

Product Catalogue ARMONIA



- • • Providing indoor climate comfort



ARMONIA • 1,3 - 11 kW

Water cassette



Main applications

- Light commercial buildings
- Offices
- Shops

Why this choice?

- Silent operation
- Pleasant integration
- Low energy consumption with EC fan
- Optimized air distribution
- Easy installation and maintenance



General description

ARMONIA water cassettes cover any comfort air conditioning requirement and are available in :

• STANDARD VERSION

7 capacity sizes for 2 pipe systems / 2 pipes with additional electric heater
11 capacity sizes for 4 pipe systems

• EC VERSION

5 capacity sizes for 2 pipe systems / 2 pipes with additional electric heater
5 capacity sizes for 4 pipe systems

Both plastic and metallic diffusers have a very pleasant design and been designed to perfectly fit into 600 x 600 mm false ceiling standard modules.

Bigger sizes have 800 x 800 mm dimensions and grant the best sound level/capacity ratio.

To reply to any installation requirement, several possibilities are available : infrared remote control, stand alone controls and master slave kit.

Armonia water cassettes are available in the following configurations :

Version	Codification example
Standard version Basic unit	2 pipes CWC 2 ST 020
	4 pipes CWC 4 ST 040
IR version Basic unit with infrared remote control	2 pipes CWC 2 IR 020
	4 pipes CWC 4 IR 040
EH version 2 pipes basic unit with electric heater	2 pipes CWC 2 EH 120
IREH version 2 pipes basic unit with infrared remote control and electric heater	2 pipes CWC 2 IR EH 120
EC version Basic unit with EC fan	2 pipes CWC 2 EC 120
	4 pipes CWC 4 EC 140
ECEL version 4 pipes basic unit with EC fan and EC fitted electronic board (for remote or infrared control for EC-EL version)	2 pipes CWC 2 EC EL 120
	4 pipes CWC 4 EC EL 140

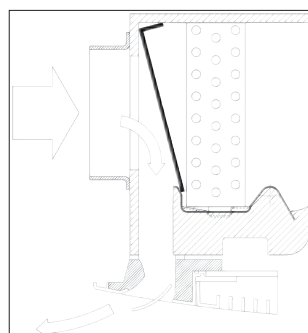
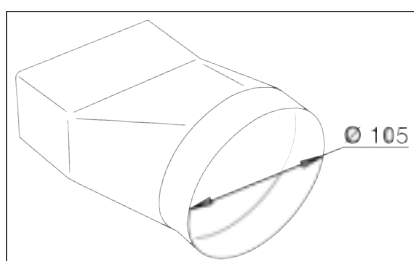
Construction

- Main **casing** is made of galvanised steel with inside closed cell polyethylene 10 mm thick thermal insulation and outside anti-condensate lining.
- Air diffuser may be ABS white colour or metallic white colour
- Air filter is washable, easily accessible and removable
- Fan-motor assembly includes single air inlet radial fan and 6 speed electric motor with single phase 230V/50 Hz supply, class B insulation and klixon thermal contact motor protection.
All units are supplied with 3 wired speeds as standard; when needed the 3 wired speeds can be changed on site.
EC low energy consumption motor is also available. Thanks to inverter card continuous air flow/ heating/cooling variation is allowed.
- Heat exchangers are made of copper tubes and bonded aluminium fins. 2 pipe range are 1,2 or 3 rows while 4 pipe range are 2+1 rows mono block coils.
4 pipe range has been especially designed to reply higher cooling (CWC260-360-560-660) or higher heating (CWC040-140-240-340-440-540-640) site demand.
- Condensate pump with floating switch is supplied as standard and has 650 mm maximum head.
- Main and auxiliary condensate drain pan are supplied as standard. Main drain pan is high density ABS polystyrene foam and fire retardant B2 rating.
Auxiliary drain pan is ABS and it is connected with the main drain pan to collect condensate of heat exchanger and control valve(s).
- Control board is easily accessible and positioned externally.



