AERMEC

ANK

Reversible heat pump Air/Water
Optimized for heating, outdoor installation
Axial fans, scroll compressor
Cooling capacity 6,82 - 29,92kW
Heating capacity 7,98 - 33,51kW

HFC Refrigerant R410A

Aermec participates in the EUROVENT programme: LCP
The products involved can be found at the website
www.eurovent-certification.com

Variable Multi Flow
VMF

- **VERSION WITH BUILT–IN HYDRONIC KIT**
- **PRODUCTION OF HOT WATER UP TO 60 °C**
- **HEATING OPERATION WITH EXTERNAL TEMPERATURES DOWN TO –20 °C**
- **PRODUCTION OF HOT DOMESTIC WATER WITH EXTERNAL TEMPERATURES FROM –20 °C UP TO 42 °C**

Characteristics

Reversible Heat pumps units
Versions
ANK H: Heat pumps high efficiency, without hydronic kit
Versions with hydronic kit
ANK_HP: with standard pump
ANK HA: with buffer tank and standard pump

- **Operational limits (1)**
  - max. external air temperature 46°C cooling mode
  - max. Leaving water temperature 60°C heating mode
- High efficiency scroll compressors with low power input
- Electronic soft start to reduce starting current (standard for single phase versions)
- High efficiency heat exchangers with trace heating as standard
- flow switch as standard supply
- Water filter
- Axial flow fan units for extremely quiet operation
- Inverter axial flow fan units for heat pumps (ANK020H÷ANK085H)
- The hydronic kit includes:
  - Expansion tank
  - Safety valve
  - Pressure gauge
- Electronic controller (Modu_control)
- Metallic protective cabinet with anti-corrosion polyester paint

(1) For more details on operating limits, refer to the technical documentation available on the website www.aermec.com

Accessories

- **MODU-485BL**: RS-485 interface for supervision systems with MODBUS protocol.
- **AERSET**
  The AERSET accessory allows the automatic compensation of the operating setpoint of the unit to which it is connected, based on a 0-10V MODBUS input signal. **Mandatory accessory: AER485 or MODU-485A**
- **MULTICONTROL:** Allows the simultaneous control of several chillers or heat pumps (up to 4) fitted with our MODUCONTROL controller and installed in the same hydraulic system.
  For complete control the following accessories are available:
  SPLW: **System water temperature sensor.** In most cases the loose supplied sensors for each chiller/heat pump are sufficient. In cases of a common flow/return header this sensor can be used to control the common system supply water temperature for the chillers connected to the header, or it can be used for temperature monitoring.
  SDHW: Domestic hot water temperature sensor. Used with the storage tank to control the temperature of water produced.
  VMF-CRP to predict accessory for the management of the probes SPLW / SDHW if provided with the MULTICONTROL
- **PR3**: Simplified remote panel. Permits control of the basic unit functions (on/off and change of operating mode, diagnostics and alarm reset). Maximum distance permitted is 150 m with screened cable.
- **DCPX**: Fan speed controller allowing operation in cooling mode within an external temperature range from +20 °C to -10 °C; in heating mode in summer to produce DHW with external temperatures up to +42 °C.
- **BDX**: Condensate drip tray with integrated electric heater controlled by the external air temperature sensor.
- **BSKW:** Electric heater kit with IP44 panel for remote mounting in a sheltered area. Available in single and three phase power supply:
  - BS4KW230M (4 kW, 230V/1/50Hz)
  - BS6KW230M (6 kW, 230V/1/50Hz)
  - BS6KW400T (6 kW, 400V/3/50Hz)
  - BS9KW400T (9 kW, 400V/3/50Hz)
- **VT**: Anti-vibration mounts.
- **SAF:** Thermal accumulator for the instantaneous production of domestic hot water.
  Refer to the dedicated "SAF" card for more information necessary for the correct operation of the system, as well as details on the

required or recommended accessories. Please consult the VMF system for the production of DHW with Thermal Accumulator not supplied by Aermec.

Accessories factory fitted only

- **DRE:** Electronic soft starter device reducing starting current by about 30%.
- **KRB**: Electric anti-freeze heater for the base. Prevents the formation of ice on the base.
- **BDX**: Condensate drip tray whit electric heater

Compatibility with the VMF system

For further system information please refer to the specific documentation.

