ANK

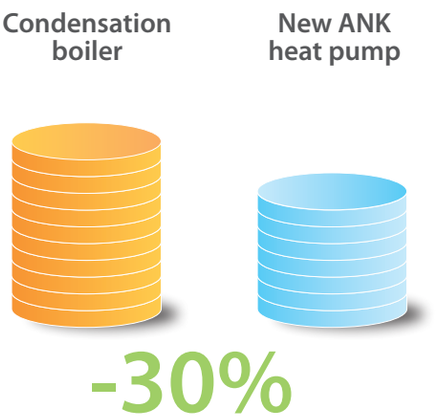
REVERSIBLE HEAT PUMP
EFFICIENCY, ENERGY SAVINGS & WELL-BEING

Air-cooled – axial fans
Scroll compressors – R410A
Cooling capacity 6,8-29,7kW – Heating capacity 7,9-33,3kW

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
- Inverter axial flow fan units for heat pumps (ANK020H÷ANK085H)



-30%

annual electricity savings compared with the best condensation boilers

reduction in emissions of CO_2, the carbon dioxide responsible for the greenhouse effect

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

ANK HA
(heat pump and version with pump and buffer tank)

ANK H (standard version)
and HP (version with pump)

VMF SYSTEM
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)
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 or VMF-E6 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 or VMF-E6 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 or VMF-E6 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"

VMF systems central interface

VMF-E6

VMF-E5

Zone interface

VMF-E4

GOOD DESIGN

As awarded by
The Chicago Athenaeum:
Museum of
Architecture and Design.

The E4 panel is the winner for the International design Award «Good Design 2010» for the «Electronics»

+60°C

MAXIMUM TEMPERATURE OF THE WATER PRODUCED

-20°C

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

-30%

ENERGY SAVINGS COMPARED WITH THE BEST CONDENSATION BOILERS

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.

RESPECT FOR THE ENVIRONMENT

Thanks to greater energy efficiency and the use of fluid refrigerant R410A, harmless to the stratospheric ozone layer, the ANLI Inverter series is environmentally friendly. R410A is also a fluid with high thermodynamic efficiency and this makes it possible, together with use of the Inverter, to reduce CO_2 emissions. Totting up the savings in terms of summer climate control, winter heating and the production of domestic hot water, in comparison with the use of an ON-OFF heat pump, CO_2 emissions fall by 30%.

-30%

IS THE REDUCTION OF CO_2, CARBON DIOXIDE EMISSIONS RESPONSIBLE FOR THE GREENHOUSE EFFECT. THE CARBON DIOXIDE RESPONSIBLE FOR THE GREENHOUSE EFFECT

