

NSH 1251-3602 HP

Reversible air/water heat pump

Cooling capacity 250,7 ÷ 731,4 kW
Heating capacity 281,4 ÷ 786,7 kW

- High efficiency version
- High efficiency even at part load
- 1/2 Refrigerant circuit
- Option version with built-in hydronic kit
- Electronic expansion valve



Reversible heat pumps

VERSION

- NS_HA** High efficiency version
NS_HE High efficiency low noise version

Operational limits

Max. external air temperature 48°C in cooling mode
Maximum leaving water temperature 55°C in heating mode

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

- 1/2 refrigerant circuits
 - High efficiency, low noise screw compressors with modulating capacity control from 25 to 100%.
 - Electronic expansion valve as a standard
 - Economiser circuit with plate heat exchanger for improved performance, particularly at high compression ratios, as experienced in heating mode at low ambients
 - Generously sized refrigerant circuit for minimum pressure drop
 - Shell and tube evaporator optimised for refrigerant R134a.
 - Pressure switch as standard supply
 - Option integrated hydronic module, it consist of 1 or 2 pumps and 2 expansion tanks (25l.)
 - Axial fans for extremely quiet operation
 - Modulating capacity control microprocessor system
 - Multilingual display panel
 - Compact sizes
 - Metal control panel with anti-corrosion polyester paint
 - Options for partial or total heat recovery
- The low noise version "L/E" is equipped:
- Compressor acoustical enclosure
 - Fan speed control (DCPX)
 - Hot gas discharge muffler.

ACCESSORIES

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

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.

PRV3: Remote control of the chiller operating functions.

MULTICHILLER_EVO: Control system for multiple parallel installed constant flow chillers providing individual chiller on/off and control capability.

DCPX: Low ambient device for cooling operation below 20°C down to -10°C.

AVX: Spring anti-vibration

ACCESSORIES FACTORY FITTED ONLY

KRS: Evaporator trace heating.

KRS_DES: Evaporator and heat recovery exchangers trace heating.

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

GP: Protective grille. Condenser coil external protection against accidental or hail damage.

AK: ACOUSTIC KIT (only for Versions HE): This accessory allows further sound reduction. Must be requested at time of order and is available factory fitted only.

ACCESSORIES COMPATIBILITY

Model	vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
AER485P1	all	•(x1)	•(x1)	•(x1)	•(x1)	•(x2)												
AERNET	all	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PRV3	all	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTICHILLER_EVO	all	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

x Indicates the quantity of accessories to match.

Condensation control temperature

Vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
all	DCPX69	DCPX69	DCPX69	DCPX69	DCPX68	DCPX68	DCPX68	DCPX73									

DCPX Accessory supplied as standard on Versions HE, and D

Antivibration

Version	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Spring antivibration for unit without Hydronik kit "00"																		
HA/HE	AVX536	AVX536	AVX536	AVX540	AVX537	AVX538	AVX541	AVX543	AVX543	AVX543	AVX545	AVX549	AVX551	AVX551	AVX554	AVX556	AVX557	AVX559
Spring antivibration for unit with Hydronik kit																		
PA	HA/HE	AVX536	AVX536	AVX536	AVX540	AVX537	AVX538	AVX541	AVX543	AVX543	AVX545	AVX550	AVX551	AVX551	AVX553	AVX553	AVX557	AVX559
PC	HA/HE	AVX536	AVX536	AVX536	AVX540	AVX538	AVX538	AVX541	AVX543	AVX543	AVX545	AVX550	AVX551	AVX551	AVX553	AVX555	AVX557	AVX559
PE	HA/HE	AVX536	AVX536	AVX536	AVX540	AVX538	AVX538	AVX541	AVX543	AVX543	AVX545	AVX550	AVX551	AVX551	AVX553	AVX555	AVX557	AVX559
PG	HA/HE	AVX536	AVX536	AVX536	AVX540	AVX538	AVX538	AVX541	AVX543	AVX543	AVX545	AVX550	AVX551	AVX551	AVX553	AVX555	AVX557	AVX559
PJ	HA/HE	AVX536	AVX536	AVX536	AVX540	AVX538	AVX538	AVX541	AVX543	AVX543	AVX545	AVX550	AVX551	AVX551	AVX553	AVX555	AVX557	AVX559

