150	135	135	145	145
TOT Kg	600	610	605	615	615	625	665	675	930	950	990	1010	1000	1020	1040	1060	1080	1100	1190	1210

FANS																				
n°	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3



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### SOUND PRESSURE LEVEL

The sound level values indicated in dB(A) have been measured in free field conditions. The measurement is taken at 1m distance from the side of condensing coil and at a height of 1,5 m with respect to the base of the machine. On the noise levels that are indicated, a tolerance of +/- 3dB(A) should be considered (according to DIN 45635).



STD	MODEL									
Hz	45	55	60	70	80	90	105	120	140	160
63	40,0	40,5	41,0	42,0	42,0	42,0	42,0	42,5	42,5	43,0
125	51,0	51,0	51,5	52,0	52,0	52,5	53,0	53,5	53,5	54,0
250	63,0	63,5	63,5	64,0	64,0	64,0	64,5	64,5	65,0	65,0
500	63,5	64,0	64,5	65,0	65,5	66,0	66,0	66,5	66,5	67,0
1000	64,0	64,0	64,5	65,0	65,0	65,0	65,0	66,0	66,5	66,5
2000	62,5	62,5	62,5	62,5	62,5	63,0	63,0	63,0	63,5	64,0
4000	58,0	58,5	59,0	59,5	59,5	60,0	60,5	60,5	60,5	61,0
8000	41,5	42,0	42,5	43,0	43,0	43,5	43,5	44,0	44,5	44,5
Tot. dB(A)	69,7	70,0	70,3	70,7	70,8	71,1	71,2	71,7	72,0	72,2

SL	MODEL									
Hz	45	55	60	70	80	90	105	120	140	160
63	39,0	40,0	40,0	40,5	41,5	41,5	41,5	41,5	41,5	42,0
125	49,0	49,5	50,0	50,5	50,5	55,0	50,5	50,5	50,5	51,0
250	59,5	60,0	60,5	61,0	62,0	62,5	62,5	63,0	63,0	63,0
500	62,0	62,0	62,0	62,5	63,0	63,0	63,5	64,0	64,5	64,5
1000	61,5	62,0	62,0	62,5	62,5	62,5	62,5	63,0	63,0	63,5
2000	61,0	61,0	61,5	62,0	62,0	62,0	62,0	62,0	62,0	62,5
4000	57,0	57,5	58,0	58,5	58,5	58,5	59,0	59,5	59,5	59,5
8000	41,0	41,5	42,0	42,0	42,5	42,5	42,5	43,0	43,0	43,5
Tot. dB(A)	67,6	67,9	68,1	68,6	68,9	69,0	69,2	69,6	69,7	70,0

Series IKM MHAXT/K 45 - 160

### **MICROPROCESSOR CONTROL SYSTEM**

A microprocessor controls all the functions of the unit and allows any adjustments to be made. The set-points and operating parameters are set directly into the microprocessor. This type of microprocessor enables the adjustment of up to four compressors. It has a visual alarm signal, pushbuttons for the various functions, and offers a continuous control of the system as well as saving all the data in case of a cut in the power supply. Through the display, one can input and have an indication of set values.

### **Principal functions:**

Identification and display of blocks by means of alphanumeric code; prestarting of the fans; hour counter of compressors in operation; automatic changeover of compressor; compressors start individually and not together; remote On-Off; operation signalling; manual operation; manual reset.

### **Alarms:**

High and low pressure and overload on each compressor; overload relay on fan; configuration error.

### **Accessories:**

Electronic card for connection to management and service systems; remote display.