-50%

REDUCED MAINTENANCE COSTS COMPARED WITH A TRADITIONAL BURNER BOILER

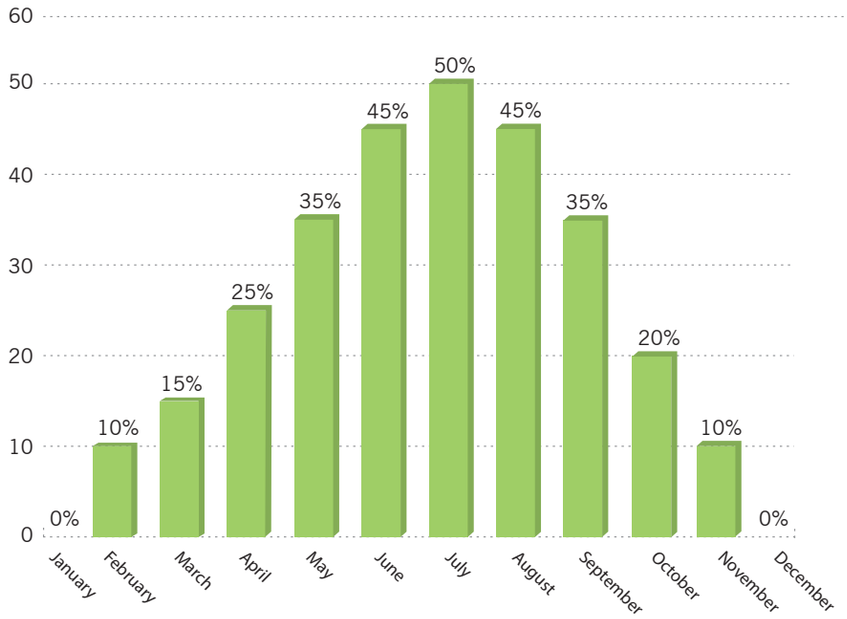
-30%

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, 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]



Technical data ANK-H

ANK - H				020	030	040	045	020	030	040	045	050	085	100	150
	Alimentation	V/ph/Hz		230V	230V	230V	230V	400V	400V	400V	400V	400V	400V	400V	400V
12°C / 7°C	Cooling capacity	(1)	kW	6,8	8,2	9,6	11,7	6,8	8,2	10,5	11,6	13,1	15,5	25,3	29,3
	Total input power	(1)	kW	2,3	2,8	3,2	3,7	2,3	2,8	3,5	4,0	4,3	5,2	8,1	10,0
	Total input current (cooling)	(1)	kW	11,0	13,0	16,0	19,0	4,3	5,6	7,1	7,7	8,7	11	17	20
	EER	(1)		2,92	2,91	2,97	3,16	2,93	2,91	2,98	2,93	3,03	3,00	3,12	2,92
	Water flow rate	(1)	l/h	1179	1405	1649	2018	1168	1405	1810	1997	2253	2676	4361	5055
	Pressure drop	(1)	kPa	16	9	14	14	16	9	16	14	18	24	32	36
40°C / 45°C	Heating capacity	(2)	kW	8,0	10,0	10,9	13,5	8,0	10,0	12,2	14,0	15,3	17,4	27,1	33,3
	Total input power	(2)	kW	2,5	3,1	3,4	3,8	2,5	3,1	3,8	4,2	4,4	5,0	8,3	10,5
	Total input current (heating)	(2)	kW	12,0	15,0	17,0	19,0	4,7	6,2	7,6	8,0	9,0	10	18	21
	COP	(2)		3,16	3,24	3,15	3,50	3,21	3,24	3,25	3,38	3,48	3,46	3,24	3,19
	Water flow rate	(2)	l/h	1376	1737	1880	2332	1376	1737	2116	2429	2655	3020	4689	5773
	Pressure drop	(2)	kPa	22	14	18	19	22	14	22	21	25	31	37	47
23°C / 18°C	Cooling capacity	(3)	kW	9,5	11,4	13,3	16,3	9,5	11,4	14,7	16,2	18,2	21,7	34,0	39,4
	Total input power	(3)	kW	2,5	2,9	3,4	3,9	2,4	2,9	3,7	4,2	4,5	5,5	8,8	10,9
	Total input current (cooling)	(3)	kW	12,0	14,0	17,0	19,0	4,5	5,8	7,4	8,0	9,1	11,0	18,0	22,0
	EER	(3)		3,86	3,86	3,94	4,19	3,88	3,86	3,95	3,89	4,02	3,96	3,86	3,61
	Water flow rate	(3)	l/h	1651	1968	2309	2826	1636	1968	2535	2797	3155	3748	5889	6826
	Pressure drop	(3)	kPa	31	18	27	27	31	18	31	27	35	47	58	66
30°C / 35°C	Heating capacity	(4)	kW	8,5	10,6	11,6	14,0	8,5	10,6	13,1	14,6	16,2	18,2	29,2	35,6
	Total input power	(4)	kW	2,2	2,6	2,8	3,3	2,1	2,6	3,1	3,5	3,8	4,3	6,9	8,8
	Total input current (heating)	(4)	kW	10,0	12,0	14,0	16,0	4,0	5,2	6,2	6,8	7,7	8,9	15,0	18,0
	COP	(4)		3,96	4,04	4,08	4,30	4,03	4,04	4,20	4,15	4,31	4,18	4,21	4,07
	Water flow rate	(4)	l/h	1472	1830	2001	2424	1472	1830	2252	2525	2799	3137	5041	6147
	Pressure drop	(4)	kPa	25	15	21	20	25	15	25	22	28	33	43	53
	Performance under average climatic conditions (Average) UE n°811/2013 Pdesignh ≤ 70kW														
	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			A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A++	A++
	Cooling mode for low temperature														
	ηsc			119,6	124,1	127,8	139,0	119,8	124,1	129,8	129,8	135,0	135,0	149,4	142,3
	SEER			3,07	3,18	3,27	3,55	3,07	3,18	3,32	3,32	3,45	3,45	3,81	3,63