ANK	vers	020	030	040	045	050	085	100	150
MODU-485BL		•	•	•	•	•	•	•	•
AERSET		•	•	•	•	•	•	•	•
MULTICONTROL		•	•	•	•	•	•	•	•
SPLW		•	•	•	•	•	•	•	•
SDHW		•	•	•	•	•	•	•	•
VMF-CRP		•	•	•	•	•	•	•	•
PR3		•	•	•	•	•	•	•	•
DCPX	(1)	-	-	-	-	-	-	53	53
BS4KW230M		•	•	•	•	-	-	-	-
BS6KW230M		•	•	•	•	-	-	-	-
BS6KW400T		-	-	-	-	•	•	•	•
BS9KW400T		-	-	-	-	•	•	•	•
VT	**H/HP**	9	9	9	9	9	9	15	15
	HA	15A	15A	15A	15A	15A	15A	15	15
SAF		•	•	•	•	•	•	•	•
Accessories factory fitted only									
DRE	(2)	•	•	•	•	•	•	•(x2)	•(x2)
KRB1		•	-	-	-	-	-	-	-
KRB2			•	•	•	•	•	-	-
KRB3		-	-	-	-	-	-	•	•
BDX		8	9	9	9	9	9	-	-

(1) The size up 020 to 085 Inverter fans are fitted as standard
(2) Only available for 400V/3N/50Hz power supply
(x2) n° the quantity to order

Unit Configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most particular of system requirements.

fields **Code**

1,2,3 ANK

4,5,6 **Size**
020-030-040-045-050-085-100-150

7 **Model**
H Heat pump

8 **Version**
° Standard
P With pump
A With buffer tank and pump

9 **Execution**
° Standard

10 **Coil fins**
° Aluminium
R Copper
S Tinned copper
V Coated aluminium (epoxy paint)

11 **Field of use**
° Standard (leaving water temperature down to 4°C)
Z Low temperature (Low leaving liquid from 4°C down to up to 0°C)
Y Low temperature (Low leaving liquid from 0°C down to -8°C)

12 **Evaporator**
° Standatd

13 **Power supply**
M 230V/1/50Hz (from 020 to 045)
° 400V/3N/50Hz

Technical Data

ANK - H				020	030	040	045	020	030	040	045	050	085	100	150
		V/ph/Hz		230V~50Hz				400V /3/50Hz							
12°C / 7°C	Cooling capacity	(1)	kW	6,82	8,15	9,55	11,69	6,76	8,15	10,5	11,6	13	15,5	25,2	29,2
	Total input power	(1)	kW	2,36	2,82	3,24	3,73	2,33	2,82	3,56	3,99	4,35	5,22	8,18	10,14
	EER	(1)		2,89	2,89	2,95	3,13	2,9	2,89	2,95	2,91	2,99	2,97	3,08	2,88
	ESEER	(1)		3,16	3,24	3,28	3,46	3,18	3,24	3,27	3,25	3,4	3,33	3,89	3,85
	Cooling Energy Class Eurovent	(1)		C	C	B	A	B	C	B	B	B	B	B	C
	Water flow rate	(1)	l/h	1171	1400	1640	2008	1161	1400	1803	1992	2233	2662	4328	5015
	Pressure drop	(1)	kPa	16	9	14	14	16	9	16	14	18	24	32	36
40°C / 45°C	Heating capacity	(2)	kW	7,98	10,05	10,88	13,50	7,976	10,049	12,257	14,07	15,376	17,49	27,19	33,51
	Total input power	(2)	kW	2,54	3,11	3,48	3,88	2,5	3,11	3,79	4,19	4,43	5,07	8,44	10,57
	COP	(2)		3,14	3,23	3,13	3,48	3,19	3,23	3,23	3,36	3,47	3,45	3,22	3,17
	Heating Energy Class Eurovent	(2)		B	A	B	A	B	A	A	A	A	A	A	B
	Water flow rate	(2)	l/h	1387	1748	1892	2348	1387	1748	2132	2447	2675	3042	4729	5829
	Pressure drop	(2)	kPa	24	16	19	19	24	15	23	21	25	30	37	47
23°C / 18°C	Cooling capacity	(3)	kW	9,44	11,30	13,23	16,30	9,36	11,3	14,52	16,04	18,07	21,43	33,69	39,06
	Total input power	(3)	kW	2,48	2,95	3,40	3,93	2,45	2,96	3,73	4,18	4,56	5,51	8,89	11,03
	EER	(3)		3,81	3,83	3,89	4,15	3,82	3,82	3,89	3,84	3,96	3,89	3,79	3,54
	Cooling Energy Class Eurovent	(3)		A	A	A	A	A	A	A	A	A	A	B	C
	Water flow rate	(3)	l/h	1628	1949	2282	2812	1615	1949	2505	2767	3117	3697	5812	6738
	Pressure drop	(3)	kPa	30	17	26	26	30	17	30	26	34	46	55	62
30°C / 35°C	Heating capacity	(4)	kW	8,67	10,92	11,93	14,04	8,67	10,92	13,4	14,8	16,27	18,46	29,12	35,9
	Total input power	(4)	kW	2,12	2,64	2,88	3,27	2,12	2,64	3,22	3,55	3,81	4,36	7,03	11,89
	COP	(4)		4,09	4,14	4,14	4,29	4,09	4,14	4,16	4,17	4,27	4,23	4,14	3,02
	Heating Energy Class Eurovent	(4)		A	A	A	A	A	A	A	A	A	A	A	G
	Water flow rate	(4)	l/h	1502	1891	2066	2432	1502	1891	2321	2563	2818	3197	5044	6218
	Pressure drop	(4)	kPa	28	19	23	22	28	19	28	24	29	34	43	55
	Performance under average climatic conditions (Average)														
	Pdesignh	(5)		7	9	10	12	7	9	11	13	14	16	26	32
	SCOP	(5)		3,33	3,40	3,43	3,55	3,38	3,40	3,50	3,48	3,60	4,65	3,90	3,90
	ηs	(5)		130	133	134	139	132	133	137	136	141	183	153	153
	Efficiency Energy Class	(6)		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A++	A++

