

WRK

Reversible water-cooled heat pump, gas side

Cooling capacity 38,9 ÷ 165,9 kW
Heating capacity 48,5 ÷ 207,7 kW

- Optimised for heating in centralised systems.
- Production of hot water at high temperature up to 68°C.
- Independent from the gas network.
- DHW production.



DESCRIPTION

Water source heat pump with reverse cycle valve. The unit can produce chilled and hot water but it is optimized for high temperature hot water production, making it a perfect solution for DHW applications. It can also work with low source temperatures which make it possible to work with geothermal applications.

VERSIONS

- ° Standard
- L Standard silenced

FEATURES

Extended operating range

Particular attention has been given to winter operation, ensuring the production of hot water up to 68°C.

Plug and play

All units are equipped with scroll compressors with steam injection and brazed plate heat exchangers. The base and panels are made of steel treated with polyester paints RAL 9003.

The heat pump can be supplied with all the components required for its installation in new systems and in retrofit applications. It can be combined with low temperature emission systems such as in floor radiant heating or fan coils, but also with conventional radiators.

Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations with one or two pumps, high or low head, to obtain a solution that allows you to save money and to facilitate installation.

CONTROL PCO_s

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

- Possibility to control two units in a Master-Slave configuration
- 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 integrated proportional logic, based on the water output temperature.

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.

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

AVX: Spring anti-vibration supports.

VT: Antivibration supports

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.

T6: Double safety valve; high and low pressure with exchange valve.

ACCESSORIES COMPATIBILITY

Model	Ver	0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
AER485P1	°	-	-	-	-	-	°	°	°	°	°
	L	°	°	°	°	°	°	°	°	°	°
AERNET	°	-	-	-	-	-	°	°	°	°	°
	L	°	°	°	°	°	°	°	°	°	°
PGD1	°	-	-	-	-	-	°	°	°	°	°
	L	°	°	°	°	°	°	°	°	°	°

Antivibration

Version	Integrated hydronic kit, user side	Integrated hydronic kit, source side	0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
°	°	°	-	-	-	-	-	AVX345	AVX342	AVX342	AVX342	AVX342
°	°M	J,K,U,W	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
°	N	°	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
°	O	J,K,U,W	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
°	P	°	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
°	°	Q,R,V,Z	-	-	-	-	-	AVX313	AVX343	AVX343	AVX343	AVX343
°	M,O	°	-	-	-	-	-	AVX313	AVX343	AVX343	AVX343	AVX343
°	M	Q,R,V,Z	-	-	-	-	-	-	-	-	-	-
°	N	J,K,U,W	-	-	-	-	-	-	-	-	-	-
°	O	Q,R,V,Z	-	-	-	-	-	-	-	-	-	-
°	P	J,K,U,W	-	-	-	-	-	-	-	-	-	-
°	N,P	Q,R,V,Z	-	-	-	-	-	AVX343	AVX343	AVX343	AVX344	AVX344
L	°	°	-	-	-	-	-	AVX345	AVX342	AVX342	AVX342	AVX342
L	°M	J,K,U,W	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
L	N	°	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
L	O	J,K,U,W	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
L	P	°	-	-	-	-	-	AVX343	AVX343	AVX343	AVX343	AVX343
L	°	Q,R,V,Z	-	-	-	-	-	AVX313	AVX343	AVX343	AVX343	AVX343
L	M,O	°	-	-	-	-	-	AVX313	AVX343	AVX343	AVX343	AVX343
L	M	Q,R,V,Z	-	-	-	-	-	-	-	-	-	-
L	N	J,K,U,W	-	-	-	-	-	-	-	-	-	-
L	O	Q,R,V,Z	-	-	-	-	-	-	-	-	-	-
L	P	J,K,U,W	-	-	-	-	-	-	-	-	-	-
L	N,P	Q,R,V,Z	-	-	-	-	-	AVX343	AVX343	AVX343	AVX344	AVX344

Version	Integrated hydronic kit, user side	Integrated hydronic kit, source side	0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
°	°M,N,O,P	°J,K,Q,R,U,V,W,Z	-	-	-	-	-	-	-	-	-	-
L	°	°	VT9	VT9	VT9	VT9	VT9	-	-	-	-	-
L	°	J,K,Q,R,U,V,W,Z	VT15	VT15	VT15	VT15	VT15	-	-	-	-	-
L	M	°J,K,U,W	VT15	VT15	VT15	VT15	VT15	-	-	-	-	-
L	N	°Q,R,V,Z	VT15	VT15	VT15	VT15	VT15	-	-	-	-	-
L	O	°J,K,U,W	VT15	VT15	VT15	VT15	VT15	-	-	-	-	-
L	P	°Q,R,V,Z	VT15	VT15	VT15	VT15	VT15	-	-	-	-	-
L	M	Q,R,V,Z	-	-	-	-	-	-	-	-	-	-
L	N	J,K,U,W	-	-	-	-	-	-	-	-	-	-
L	O	Q,R,V,Z	-	-	-	-	-	-	-	-	-	-
L	P	J,K,U,W	-	-	-	-	-	-	-	-	-	-

Electronic device for peak current reduction.

