

EVAPORATING UNITS R407C – R134A - R22

EVAPORATING UNITS

WITH SCREW COMPRESSORS



MEH 161K+CFU

MEH... Series

1 or 2 circuits - Cooling capacities from 76 to 1704 kW

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

Units with a compact housing, made up of painted steel plates, which integrates the heat exchanger and on which all the components are installed on sight
One or two cooling circuits, made up of copper or carbon steel pipes depending on the capacity of the unit

The units are supplied with nitrogen charge.

Available versions:

MEH...K with ecological gas R407C charge

MEH...Ka with ecological gas R134a charge

MEH... standard with R22

Made up of:

High efficiency screw compressors, equipped with capacity steps, oil sump heater, thermal protection.

Shell & tube evaporator with one or two circuits with thermal insulation.

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

Components for each cooling circuit: thermostatic expansion valve, sight glass, dehydrating filter, high and low pressure switches, high and low pressure gauges, non return valve on compressor discharge, shut-off valve on compressor discharge, check valve on liquid line, solenoid valve, copper or carbon steel pipes (depending on the capacity of the unit).

Electronic microprocessor (model EMIPUS) for unit management for all the versions.

Compressors hour counter.

Accessories

A	Amperometer
AC	Electrical control for condensers
AE	Electrical power supply different from standard
CF	Soundproofed compressors cabinet with standard material
CFU	Soundproofed compressors cabinet with lead material
CS	Compressors inrush counter
DQ	Additional box for connection of power supply cable
IE	Wooden crate packing
IG	Watch card
IH	Serial interface RS 485
IM	Seawood packing
IR	Packing with wooden pallet and transparent film
KS	Lifting kit with ropes
LI	Liquid injection (standard for R22 and R407C)
M12	Modulating capacity regulation for units with two circuits
M25	Modulating capacity regulation for unit with one circuit
OS	Safety oil flow switch
PA	Rubber-type vibration dampers
PF	Safety water flow switch on evaporator
PM	Spring-type vibration dampers
PQ	Remote microprocessor
PW	Part-Winding
RA	Antifreeze heater on the evaporator
RF	Power factor correction system cosφi > 0,9
RH	Shut-off valve on compressors suction side
RL	Compressors overload relays
RP	Partial heat recovery
RT	Total heat recovery
TE	Electronic thermostatic expansion valve
V	Voltmeter
VB	Brine version (water temperature < 0 °C)

MEH...K Technical data with refrigerant R407C

MODEL	MEH...	131 K	161 K	191 K	211 K	241 K	301 K	341 K	391 K	451 K	521 K	611 K	691 K	781 K
Cooling capacity 1)	kW	108	135	158	183	206	265	297	338	458	519	596	685	770
Absorbed power	kW	35,5	43,8	49,3	58,8	66,3	78,0	91,8	103,7	136	155	176	199	224
C.O.P	kW/kW	3,0	3,1	3,2	3,1	3,1	3,4	3,2	3,3	3,4	3,3	3,4	3,4	3,4
Shell and tube evaporator 1)														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Circuits	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	5,16	6,45	7,55	8,73	9,86	12,64	14,20	16,15	21,88	24,80	28,48	32,73	36,79
Water flow rate	m ³ /h	18,58	23,21	27,16	31,42	35,49	45,51	51,11	58,15	78,78	89,27	102,51	117,82	132,44
Pressure drop	kPa	42	44	60	46	59	23	30	38	45	58	60	38	48
Water volume	l	44	42	42	39	39	134	134	134	185	185	179	294	294
Screw compressors														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Standard steps capacity	n	3	3	3	3	3	3	3	3	3	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100												
Nominal absorbed current	A	60,8	74,1	83,2	98,4	108	130	154	173	218	256	287	325	364
Maximum absorbed current	A	86	108	128	144	162	180	216	246	330	370	420	450	450
Inrush current	A	411	508	485	585	686	895	1054	1139	1.442	1.853	2.029	2.520	2.520
Part-Winding inrush current (opt.)	A	218	269	290	350	423	619	729	788	—	—	—	—	—
Delta-Star inrush current (opt.)	A	—	—	—	—	—	—	—	—	465	586	650	805	805
Sound pressure level 2)	dB(A)	70	76	76	76	77	77	80	81	79	80	81	82	84
Dimensions														
Length	mm	2900	2900	2950	2950	2950	3400	3400	3400	3450	3450	3450	3450	3450
Width	mm	680	680	680	680	680	750	750	750	800	800	800	800	800
Width with CF/CFU option	mm	750	750	750	750	750	850	850	850	920	920	920	920	920
Height	mm	1445	1445	1445	1445	1445	1585	1585	1585	1630	1630	1630	1720	1720
Transport weight	kg	650	650	860	870	880	1370	1370	1390	2002	2024	2041	2211	2233
Power supply		400 V / 50 Hz / 3 Ph + T												