Electric heater for the plate heat exchanger

Vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
All	KRS11	KRS11	KRS11	KRS11	KRS19	KRS14	KRS14	KRS14	KRS14								

A grey background indicates the accessories assembled in the factory

KRS_DES: Electric heater for the plate heat exchanger

Vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
All	KRS11DES	KRS11DES	KRS11DES	KRS11DES	KRS19DES	KRS14DES	KRS14DES	KRS14DES	KRS14DES								

Accessory comes standard with the electrical heater for evaporator and desuperheater

A grey background indicates the accessories assembled in the factory

Power factor correction

Vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
All	RIFNSH1251	RIFNSH1401	RIFNSH1601	RIFNSH1801	RIFNSH1402	RIFNSH1602	RIFNSH1802	RIFNSH2002	RIFNSH2202	RIFNSH2352	RIFNSH2502	RIFNSH2652	RIFNSH2802	RIFNSH3002	RIFNSH3202	RIFNSH3402	RIFNSH3602

A grey background indicates the accessories assembled in the factory

Anti-intrusion grid

Vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
All	GP300M	GP300M	GP300M	GP400M	GP300B	GP300B	GP400B	GP500B	GP500B	GP500B	GP500B	GP500B	GP500B	GP300M+300M	GP300M+300M	GP300M+400M	GP400M+400M

A grey background indicates the accessories assembled in the factory

AK: Acoustic kit

Vers.	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
All	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Accessory is only available for the low noise version "HE"

A grey background indicates the accessories assembled in the factory

CONFIGURATOR

Field	Description
1,2	NS
3,4,5,6	Taglia
	1251-1401-1601-1801 1402-1602-1802-2002-2202-2352-2502-2652-2802 3002-3202-3402-3602
7	Operating field
x	Electronic expansion valve (leaving water temperature down to 4°C) contact head office for lower temperatures
8	Model
H	Heat pumps
9	Heat recovery
°	Without recovery
D	With Desuperheater
10	Version
A	High efficiency
E	High efficiency in low noise operation
11	Coil
°	Aluminium
R	Copper

Field	Description
S	Tinned copper
V	Painted aluminium-copper (epoxy paint)
12	Fans
°	Standard
J	Inverter
13	Power supply
°	400V/3/50Hz with fuses
2	230V/3/50Hz with fuses ⁽¹⁾
4	230V/3/50Hz with circuit breakers ⁽¹⁾
5	500V/3/50Hz with fuses ⁽²⁾
8	400V/3/50Hz with circuit breakers
9	500V/3/50Hz with circuit breakers ⁽²⁾
14-15	Integrated hydronic kit
00	Without hydronic kit
PA	Hydronic pump (Pump A)
PC	Hydronic pump (Pump C)
PE	Hydronic pump (Pump E)
PG	Hydronic pump (Pump G)
PJ	Hydronic pump (Pump J)

(1) 230V/3/50Hz is not available for size 1251÷1801/2352÷3602

(2) 500V/3/50Hz is not available for size 1801-3402-3602

PERFORMANCE SPECIFICATIONS

NS - HA

Size		1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Cooling performance 12 °C / 7 °C (1)																			
Cooling capacity	kW	262,7	281,7	309,7	365,6	257,7	315,6	365,6	384,6	414,5	454,6	499,5	524,5	547,5	591,5	619,6	675,5	731,4	
Input power	kW	86,9	95,0	107,8	128,3	94,9	108,3	125,3	132,5	138,8	158,4	173,5	186,7	195,9	202,6	215,4	235,9	256,4	
Cooling total input current	A	149	164	185	215	168	186	216	227	233	268	295	318	335	349	370	400	430	
EER	W/W	3,02	2,96	2,87	2,85	2,72	2,91	2,92	2,90	2,99	2,87	2,88	2,81	2,80	2,92	2,88	2,86	2,85	
Water flow rate	l/h	45186	48450	53261	62882	44327	54292	62882	66147	71301	78174	85905	90200	94152	101712	106523	116144	125765	
Pressure drops	kPa	38	41	27	43	36	50	43	47	53	37	38	40	43	34	27	35	43	
Power supply		400V/3/50Hz																	
Heating performance 40 °C / 45 °C (2)																			
Heating capacity	kW	281,4	297,4	332,3	393,5	281,4	342,5	395,5	412,5	450,6	502,5	541,5	563,6	585,6	629,5	664,5	725,6	786,7	
Input power	kW	88,2	94,2	104,0	126,7	93,2	106,8	123,7	133,9	141,3	157,9	171,0	177,1	185,4	198,0	207,8	230,4	253,1	
Heating total input current	A	150	163	180	212	165	182	213	229	236	267	292	303	318	342	359	391	423	
COP	W/W	3,19	3,16	3,20	3,11	3,02	3,21	3,20	3,08	3,19	3,18	3,17	3,18	3,16	3,18	3,20	3,15	3,11	
Water flow rate	l/h	48837	51618	57701	68303	48837	59439	68650	71605	78209	87247	94025	97848	101672	109319	115402	126004	136606	
Pressure drops	kPa	47	49	33	54	47	64	54	58	67	49	47	49	53	41	33	43	54	
Power supply		400V/3/50Hz																	

