

# WS 0601 - 2802

## Water cooled heat pump reversible water side

Cooling capacity 147 ÷ 700 kW  
Heating capacity 164 ÷ 778 kW



- High efficiency all in Class A Eurovent
- Optimised for low condenser temperatures
- Optimised for geothermal applications
- Available also R513A (XP10) refrigerant gas



### DESCRIPTION

Units for internal installation offering chilled/hot water, designed to meet air conditioning needs in residential/commercial complexes or industrial applications.

Compact and flexible, perfect alignment to the requested load thanks to an accurate control algorithm.

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

### VERSIONS

° Standard

L Standard silenced

### FEATURES

#### Operating field

Full-load operation with the production of chilled water from 4 to 16°C, and the possibility to produce negative temperature water (down to -6°C) on the evaporator and hot water (up to 50 °C) on the condenser. (for more information, refer to the technical documentation).

#### Units mono or dual-circuit

Depending on the size, the units are one-circuit or two-circuit models to ensure maximum efficiency with full loads as well as partial loads and guarantee operation continuity if one of the circuits stop.

They are equipped with screw compressors and system and source side plate heat exchangers.

#### CONTROL PCO<sub>5</sub>

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.

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 integral proportional logic, based on the water output temperature.

### ACCESSORIES

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

**AER485P1 x n° 2:** RS-485 interface for supervision systems with MODBUS protocol.

**AERBACP:** 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.

**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.

**PRV3:** Allows you to control the chiller at a distance.

**AVX:** Spring anti-vibration supports.

### FACTORY FITTED ACCESSORIES

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

**AKW:** Acoustic kit that lowers the noise level even further, thanks to the special coating on the panelling or on those components that produce the most noise in the unit. Available for the low noise version only.

## ACCESSORIES COMPATIBILITY

Model	Ver	0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
AER485P1	°L	.	.	.	.	.								
AER485P1 x n° 2 (1)	°L						.	.	.	.	.	.	.	.
AERBACP	°L	.	.	.	.	.	.	.	.	.	.	.	.	.
AERNET	°L	.	.	.	.	.	.	.	.	.	.	.	.	.
MULTICHILLER_EVO	°L	.	.	.	.	.	.	.	.	.	.	.	.	.
PRV3	°L	.	.	.	.	.	.	.	.	.	.	.	.	.

(1) x Indicates the quantity of accessories to match.

### Antivibration

Ver	0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>Evaporator: °</b>													
°L	AVX651	AVX651	AVX652	AVX652	AVX656	AVX658	AVX658	AVX658	AVX659	AVX667	AVX661	AVX661	AVX661
<b>Evaporator: E</b>													
°L	AVX651	AVX651	AVX652	AVX652	AVX656	AVX658	AVX658	AVX658	AVX659	AVX667	AVX661	AVX661	AVX661

### Power factor correction

Ver	0601	0701	0801	0901	1101	1202	1402
°L	-	RIF161	RIF161	RIF201	RIF241	RIF161 x2	RIF161 x2

The accessory cannot be fitted on the configurations indicated with -  
A grey background indicates the accessory must be assembled in the factory

Ver	1602	1802	2002	2202	2502	2802
°L	RIF161 x2	RIF201 x 2	RIF201+RIF241	RIF241 x2	RIF301 x2	RIF301 x2

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

### Acoustic kit

Ver	0601	0701	0801	0901	1101	1202	1402
L	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)

(1) Available only in low noise version

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

Ver	1602	1802	2002	2202	2502	2802
L	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)

(1) Available only in low noise version

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

## CONFIGURATOR

Field	Description
<b>1,2</b>	<b>WS</b>
<b>3,4,5,6</b>	<b>Size</b> 0601, 0701, 0801, 0901, 1101, 1202, 1402, 1602, 1802, 2002, 2202, 2502, 2802
<b>7</b>	<b>Operating field</b>
°	Standard mechanic thermostatic valve (1)
X	Electronic thermostatic expansion valve (1)
Y	Low temperature mechanic thermostatic valve (2)
Z	Low temperature electronic thermostatic valve (2)
<b>8</b>	<b>Model</b>
°	Heat pump reversible on the water side
<b>9</b>	<b>Heat recovery</b>
°	Without heat recovery
D	With desuperheater (3)
T	With total recovery (4)
<b>10</b>	<b>Version</b>
°	Standard

Field	Description
L	Standard silenced
<b>11</b>	<b>Evaporator</b>
°	Standard
E	Evaporating unit (5)
<b>12</b>	<b>Power supply</b>
°	400V ~ 3 50Hz with fuses
2	230V ~ 3 50Hz with fuses
4	230V ~ 3 50Hz with magnet circuit breakers
5	500V ~ 3 50Hz with fuses
8	400V ~ 3 50Hz with magnet circuit breakers
9	500V ~ 3 50Hz with magnet circuit breakers

(1) Water produced from 4 °C ÷ 16 °C

(2) Water produced from 4 °C ÷ -6 °C; for the availability with the heat recovery we advise you to contact us

(3) In cooling mode, a water temperature no lower than 35°C must always be guaranteed on the heat exchanger inlet.

