

# EVAPORATING UNITS R407C – R134A – R22

## EVAPORATING UNITS

WITH SCROLL COMPRESSORS (SINGLE AND TANDEM)



MEE 1082.K

### MEE... Series

1 or 2 circuits - Cooling capacities from 27 to 360 kW

Evaporating units suitable for water cooling in air-conditioning and industrial systems to be connected to remote condensers.

Designed for internal installation.

Realized with a compact support frame, made of bent and painted steel profiles, supporting all the main components, installed at sight.

1 or 2 refrigerant circuits

The units are supplied with nitrogen charge.

Available versions:

**MEE...K** with ecological gas R407C charge

**MEE...Ka** with ecological gas R134a charge

**MEE...** standard with R22

### Made up of:

High efficient Scroll compressor (COP 3.37 under ARI conditions), with low sound level (on average 6dB(A) less than the corresponding hermetic compressors), internal heat protection, installed on rubber dampers.

Units with 1 or 2 cooling circuits with bigger capacity are provided with scroll tandem compressors.

Weld-brazed plate evaporators with one or two circuits with thermal insulation.

Electric panel in compliance with CE norms, provided with main switch, protection fuses and safety transformer.

Components of each cooling circuit are: thermostatic expansion valve, sight glass, dehydrating filter, high and low pressure switches, high and low pressure gauges, shut-off valve on the liquid line, solenoid valve, shut-off valve on compressor discharge.

Electronic microprocessor for unit management for all the models.

Compressors hour counter

### Accessories

A	Amperometer
AE	Electrical power supply different from standard
AC	Electrical control for condensers
CF	Soundproofed compressors cabinet with standard material
CFU	Soundproofed compressors cabinet with lead material
CI	Soundproofing jackets on compressors
CS	Compressors inrush counter
HG	Hot gas by-pass (only for 1 circuit units)
IE	Wooden crate packing
IH	Serial interface RS 485
IM	Seawood packing
IR	Packing with wooden pallet and transparent film
MF	Phase monitor
PA	Rubber - type vibration dampers
PF	Safety water flow switch on evaporator
PM	Spring-type vibration dampers
PQ	Remote microprocessor
RA	Antifreeze heater on evaporator
RL	Compressors overload relays
RP	Partial heat recovery
RT	Total heat recovery
SN	Main switch
V	Voltmeter
VB	Brine Version (water temperature < 0 °C)

#### MEE...K Technical data with refrigerant R407C

MODEL	MEE...	541 K	631 K	761 K	931 K	1201 K	1501 K	1901 K
Cooling capacity 1)	kW	49,9	57,8	71,2	86,9	115	143	180
Absorbed power	kW	14	16	20	24	31,8	39,4	47
<b>Brazed plate evaporator</b>								
Quantity	n	1	1	1	1	1	1	1
Circuits	n	1	1	1	1	1	1	1
Water flow rate	l/s	2,38	2,76	3,40	4,15	5,49	6,83	8,60
Water flow rate	m <sup>3</sup> /h	8,58	9,94	12,25	14,95	19,78	24,60	30,96
Pressure drop	kPa	34	36	28	33	32	33	36
Water volume	l	3,3	3,8	5,0	5,7	7,9	10,2	13,6
<b>Scroll compressors</b>								
Quantity	n	2	2	2	2	2	2	2
Standard steps capacity	%	0-50-100						
Nominal absorbed current	A	28,6	30,0	35,0	42,6	54,4	68,8	82,0
Maximum absorbed current	A	40	44	54	64	82	104	125
Inrush current	A	143	149	194	230	266	324	373
Sound pressure level 2)	dB(A)	70	70	72	72	75	77	79
<b>Dimensions</b>								
Length	mm	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Width	mm	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	478	490	510	553	648	710	770
<b>Power supply</b>		<b>400V / 50 Hz / 3Ph + N + T</b>						

1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 49 °C (Dew)  
2) Measured at 1 m in open field (ISO 3746)

