

NRK 0150-0700

Reversible air/water heat pump

Cooling capacity 8.8 ÷ 39.7 ton
Heating capacity 116,866 ÷ 593,235 BTU/h

- Water produced up to 149.0 °F
- Heating operations with external temperatures down to -4.0 °F
- Optimized for operation in heating mode
- High efficiency also at partial loads
- Night mode



DESCRIPTION

Reversible air/water heat pump for air conditioning systems with cold water production for cooling rooms and hot water for heating and/or domestic hot water services, suitable for connection in residential, commercial complexes or industrial applications.

It's optimised for use in heating mode, and can be combined not only with low-temperature emission systems such as floor heating or fan coils, but also conventional radiators.

Equipped with scroll compressors, axial fans, external coil with aluminium louvers, plate heat exchanger on the side.

The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

VERSIONS

A High efficiency

FEATURES

Operating field

Working at full load up to -4.0 °F outside air temperature in winter, and up to 118.4 °F in summer. Possibility production technical hot water production up to 149.0 °F.

Version with Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations to obtain a solution that allows you to facilitate installation.

Inverter fans

Standard inverter fans for all size.

CONTROL

Microprocessor adjustment, with keyboard and LCD display, for easy access on the unit is a menu available in several languages.

Adjustment includes complete management of the alarms and their log.

The presence of a programmable timer allows functioning time periods and a possible second set-point to be set.

The temperature control takes place with the integral proportional logic, based on the water output temperature.

NIGHT MODE

It is possible to set a silenced operation profile. Perfect for night operation since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

Available for all units with inverter fans.

ACCESSORIES

AER485P1: RS-485 interface for supervision systems with MODBUS protocol.

AERBAC-MODU: Ethernet communication Interface for protocols BACnet/IP, Modbus TCP/IP, SNMP

AERNET: The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.

BMConverter: The BMConverter accessory consists of the FPC-N54 network device which allows units that communicate via the Modbus RTU protocol on RS485, to be controlled by a third-party BMS system via the BACNet TCP-IP protocol.

MODU-485BL: RS-485 interface for supervision systems with MODBUS protocol.

MULTICHILLER_EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel, always ensuring constant flow rate to the evaporators.

PGD1: Allows you to control the unit at a distance.

GP: Anti-intrusion grid.

VT: Anti-vibration supports.

CRATE: Special crate for transport

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.

RIF: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

RESNRK: Electric heater for the control and electric power board.

ACCESSORIES COMPATIBILITY

Model	Ver	0150	0300	0330	0350	0550	0600	0650	0700
AER485P1	A		*	*	*	*	*	*	*
AERBAC-MODU	A	*							
AERNET	A	*	*	*	*	*	*	*	*
BMConverter	A	*	*	*	*	*	*	*	*
MODU-485BL	A	*							
MULTICHILLER_EVO	A		*	*	*	*	*	*	*
PGD1	A		*	*	*	*	*	*	*

Anti-intrusion grid

Ver	0150	0300	0330	0350	0550	0600	0650	0700
A	-	GP4	GP2 x 2 (1)	GP2 x 2 (1)	GP2 x 2 (1)	GP2 x 3 (1)	GP2 x 3 (1)	GP2 x 3 (1)

(1) x _ indicates the quantity to buy

The accessory cannot be fitted on the configurations indicated with -

Antivibration

Ver	0150	0300	0330	0350	0550	0600	0650	0700
Integrated hydronic kit: 00, P1, P3								
A	VT15	VT17	VT11	VT11	VT11	VT22	VT22	VT22
Integrated hydronic kit: 01, 02, 03, 04								
A	-	VT13	VT11	VT11	VT11	VT22	VT22	VT22
Integrated hydronic kit: P2, P4								
A	-	VT17	VT11	VT11	VT11	VT22	VT22	VT22

Special crate for transport

Ver	0150	0300	0330	0350	0550	0600	0650	0700
A	CRATE_ANL	CRATE02	CRATE02	CRATE02	CRATE02	CRATE03	CRATE03	CRATE03

Device for peak current reduction

Ver	0150	0300	0330	0350	0550	0600	0650	0700
A	-	DRENRK03007	DRENRK03307	DRENRK35557	DRENRK35557	DRENRK60657	DRENRK60657	DRENRK07007

The accessory cannot be fitted on the configurations indicated with -

A grey background indicates the accessory must be assembled in the factory

Power factor correction

Ver	0150	0300	0330	0350	0550	0600	0650	0700
A	-	RIFNRK03007	RIFNRK03307	RIFNRK35557	RIFNRK35557	RIFNRK60657	RIFNRK60657	RIFNRK07007

The accessory cannot be fitted on the configurations indicated with -

A grey background indicates the accessory must be assembled in the factory

Electric heater for the control and electric power board

Ver	0150	0300	0330	0350	0550	0600	0650	0700
A	-	RESNRK03007	RESNRK33707	RESNRK33707	RESNRK33707	RESNRK33707	RESNRK33707	RESNRK33707

