

TECHNICAL DATA SHEET

VALSIR® HRV SYSTEMS

ARIA-V



valsir®
QUALITY FOR PLUMBING

Aria

Heat recovery unit



Precoated steel casing with double skin panels (15 mm min thick) insulated by polyurethane foam; precoated steel sheet metal base frame fitted with adjustable rubber feet.

G4 efficiency panel filters on both air intakes; as an option, additional F7 compact filter in polypropylene with low air pressure drop; filter removal by front panel.

Air-to-air counterflow polystyrene heat recovery with very high efficiency (up to 95%), easily removable for cleaning, equipped with motorised bypass device.

Supply and exhaust plenum fans with plastic impeller and housing, direct driven by EC technology motors, each fully controllable by unit's electronics; optimized layout of each fan section in order to reduce noise to the room.

Plastic collars fitted with additional airtight rubber gasket.

Electronic control complete with temperature sensors inside the unit for the management of ventilation, free-cooling/free-heating mode, heat recovery defrost and possible preheating/reheating systems; possibility of interfacing home management system by Modbus RTU protocol.

Plug-in or remote control panel with built-in room temperature sensor.

Table Aria Vertical Technical data

MODEL		Aria 120	Aria 240	Aria 330	Aria 420
Max airflow rate	m ³ /h	170	260	330	420
Nominal airflow rate	m ³ /h	100	200	300	400
Nominal external static pressure	Pa	150	170	230	210
Working limits	°C	-15 ÷ 45			
Power supply ⁽²⁾	V/ph/Hz	230 / 1 / 50			
Max current ⁽²⁾	A	0.52	1.5	1.5	1.5
Maximum electric power input	W	54	170	170	170

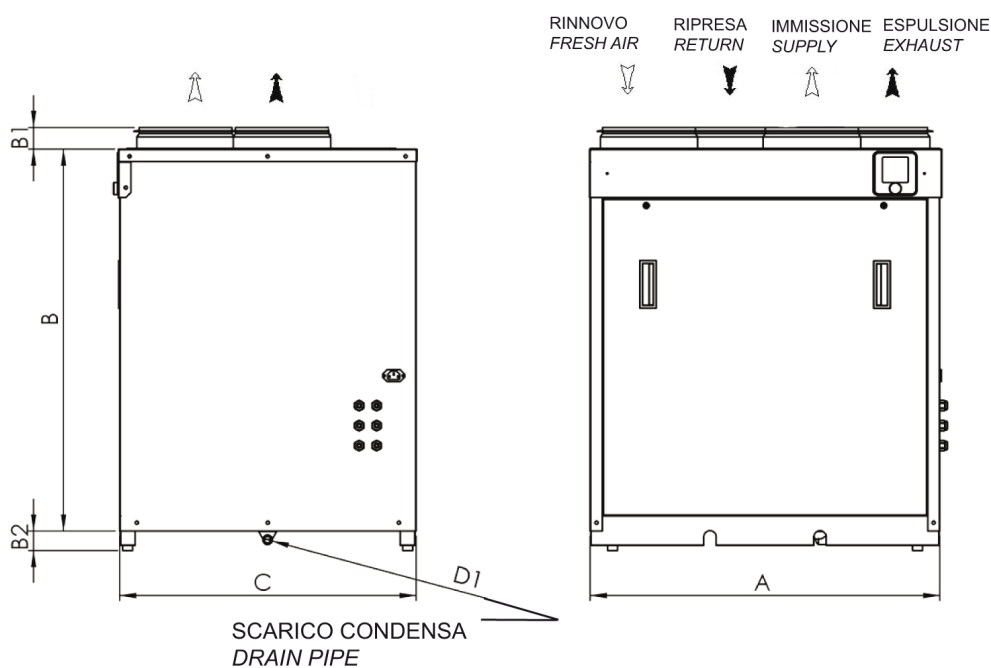
ENERGETIC DATA AS PER UE 1253/2014		Aria 120	Aria 240	Aria 330	Aria 420
Declared typology		UVR-B			
Type of drive installed or intended to be installed		>3 Multispeed	>3 Multispeed	>3 Multispeed	>3 Multispeed
Type of HRS		Recuperative	Recuperative	Recuperative	Recuperative
SEC class average climate		A	A	A	A
Specific energy consumption average climate (SEC)	kWh/(m ² a)	-34,5	-34.3	-38.2	-34.2
SEC class cold climate		A+	A+	A+	A+
Specific energy consumption cold climate (SEC)	kWh/(m ² a)	-71,7	-70.8	-76.9	-72.6
SEC class warm climate		E	E	E	F
Specific energy consumption warm climate (SEC)	kWh/(m ² a)	-10,6	-10.7	-13.5	-9.3
Thermal dry efficiency of heat recovery	%	85,0	83.0	90.2	90.1
Max airflow rate	m ³ /h	170	260	330	420
Reference flow rate	m ³ /s	0,033	0.051	0.064	0.078
Specific fan power (SPl)	W/(m ³ /h)	0,336	0.308	0.260	0.250
Reference pressure	Pa	50	50	50	50
Control factor and control typology (CTRL)	Timer	0.95	0.95	0.95	0.95
Annual electricity consumption of 100m ² floor area	kWh/a	4,25	4.11	3.39	3.28
Annual heating saved average climate (AHS)	kWh	44,5	43.9	46.0	46.0
Annual heating saved cold climate (AHS)	kWh	87,0	85.8	90.1	90.0
Heating saved warm climate (AHS)	kWh	21,0	19.8	20.8	20.8
Declared maximum external leakage rates of the casing of ventilation units	%	< 3,8	< 3,8	< 3,8	< 3,8
Declared maximum internal leakage rates for bidirectional ventilation units or carry over	%	< 3	< 3	< 3	< 3
Casing sound power level (LWA) ⁽¹⁾	dB (A)	51	55	56	56

