

# AMRTA Variable Speed Water Source Heat Pump



1~21kW



1.4~26.7kW



200~3960m<sup>3</sup>/h



## Full inverter technology



Greater occupant comfort



Low operating cost

## Advantages

### Low height for an easy installation

Only 252mm for 9000Btu~15000Btu

### Eco-friendly

R32 refrigerant with very low GWP(675)  
+inverter rotary compressor+Low energy  
consumption EC fan

- Delivers greater occupant comfort
- Quiet operation
- Low life cycle costs
- Reliable operation
- Reduced energy consumption
- High efficiency
- Plug-and-play design
- Extensive factory-installed options
- Easy to service
  
- Left or right return
- High efficiency direct drive forward curved supply fans with EC motor
- Reliable inverter rotary compressors
- Complete and easy service access
- Sturdy galvanized steel construction with closed cell insulation

Amrta water source heat pump achieves higher efficiency, reduced sound, improved indoor air quality and high reliability through variable speed compressor and EC fan motor technology. Variable speed compressor varies the capacity to match the load requirements in the zone. ECM motor varies supply airflow for superior comfort control. Reduced height with maximal 252mm

### Acoustics

Insulated compressor enclosure for quiet design  
Variable speed fan and compressor reduce sound levels at lower load conditions  
EC motor uses less energy to produce more airflow with minimal sound

### Reliability

Part load operation reduces cyclic operation  
Fewer on/off cycles reduce stress of the compressors  
100 percent run-tested  
Easy to start up and operate

### Flexibility

Units support both boiler/cooling tower and ground source heat exchanger applications  
Water inlet temperature from -6°C to 45°C air inlet temp from 10°C to 38°C  
Supply and return air flow configuration flexibility  
Adjustable supply minimum and maximum airflow setting



# Physical data



MODEL	WCP-	009	012	015	018	024		
	Btu	9010	11946	15017	18021	24028		
W	1000-3200	1200-4700	1300-5200	1700-7400	2200-9100			
<b>THERMAL LOAD</b>								
Total cooling capacity (1)	W	2640	3500	4400	5280	7040		
Sensible cooling capacity (1)	W	1850	2450	3080	3080	4950		
EER	Btu/W	23	19	18	18	18.3		
Heating capacity (2)	W	1400	4600	5500	6800	9120		
COP	W/W	5.8	5.3	4.9	4.9	4.8		
<b>VENTILATION</b>								
Nominal air flow	m <sup>3</sup> /h	200	720	820	960	1300		
Maximum external static pressure	Pa	78	140	140	160	160		
Motor power	W	50	70	85	280	400		
Air filter - Number / Efficiency				1/Alu G3				
Air filter - Dimensions / Thickness	mm			681×206/19				
<b>HYDRAULIC CIRCUIT</b>								
Number of heat exchanger			1		1	1		
Maximum water pressure	bar	15	15	15	15	15		
Nominal water flow	l/h	237	660	832	1070	1430		
Cooling mode	Water pressure drop at nominal water flow	without valve	kPa	12	22	27	27	29
		with valve	kPa	15	28	31	31	33
Heating mode	Nominal water flow		l/h	190	700	860	1120	1500
		Water pressure drop at nominal water flow	without valve	kPa	11	23	28	28
	with valve		kPa	14	29	32	32	33
Hydraulic connections - Inlet/Outlet	inch	3/4" FPT	3/4" FPT	3/4" FPT	1" FPT	1" FPT		
Condensate outlet - External Ø	inch			3/4" MPT				
<b>REFRIGERANT CIRCUIT</b>								
Number of circuit		1	1	1	1	1		
Refrigerant		R32						
Compressor type		Inverter rotary						
Charge	g	800	800	800	800	1150		
<b>DIMENSIONAL DATA &amp; WEIGHT</b>								
Length	mm	1085	1085	1085	1250	1250		
Width	mm	585	585	585	785	890		
Height	mm	251	251	251	390	445		
Weight-Operating	kg	45	45	45	75	90		
Weight-Shipping	kg	49	49	49	80	96		
<b>SOUND LEVELS</b>								
Sound levels (3)	dB(A)	21~46	21~46	21~46	30~46	30~47		
<b>ELECTRICAL DATA</b>								
Power input - Cooling mode (4)	W	178	628	834	990	1310		
Power input - Heating mode (4)	W	241	867	1122	1350	1900		
Electrical heating coil - Number / Capacity (5)	- / W	2/600+600	2/600+600	2/1000+1000	2/1000+1000	2/1500+1500		
Electric heater power input (5)	W	1200	1200	2000	2000	3000		
Electrical power supply		220~240V/1Ph/50Hz						