Ver	0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
°	-	-	-	-	-	DREWRK0500 (1)	DREWRK0550 (1)	DREWRK0600 (1)	DREWRK0650 (1)	DREWRK0700 (1)
L	DREWRK0200 (1)	DREWRK0280 (1)	DREWRK0300 (1)	DREWRK0330 (1)	DREWRK0350 (1)	DREWRK0500 (1)	DREWRK0550 (1)	DREWRK0600 (1)	DREWRK0650 (1)	DREWRK0700 (1)

(1) Only for supplies of 400V 3N ~ 50Hz and 400V 3 ~ 50Hz. x 2 or x 3 (if present) indicates the quantity to be ordered.
A grey background indicates the accessory must be assembled in the factory

Power factor correction.

Ver	0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
°	-	-	-	-	-	RIFWRK0500	RIFWRK0550	RIFWRK0600	RIFWRK0650	RIFWRK0700
L	RIFWRK0200	RIFWRK0280	RIFWRK0300	RIFWRK0330	RIFWRK0350	RIFWRK0500	RIFWRK0550	RIFWRK0600	RIFWRK0650	RIFWRK0700

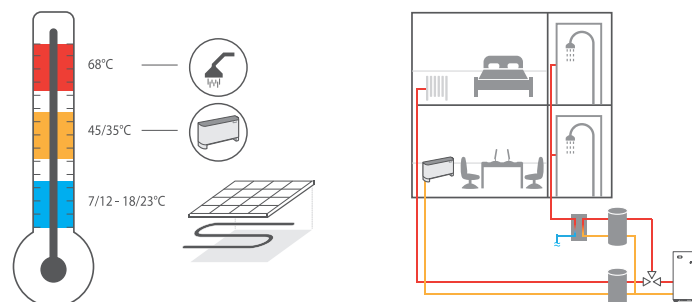
A grey background indicates the accessory must be assembled in the factory

Double safety valve.

Ver	0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
°	-	-	-	-	-	T6WRK2	T6WRK2	T6WRK2	T6WRK2	T6WRK2
L	T6WRK1	T6WRK1	T6WRK1	T6WRK1	T6WRK1	T6WRK2	T6WRK2	T6WRK2	T6WRK2	T6WRK2

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

APPLICATION EXAMPLES



WRK units are used in building renovations, where centralised boilers need replacing, while maintaining the existing distribution system and terminals (e.g. radiators) at the same time, to ensure the production of domestic hot water. This situation is typical when operating in contexts such as public buildings, but also in the case of centralised residential systems such as condominiums, where costs must be limited without changing the distribution system, while also offering a renewable energy source, represented precisely by heat pumps. Being able to upgrade a building without involving the distribution system also eliminates the inconveniences associated with the renovation of the premises, ensuring the continuity of the property's use, saving time and money.

CONFIGURATOR

Field	Description
1,2,3	WRK
4,5,6,7	Size (1) 0200, 0280, 0300, 0330, 0350, 0500, 0550, 0600, 0650, 0700
8	Operating field
°	Standard mechanic thermostatic valve
9	Model
H	Heat pump
10	Version
°	Standard
L	Standard silenced
11	Evaporator
°	Standard
12	Heat recovery
°	Without heat recovery
D	With desuperheater
13	Power supply
°	400V ~ 3 50Hz with magnet circuit breakers
14	Integrated hydronic kit, user side

(1) The size 0200-0280-0300-0330-0350 only available in low noise version (L)

(2) Heat pumps R and Q are available only for sizes 0500÷0700

Field	Description
°	Without hydronic kit
M	Single pump low head
N	Pump low head + stand-by pump
O	Single pump high head
P	Pump high head + stand-by pump
15	Integrated hydronic kit, source side (2)
°	Without hydronic kit
J	Single low-head inverter pump
K	Single high-head inverter pump
Q	Single high-head inverter pump + stand-by pump
R	Single low-head inverter pump + stand-by pump
U	Single pump low head
V	Pump low head + stand-by pump
W	Single pump high head
Z	Pump high head + stand-by pump
16	Field for future development
°	Field for future development