#### MEE...K Technical data with refrigerant R407C

MODEL	MEE...	442 K	532 K	612 K	762 K	922 K	1262 K	1552 K	1912 K
Cooling capacity 1)	kW	41,3	50,2	57,8	71,1	87	116	143	179
Absorbed power	kW	11,6	14	16	20	24	31,8	39,4	47
<b>Brazed plate evaporator</b>									
Quantity	n	2	2	2	2	2	2	2	2
Circuits	n	1	1	1	1	1	2	2	2
Water flow rate	l/s	1,97	2,40	2,76	3,40	4,16	5,54	6,83	8,55
Water flow rate	m <sup>3</sup> /h	7,10	8,63	9,94	12,23	14,96	19,95	24,60	30,79
Pressure drop	kPa	22	24	32	32	34	32	35	41
Water volume	l	3	4	4	5	6	8	10	12
<b>Scroll compressors</b>									
Quantity	n	2	2	2	2	2	2	2	2
Standard steps capacity	%	0-50-100							
Nominal absorbed current	A	24	29	30	35	43	54	69	82
Maximum absorbed current	A	34	40	44	54	64	82	104	125
Inrush current	A	116	143	149	194	230	266	324	373
Sound pressure level 2)	dB(A)	69	70	70	72	72	75	77	79
<b>Dimensions</b>									
Length	mm	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Width	mm	750	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	471	483	492	505	550	651	710	760
<b>Power supply</b>		<b>400V / 50 Hz / 3Ph + N + T</b>							

-- = not available  
1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 49 °C (Dew)  
2) Measured at 1 m in open field (ISO 3746)

#### MEE...K Technical data with refrigerant R407C

MODEL	MEE...	892 K	1082 K	1212 K	1512 K	1852 K	2462 K	3102 K	3822 K
Cooling capacity 1)	kW	82,4	99,7	115,5	141,8	175	230	287	360
Absorbed power	kW	23,2	28	32	40	48	63,6	78,8	94
<b>Brazed plate evaporator</b>									
Quantity	n	1	1	1	1	1	2	2	2
Circuits	n	1	1	1	1	1	2	2	2
Water flow rate	l/s	3,94	4,76	5,52	6,77	8,38	11,00	13,69	17,20
Water flow rate	m <sup>3</sup> /h	14,17	17,15	19,87	24,39	30,15	39,59	49,28	61,92
Pressure drop	kPa	34	38	40	40	32	32	33	36
Water volume	l	5,7	6,6	7,5	9,3	13,8	15,8	20,3	27,1
<b>Scroll compressors</b>									
Quantity	n	4	4	4	4	4	4	4	4
Standard steps capacity	%	0-50-100							
Optional steps capacity	%	0-25-50-100							
Nominal absorbed current	A	48	57	60	70	85	109	138	164
Maximum absorbed current	A	68	80	88	108	128	164	208	250
Inrush current	A	150	183	193	248	294	348	428	498
Sound pressure level 2)	dB(A)	72	73	73	75	75	78	80	82
<b>Dimensions</b>									
Length	mm	2.500	2.500	2.500	2.500	2.500	3.000	3.000	3.000
Width	mm	750	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	812	827	852	878	984	1204	1328	1448
<b>Power supply</b>		<b>400V / 50 Hz / 3Ph + N + T</b>							

-- = not available  
1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 49 °C (Dew)  
2) Measured at 1 m in open field (ISO 3746)

# EVAPORATING UNITS R407C – R134A – R22

## EVAPORATING UNITS

### WITH SCROLL COMPRESSORS (SINGLE AND TANDEM)

#### MEE...Ka Technical data with refrigerant R134a

MODEL	MEE...	341 Ka	401 Ka	491 Ka	591 Ka	711 Ka	971 Ka	1201 Ka
Cooling capacity 1)	kW	32,9	38,1	46,4	55,5	74,3	91,1	115,7
Absorbed power	kW	9,6	11,0	13,5	16,1	20,8	26,0	31,8
<b>Brazed plate evaporator</b>								
Quantity	n	1	1	1	1	1	1	1
Circuits	n	1	1	1	1	1	1	1
Water flow rate	l/s	1,57	1,82	2,22	2,65	3,55	4,35	5,53
Water flow rate	m <sup>3</sup> /h	5,66	6,55	7,98	9,55	12,78	15,67	19,90
Pressure drop	kPa	19	20	23	24	17	20	22
Water volume	l	2,9	3,3	3,8	4,8	6,8	7,9	10,2
<b>Scroll compressors</b>								
Quantity	n	2	2	2	2	2	2	2
Standard steps capacity	%	0-50-100						
Nominal absorbed current	A	21,2	24,2	29,8	33,8	40,8	51,2	64,0
Maximum absorbed current	A	40	44	54	64	82	104	125
Inrush current	A	143	149	194	230	266	324	373
Sound pressure level 2)	dB(A)	70	70	72	72	75	77	79
<b>Dimensions</b>								
Length	mm	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Width	mm	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	475	487	497	541	640	696	748
<b>Power supply</b> 400V / 50 Hz / 3Ph + N + T								