### **WIRING DIAGRAM EXPLANATION**

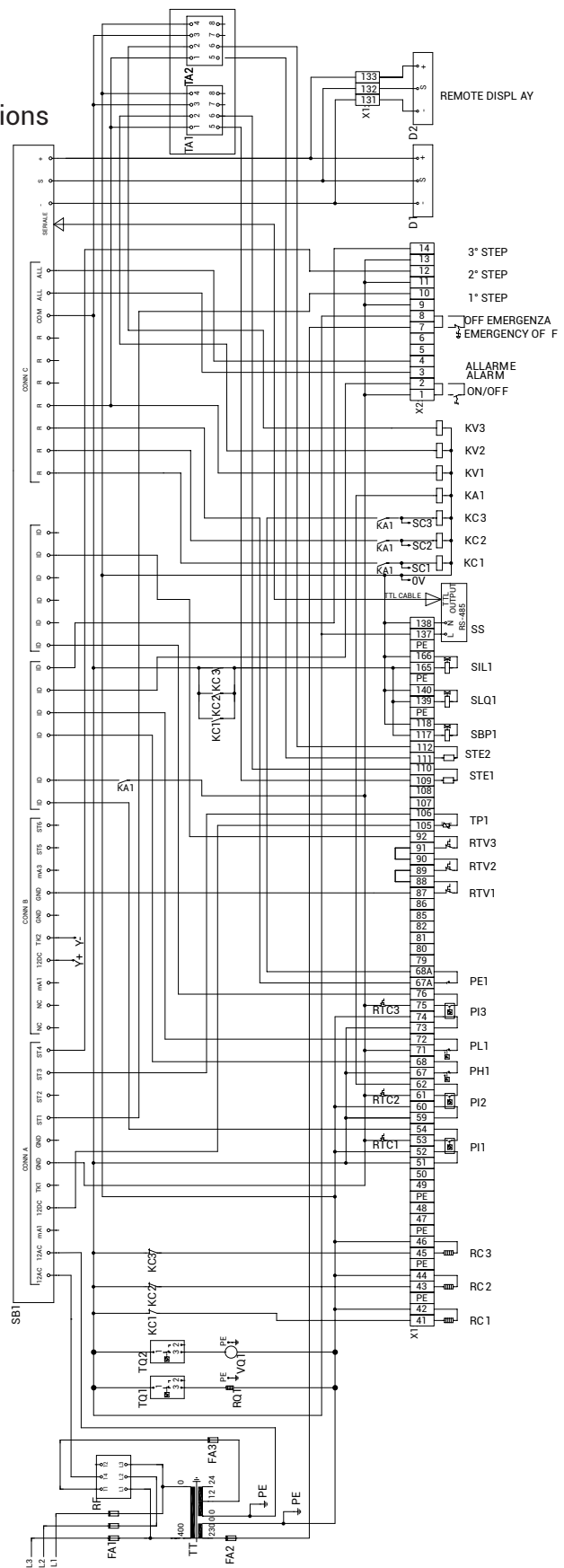
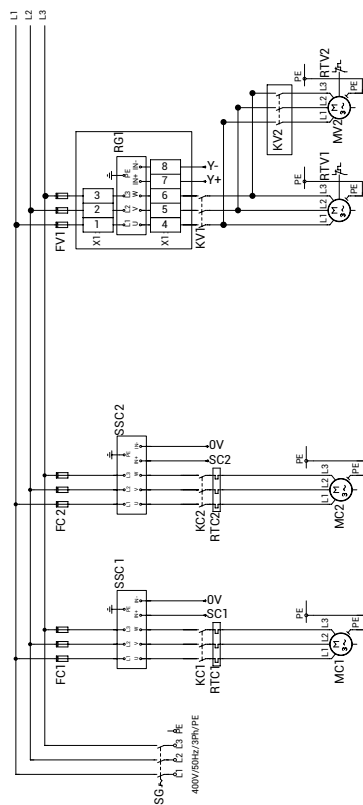
	<b>DESIGNATION</b>
<b>D</b>	DISPLAY (USER INTERFACE)
<b>DR</b>	REMOTE DISPLAY *
<b>FA</b>	AUXILIARY CIRCUIT FUSES
<b>FC</b>	COMPRESSOR FUSES CIRCUIT
<b>FV</b>	FAN MOTOR FUSES
<b>KC</b>	COMPRESSOR CONTACTOR
<b>KV</b>	FAN MOTOR CONTACTOR
<b>MC</b>	COMPRESSOR
<b>MV</b>	FAN MOTOR
<b>PH</b>	HP SWITCH CIRCUIT
<b>PI</b>	MOTOR PROTECTION COMPRESSOR
<b>PL</b>	LP SWITCH CIRCUIT
<b>RC</b>	COMPRESSOR CRANKCASE HEATER
<b>RF</b>	PHASE SEQUENCE RELAY

	<b>DESIGNATION</b>
<b>RG</b>	SPEED GOVERNOR**
<b>RTC</b>	COMPRESSOR OVERLOAD RELAY
<b>RTV</b>	FAN MOTOR PROTECTION
<b>SB</b>	MICROPROCESSOR
<b>SBP</b>	BY-PASS VALVE**
<b>SE</b>	EXPANSION BOARD
<b>SG</b>	MAIN SWITCH
<b>SIL</b>	INERTIAL LIQUID SOLENOID**
<b>SS</b>	SERIAL INTERFACE *
<b>STE</b>	AMBIENT AIR TEMPERATUR SENSOR
<b>TA</b>	AMBIENT AIR TEMPERATUR THERMOSTAT
<b>TP</b>	PRESSURE TRANSDUCER **
<b>TQ</b>	ELECTRICAL BOARD THERMOSTAT
<b>TT</b>	AUXILIARY TRASFORMER