— = 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)

MEH...K Technical data with refrigerant R407C

MODEL	MEH...	252 K	312 K	372 K	422 K	472 K	592 K	672 K	772 K	902 K	1062 K	1212 K	1382 K	1562 K
Cooling capacity 1)	kW	214	271	317	358	413	517	588	676	912	1.047	1.194	1.362	1.543
Absorbed power	kW	71,0	87,6	98,8	117,2	132,6	155,2	183,2	207,4	273	311	351	397	448
C.O.P	kW/kW	3,0	3,1	3,2	3,1	3,1	3,3	3,2	3,3	3,3	3,4	3,4	3,4	3,4
Shell and tube evaporator 1)														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Circuits	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Water flow rate	l/s	10,20	12,94	15,15	17,10	19,72	24,68	28,09	32,31	43,57	50,02	57,05	65,07	73,72
Water flow rate	m ³ /h	36,73	46,59	54,54	61,55	70,98	88,86	101,14	116,31	156,86	180,08	205,37	234,26	265,40
Pressure drop	kPa	43	25	34	43	46	66	48	44	50	71	56	55	77
Water volume	l	63	134	134	134	129	124	185	179	279	271	264	452	444
Screw compressors														
Quantity	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%	0 - 12,5 ÷ 100												
Nominal absorbed current	A	122	148	166	196	216	260	307	346	437	513	574	649	728
Maximum absorbed current	A	172	216	256	288	324	360	432	492	660	740	840	900	900
Inrush current	A	497	616	613	729	848	1075	1270	1385	1.772	2.223	2.449	2.970	2.970
Part-Winding inrush current (opt.)	A	304	377	418	494	585	799	945	1034	—	—	—	—	—
Delta-Star inrush current (opt.)	A	—	—	—	—	—	—	—	—	795	956	1.070	1.255	1.255
Sound pressure level 2)	dB(A)	73	79	79	79	80	80	83	84	82	83	84	85	87
Dimensions														
Length	mm	3800	3850	3900	3900	3900	3990	3990	3990	5200	5200	5200	5200	5200
Width	mm	680	680	810	810	810	1000	1000	810	1200	1200	1200	1200	1200
Width with CF/CFU option	mm	750	750	850	850	850	1000	1000	1000	1200	1200	1200	1200	1200
Height	mm	1445	1445	1445	1445	1445	1645	1670	1670	2020	2020	2020	2020	2020
Transport weight	kg	1100	1190	1630	1640	1670	2480	2670	2700	4367	4417	4444	4912	4961
Power supply		400 V / 50 Hz / 3 Ph + T												