⁽¹⁾ The reference flow rate equal to 70% of the maximum value and 50 Pa useful

⁽²⁾ Maximum total value of the two fans

Table Aria Vertical technical data

MODEL		150	280	350	450
Dimintions					
A	mm	704	704	704	704
B	mm	760	760	760	760
B1	mm	50	50	50	50
B2	mm	40	40	40	40
C	mm	240	340	470	590
C1	mm	270	370	500	620
D	mm	125	125	160	200
D1	mm	16	16	16	16
E	mm	86	86	100	117
F	mm	175	175	161	144
G	mm	182	182	182	182
H	mm	130	169	119	136
I	mm	0	74	115	193
Weight	kg	33	38	45	53



 Aria di rinnovo / Fresh air
 Aria espulsa / Exhaust air

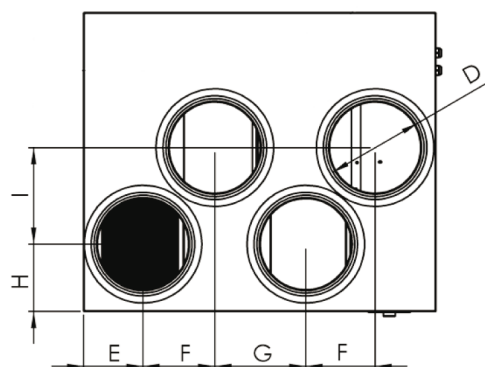


Figure Installations

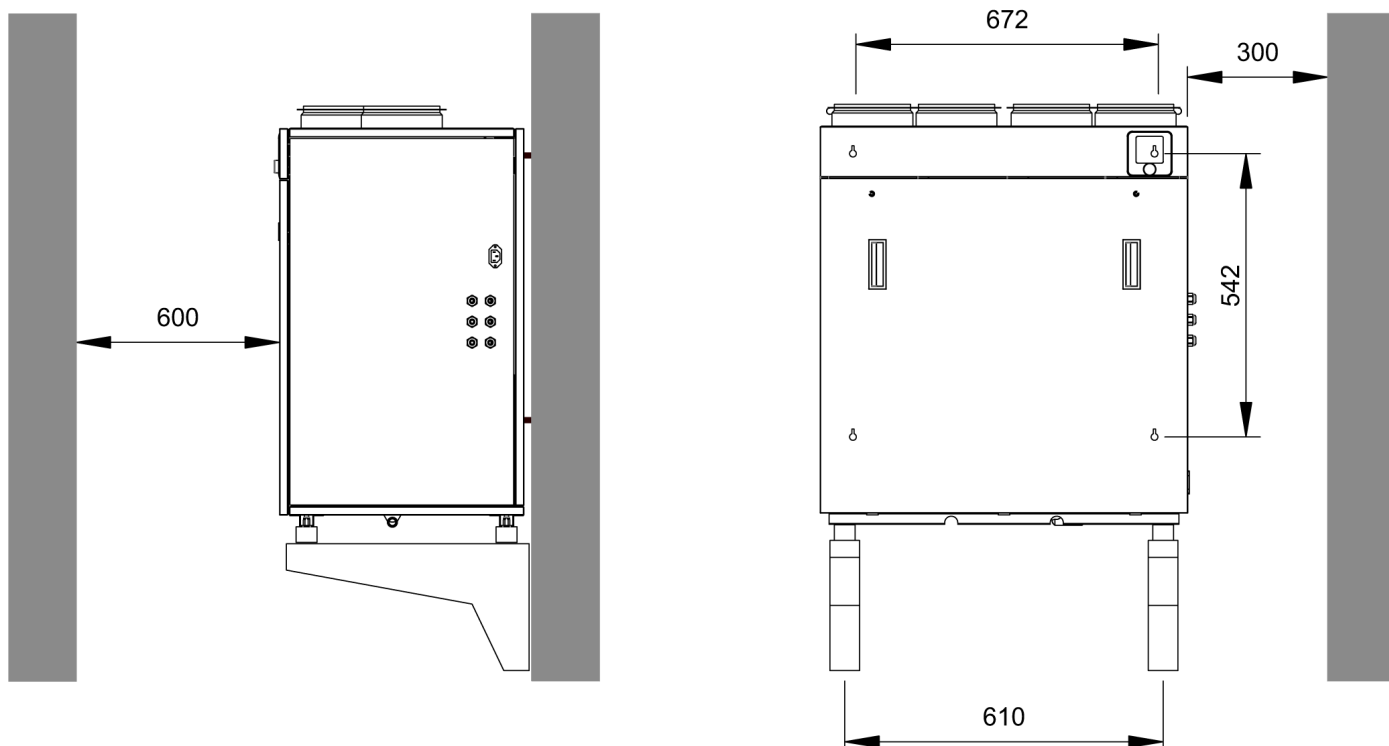
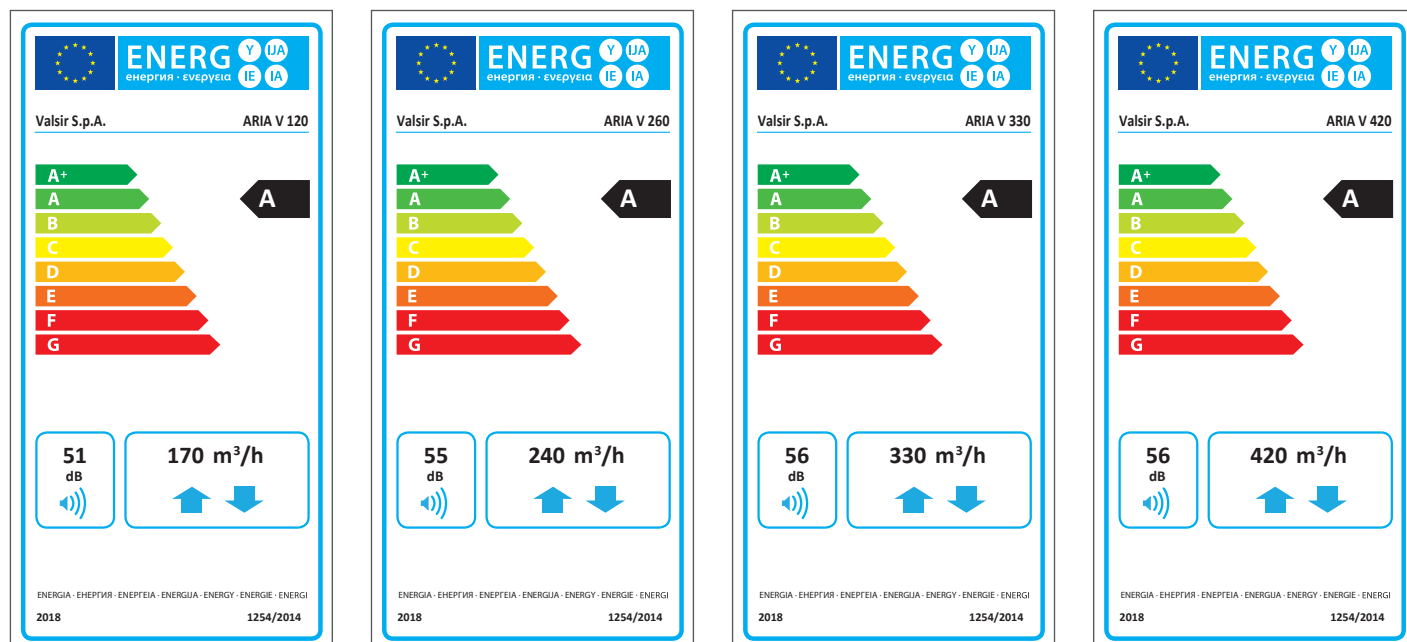