\* Loose accessory  
\*\* Accessory

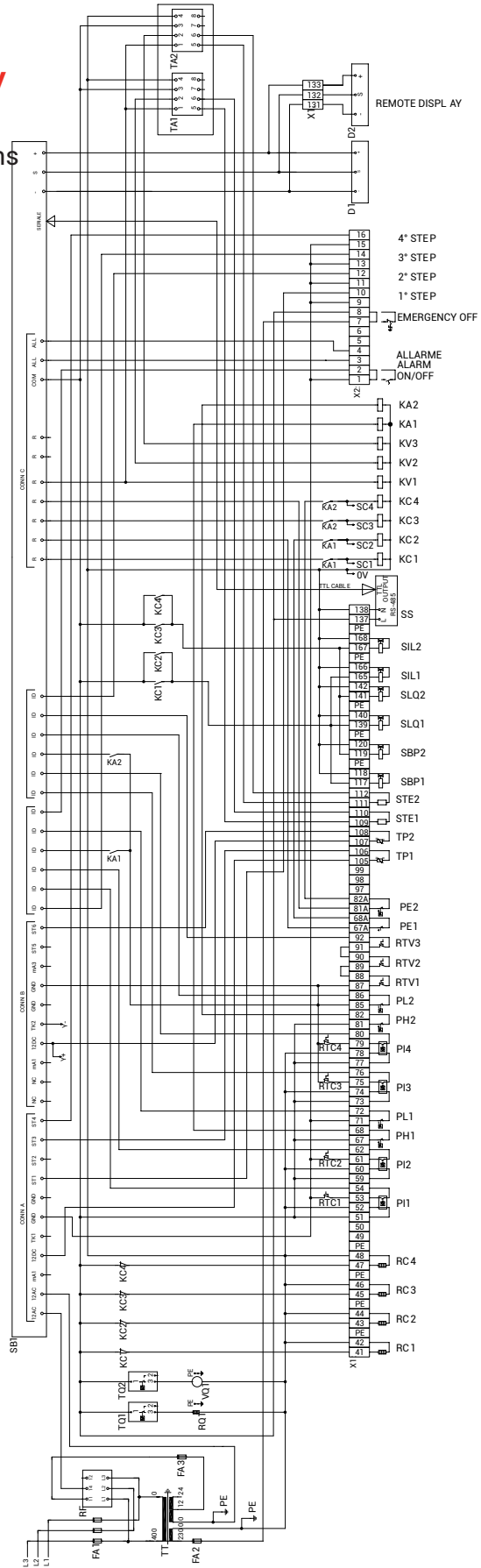
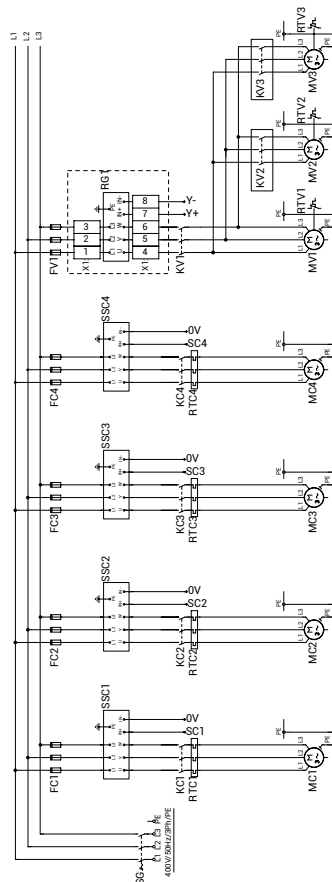
## POWER AND CONTROL ELECTRICAL DIAGRAM IKM MHAXT/K 45kW to 70kW

- Wiring diagram explanation at page 11;
- Dotted lines indicate optional electrical connections or to carry out during the installation.



**POWER AND CONTROL ELECTRICAL  
DIAGRAM IKM MHAZXT/K 70kW to 160kW**

- Wiring diagram explanation at page 11;
- Dotted lines indicate optional electrical connections or to carry out during the installation.





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