Technical data ANK-HP/HA

ANK - HP/HA				020	030	040	045	020	030	040	045	050	085	100	150
	Alimentation	V/ph/Hz		230V	230V	230V	230V	400V	400V	400V	400V	400V	400V	400V	400V
12°C / 7°C	Cooling capacity	(1)	kW	6,9	8,2	9,7	11,8	6,9	8,2	10,6	11,7	13,2	15,7	25,6	29,7
	Total input power	(1)	kW	2,3	2,8	3,2	3,7	2,3	2,8	3,5	4,0	4,3	5,2	8,2	10,4
	Total input current (cooling)	(1)	kW	12,0	14,0	16,0	20,0	4,9	6,2	7,8	8,7	9,8	12,0	18,0	22,0
	EER	(1)		2,99	2,96	3,02	3,17	3,00	2,97	3,05	2,95	3,06	3,03	3,12	2,87
	Water flow rate	(1)	l/h	1179	1405	1649	2018	1168	1405	1810	1997	2253	2676	4361	5055
	High static pressure	(1)	kPa	78	71	62	70	78	82	70	81	74	63	115	144
40°C / 45°C	Heating capacity	(2)	kW	7,9	9,9	10,8	13,4	7,9	9,9	12,1	13,9	15,2	17,3	26,8	33,0
	Total input power	(2)	kW	2,5	3,1	3,4	3,9	2,4	3,0	3,7	4,2	4,4	5,0	8,4	10,8
	Total input current (heating)	(2)	kW	13,0	15,0	18,0	20,0	5,3	6,9	8,3	9,1	10,0	12,0	19,0	23,0
	COP	(2)		3,17	3,25	3,16	3,45	3,22	3,26	3,27	3,35	3,46	3,44	3,18	3,05
	Water flow rate	(2)	l/h	1376	1737	1880	2332	1376	1737	2116	2429	2655	3020	4689	5773
	High static pressure	(2)	kPa	72	58	52	57	72	76	61	68	60	50	105	109
23°C / 18°C	Cooling capacity	(3)	kW	9,6	11,5	13,4	16,4	9,5	11,5	14,8	16,3	18,4	21,8	34,3	39,8
	Total input power	(3)	kW	2,4	2,9	3,4	3,9	2,4	2,9	3,6	4,2	4,5	5,5	8,9	11,4
	Total input current (cooling)	(3)	kW	12,0	14,0	17,0	20,0	5,1	6,5	8,1	9,2	10,0	12,0	19,0	24,0
	EER	(3)		3,99	3,93	4,01	4,18	4,00	3,98	4,06	3,92	4,05	3,99	3,85	3,48
	Water flow rate	(3)	l/h	1651	1968	2309	2826	1636	1968	2535	2797	3155	3748	5889	6826
	High static pressure	(3)	kPa	62	47	29	32	62	70	45	55	38	17	66	51
30°C / 35°C	Heating capacity	(4)	kW	8,4	10,5	11,5	13,9	8,4	10,5	12,9	14,5	16,1	18,0	28,9	35,3
	Total input power	(4)	kW	2,1	2,6	2,8	3,3	2,1	2,6	3,0	3,5	3,8	4,3	7,0	9,2
	Total input current (heating)	(4)	kW	11,0	13,0	15,0	17,0	4,6	5,9	6,9	7,9	8,8	10,0	16,0	20,0
	COP	(4)		4,00	4,05	4,10	4,24	4,07	4,08	4,26	4,12	4,28	4,16	4,11	3,85
	Water flow rate	(4)	l/h	1472	1830	2001	2424	1472	1830	2252	2525	2799	3137	5041	6147
	High static pressure	(4)	kPa	69	54	46	53	69	73	56	65	54	45	95	90
	Performance under average climatic conditions (Average) UE n°811/2013 Pdesignh ≤ 70kW														
	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			A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A++	A++
	Cooling mode for low temperature														
	ηsc			121,1	125,0	130,7	138,4	120,7	125,0	132,5	130,1	135,4	137,1	146,6	137,0
	SEER			3,10	3,20	3,34	3,54	3,09	3,20	3,39	3,33	3,46	3,50	3,74	3,50