Figure Aria vertical energy label referred to REGULATION UE 1254/2014



Approvals:

The approvals of Valsir® HRV systems are available on the website: www.valsir.com

Table Aria Vertical 120 energy yields

Flow rate	Room air		Renewal air		Supplied air	Efficiency	Recovered power
m³/h	°C	U.R. %	°C	U.R. %	°C	%	W
50	20	50	-10	(*)	18,8	96,0	486
50	20	50	-7	(*)	18,9	95,9	437
50	20	50	-5	(*)	18,9	95,8	404
50	20	50	0	(*)	19,1	95,3	322
50	22	50	-10	(*)	20,8	96,2	517
50	22	50	-7	(*)	20,9	96,1	468
50	22	50	-5	(*)	20,9	96,0	435
50	22	50	0	(*)	21,0	95,7	353
50	26	50	30	(**)	26,3	93,2	62
50	26	50	32	(**)	26,4	93,2	93
50	26	50	34	(**)	26,6	93,2	124
100	20	50	-10	(*)	17,8	92,6	938
100	20	50	-7	(*)	17,9	92,3	843
100	20	50	-5	(*)	18,0	92,1	778
100	20	50	0	(*)	18,2	91,3	617
100	22	50	-10	(*)	19,8	93,0	1000
100	22	50	-7	(*)	19,9	92,8	904
100	22	50	-5	(*)	20,0	92,6	840
100	22	50	0	(*)	20,2	91,9	679
100	26	50	30	(**)	26,5	87,5	116
100	26	50	32	(**)	26,8	87,5	174
100	26	50	34	(**)	27,0	87,5	232
150	20	50	-10	(*)	16,9	89,7	1363
150	20	50	-7	(*)	17,1	89,3	1222
150	20	50	-5	(*)	17,2	89,0	1128
150	20	50	0	(*)	17,5	87,7	889
150	22	50	-10	(*)	18,9	90,3	1455
150	22	50	-7	(*)	19,1	90,0	1314
150	22	50	-5	(*)	19,2	89,7	1220
150	22	50	0	(*)	19,5	88,6	982
150	26	50	30	(**)	26,7	82,7	165
150	26	50	32	(**)	27,0	82,7	247
150	26	50	34	(**)	27,4	82,7	329