PERFORMANCE SPECIFICATIONS 12 °C / 7 °C - 40 °C / 45 °C

WRK - H° / HL

Size		0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Cooling performance 12 °C / 7 °C (1)											
Cooling capacity	kW	-	-	-	-	-	96,2	110,9	130,0	145,8	166,1
Input power	kW	-	-	-	-	-	21,5	24,0	28,6	33,3	37,4
Cooling total input current	A	-	-	-	-	-	48,0	50,0	62,0	86,0	89,0
EER	W/W	-	-	-	-	-	4,47	4,63	4,55	4,38	4,44
Water flow rate source side	l/h	-	-	-	-	-	20140	23075	27128	30634	34797
Pressure drop source side	kPa	-	-	-	-	-	25	25	25	24	25
Water flow rate system side	l/h	-	-	-	-	-	16552	19082	22366	25077	28566
Pressure drop system side	kPa	-	-	-	-	-	17	17	17	16	17
Heating performance 40 °C / 45 °C (2)											
Heating capacity	kW	-	-	-	-	-	120,7	137,6	162,9	186,9	207,7
Input power	kW	-	-	-	-	-	26,2	29,4	35,1	40,8	44,9
Heating total input current	A	-	-	-	-	-	-	-	-	-	-
COP	W/W	-	-	-	-	-	4,61	4,67	4,64	4,58	4,62
Water flow rate source side	l/h	-	-	-	-	-	27698	31664	37423	42766	47632
Pressure drop source side	kPa	-	-	-	-	-	49	49	50	47	50
Water flow rate system side	l/h	-	-	-	-	-	20741	23637	27998	32124	35695
Pressure drop system side	kPa	-	-	-	-	-	28	27	28	27	28

(1) Date 14511:2018; Water user side 12 °C / 7 °C; Water source side 30 °C / 35 °C

(2) Date 14511:2018; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

PERFORMANCE SPECIFICATIONS 23 °C / 18 °C - 30 °C / 35 °C

WRK - H° / HL

Size		0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Cooling performance 23 °C / 18 °C (1)											
Cooling capacity	kW	50,9	71,0	84,9	96,4	109,2	126,3	144,8	169,8	189,7	217,3
Input power	kW	8,8	11,7	14,7	16,9	19,8	21,7	23,3	29,3	33,4	39,0
Cooling total input current	A	20,0	24,0	31,0	42,0	46,0	47,0	47,0	62,0	84,0	91,0
EER	W/W	5,81	6,10	5,78	5,69	5,53	5,82	6,20	5,80	5,69	5,58
Water flow rate source side	l/h	10217	14150	17036	19386	22038	25317	28767	34057	38166	43828
Pressure drop source side	kPa	30	36	37	39	41	39	39	40	37	40
Water flow rate system side	l/h	8796	12274	14672	16662	18865	21826	25015	29337	32770	37528
Pressure drop system side	kPa	22	27	28	29	30	29	29	29	28	29
Heating performance 30 °C / 35 °C (2)											
Heating capacity	kW	46,4	66,1	77,8	89,0	100,1	116,4	132,7	155,6	178,3	198,1
Input power	kW	8,3	11,5	13,8	16,2	18,2	20,7	23,0	27,5	32,1	35,4
Heating total input current	A	17,0	22,0	28,0	36,0	39,0	42,0	44,0	54,0	73,0	75,0
COP	W/W	5,60	5,76	5,66	5,51	5,49	5,62	5,77	5,66	5,56	5,60
Water flow rate source side	l/h	6629	9514	11157	12694	14269	16656	19095	22309	25455	28334
Pressure drop source side	kPa	13	17	17	17	18	18	18	18	17	18
Water flow rate system side	l/h	8016	11435	13458	15390	17310	20118	22943	26905	30825	34248
Pressure drop system side	kPa	19	24	24	25	26	25	25	25	24	25

(1) Date 14511:2018; Water user side 23 °C / 18 °C; Water source side 30 °C / 35 °C

(2) Date 14511:2018; Water user side 30 °C / 35 °C; Water source side 10 °C / 5 °C

ENERGY DATA

Energy index

Size		0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Cooling capacity with low leaving water temp (UE n° 2016/2281)											
SEER	° W/W	-	-	-	-	-	5,33	5,46	5,28	5,38	5,28
	L W/W	4,75	5,14	5,04	5,04	4,97	5,33	5,46	5,28	5,38	5,28
η _{sc}	° %	-	-	-	-	-	205,00	210,00	203,00	207,00	203,00
	L %	182,00	198,00	194,00	194,00	191,00	205,00	210,00	203,00	207,00	203,00
UE 811/2013 average temperature - Pdesignh ≤ 70 kW (1)											
Efficiency energy class	°	-	-	-	-	-	-	-	-	-	-
	L	A+++	-	-	-	-	-	-	-	-	-
Pdesignh	° kW	-	-	-	-	-	157	179	212	244	271
	L kW	63	89	106	122	135	157	179	212	244	271
η _{sh}	° %	-	-	-	-	-	191,00	195,00	194,00	193,00	192,00
	L %	181,00	187,00	185,00	181,00	182,00	191,00	195,00	194,00	193,00	192,00
SCOP	°	-	-	-	-	-	4,98	5,08	5,05	5,03	5,00
	L	4,73	4,88	4,83	4,73	4,75	4,98	5,08	5,05	5,03	5,00