1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 47 °C  
2) Measured at 1 m in open field (ISO 3746)

#### MEE...Ka Technical data with refrigerant R134a

MODEL	MEE...	282 Ka	352 Ka	402 Ka	492 Ka	592 Ka	772 Ka	972 Ka	1222 Ka
Cooling capacity 1)	kW	26,8	33,1	37,8	46,6	55,9	73,5	91,2	115,7
Absorbed power	kW	7,9	9,6	11,0	13,5	16,1	20,8	26,0	31,8
<b>Brazed plate evaporator</b>									
Quantity	n	2	2	2	2	2	1	1	1
Circuits	n	2	2	2	2	2	2	2	2
Water flow rate	l/s	1,28	1,58	1,81	2,23	2,67	3,51	4,36	5,53
Water flow rate	m <sup>3</sup> /h	4,61	5,69	6,50	8,02	9,61	12,64	15,69	19,90
Pressure drop	kPa	15	14	19	21	19	27	25	27
Water volume	l	1,2	1,5	1,5	1,9	2,4	5,7	7,5	9,3
<b>Scroll compressors</b>									
Quantity	n	2	2	2	2	2	2	2	2
Standard steps capacity	%	0-50-100							
Nominal absorbed current	A	19	21	24	30	34	41	51	64
Maximum absorbed current	A	34	40	44	54	64	82	104	125
Inrush current	A	116	143	149	194	230	266	324	373
Sound pressure level 2)	dB(A)	69	70	70	72	72	75	77	79
<b>Dimensions</b>									
Length	mm	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Width	mm	750	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	459	465	475	486	527	633	693	743
<b>Power supply</b> 400V / 50 Hz / 3Ph + N + T									

-- = not available  
1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 47 °C  
2) Measured at 1 m in open field (ISO 3746)

#### MEE...Ka Technical data with refrigerant R134a

MODEL	MEE...	572 Ka	702 Ka	802 Ka	992 Ka	1192 Ka	1522 Ka	1952 Ka	2442 Ka
Cooling capacity 1)	kW	53,1	65,7	76,4	93,2	111,6	148,6	182,3	231,4
Absorbed power	kW	15,8	19,1	22	27	32,2	41,6	52	63,7
<b>Brazed plate evaporator</b>									
Quantity	n	2	2	1	1	1	2	2	2
Circuits	n	2	2	2	2	2	2	2	2
Water flow rate	l/s	2,54	3,14	3,65	4,45	5,33	7,10	8,71	11,06
Water flow rate	m <sup>3</sup> /h	9,13	11,30	13,14	16,03	19,20	25,56	31,36	39,80
Pressure drop	kPa	22	19	22	26	25	17	20	22
Water volume	l	2,1	2,9	6,6	7,5	9,3	6,8	7,9	10,2
<b>Scroll compressors</b>									
Quantity	n	4	4	4	4	4	4	4	4
Standard steps capacity	%	0-50-100							
Optional steps capacity	%	0-25-50-100							
Nominal absorbed current	A	38	42	48	60	68	82	102	128
Maximum absorbed current	A	68	80	88	108	128	164	208	250
Inrush current	A	150	183	193	248	294	348	428	498
Sound pressure level 2)	dB(A)	72	73	73	75	75	78	80	82
<b>Dimensions</b>									
Length	mm	2.500	2.500	2.500	2.500	2.500	3.000	3.000	3.000
Width	mm	750	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	784	798	846	867	955	1139	1243	1334
<b>Power supply</b> 400V / 50 Hz / 3Ph + N + T									

-- = not available  
1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 47 °C  
2) Measured at 1 m in open field (ISO 3746)