The accessory cannot be fitted on the configurations indicated with -

A grey background indicates the accessory must be assembled in the factory

CONFIGURATOR

Field	Description
1,2,3	NRK
4,5,6,7	Size 0150, 0300, 0330, 0350, 0550, 0600, 0650, 0700
8	Operating field (1) ° Standard mechanic thermostatic valve
9	Model H Heat pump
10	Heat recovery ° Without heat recovery D With desuperheater (2)
11	Version A High efficiency
12	Coils ° Copper-aluminium R Copper pipes-copper fins S Copper pipes-Tinned copper fins
13	Fans

Field	Description
J	EC Inverter type
14	Power supply
7	460V 3 ~ 60Hz
15,16	Integrated hydronic kit
00	Without hydronic kit
01	Storage tank with low head pump (3)
02	Storage tank with low head pump + stand-by pump (3)
03	Storage tank with high head pump (3)
04	Storage tank with high head pump + stand-by pump (3)
P1	Single pump low head
P2	Pump low head + stand-by pump (3)
P3	Single pump high head
P4	Pump high head + stand-by pump (3)

(1) Water produced down to +39,2 °F

(2) The desuperheater must be intercepted in heating mode. In cooling mode, a water temperature no lower than 95°F must always be guaranteed on the heat exchanger inlet.

(3) 01,02,03,04,P2,P4: Option not available only for size 0150

PERFORMANCE SPECIFICATIONS

NRK - (A) / 54.0/44.0 °C - 104 °F/113 °F

Size		0150	0300	0330	0350	0550	0600	0650	0700
Cooling performances 54.0 °F / 44.0 °F (1)									
Cooling capacity	ton	8.8	16.1	19.0	21.5	24.0	32.3	36.6	39.7
Input power	kW	9.6	20.2	23.7	27.0	29.9	40.3	49.9	58.1
Cooling total input current	A	20.0	34.0	38.0	48.0	51.0	64.0	79.0	100.0
EER	BTU/(Wh)	11.02	9.55	9.61	9.56	9.61	9.63	8.81	8.19
IPLV	BTU/(Wh)	14.91	13.51	13.58	13.41	13.38	13.79	12.73	11.23
Water flow rate system side	gpm	21.1	38.5	45.4	51.5	57.4	77.3	87.6	94.9
Pressure drop system side	ftH ₂ O	18.07	5.69	5.69	5.69	5.69	5.69	5.69	5.69
Heating performance 104 °F / 113 °F (2)									
Heating capacity	BTU/h	116,866	231,872	275,841	304,206	340,426	463,802	539,671	593,235
Input power	kW	10.0	21.0	26.4	29.2	31.9	43.4	51.3	57.2
Heating total input current	A	21.0	34.0	42.0	52.0	54.0	69.0	81.0	101.0
COP	kW/kW	3.41	3.24	3.06	3.05	3.13	3.13	3.08	3.04
Water flow rate system side	gpm	26.2	52.0	61.9	68.2	76.3	104.0	121.0	133.0
Pressure drop system side	ftH ₂ O	27.43	10.37	10.71	10.04	10.04	10.37	10.71	11.04

(1) Data: System side water heat exchanger 54.0 °F / 44.0 °F; External air 95 °F

(2) Data: System side water heat exchanger 104 °F / 113 °F; External air 44.6 °F

PART LOAD IPLV

Size		0150	0300	0330	0350	0550	0600	0650	0700
Part load IPLV									
100 %	BTU/(Wh)	11.02	9.55	9.62	9.55	9.62	9.62	8.80	8.19
75 %	BTU/(Wh)	13.38	12.01	12.01	11.94	11.98	12.83	11.81	10.58
50 %	BTU/(Wh)	15.80	14.40	14.47	14.26	14.19	14.77	13.65	11.98
25 %	BTU/(Wh)	17.20	15.63	16.17	15.66	15.49	13.79	12.76	10.99

ELECTRIC DATA

Size			0150	0300	0330	0350	0550	0600	0650	0700
Integrated hydronic kit: 00										
Power supply: 460V										
Peak current (LRA)	A	A	133.6	165.3	183.0	217.1	218.0	197.1	232.6	276.9
Minimum circuit amperage (MCA)	A	A	35.0	70.0	70.0	90.0	90.0	110.0	125.0	150.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	50.0	80.0	90.0	110.0	110.0	125.0	150.0	175.0
Integrated hydronic kit: 01, 02, P2										
Power supply: 460V										
Peak current (LRA)	A	A	-	167.4	185.1	219.2	220.1	199.9	236.6	280.9
Minimum circuit amperage (MCA)	A	A	-	70.0	75.0	90.0	90.0	110.0	150.0	175.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	90.0	90.0	110.0	110.0	125.0	150.0	175.0
Integrated hydronic kit: 03, 04, P4										
Power supply: 460V										
Peak current (LRA)	A	A	-	169.3	187.0	221.1	222.0	202.6	238.1	282.4
Minimum circuit amperage (MCA)	A	A	-	75.0	75.0	90.0	90.0	110.0	150.0	175.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	90.0	90.0	110.0	110.0	125.0	150.0	175.0
Integrated hydronic kit: P1										
Power supply: 460V										
Peak current (LRA)	A	A	136.4	167.4	185.1	219.2	220.1	199.9	236.6	280.9
Minimum circuit amperage (MCA)	A	A	40.0	70.0	75.0	90.0	90.0	110.0	150.0	175.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	50.0	90.0	90.0	110.0	110.0	125.0	150.0	175.0
Integrated hydronic kit: P3										
Power supply: 460V										
Peak current (LRA)	A	A	137.6	169.3	187.0	221.1	222.0	202.6	238.1	282.4
Minimum circuit amperage (MCA)	A	A	40.0	75.0	75.0	90.0	90.0	110.0	150.0	175.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	60.0	90.0	90.0	110.0	110.0	125.0	150.0	175.0