(1) Efficiencies for average temperature applications (55°C)

ELECTRICAL DATA

Size		0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Electric data											
Maximum current (FLA)	° A	-	-	-	-	-	75,0	84,0	104,0	130,0	132,0
	L A	32,0	42,0	52,0	65,0	66,0	75,0	84,0	104,0	130,0	132,0
Peak current (LRA)	° A	-	-	-	-	-	216,0	181,0	218,0	271,5	273,0
	L A	144,0	139,0	166,0	206,5	207,0	216,0	181,0	218,0	271,5	273,0

GENERAL TECHNICAL DATA

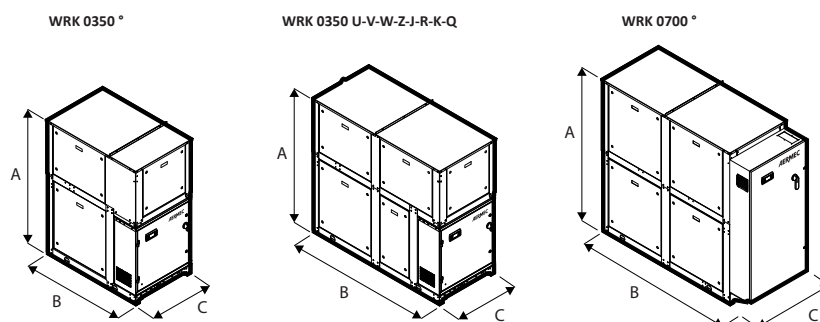
General data

Size		0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Compressor											
Type	° type	-	-	-	-	-	Scroll	Scroll	Scroll	Scroll	Scroll
	L type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Number	° no.	-	-	-	-	-	3	4	4	4	4
	L no.	2	2	2	2	2	3	4	4	4	4
Circuits	° no.	-	-	-	-	-	2	2	2	2	2
	L no.	2	2	2	2	2	2	2	2	2	2
Refrigerant	° type	-	-	-	-	-	R410A	R410A	R410A	R410A	R410A
	L type	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	° kg	-	-	-	-	-	13,0	16,0	18,0	22,0	24,0
	L kg	6,0	8,0	9,0	10,0	11,0	13,0	16,0	18,0	22,0	24,0
Source side heat exchanger											
Type	° type	-	-	-	-	-	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate
	L type	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate

Size			0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Number	°	no.	-	-	-	-	-	1	1	1	1	1
	L	no.	1	1	1	1	1	1	1	1	1	1
System side heat exchanger												
Type	°	type	-	-	-	-	-	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate
	L	type	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate
Number	°	no.	-	-	-	-	-	1	1	1	1	1
	L	no.	1	1	1	1	1	1	1	1	1	1
Source side hydraulic connections												
Connections (in/out)	°	Type	-	-	-	-	-	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
	L	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	°	Ø	-	-	-	-	-	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	L	Ø	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
System side hydraulic connections												
Connections (in/out)	°	Type	-	-	-	-	-	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
	L	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	°	Ø	-	-	-	-	-	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	L	Ø	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Sound data calculated in cooling mode (1)												
Sound power	°	dB(A)	-	-	-	-	-	82,0	82,0	82,0	83,0	83,0
	L	dB(A)	72,0	74,0	72,0	74,0	76,0	76,0	77,0	76,0	78,0	78,0
Sound pressure level (10 m)	°	dB(A)	-	-	-	-	-	50,0	51,0	50,0	51,0	52,0
	L	dB(A)	40,0	42,0	41,0	42,0	44,0	45,0	45,0	44,0	46,0	46,0

(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			0200	0280	0300	0330	0350	0500	0550	0600	0650	0700
Dimensions and weights												
A	°	mm	-	-	-	-	-	1775	1775	1775	1775	1775
	L	mm	1675	1675	1675	1675	1675	1885	1885	1885	1885	1885
B	°	mm	-	-	-	-	-	1800	1800	1800	1800	1800
	L	mm	1260	1260	1260	1260	1260	1800	1800	1800	1800	1800
C	°	mm	-	-	-	-	-	800	800	800	800	800
	L	mm	800	800	800	800	800	800	800	800	800	800
Weight empty	°	kg	-	-	-	-	-	755	840	865	890	920
	L	kg	495	550	565	570	580	930	1015	1040	1065	1095

The weight of the unit does not include the hydronic kit and accessories.

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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