(*) UR external air from 50 to 90%

(**) UR external air from 40 to 60%

Figure Aria Vertical 120 energy yields

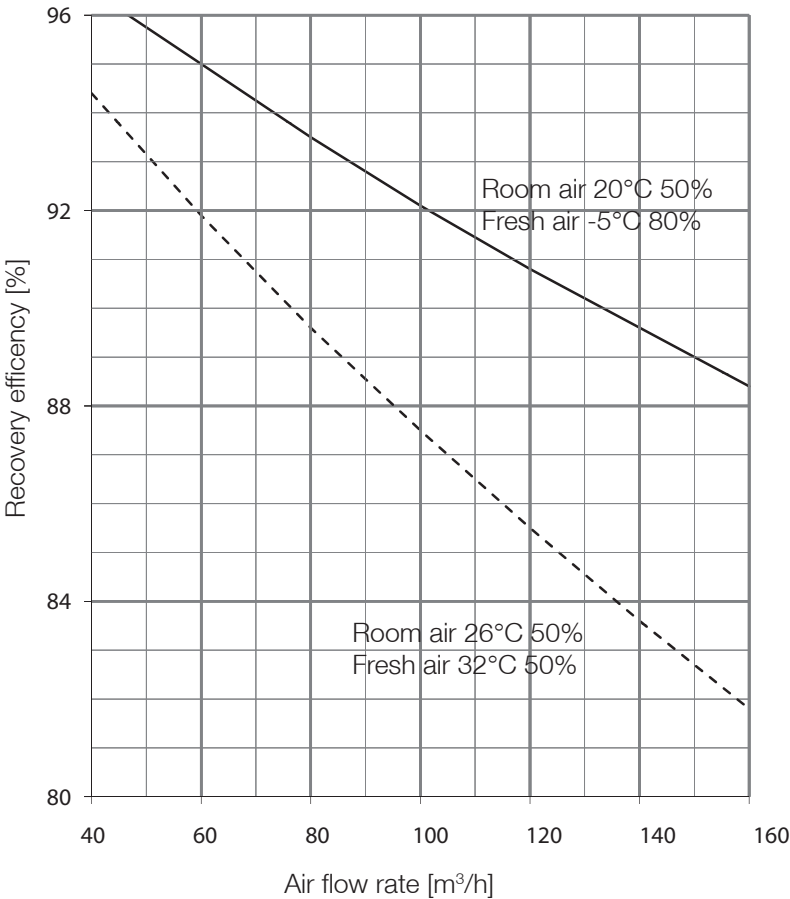


Table Aria Vertical 240 energy yields

Flow rate	Room air		Renewal air		Supplied air	Efficiency	Recovered power
m³/h	°C	U.R. %	°C	U.R. %	°C	%	W
100	20	50	-10	(*)	18,3	94,4	957
100	20	50	-7	(*)	18,4	94,3	860
100	20	50	-5	(*)	18,5	94,1	795
100	20	50	0	(*)	18,7	93,5	632
100	22	50	-10	(*)	20,3	94,8	1018
100	22	50	-7	(*)	20,4	94,6	921
100	22	50	-5	(*)	20,5	94,5	857
100	22	50	0	(*)	20,7	94,0	694
100	26	50	30	(**)	26,4	90,6	120
100	26	50	32	(**)	26,6	90,6	180
100	26	50	34	(**)	26,8	90,6	240
200	20	50	-10	(*)	17,1	90,3	1830
200	20	50	-7	(*)	17,3	90,2	1644
200	20	50	-5	(*)	17,4	90,0	1520
200	20	50	0	(*)	17,7	88,6	1197
200	22	50	-10	(*)	19,1	91,0	1955
200	22	50	-7	(*)	19,3	90,7	1766
200	22	50	-5	(*)	19,4	90,4	1640
200	22	50	0	(*)	19,7	89,4	1321
200	26	50	30	(**)	26,7	83,9	222
200	26	50	32	(**)	27	83,9	334
200	26	50	34	(**)	27,3	83,9	445
300	20	50	-10	(*)	15,9	86,3	2625
300	20	50	-7	(*)	16,2	85,8	2348
300	20	50	-5	(*)	16,3	85,3	2162
300	20	50	0	(*)	16,7	83,4	1690
300	22	50	-10	(*)	17,9	87,1	2809
300	22	50	-7	(*)	18,1	86,7	2533
300	22	50	-5	(*)	18,3	86,3	2347
300	22	50	0	(*)	18,6	84,7	1876
300	26	50	30	(**)	26,9	77,4	308
300	26	50	32	(**)	27,4	77,4	462
300	26	50	34	(**)	27,8	77,4	616

