



ANK



Aermec

adheres to the EUROVENT Certification Programme: LCP/A/P/R The products concerned appear in the EUROVENT web site www.eurovent-certification.com ANK heat pump All the heat you want more efficiency more savings more well-being

VMF SYSTEM Variable Multi Flow®

From the machine to the system.

The ANK High Efficiency heat pump can be managed and controlled together with the various system elements, thanks to the VMF system.

"VMF: Variable Multi Flow system

Management and control system for hydronic systems for air conditioning, heating and the production of domestic hot water.

The VMF system allows the complete control of every single component of a hydronic system - both locally and centralised - and, taking full advantage of the communication between the various components of the system itself, it manages the performance levels, never at any time neglecting to satisfy the comfort requests of the end user, but doing it in the most efficient way possible, and therefore with excellent energy savings too. Combining the control (local and centralised) with the flexibility of installation and operation typical of a hydronic system, the result is a valid alternative to systems with a variable refrigerant flow (VRF).

The VMF system is extremely flexible, even allowing various degrees of control and management (extendable at different times too):

- 1) Control of a single fancoil
- 2) Control of a microzone (one MASTER fancoil and a maximum of 5 SLAVE fancoils)
- 3) Control of a network of several independent zones (one MASTER fancoil and a maximum of 5 SLAVE fancoils for each zone)
- 4) Control of a network of fancoils, plus the management of the heat pump
- 5) Control of a network of fancoils and the heat pump, plus the management of the domestic hot water system (DHW)

VMF systems central interface

- 6) Control of a network of fancoils and the heat pump, production of domestic water, and additional circulators (a maximum of 12, using 3 additional VMF-CRP modules)
- 7) Control of a network of fancoils and the heat pump, production of domestic water, additional circulators, plus the management of up to 3 heat recovery units (with the possibility to manage up to 3 VOC probes) or a boiler (VOC = air quality probe)
- The VMF system can pilot and manage via a VMF-E5 panel - up to 64 zones, consisting of a MASTER fancoil and up to 5 SLAVE fancoils connected to each MASTER, giving a total of 384 fancoils
- Besides the central control supplied by the VMF-E5 panel, the MASTER fancoils must be provided with a local control interface; this interface can be assembled on the fancoil (VMF-E2/E2H) or on a wall panel (VMF-E4)
- Various functions can be controlled via the VMF-E5 panel, including:
 - the identification of the different zones, setting a distinguishing name for each one
 - the control and setting of the ON/OFF function, and the temperature setting for each zone
 - the setting and management of the temperature of the heat pump
 - the scheduling of time slots
- Simple installation of the fancoil network, thanks to the SELF-MONITORING function of the MASTER fancoils"

Zone interface



The Chicago Athenaeum: Museum of Architecture and Design

* Winner for the Inter-national design Award «Good Design 2010» for the «Electronics»





ANK reversible heat PUMP all the heat you want, with extremely high efficiency levels

- optimised for heat pump operation
- production of hot water up to 60°C
- production of hot water with outdoor temperatures between -20°C and 42°C
- reduces heating costs by up to 30% compared with the best conventional systems (condensation boilers)
- can be combined with all terminals (radiant panels, fancoils and radiators) and is able to produce domestic hot

water

- reduced weight and dimensions, thanks to the use of R410A refrigerant
- offers greater temperature and acoustic comfort
- high efficiency compressors
- also available in version with circulation pump only, or with storage tank too





CONDENSATION BOILER



NEW ANK HEAT PUMP -30%

REDUCTION IN EMISSIONS OF CO., THE CARBON DIOXIDE RESPONSIBLE FOR THE GREENHOUSE EFFECT





ANK is subjected to the strict energy efficiency tests needed in order to obtain NF certification on the French market, and EHPA on the German, Austrian and Swiss markets.

Example of system components





Research and innovation are essential prerequisite in order to maintain the leadership in the global market and Aermec, which holds this position, has always distinguished itself for the cutting-edge solutions of its products. The innovative capacity and constant attention to research in order to meet market needs and trends, as well as anticipating the demands, are developed through highly skilled staff but also through the co-operation with prestigious universities and teachers of subjects related to air-conditioning. The devices of the future are developed and designed within the modern Aermec laboratories, equipped with sophisticated and constantly updated equipment, such as the new semi-anechoic chamber of the **Research and Development Department**.