Date (14511:2018)

(1) Water system side 12°C/7°C, External air 35°C
(2) Water system side 40°C/45°C, External air 7°C b.s./6°C b.u.
(3) Water system side 23°C/18°C, External air 35°C
(4) Water system side 30°C/35°C, External air 7°C b.s./6°C b.u.
(5) Efficiencies for low temperature Applications (35°C)

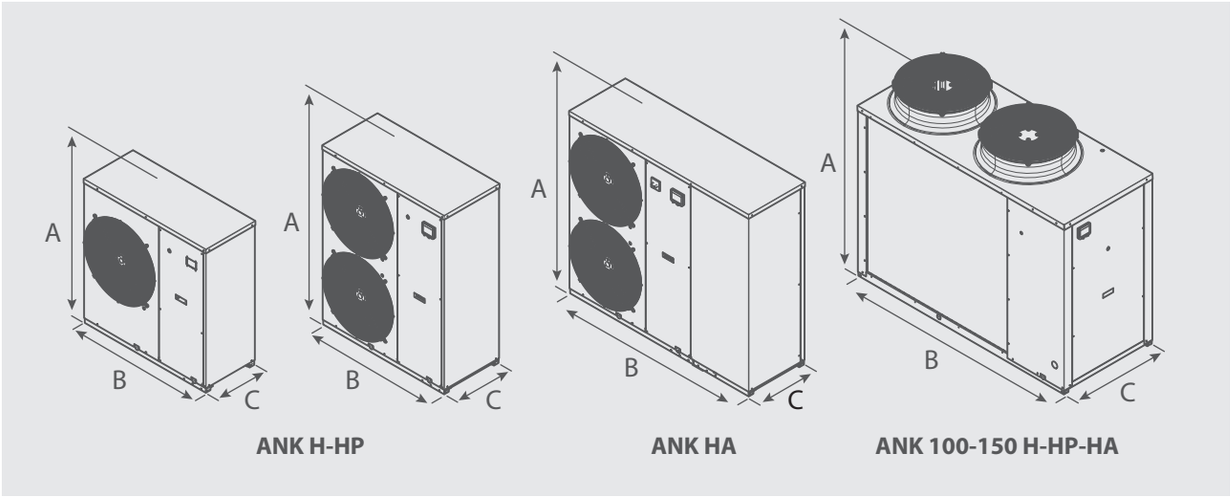
ehpa european heat pump association

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

adheres to the EUROVENT Certification Programme: LCP. The products concerned appear in the EUROVENT web site www.eurovent-certification.com

Size data - ANK 020-150

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



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

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.**

For more information, please refer to the program selection and the technical documentation available on the website www.aermec.com

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