(4) Option not available for condenserless unit.

(5) Shipped with holding charge only.

## PERFORMANCE SPECIFICATIONS

### WS - °L

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>Cooling performance 12 °C / 7 °C (1)</b>															
Cooling capacity	°L	kW	147,7	186,9	212,2	233,8	299,0	308,6	369,1	421,6	469,8	545,6	599,8	654,3	700,4
Input power	°L	kW	29,1	36,6	81,8	46,0	58,7	605,6	72,8	83,2	92,7	106,7	117,2	128,1	136,8
Cooling total input current	°L	A	56,0	67,0	74,0	83,0	95,0	110,0	133,0	149,0	167,0	179,0	190,0	219,0	235,0
EER	°L	W/W	5,08	5,11	5,07	5,08	5,09	5,10	5,07	5,06	5,07	5,11	5,12	5,11	5,12
Water flow rate source side	°L	l/h	30238	38269	43508	47922	61258	63078	75593	86332	96177	111478	122506	133608	142894
Pressure drop source side	°L	kPa	33	23	22	22	25	47	36	39	43	48	52	58	65
Water flow rate system side	°L	l/h	25421	32148	36495	40212	51431	53088	63476	72492	80788	93813	103143	112508	120438
Pressure drop system side	°L	kPa	23	17	15	16	18	33	25	27	30	33	35	39	44
<b>Heating performance 40 °C / 45 °C (2)</b>															
Heating capacity	°L	kW	164,9	208,7	237,3	261,4	334,0	343,7	412,1	470,6	524,2	607,2	667,2	727,6	778,0
Input power	°L	kW	36,8	46,3	52,9	58,1	74,2	76,9	92,2	105,5	117,7	135,5	148,8	162,8	174,1
Heating total input current	°L	A	70,0	84,0	94,0	105,0	120,0	138,0	168,0	188,0	210,0	225,0	240,0	275,0	296,0
COP	°L	W/W	4,48	4,51	4,49	4,50	4,50	4,47	4,47	4,46	4,46	4,48	4,48	4,47	4,47
Water flow rate system side	°L	l/h	28611	36218	41197	45370	57987	59660	71552	81718	91025	105442	115854	126347	135087
Pressure drop system side	°L	kPa	29	21	19	20	23	42	32	35	38	43	46	52	58
Water flow rate source side	°L	l/h	37525	47456	53873	59360	75920	78366	93702	107011	119257	138485	152256	166081	177787
Pressure drop source side	°L	kPa	49	37	33	34	39	73	54	59	65	72	77	85	96

(1) Date 14511:2022; Water user side 12 °C / 7 °C; Water source side 30 °C / 35 °C  
 (2) Date 14511:2022; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

## Performance specifications Evaporating units

### WS - E

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>Evaporator: E</b>															
<b>Cooling performance 12 °C / 7 °C (1)</b>															
Cooling capacity	°L	kW	134,5	167,9	189,2	216,7	264,4	276,7	333,2	381,0	431,7	489,8	542,5	591,7	629,6
Input power	°L	kW	34,7	42,2	48,2	55,0	67,0	69,3	84,4	96,5	109,9	122,0	134,1	146,8	157,0
Cooling total input current	°L	A	63,0	75,0	85,0	96,0	111,0	127,0	151,0	170,0	192,0	207,0	222,0	252,0	270,0
EER	°L	W/W	3,88	3,98	3,92	3,94	3,94	3,99	3,95	3,95	3,93	4,01	4,05	4,03	4,01
Water flow rate system side	°L	l/h	23108	28849	32512	37238	45248	47546	57251	65458	74169	84147	93212	101661	108175
Pressure drop system side	°L	kPa	18	13	12	12	14	25	19	20	23	25	27	30	34