(1) Data 14511:2018; System side water heat exchanger 12 °C/7 °C; External air 35 °C

(2) Data 14511:2018; System side water heat exchanger 40 °C/45 °C; Outside air 7 °C d.b. / 6 °C w.b.

NS - HE

Size		1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Cooling performance 12 °C / 7 °C (1)																			
Cooling capacity	kW	250,7	266,7	292,7	343,6	242,7	301,6	349,6	366,6	394,5	435,6	487,6	506,5	517,5	559,6	585,6	636,5	687,5	
Input power	kW	91,8	101,9	115,7	136,1	100,8	116,2	132,2	140,3	146,5	169,3	192,4	202,5	210,6	217,4	231,2	251,6	272,0	
Cooling total input current	A	161	178	202	234	181	202	233	246	254	293	333	349	365	380	403	436	468	
EER	W/W	2,73	2,62	2,53	2,52	2,41	2,60	2,65	2,61	2,69	2,57	2,53	2,50	2,46	2,57	2,53	2,53	2,53	
Water flow rate	l/h	43124	45873	50340	59103	41750	51887	60133	63054	67865	74909	83843	87108	88998	96214	100681	109443	118206	
Pressure drops	kPa	32	37	24	38	33	46	39	43	48	34	35	37	39	30	24	31	38	
Power supply		400V/3/50Hz																	
Heating performance 40 °C / 45 °C (2)																			
Heating capacity	kW	281,4	297,4	332,3	393,5	281,4	342,5	395,5	412,5	450,6	502,5	541,5	563,6	585,6	629,5	664,5	725,6	786,7	
Input power	kW	88,2	94,2	104,0	126,7	93,2	106,8	123,7	133,9	141,3	157,9	171,0	177,1	185,4	198,0	207,8	230,4	253,1	
Heating total input current	A	150	163	180	212	165	182	213	229	236	267	292	303	318	342	359	391	423	
COP	W/W	3,19	3,16	3,20	3,11	3,02	3,21	3,20	3,08	3,19	3,18	3,17	3,18	3,16	3,18	3,20	3,15	3,11	
Water flow rate	l/h	48837	51618	57701	68303	48837	59439	68650	71605	78209	87247	94025	97848	101672	109319	115402	126004	136606	
Pressure drops	kPa	47	49	33	54	47	64	54	58	67	49	47	49	53	41	33	43	54	
Power supply		400V/3/50Hz																	

(1) Data 14511:2018; System side water heat exchanger 12 °C/7 °C; External air 35 °C

(2) Data 14511:2018; System side water heat exchanger 40 °C/45 °C; Outside air 7 °C d.b. / 6 °C w.b.