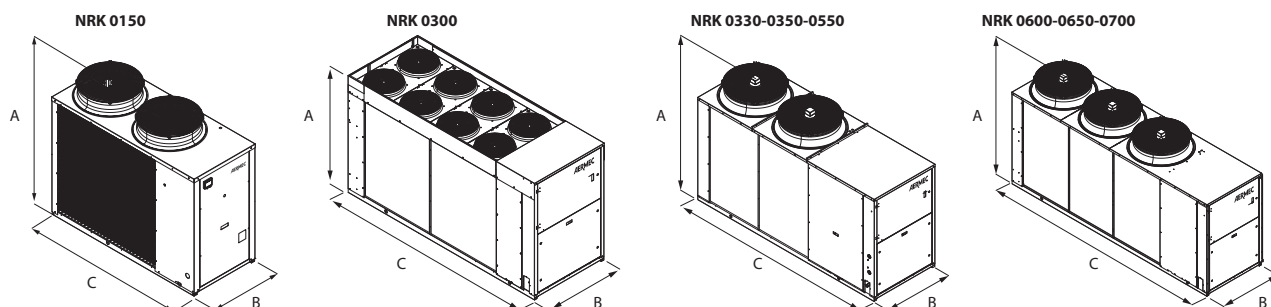
GENERAL TECHNICAL DATA

Size			0150	0300	0330	0350	0550	0600	0650	0700
Compressor										
Type	A	type	Scroll							
Compressor regulation	A	Type	On-Off							
Number	A	no.	1	2	2	2	2	4	4	4
Circuits	A	no.	1	2	2	2	2	2	2	2
Refrigerant	A	type	R410A							
Refrigerant load circuit 1 (1)	A	lbs	35.3	18.1	25.4	32.0	32.0	43.0	43.0	44.1
Refrigerant load circuit 2 (1)	A	lbs	35.3	18.1	25.4	32.0	32.0	43.0	43.0	44.1
System side heat exchanger										
Type	A	type	Braze plate							
Number	A	no.	1	1	1	1	1	1	1	1
System side hydraulic connections										
Connections (in/out)	A	Type	Gas - F	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	A	Ø	1" 1/4	2" 1/2 US	2" 1/2 US	2" 1/2 US	2" 1/2 US	2" 1/2 US	2" 1/2 US	2" 1/2 US
Inverter fan										
Type	A	type	Axial							
Fan motor	A	type	EC Inverter motors							
Number	A	no.	2	8	2	2	2	3	3	3
Air flow rate	A	cfm	8,064	23,190	22,366	21,954	21,954	33,314	37,904	37,904
Sound data calculated in cooling mode (2)										
Sound power level	A	dB(A)	82.9	85.4	89.5	90.2	89.6	91.4	91.3	91.9
Sound pressure level (10 m / 33 ft)	A	dB(A)	51.3	53.6	57.6	58.3	57.7	59.4	59.3	59.9

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

(2) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



Size		0150	0300	0330	0350	0550	0600	0650	0700
Dimensions and weights									
A	in	57.1	63.2	73.8	73.8	73.8	73.8	73.8	73.8
B	in	29.7	43.3	43.3	43.3	43.3	43.3	43.3	43.3
C	in	68.8	126.0	131.4	131.4	131.4	170.5	170.5	170.5
Dimensions and weights for transport									
A	in	62.2	70.0	79.8	79.8	79.8	79.4	79.4	79.4
B	in	34.3	45.7	46.1	46.1	46.1	46.1	46.1	46.1
C	in	72.8	128.3	133.7	133.7	133.7	172.7	172.7	172.7
Integrated hydronic kit: 00									
Weights									
Empty weight	lbs	820	1,728	1,845	1,938	1,956	2,544	2,544	2,597
Weight functioning	lbs	833	1,742	1,863	1,958	1,975	2,571	2,571	2,626

Aermec reserves the right to make any modifications deemed necessary.
All data is subject to change without notice. Aermec does not assume responsibility or liability for errors or omissions.

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