(1) Service side water 12 °C / 7 °C; Condensing temperature 45 °C

## ENERGY INDICES (REG. 2016/2281 EU)

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>SEER - 12/7 (EN14825: 2018) (1)</b>															
SEER	°L	W/W	5,58	5,80	6,09	6,04	5,96	6,22	6,24	6,39	6,39	6,38	6,38	6,42	6,39
Seasonal efficiency	°L	%	220,2%	229,0%	240,6%	238,6%	235,2%	245,7%	246,6%	252,5%	252,6%	252,1%	252,2%	253,9%	252,7%
<b>SEPR - (EN 14825: 2018) High temperature (2)</b>															
SEPR	°L	W/W	-	-	-	-	7,77	7,97	7,99	8,11	8,01	8,04	8,01	8,05	8,01
<b>UE 813/2013 performance in average ambient conditions (average) - 35 °C - Pdesignh ≤ 400 kW (3)</b>															
Pdesignh	°L	kW	229	290	330	363	-	-	-	-	-	-	-	-	-
SCOP	°L	W/W	5,98	6,10	6,30	6,25	-	-	-	-	-	-	-	-	-
ηsh	°L	%	231,0%	236,0%	244,0%	242,0%	-	-	-	-	-	-	-	-	-

(1) Calculation performed with VARIABLE water flow rate and VARIABLE outlet temperature.  
 (2) Calculation performed with VARIABLE water flow rate.  
 (3) Efficiencies for low temperature applications (35 °C)

## ELECTRIC DATA

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>Electric data</b>															
Maximum current (FLA)	°L	A	90,7	98,0	112,0	128,0	156,0	168,0	196,0	224,0	256,0	284,0	312,0	354,0	380,0
Peak current (LRA)	°L	A	147,0	140,0	163,0	192,0	246,0	194,1	198,5	228,0	262,6	316,6	324,7	388,1	448,1

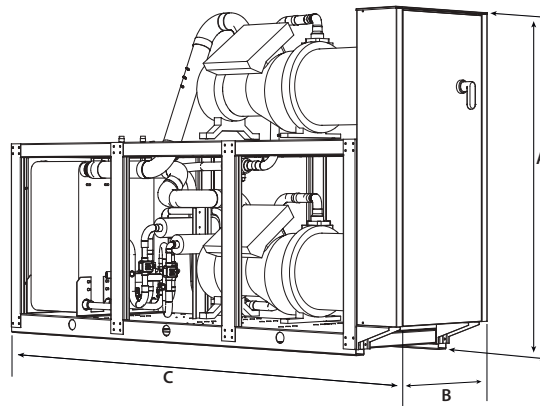
## GENERAL TECHNICAL DATA

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>Compressor</b>															
Type	°L	type	Screw												
Compressor regulation	°L	Type	On-Off												
Number	°L	no.	1	1	1	1	1	2	2	2	2	2	2	2	2
Circuits	°L	no.	1	1	1	1	1	2	2	2	2	2	2	2	2
Refrigerant	°L	type	R134a												
Refrigerant charge (1)	°L	kg	18,0	22,0	22,0	25,0	38,0	36,0	42,0	44,0	50,0	59,0	68,0	70,0	80,0
<b>System side heat exchanger</b>															
Type	°L	type	Braze plate												
Number	°L	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Source side heat exchanger</b>															
Type	°L	type	Braze plate												
Number	°L	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>System side hydraulic connections</b>															
Connections (in/out)	°L	Type	Grooved joints												
Sizes (in/out)	°L	Ø	3"												
<b>Source side hydraulic connections</b>															
Connections (in/out)	°L	Type	Grooved joints												
Sizes (in/out)	°L	Ø	3"												
<b>Sound data calculated in cooling mode (2)</b>															
Sound power level	°	dB(A)	86,1	86,8	87,1	87,8	87,1	89,1	89,8	90,1	90,8	90,5	90,1	91,3	91,8
	L	dB(A)	78,1	78,8	79,1	79,9	78,1	81,1	81,8	82,1	82,9	82,1	81,1	83,4	84,1
Sound pressure level (10 m)	°	dB(A)	54,3	55,0	55,3	56,0	55,3	57,2	57,9	58,3	59,0	58,6	58,2	59,3	59,9
	L	dB(A)	46,3	47,0	47,3	48,1	46,3	49,2	50,0	50,2	51,0	50,2	49,2	51,5	52,2

(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, 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			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
<b>Dimensions and weights</b>															
A	°	mm	1775	1775	1775	1775	1775	1975	1975	1975	2005	1985	2065	2065	2065
	L	mm	1775	1775	1775	1775	1775	2120	2120	2120	2120	2120	2120	2120	2120
B	°L	mm	810	810	810	810	810	810	810	810	810	810	810	810	810
C	°L	mm	2960	2960	2960	2960	3360	2960	2960	2960	2960	3360	3360	3360	3360
Empty weight	°	kg	1101	1251	1301	1357	1788	1738	2071	2140	2212	2648	3050	3131	3131
	L	kg	1229	1379	1429	1485	1934	1966	2299	2368	2440	2905	3307	3388	3388

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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