(*) UR external air from 50 to 90%

(**) UR external air from 40 to 60%

Figure Aria Vertical 240 energy yields

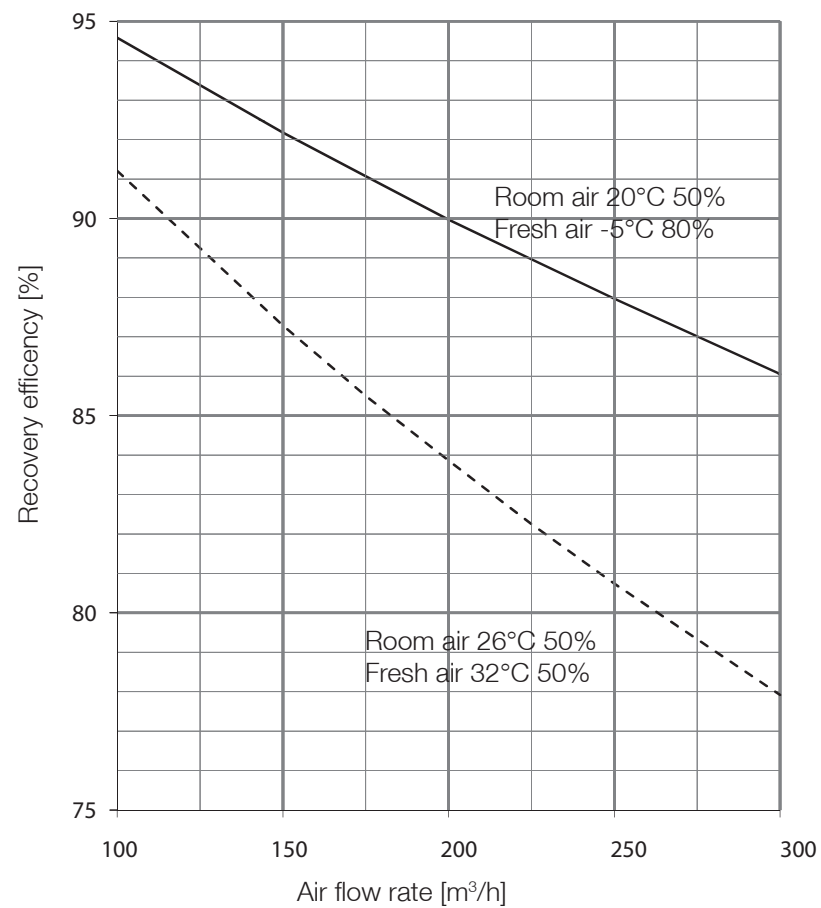


Table Aria Vertical 330 energy yields

Flow rate	Room air		Renewal air		Supplied air	Efficiency	Recovered power
m³/h	°C	U.R. %	°C	U.R. %	°C	%	W
200	20	50	-10	(*)	17,9	92,9	1884
200	20	50	-7	(*)	18	92,7	1692
200	20	50	-5	(*)	18,1	92,5	1563
200	20	50	0	(*)	18,3	91,7	1239
200	22	50	-10	(*)	19,9	93,3	2006
200	22	50	-7	(*)	20	93,2	1814
200	22	50	-5	(*)	20,1	93,0	1686
200	22	50	0	(*)	20,3	92,3	1364
200	26	50	30	(**)	26,4	88,1	234
200	26	50	32	(**)	26,7	88,1	351
200	26	50	34	(**)	27	88,1	468
300	20	50	-10	(*)	17,1	90,3	2745
300	20	50	-7	(*)	17,3	90,2	2465
300	20	50	-5	(*)	17,4	90,0	2271
300	20	50	0	(*)	17,7	88,4	1789
300	22	50	-10	(*)	19	90,7	2924
300	22	50	-7	(*)	19,2	90,4	2642
300	22	50	-5	(*)	19,3	90,2	2453
300	22	50	0	(*)	19,6	89,1	1975
300	26	50	30	(**)	26,7	83,5	332
300	26	50	32	(**)	27	83,5	498
300	26	50	34	(**)	27,3	83,5	665
400	20	50	-10	(*)	16,3	87,6	3553
400	20	50	-7	(*)	16,5	87,2	3182
400	20	50	-5	(*)	16,7	86,8	2932
400	20	50	0	(*)	17	85,1	2299
400	22	50	-10	(*)	18,3	88,4	3798
400	22	50	-7	(*)	18,5	88,0	3427
400	22	50	-5	(*)	18,7	87,6	3178
400	22	50	0	(*)	19	86,2	2548
400	26	50	30	(**)	26,9	79,4	422
400	26	50	32	(**)	27,3	79,4	632
400	26	50	34	(**)	27,7	79,4	843

(*) UR external air from 50 to 90%

(**) UR external air from 40 to 60%

Figure Aria Vertical 330 energy yields

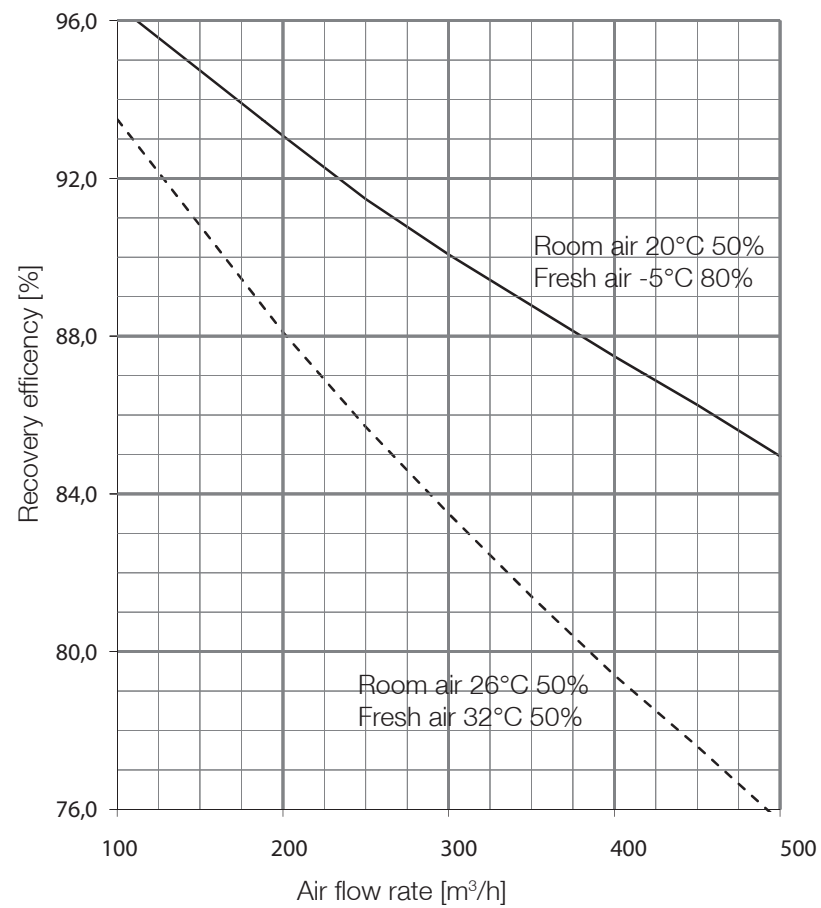


Table Aria Vertical 420 energy yields

Flow rate	Room air		Renewal air		Supplied air	Efficiency	Recovered power
m³/h	°C	U.R. %	°C	U.R. %	°C	%	W
300	20	50	-10	(*)	17,8	92,5	2814
300	20	50	-7	(*)	17,9	92,3	2526
300	20	50	-5	(*)	18,0	92,1	2334
300	20	50	0	(*)	18,2	91,2	1849
300	22	50	-10	(*)	19,8	93,0	2997
300	22	50	-7	(*)	19,9	92,8	2710
300	22	50	-5	(*)	20,0	92,6	2518
300	22	50	0	(*)	20,2	91,8	2036
300	26	50	30	(**)	26,5	87,4	348
300	26	50	32	(**)	26,7	87,4	522
300	26	50	34	(**)	27,0	87,4	696
400	20	50	-10	(*)	17,2	90,5	3671
400	20	50	-7	(*)	17,5	90,2	3292
400	20	50	-5	(*)	17,4	90,0	3039
400	20	50	0	(*)	17,8	88,7	2399
400	22	50	-10	(*)	19,1	91,1	3915
400	22	50	-7	(*)	19,3	90,8	3538
400	22	50	-5	(*)	19,5	90,6	3285
400	22	50	0	(*)	19,7	89,6	2647
400	26	50	30	(**)	26,6	84,1	447
400	26	50	32	(**)	26,9	84,1	670
400	26	50	34	(**)	27,3	84,1	893
500	20	50	-10	(*)	16,6	88,7	4496
500	20	50	-7	(*)	16,8	88,3	4028
500	20	50	-5	(*)	17,0	87,9	3714
500	20	50	0	(*)	17,3	86,4	2920
500	22	50	-10	(*)	18,6	89,4	4801
500	22	50	-7	(*)	18,8	89,0	4335
500	22	50	-5	(*)	19,0	88,7	4022
500	22	50	0	(*)	19,2	87,5	3231
500	26	50	30	(**)	26,8	81,1	538
500	26	50	32	(**)	27,1	81,1	807
500	26	50	34	(**)	27,5	81,1	1077