— = 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 SCREW COMPRESSORS

MEH... Technical data with refrigerant R134a

MODEL	MEH...	91 Ka	111Ka	131Ka	151Ka	171Ka	211Ka	241Ka	271Ka	281Ka	331Ka	381Ka	441Ka	501Ka	561Ka
Cooling capacity 1)	kW	76,2	95,4	111	131	148	175	212	246	283	328	375	439	489	558
Absorbed power	kW	21,9	26,9	33,0	36,8	41,6	47,2	57,5	67,2	74,2	82,5	97,7	114,0	127,0	140,0
C.O.P	kW/kW	3,5	3,5	3,4	3,6	3,5	3,7	3,7	3,7	3,8	4,0	3,8	3,9	3,9	4,0
Shell and tube evaporator 1)															
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Circuits	n	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,64	4,56	5,28	6,25	7,06	8,33	10,11	11,72	13,50	15,70	17,90	21,00	23,40	26,70
Water flow rate	m ³ /h	13,10	16,42	19,01	22,50	25,42	29,99	36,40	42,19	48,60	56,52	64,44	75,60	84,24	96,12
Pressure drop	kPa	58	58	59	81	61	45	65	87	44	51	60	49	49	53
Water volume	l	44	42	39	39	37	59	56	56	191	185	179	173	294	286
Screw compressors															
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Standard steps capacity	n	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100													
Nominal absorbed current	A	40	47	57	65	73	82	94	115	128	142	162	185	214	234
Maximum absorbed current	A	56	65	79	98	124	144	155	182	196	214	280	310	320	360
Inrush current	A	305	338	355	449	485	624	674	895	943	1.023	1.364	1.442	1.853	2.029
Part-Winding inrush current (opt.)	A	153	169	206	267	290	434	458	619	612	665	—	—	—	—
Delta-Star inrush current (opt.)	A	—	—	—	—	—	—	—	—	—	—	436	465	586	650
Sound pressure level 2)	dB(A)	68	74	74	74	75	75	78	79	77	78	78	79	80	81
Dimensions															
Length	mm	2900	2900	2950	2950	2950	3400	3400	3400	3450	3450	3450	3450	3450	3450
Width	mm	680	680	680	680	680	750	750	750	680	680	800	800	800	800
Width with CF/CFU option	mm	750	750	750	750	750	850	850	850	850	850	920	920	920	920
Height	mm	1445	1445	1445	1445	1445	1505	1505	1505	1610	1610	1630	1630	1720	1720
Transport weight	kg	640	640	850	860	870	1280	1300	1310	1518	1540	1997	2013	2178	2206
Power supply															
400 V / 50 Hz / 3 Ph + 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)

MEH... Technical data with refrigerant R134a

MODEL	292 Ka	332 Ka	412 Ka	472 Ka	542 Ka	572 Ka	662 Ka	762 Ka	892 Ka	992 Ka	1132 Ka
Cooling capacity 1)	266	295	347	419	491	569	654	745	873	980	1.112
Absorbed power	73,8	83,2	94,2	114,8	134,4	149	165	195	228	255	281
C.O.P	3,6	3,5	3,7	3,6	3,7	3,8	4,0	3,8	3,8	3,8	4,0
Shell and tube evaporator 1)											
Quantity	1	1	1	1	1	1	1	1	1	1	1
Circuits	2	2	2	2	2	2	2	2	2	2	2
Water flow rate	12,67	14,06	16,53	19,97	23,39	27,2	31,2	35,6	41,7	46,8	53,1
Water flow rate	45,61	50,62	59,51	71,89	84,20	97,92	112,32	128,16	150,12	168,48	191,16
Pressure drop	45	55	49	51	70	55	48	68	70	72	44
Water volume	129	129	124	119	179	286	279	271	461	444	435
Screw compressors											
Quantity	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	6	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	—										
Nominal absorbed current	129	145	163	188	229	257	283	324	370	428	468
Maximum absorbed current	196	248	288	310	364	392	428	560	620	640	720
Inrush current	547	609	768	829	1077	1.139	1.237	1.644	1.752	2.173	2.389
Part-Winding inrush current (opt.)	365	414	578	613	801	808	879	—	—	—	—
Delta-Star inrush current (opt.)	—	—	—	—	—	—	—	716	775	906	1.010
Sound pressure level 2)	77	78	78	81	82	80	81	81	82	83	84
Dimensions											
Length	3900	3900	3990	3990	3990	3990	3990	5.200	5.200	5.200	5.200
Width	810	810	1000	1000	1000	1000	1000	1.200	1.200	1.200	1.200
Width with CF/CFU option	850	850	1000	1000	1000	1000	1000	1.200	1.200	1.200	1.200
Height	1445	1445	1645	1645	1670	1670	1670	2.020	2.020	2.020	2.020
Transport weight	1620	1640	2460	2490	2680	2.811	2.838	4.351	4.708	4.851	4.901
Power supply											
— = not available											

— = 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)