ANK - HP/HA				020	030	040	045	020	030	040	045	050	085	100	150
		V/ph/Hz		230V~50Hz				400V /3/50Hz							
12°C / 7°C	Cooling capacity	(1)	kW	6,91	8,25	9,67	11,85	6,84	8,25	10,61	11,74	13,22	15,68	25,78	29,92
	Total input power	(1)	kW	2,43	2,89	3,30	3,89	2,41	2,89	3,61	4,12	4,5	5,35	8,13	10,21
	EER	(1)		2,84	2,85	2,93	3,05	2,84	2,85	2,94	2,85	2,94	2,93	3,17	2,93
	ESEER	(1)		3,28	3,37	3,45	3,47	3,3	3,35	3,44	3,26	3,45	3,41	4,08	3,93
	Cooling Energy Class Eurovent	(1)		C	C	B	B	C	C	B	C	B	B	A	B
	Water flow rate	(1)	l/h	1187	1417	1661	2035	1175	1417	1822	2016	2271	2693	4428	5139
	High static pressure	(1)	kPa	65	70	64	87	65	70	61	87	80	70	113	140
40°C / 45°C	Heating capacity	(2)	kW	7,87	9,92	10,74	13,29	7,867	9,915	12,103	13,852	15,15	17,246	26,59	32,72
	Total input power	(2)	kW	2,60	3,15	3,51	3,98	2,56	3,15	3,82	4,28	4,54	5,16	8,36	10,62
	COP	(2)		3,03	3,15	3,06	3,34	3,078	3,15	3,17	3,24	3,34	3,34	3,18	3,08
	Heating Energy Class Eurovent	(2)		B	B	B	A	B	B	B	A	A	A	B	B
	Water flow rate	(2)	l/h	1368	1725	1868	2311	1368	1725	2105	2409	2635	3000	4625	5691
	High static pressure	(2)	kPa	62	67	62	82	62	67	57	79	72	65	113	127
23°C / 18°C	Cooling capacity	(3)	kW	9,57	11,43	13,38	16,26	9,48	11,42	14,67	16,26	18,3	21,69	34,41	39,96
	Total input power	(3)	kW	2,51	3,00	3,43	4,27	2,48	3	3,76	4,27	4,66	5,59	8,73	11,04
	EER	(3)		3,81	3,81	3,90	3,81	3,82	3,81	3,9	3,81	3,93	3,88	3,94	3,62
	Cooling Energy Class Eurovent	(3)		A	A	A	A	A	A	A	A	A	A	A	C
	Water flow rate	(3)	l/h	1651	1972	2308	2805	1635	1970	2531	2805	3157	3742	5936	6893
	High static pressure	(3)	kPa	52	63	52	64	53	63	46	64	50	33	68	54
30°C / 35°C	Heating capacity	(4)	kW	8,58	10,84	11,90	13,84	8,58	10,84	13,24	14,88	16,12	18,31	28,49	35,06
	Total input power	(4)	kW	2,21	2,64	2,90	3,37	2,18	2,64	3,23	3,6	3,91	4,45	6,95	8,94
	COP	(4)		3,88	4,11	4,10	4,11	3,94	4,11	4,1	4,13	4,12	4,11	4,1	3,92
	Heating Energy Class Eurovent	(4)		C	A	A	A	B	A	A	A	A	A	A	B
	Water flow rate	(4)	l/h	1486	1877	2061	2397	1486	1877	2293	2577	2792	3171	4934	6072
	High static pressure	(4)	kPa	58	65	58	79	58	65	53	73	65	58	103	105
	Performance under average climatic conditions (Average)														
	Pdesignh	(5)		7	9	10	12	7	9	11	13	14	15	25	30
	SCOP	(5)		3,40	3,50	3,50	3,60	3,45	3,50	3,58	3,53	3,65	3,45	3,83	3,70
	ηs	(5)		133	137	137	141	135	137	140	138	143	135	150	145
	Efficiency Energy Class	(6)		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A++	A++