(*) UR external air from 50 to 90%

(**) UR external air from 40 to 60%

Figure Aria Vertical 420 energy yields

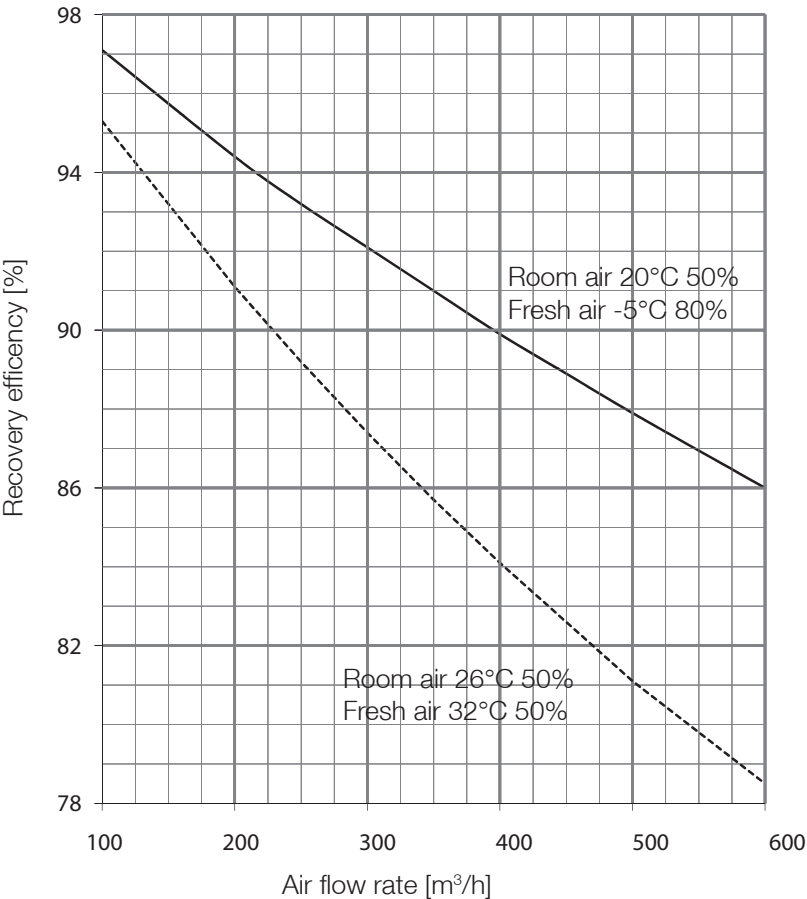


Figure Aria Vertical 120 characteristic graph

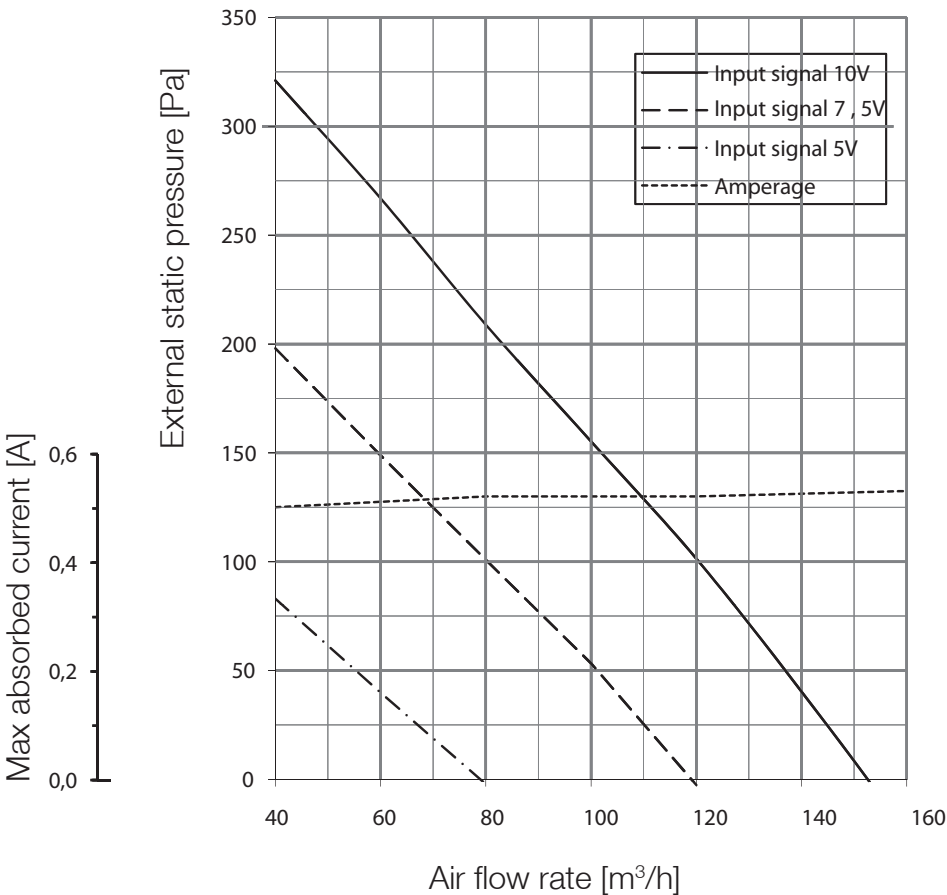


Figure Aria Vertical 240 characteristic graph

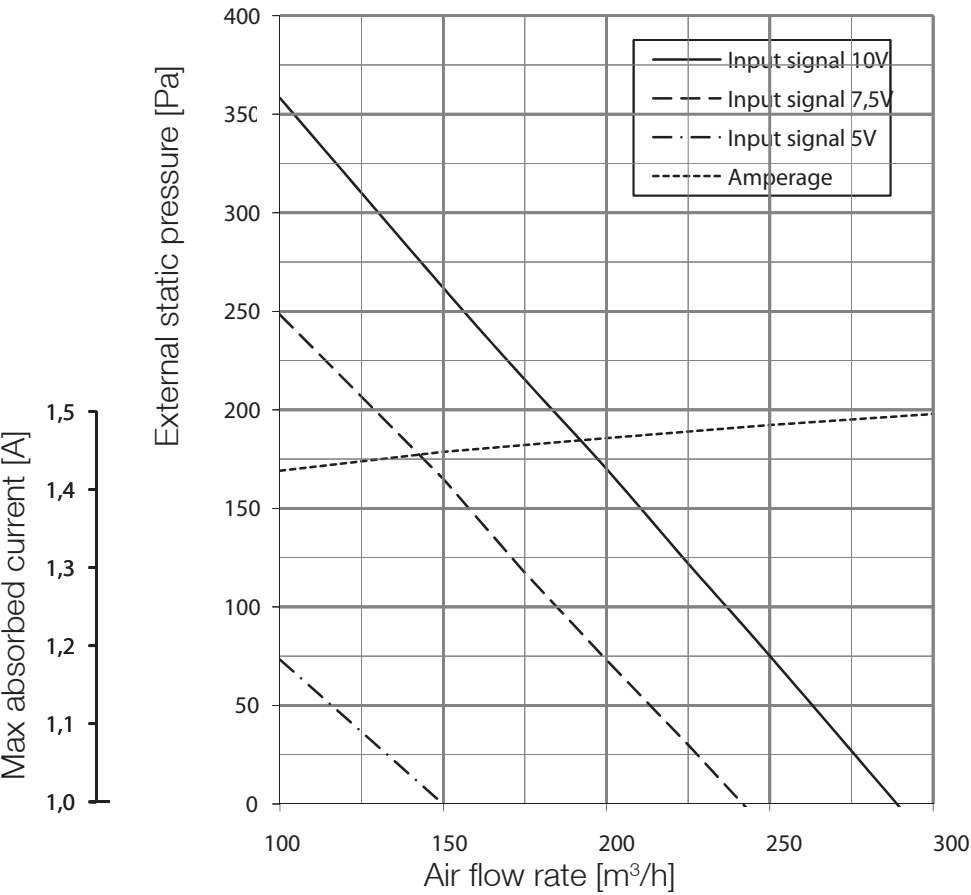


Figure Aria Vertical 330 characteristic graph

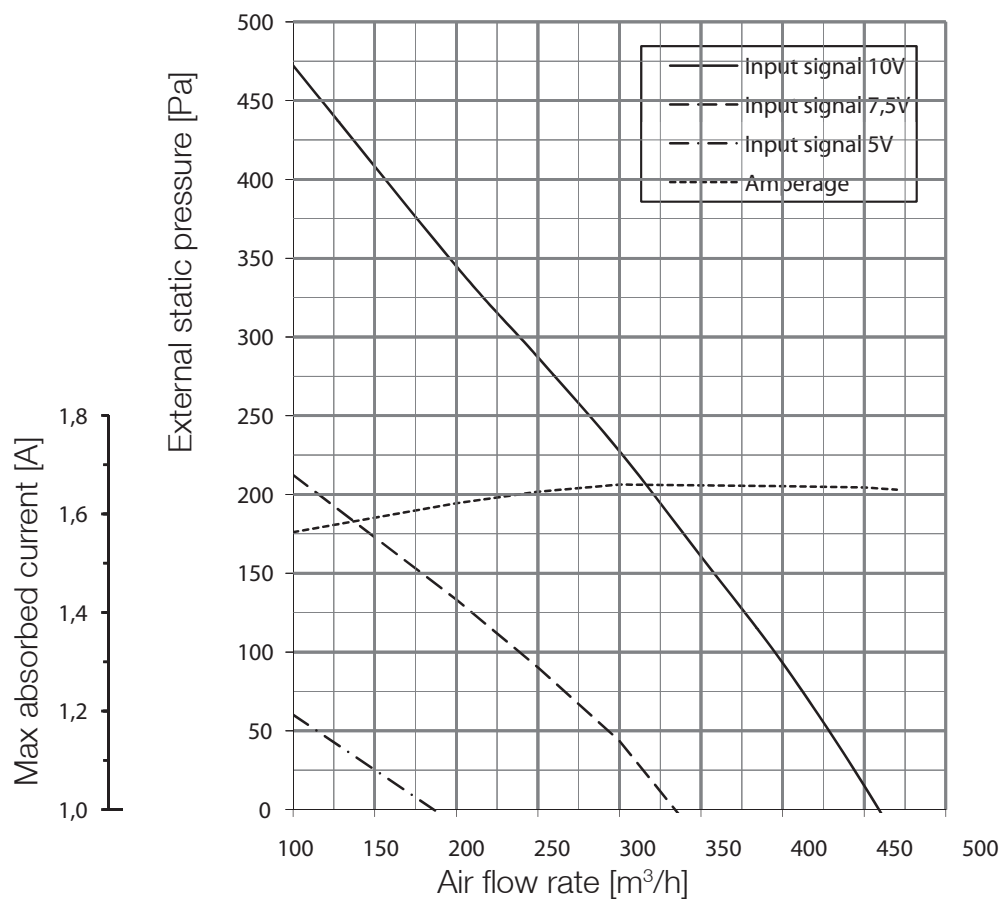
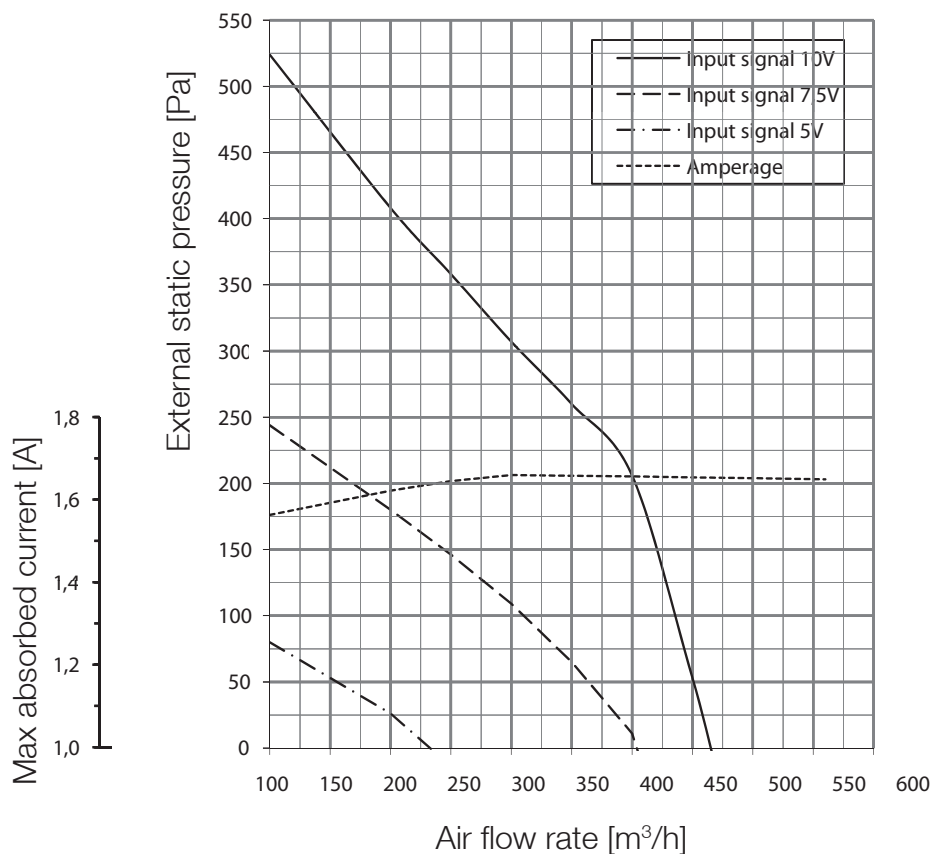
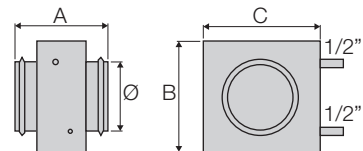


Figure Aria Vertical 420 characteristic graph

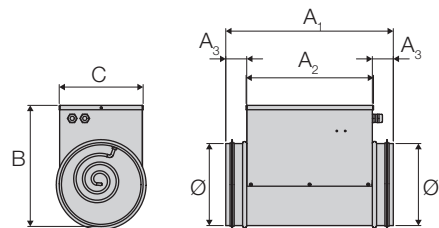


Water coils for ARIA recovery unit model



Recovery unit flow rate	Performance	Ø	A	B	C