ENERGY DATA

Size	Version	1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Cooling capacity with low leaving water temp (UE n° 2016/2281)																			
SEER	HA	W/W	3,88	3,81	3,76	3,71	3,46	3,68	3,73	3,70	3,80	3,72	3,74	3,66	3,64	3,81	3,76	3,73	3,72
	HE	W/W	3,41	3,28	3,19	3,19	3,00	3,23	3,32	3,28	3,37	3,28	3,23	3,18	3,12	3,30	3,25	3,23	3,23
η _{sc}	HA	%	152,1	149,4	147,4	145,2	135,2	144,2	146,0	145,0	149,0	145,7	146,6	143,5	142,5	149,5	147,5	146,1	145,8
	HE	%	133,4	128,1	124,4	124,7	116,8	126,2	129,7	128,2	131,8	128,1	126,3	124,3	121,7	129,1	126,9	126,1	126,2
Performance under average climatic conditions (Average) - Efficiencies for low temperature applications (35 °C) UE n° 813/2013 Pdesignh ≤ 400kW																			
Pdesignh	HA		185	195	218	259	185	225	260	271	297	330	356	370	385	-	-	-	-
	HE		185	195	218	259	185	225	260	271	297	330	356	370	385	-	-	-	-
SCOP	HA		3,33	3,28	3,33	3,23	3,23	3,33	3,33	3,20	3,30	3,30	3,30	3,33	3,30	-	-	-	-
	HE		3,33	3,28	3,33	3,23	3,23	3,33	3,33	3,20	3,30	3,30	3,30	3,33	3,30	-	-	-	-
η _{sh}	HA	%	130	128	130	126	126	130	130	125	129	129	129	130	129	-	-	-	-
	HE	%	130	128	130	126	126	130	130	125	129	129	129	130	129	-	-	-	-

ELECTRIC DATA

Size		1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Electric data ⁽¹⁾																			
Maximum current (FLA)	A	209	242	258	316	276	276	325	352	370	390	410	443	476	500	516	574	631	
Peak current (LRA)	A	327	387	431	472	251	251	305	313	350	365	436	461	521	534	578	612	653	

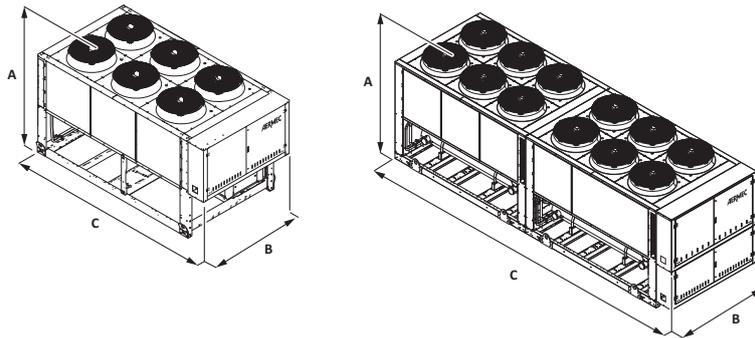
(1) Unit standar configuration without hydronic kit

GENERAL TECHNICAL DATA

Sizes		1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Compressor																			
Compressor	Type	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw
Compressor / circuit	n°	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Refrigerante	Type	R134a																	
Heat exchanger system side																			
Heat exchanger	Type	Shell&Tube																	
	n°	1	1	1	1	2	2	2	2	2	1	1	1	1	1	2	2	2	2
Hydraulic connections (in/out)	Ø	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
Standard fans																			
Fans	Type	Axial																	
	n°	6	6	6	8	6	6	8	10	10	10	10	10	10	12	12	14	14	16
Air flow rate (cooling)	HA	m³/h	117600	117600	112200	156000	117600	112200	153200	196000	196000	196000	196000	191500	187000	229800	224400	268200	312000
Fans	HE	n°	6	6	6	8	6	6	8	10	10	10	10	10	10	12	12	14	14
		Air flow rate (cooling)	m³/h	82320	117600	78540	109200	82320	78540	107240	137200	137200	137200	137200	134050	130900	196140	157080	187740
Sound data (cold functioning) ⁽¹⁾																			
Sound power level	HA	dB(A)	94	94	95	96	94	95	96	97	97	97	97	97	97	97	98	99	99
Sound pressure level		dB(A)	62	62	63	64	62	63	64	64	64	64	65	65	65	64	65	66	66
Sound power level	HE	dB(A)	89	89	90	91	89	90	91	92	92	92	92	92	92	92	93	94	94
Sound pressure level		dB(A)	57	57	58	59	57	58	59	59	59	59	60	60	60	59	60	61	61

(1) Sound power: calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning): measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



Size		1251	1401	1601	1801	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602	
Dimensions and weights																			
A	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
B	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
C	mm	3780	3780	3780	4770	3780	3780	4770	5750	5750	5750	5750	5750	5750	7160	7160	8150	9140	
Weight	HA-HE	kg	3245	3280	3435	4115	3570	3835	4005	4385	4570	4940	5265	5470	5610	6540	6745	7425	8105

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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