- (1) Nominal cooling capacities based on entering air temperature of 27 °C dry bulb, 19 °C wet bulb with entering water temperature of 30 °C.
- (2) Nominal heating capacities based on entering air temperature of 20 °C dry bulb, 15 °C wet bulb with entering water temperature of 20 °C.
- (3) Sound level is measured at 1 meter to the unit.
- (4) Power input at nominal conditions (compressor+fan at high speed).
- (5) Electric heating coil is available optional.



# Physical data

(continued)



MODEL	WCP-	036	048	060	072		
	Btu	36007	47987	60001	72014		
	W	2800-12500	4700-18200	5800-22300	6300-26300		
<b>THERMAL LOAD</b>							
Total cooling capacity (1)	W	10550	14060	17580	21100		
Sensible cooling capacity (1)	W	7320	9800	12300	14770		
EER	Btu/W	18	17.5	17.8	17.6		
Heating capacity (2)	W	13650	18000	22000	26700		
COP	W/W	4.9	4.9	5	4.9		
<b>VENTILATION</b>							
Nominal air flow	m <sup>3</sup> /h	1960	2600	3260	3960		
Maximum external static pressure	Pa	200	250	280	320		
Motor power	W	500	620	750	1100		
Air filter - Number / Efficiency			1/Alu G3				
Air filter - Dimensions / Thickness	mm	681×206/19					
<b>HYDRAULIC CIRCUIT</b>							
Number of heat exchanger		1	1	1	1		
Maximum water pressure	bar	15	15	15	15		
Nominal water flow	l/h	2150	2850	3550	4270		
Cooling mode	Water pressure drop at nominal water flow	without valve	kPa	30	32	34	36
		with valve	kPa	33	35	38	40
Heating mode	Nominal water flow		l/h	2230	3950	3650	4400
	Water pressure drop at nominal water flow	without valve	kPa	32	35	37	38
		with valve	kPa	35	40	41	41
Hydraulic connections - Inlet/Outlet	inch	1" FPT					
Condensate outlet - External Ø	inch	3/4" MPT					
<b>REFRIGERANT CIRCUIT</b>							
Number of circuit		1	1	1	1		
Refrigerant		R32					
Compressor type		Inverter rotary					
Charge	g	1500	2300	2600	3300		
<b>DIMENSIONAL DATA &amp; WEIGHT</b>							
Length	mm	1360	1450	1720	2210		
Width	mm	890	890	960	1050		
Height	mm	445	445	500	500		
Weight-Operating	kg	102	160	190	220		
Weight-Shipping	kg	109	178	220	250		
<b>SOUND LEVELS</b>							
Sound levels (3)	dB(A)	30~48	30~50	33~53	35~57		
<b>ELECTRICAL DATA</b>							
Power input - Cooling mode (4)	W	2000	2720	3370	4090		
Power input - Heating mode (4)	W	2760	3670	4400	5450		
Electrical heating coil - Number / Capacity (5)	- / W	2/1500+1500	2/2000+2000	2/3000+3000	2/3000+3000		
Electric heater power input (5)	W	3000	4000	6000	6000		
Electrical power supply		220~240V/1Ph/50Hz		380~420V/3Ph/50Hz			

- (1) Nominal cooling capacities based on entering air temperature of 27 °C dry bulb, 19 °C wet bulb with entering water temperature of 30 °C.  
 (2) Nominal heating capacities based on entering air temperature of 20 °C dry bulb, 15 °C wet bulb with entering water temperature of 20 °C.  
 (3) Sound level is measured at 1 meter to the unit.  
 (4) Power input at nominal conditions (compressor+fan at high speed).  
 (5) Electric heating coil is available optional.



<http://www.amrta.com.cn> [www.amrtahvac.com](http://www.amrtahvac.com)  
 Mobile(WhatsApp):0086-13605314726  
 For more information, contact: info@amrta.com.cn

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AMRTA has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.