+60°C -20

MAXIMUM TEMPERATURE OF THE WATER PRODUCED THE MINIMUM WINTER TEMPERATURE FOR OPERATION OF THE ANK HIGH EFFICIENCY HEAT PUMP

RESPECT FOR THE

ENERGY SAVINGS COMPARED WITH THE

BEST CONDENSATION BOILERS



ENVIRONMENT The ANK high efficiency heat pump is also environmentally

friendly, thanks to the increased energy efficiency and the use of R410A refrigerant - harmless to the ozone layer: R410A is a highly efficient thermo-dynamic fluid and this guarantees a reduction in CO2 emissions. Adding up the savings made on summer air conditioning, winter heating, and the production of domestic hot water, CO2 emissions are reduced by 30% compared with a condensation boiler.

SAVINGS ON BILLS

Thanks to the painstaking design of the heat exchange circuit, and the use of the new R410A fluid, the ANK high efficiency heat pump ensures notable savings on your heating bill, all year round. These savings can be up to 30% per year when compared with condensation boilers. This means that for every 100 euros spent on electricity, the new ANK range will save you about 30 euros.

NIGHT-TIME SILENCE

The ANK high efficiency heat pump was designed with particular emphasis on silent

running, thanks to the choice of components with the highest acoustic quality and the continuous monitoring of the machines being developed at Aermec R&D. The accuracy of acoustic data reported by Aermec is guaranteed by the European Certification Body Eurovent.



IS THE REDUCTION OF CO₂, CARBON DIOXIDE EMISSIONS RESPONSIBLE FOR THE GREENHOUSE EFFECT. THE CARBON DIOXIDE **RESPONSIBLE FOR THE GREENHOUSE** EFFECT

REDUCED MAINTENANCE COSTS COMPARED WITH A TRADITIONAL BURNER BOILER



REDUCED STARTING CURRENT THANKS TO THE SOFT START DEVICE

HIGH TEMPERATURE DOMESTIC WATER



The ANK high efficiency heat pump can produce hot water with ambient temperatures down to -20°C. The temperature of the water produced can reach 60°C in the summer (up to 42°C outside), and this means the ANK heat pump can be used to produce domestic hot water and heat a swimming pool all year round.

% savings in the production of domestic hot water compared with a condensation boiler [euros]



Size data

ANK H - HP-	HA		020	030	040	045	050	085	
Height		А	1028	1281	1281	1281	1281	1281	
Width	H-HP	В	1000	1000	1000	1000	1000	1000	
WIUTI	HA	В	1358	1450	1450	1450	1450	1450	
Depth		С	400	450	450	450	450	450	
		н	118	149	152	165	172	174	
Weight	kg	HP	123	154	157	175	182	184	
		HA	160	211	214	232	238	241	







Technical data - Power supply 3N~ 400V~ 50Hz

Mod. ANK	Version	e	020	030	040	045	050	085	
	kW	Н	7.98	10.05	12.26	14.07	15.38	17.49	
Heating capacity		HP-HA	7,87	9,91	12,10	13,85	15,15	17,25	
Tabal include a survey	kW	Н	2,50	3,11	3,79	4,18	4,44	5,07	
lotal input power		HP-HA	2,55	3,15	3,81	4,27	4,54	5,16	
Water flow rate	l/h	Н	1373	1729	2109	2420	2645	3008	
Water now rate		HP-HA	1354	1705	2081	2382	2606	2967	
Pressure drop	kPa	Н	21	13	19	17	20	24	
COP		Н	3,19	3,23	3,23	3,37	3,46	3,45	
661	••/ ••	HP-HA	3,09	3,15	3,18	3,24	3,34	3,34	
Total input current	А	Н	4,6	6,1	7,5	7,9	8,8	10,2	
Cooling capacity	kW	Н	6,76	8,15	10,48	11,57	13,04	15,48	
		HP-HA	6,84	8,25	10,61	11,74	13,22	15,68	
Total input power	kW	Н	2,33	2,82	3,55	3,98	4,34	5,22	
		HP-HA	2,41	2,89	3,61	4,12	4,49	5,35	
Water flow rate	l/h	Н	1163	1402	1803	1990	2243	2663	
		HP-HA	1176	1419	1825	2019	2274	2697	
Pressure drop	kPa	Н	15	8	14	11	15	20	
FFR	W/W	H	2,90	2,89	2,95	2,91	3,00	2,97	
	,	HP-HA	2,84	2,85	2,94	2,85	2,94	2,93	
Total input current	A	Н	4,3	5,6	7,0	7,6	8,6	10,5	
			C 1		0.1	10.0	11.0	10.0	
Maximum current (FLA)	A	н	6,1	/,/	9,1	10,6	11,8	12,3	
Starting current (LRA)	A	H	39,7	40,3	54,3	61,3	/1,3	91,3	
Air flow rate	m3/h	111	3500	8000	8000	/500	/500	/500	
Water connections (in/out)	Inch	tutte	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1″ 1/4	
Sound power	dBA	tutte	68	/0,5	/0,5	/0,5	/0,5	/0,5	
Sound pressure 10m	dBA	tutte	37	39,5	39,5	39,5	39,5	39,5	