120-240 m³/h	300-480 W	125	200	240	270
330 m³/h	810 W	160	200	240	270
420 m³/h	1190 W	200	240	240	270

Electric coils for ARIA recovery unit model



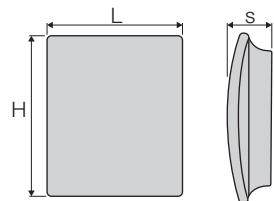
Recovery unit flow rate	Power	Ø	A ₁	A ₂	A ₃	B	C
120-240 m³/h	500 W	125	400	300	50	217	125
330 m³/h	1000 W	160	400	300	50	245	161
420 m³/h	1500 W	200	400	300	50	289	200

F7 filter kit for ARIA recovery unit model



Recovery unit flow rate	Nr of filters
120 m³/h	2
240 m³/h	2
330 m³/h	4
420 m³/h	4

Temperature and humidity wall sensor for ARIA recovery unit model



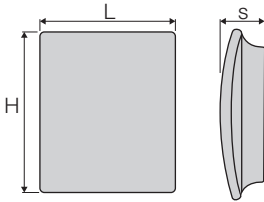
L	H	s	Mod.
85	100	26	Aria

Wall VOC sensor for ARIA,
IDRONICA, ISOTERMA and
MAXIMA recovery unit models



HxLxP	Air quality
81x79x26	0... 100%

Temperature and humidity
wall sensor for ARIA
recovery unit model



L	H	s	Mod.
85	100	26	Aria, Idronica, Isoterma, Maxima

PLUMBING

WASTE SYSTEMS



SUPPLY SYSTEMS



GAS SYSTEMS



FLUSH SYSTEMS



BATHROOM SYSTEMS



TRAPS



RADIANT SYSTEMS



DRAINAGE SYSTEMS



HRV SYSTEM



ACADEMY



SEWER SYSTEMS



WATER TREATMENT



BUILDING

valsir[®]
QUALITY FOR PLUMBING

VALSIR S.p.A.
Località Merlaro, 2
25078 Vestone (BS) - Italy
Tel. +39 0365 877.011
Fax +39 0365 81.268
e-mail: valsir@valsir.it

www.valsir.com

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