MEH... Technical data with refrigerant R22

MODEL	MEH...	131	161	191	221	251	311	361	411	481	581	671	751	851
Cooling capacity 1)	kW	115	147	169	198	230	280	320	374	500	580	673	750	847
Absorbed power	kW	35,3	43,5	49,2	58,5	66,1	77,6	91,1	103,3	131,0	155,0	175,0	198,0	223,0
C.O.P	kW/kW	3,3	3,4	3,4	3,4	3,5	3,6	3,5	3,6	3,8	3,7	3,8	3,8	3,8
Shell and tube evaporator 1)														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Circuits	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	5,49	7,02	8,07	9,46	10,99	13,38	15,29	17,87	23,89	27,71	32,15	35,83	40,47
Water flow rate	m ³ /h	19,78	25,28	29,07	34,06	39,56	48,16	55,04	64,33	86,00	99,76	115,76	129,00	145,68
Pressure drop	kPa	67	71	59	42	42	50	65	57	54	49	45	60	83
Water volume	l	42	39	37	86	82	129	129	124	173	294	286	279	271
Screw compressors														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Standard steps capacity	n	3	3	3	3	3	3	3	3	3	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100												
Nominal absorbed current	A	60	74	83	98	108	130	153	172	210	255	286	324	362
Maximum absorbed current	A	86	108	128	144	162	180	216	246	330	370	420	450	450
Inrush current	A	411	508	485	585	686	895	1054	1139	1442	1853	2029	2520	2520
Part-Winding inrush current (opt.)	A	218	269	290	350	423	619	729	788	—	—	—	—	—
Delta-Star inrush current (opt.)	A	—	—	—	—	—	—	—	—	465	586	650	805	805
Sound pressure level 2)	dB(A)	70	76	76	76	77	77	80	81	79	80	81	82	84
Dimensions														
Length	mm	2900	2900	2950	3000	3000	3400	3400	3400	3450	3450	3450	3450	3450
Width	mm	680	680	680	680	680	680	680	680	800	800	800	800	800
Width with CF/CFU option	mm	750	750	750	750	750	850	850	850	920	920	920	920	920
Height	mm	1445	1445	1445	1525	1525	1585	1585	1585	1630	1720	1720	1720	1720
Transport weight	kg	650	660	870	940	950	1370	1380	1410	2013	2134	2151	2222	2250
Power supply		400 V / 50 Hz / 3 Ph + 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)

MEH... Technical data with refrigerant R22

MODEL	MEH...	262	322	382	442	502	622	702	812	992	1072	1342	1502	1692
Cooling capacity 1)	kW	231	295	335	393	456	552	638	748	995	1162	1364	1506	1704
Absorbed power	kW	70,6	87,0	98,2	117,0	132,0	154,8	182,0	206,6	261	310	351	397	446
C.O.P	kW/kW	3,3	3,4	3,4	3,4	3,5	3,6	3,5	3,6	3,8	3,7	3,9	3,8	3,8
Shell and tube evaporator 1)														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Circuits	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Water flow rate	l/s	11,04	14,09	16,01	18,78	21,79	26,37	30,48	35,74	47,54	55,52	65,17	71,95	81,41
Water flow rate	m ³ /h	39,73	50,74	57,62	67,60	78,43	94,94	109,74	128,66	171,14	199,86	234,61	259,03	293,09
Pressure drop	kPa	78	55	71	63	60	54	51	61	45	82	61	32	41
Water volume	l	59	129	129	124	119	179	173	286	461	444	417	417	417
Screw compressors														
Quantity	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%	0 - 12,5 ÷ 100												
Nominal absorbed current	A	121	148	166	196	215	259	306	345	420	510	573	648	725
Maximum absorbed current	A	172	216	256	288	324	360	432	492	660	740	840	900	900
Inrush current	A	497	616	613	729	848	1075	1270	1385	1772	2223	2449	2970	2970
Part-Winding inrush current (opt.)	A	304	377	418	494	585	799	945	1034	—	—	—	—	—
Delta-Star inrush current (opt.)	A	—	—	—	—	—	—	—	—	795	956	1070	1255	1255
Sound pressure level 2)	dB(A)	73	79	79	79	80	80	83	84	82	83	84	85	87
Dimensions														
Length	mm	3900	3900	3900	3900	3900	3990	3990	3990	5200	5200	5200	5200	5200
Width	mm	680	680	810	810	810	1000	1000	1000	1200	1200	1200	1200	1200
Width with CF/CFU option	mm	750	750	850	850	850	1000	1000	1000	1200	1200	1200	1200	1200
Height	mm	1445	1525	1445	1445	1445	1670	1670	1670	2020	2020	2020	2020	2020
Transport weight	kg	1110	1190	1640	1660	1690	2660	2680	2830	4708	4763	4829	4961	5027
Power supply		400 V / 50 Hz / 3 Ph + 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)