Technical data - Power supply 230V~50Hz

Mod. ANK	Versione		020	030	040	045
Heating appacity	kW	Н	7,98	10,05	10,88	13,50
Heating capacity		HP-HA	7,87	9,91	10,74	13,29
Total input power	kW	Н	2,54	3,11	3,47	3,88
		HP-HA	2,59	3,15	3,51	3,98
Water flow rate	l/h	Н	1373	1729	1871	2322
water now rate		HP-HA	1354	1705	1847	2286
Pressure drop	kPa	Н	21	13	16	15
COP	W/W	Н	3,14	3,23	3,14	3,48
		HP-HA	3,04	3,15	3,06	3,34
Total input current	А	Н	12,0	14,3	16,8	18,8
Puissance frigorifique	kW	Н	6,82	8,15	9,55	11,69
		HP-HA	6,91	8,25	9,67	11,85
Puissance totale absorbée	kW	Н	2,36	2,82	3,24	3,73
		HP-HA	2,43	2,89	3,30	3,88
Débit d'eau	l/h	Н	1173	1402	1643	2010
		HP-HA	1189	1419	1663	2039
Perte de charge	kPa	H	15	8	12	11
EER	W/W	H	2,89	2,89	2,95	3,13
		HP-HA	2,84	2,85	2,93	3,06
Intensité consommée totale	A	Н	11,1	13,0	15,6	18,3
	•		10.0	10.4	00.0	05.0
Maximum current (FLA)	A	H	13,9	19,4	22,2	25,0
Starting current (LRA)*	A	<u>H</u>	45,0	45,0	45,0	45,0
Air flow rate	m3/h	tutte	3500	8000	8000	/500
Water connections (in/out)	inch	tutte	1" 1/4	1" 1/4	1" 1/4	1″ 1/4
Sound power	dBA	tutte	68	/0,5	/0,5	/0,5
Sound pressure 10m	dBA	tutte	37	39,5	39,5	39,5

*Softstart electronic starting current reduction device (standard for single phase versions)					
Data stated according to EN14511-2					
The values refer to:					
COOLING					
Inlet water temperature Water outlet temperature Outside air temperature Δt	12 ℃ 7 ℃ 35 ℃ 5 ℃				
HEATING					
Outlet water temperature	45 °C				
Outside air temperature	d.b. 7 °C				
	w.b. 6 °C				
Δt	5 °C				
Sound pressure measured in a free field with a front distance of 10m and direction factor = 2, in compliance with the standard (ISO 3744)					
Sound power: Aermec determines the value, based on the measurements taken, in compliance with the standard ISO 9614 - 2 with regards Eurovent requirements.					



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The products concerned appear in the EUROVENT web site www . eurovent-certification . com

For futhers informations, please refer to the technical booklet available in the web site www.aermec.com

The technical data in this document are not binding. Aermec S.p.A. shall have the right to introduce at any time whatever modifications deemed necessary for the improvement of the product.

ANK REVERSIBLE HEAT PUMP THE SMART EVOLUTION OF THE SUCCESSFUL ANZ RANGE



Aermec, productive reality and reference brand in Italy and Europe for heating and air conditioning, has dedicated its technology and research abilities to the creation of a complete range of chillers and heat pumps that extends from domestic installations to high output ones for the commercial and industrial sectors.

Within this range, the ANZ models were the successful answer to meet the needs of heating, air conditioning, and the production of domestic hot water for medium and small users. The ANK range inherits all the characteristics that made the ANZ models so successful, but further improving the energy efficiency levels, especially in heating operation and in the production of hot domestic water. A new development in the technological evolution making Aermec a company that's always one step ahead.



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