Date (14511:2013)

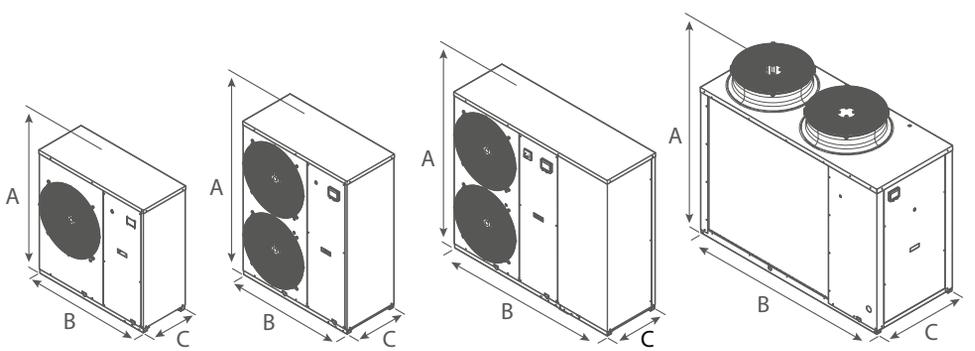
(1) Water evaporator 12°C/7°C, External air 35°C
(2) Water condenser 40°C/45°C, External air 7°C b.s./6°C b.u.
(3) Water evaporator 23°C/18°C, External air 35°C
(4) Water condenser 30°C/35°C, External air 7°C b.s./6°C b.u.
(5) Efficiencies for low temperature Applications (35°C)
(6) Efficiency Energy Class in according to regulation n°811/2013 Pdesignh ≤ 70kW

Technical Data

				020	030	040	045	050	085	100	150
Electrical data											
230V	Total input current (cooling)	(9)	A	11,31	13,15	15,84	18,58	-	-	-	-
	Total input current (heating)	(9)	A	12,29	14,55	17,12	19,18	-	-	-	-
	Maximum current (FLA)	(9)	A	13,90	19,40	22,20	25,00	-	-	-	-
	Starting current (LRA)	(9)(10)	A	45,00	45,00	45,00	45,00	-	-	-	-
400V	Total input current (cooling)	(9)	A	4,3	5,6	7,1	7,7	8,7	10,7	17,0	20,4
	Total input current (heating)	(9)	A	4,7	6,2	7,6	8,0	9,0	10,4	17,6	21,3
	Maximum current (FLA)	(9)	A	6,1	7,7	9,1	10,6	11,8	12,30	21,70	25,80
	Starting current (LRA)	(9)	A	39,7	40,3	54,3	61,3	71,3	91,3	72,6	104,7
Scroll Compressor											
Compressors			Type/n°	scroll/1	scroll/1	scroll/1	scroll/1	scroll/1	scroll/1	scroll/2	scroll/2
Circuit			n°	1	1	1	1	1	1	1	1
Refrigerant			Type	R410A							
Heat exchanger system side											
Exchanger			Type/n°	Plate/1							
hydraulic connections (In/Out)			Ø	1"1/4							
Axial fans											
Fan			Type/n°	inverter/1	inverter/1	inverter/2	inverter/2	inverter/2	inverter/2	std/2	std/2
Air flow rate (cooling)				3500	8000	8000	7500	7500	7500	14500	14500
Sound data (cooling mode)											
Sound power level			dB(A)	68	70.5	70.5	70.5	70.5	70.5	77	78
Sound pressure level			dB(A)	37	39.5	39.5	39.5	39.5	39.5	45.5	46.5

Sound power Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.
Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).
(9) Unit standar configuration without hydronic kit
(10) Unit with soft-start
Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Dimensions (mm)



ANK H-HP **ANK HA** **ANK 100-150 H-HP-HA**

ANK			020	030	040	045	050	085	100	150
A	All	mm	1028	1281	1281	1281	1281	1281	1450	1450
B	H/HP	mm	1000	1000	1000	1000	1000	1000	1750	1750
	HA		1358	1450	1450	1450	1450	1450	1750	1750
C	All	mm	400	400	450	450	450	450	750	750
Weight	H	kg	118	149	152	165	172	174	296	341
	HP	kg	123	154	157	175	182	184	314	362
	HA	kg	160	211	214	232	238	241	364	412

Cod.: SANKUY.16 / 1709

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