# EVAPORATING UNITS R407C – R134A – R22

## EVAPORATING UNITS

### WITH SCROLL COMPRESSORS (SINGLE AND TANDEM)

#### MEE... Technical data with refrigerant R22

MODEL	MEE...	531	611	741	891	1171	1451	1811
Cooling capacity 1)	kW	49,9	57,9	71,6	86,4	113,5	140,6	173,8
Absorbed power	kW	13,6	15,6	19,3	23,2	30,2	37,4	45,7
<b>Brazed plate evaporator</b>								
Quantity	n	1	1	1	1	1	1	1
Circuits	n°	1	1	1	1	1	1	1
Water flow rate	l/s	2,38	2,77	3,42	4,13	5,42	6,72	8,30
Water flow rate	m³/h	8,58	9,96	12,32	14,86	19,52	24,18	29,89
Pressure drop	kPa	27	26	22	24	25	28	31
Water volume	l	3,8	4,8	5,7	6,8	9,0	11,3	14,7
<b>Scroll compressors</b>								
Quantity	n	2	2	2	2	2	2	2
Standard steps capacity	%	0-50-100						
Nominal absorbed current	A	26	30	34	42	52	67	80
Maximum absorbed current	A	40	44	54	64	82	104	125
Inrush current	A	143	149	194	230	266	324	373
Sound pressure level 2)	dB(A)	70	70	72	72	75	77	79
<b>Dimensions</b>								
Length	mm	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Width	mm	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	279	285	293	312	376	414	441
<b>Power supply</b>					<b>400V / 50 Hz / 3Ph + N + T</b>			

1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 47 °C  
2) Measured at 1 m in open field (ISO 3746)

#### MEE... Technical data with refrigerant R22

MODEL	MEE...	422	522	602	742	892	1172	1452	1812
Cooling capacity 1)	kW	40,3	49,9	57,5	71,6	85,4	113,0	139,8	174
Absorbed power	kW	11,4	13,6	15,6	19,3	23,2	30,2	37,4	45,7
<b>Brazed plate evaporator</b>									
Quantity	n	2	2	2	2	2	1	1	1
Circuits	n	2	2	2	2	2	2	2	2
Water flow rate	l/s	1,93	2,38	2,75	3,42	4,08	5,40	6,68	8,31
Water flow rate	m³/h	6,93	8,58	9,89	12,32	14,69	19,44	24,05	29,93
Pressure drop	kPa	21	24	26	23	33	31	33	32
Water volume	l	3,1	3,8	4,2	5,7	5,7	8,4	10,2	13,8
<b>Scroll compressors</b>									
Quantity	n	2	2	2	2	2	2	2	2
Standard steps capacity	%	0-50-100							
Nominal absorbed current	A	23	26	30	34	42	52	67	80
Maximum absorbed current	A	34	40	44	54	64	82	104	125
Inrush current	A	116	143	149	194	230	266	324	373
Sound pressure level 2)	dB(A)	69	70	70	72	72	75	77	79
<b>Dimensions</b>									
Length	mm	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Width	mm	750	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	471	483	495	511	550	651	710	771
<b>Power supply</b>					<b>400V / 50 Hz / 3Ph + N + T</b>				

-- not available  
1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 47 °C  
2) Measured at 1 m in open field (ISO 3746)

#### MEE... Technical data with refrigerant R22

MODEL	MEE...	842	1052	1232	1482	1792	2352	2922	3632
Cooling capacity 1)	kW	81,1	99,6	114,8	141,8	172,9	227,1	281,2	345,9
Absorbed power	kW	22,8	27,2	31,2	38,6	46,4	60,4	74,8	91,2
<b>Brazed plate evaporator</b>									
Quantity	n	1	1	1	1	1	2	2	2
Circuits	n	2	2	2	2	2	2	2	2
Water flow rate	l/s	3,87	4,76	5,48	6,77	8,26	10,85	13,44	16,53
Water flow rate	m³/h	13,95	17,13	19,75	24,39	29,74	39,06	48,37	59,49
Pressure drop	kPa	25	29	32	34	31	25	28	34
Water volume	l	6,6	7,5	8,4	10,2	13,8	18,1	22,6	27,1
<b>Scroll compressors</b>									
Quantity	n	4	4	4	4	4	4	4	4
Standard steps capacity	%	0-50-100							
Optional steps capacity	%	0-25-50-100							
Nominal absorbed current	A	46	52	60	68	84	104	134	160
Maximum absorbed current	A	68	80	88	108	128	164	208	250
Inrush current	A	150	183	193	248	294	348	428	498
Sound pressure level 2)	dB(A)	72	73	73	75	75	78	80	82
<b>Dimensions</b>									
Length	mm	2.500	2.500	2.500	2.500	2.500	3.000	3.000	3.000
Width	mm	750	750	750	750	750	750	750	750
Height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Transport weight	kg	818	833	858	884	984	1218	1343	1448
<b>Power supply</b>					<b>400V / 50 Hz / 3Ph + N + T</b>				

-- not available  
1) Nominal condition referred to: Chilled water 7/12 °C - Condensing temperature 47 °C  
2) Measured at 1 m in open field (ISO 3746)