Available accessories - Configurations

- Different RAL colours for ABS and metallic diffusers (on request, with minimum quantities)
- 2 and 3 way control valves
- Infrared remote control
- Stand alone controls
- Master/Slave card (MSC)
- EC fan control
- Fresh air kit (1 way metallic duct and bypass) and fresh air duct (Ø 105 mm plastic connection)



General data - Standard version

CWC		600 x 600											
2 pipe version		020			120			220			320		
Speed		min	med	max	min	med	max	min	med	max	min	med	max
Airflow	m ³ /h	310	420	610	310	420	520	320	500	710	430	610	880
Cooling capacity	kW	1,27	1,63	1,98	1,84	2,34	2,68	2,25	3,34	4,33	2,94	3,88	5,02
Sensible cooling capacity	kW	1,01	1,32	1,64	1,35	1,75	2,04	1,57	2,39	3,18	2,08	2,81	3,74
Heating capacity	kW	1,62	2,12	2,64	2,22	2,90	3,35	2,56	3,93	5,23	3,43	4,63	6,17
Water flow	l/h	219	280	340	316	402	461	387	574	745	506	667	863
Δ P cooling	kPa	4,5	7,0	10,0	4,9	7,6	9,7	4,6	9,4	15,1	7,5	12,4	19,7
Δ P heating	kPa	4,0	6,0	9,0	4,1	6,3	8,2	3,5	7,3	11,4	6,7	11,2	17,7
Fan	W	25	32	57	25	32	44	25	44	68	32	57	90
	A	0,11	0,15	0,27	0,11	0,15	0,20	0,11	0,20	0,32	0,15	0,27	0,45
Water content	l	0,8			1,4			2,1			2,1		
Sound pressure level - Lw	dB(A)	33	40	49	33	40	45	33	45	53	41	49	59
Sound pressure level - Lp	dB(A)	24	31	40	24	31	36	24	36	44	32	40	50

CWC		800 x 800								
2 pipe version		420			520			620		
Speed		min	med	max	min	med	max	min	med	max
Airflow	m ³ /h	630	820	1140	710	970	1500	710	1280	1820
Cooling capacity	kW	4,21	4,91	6,16	5,31	6,78	9,51	5,31	8,45	11,1
Sensible cooling capacity	kW	3,03	3,58	4,59	3,46	4,48	6,48	3,71	6,09	8,25
Heating capacity	kW	5,12	6,03	7,77	5,61	7,34	10,71	6,13	10,30	14,0
Water flow	l/h	724	845	1060	913	1166	1636	913	1453	1909
Δ P cooling	kPa	10,9	14,3	21,6	9,4	14,7	26,9	9,4	21,8	35,6
Δ P heating	kPa	6,7	9,9	15,1	7,9	12,4	23,0	7,9	18,6	30,6
Fan	W	33	48	77	42	63	120	42	95	170
	A	0,15	0,23	0,36	0,18	0,28	0,53	0,18	0,42	0,74
Water content	l	3,0			4,0			4,0		
Sound pressure level - Lw	dB(A)	33	40	48	34	40	53	34	48	58
Sound pressure level - Lp	dB(A)	24	31	39	25	31	44	25	39	49

COOLING : Air inlet temperature: 27°C D.B - 19°C W.B / Water temperature 7/12 °C.

HEATING : Air inlet temperature: 20°C D.B - 19°C W.B / Water temperature 50 °C. Water flow rate as for 2 pipes version cooling conditions.
The sound pressure levels apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 seconds.

CWC		600 x 600																	
4 pipe version		040			140			240			260			340			360		
Speed		min	med	max	min	med	max	min	med	max	min	med	max	min	med	max	min	med	max
Airflow	m ³ /h	310	420	610	310	420	520	320	500	710	320	500	710	430	610	880	430	610	880
Cooling capacity	kW	1,51	1,96	2,33	1,85	2,36	2,70	1,85	2,65	3,34	2,09	3,06	3,93	2,36	3,02	3,81	2,72	3,53	4,53
Sensible cooling capacity	kW	1,15	1,55	1,90	1,34	1,71	1,98	1,34	1,98	2,56	1,49	2,24	2,95	1,75	2,29	2,97	1,97	2,62	3,46
Water flow	l/h	260	337	401	318	406	464	318	456	574	359	526	676	406	519	655	468	607	779
Δ P cooling	kPa	6,0	10,0	13,5	4,6	6,9	8,8	4,6	8,8	13,4	4,0	7,0	10,5	7,2	11,2	17,0	6,0	9,0	14,0
Heating capacity	kW	1,96	2,54	3,03	2,43	3,02	3,46	2,43	3,46	4,40	1,98	2,71	3,35	3,10	3,97	4,95	2,46	3,06	3,79
Water flow	l/h	169	219	261	209	260	298	209	298	378	170	233	288	267	341	426	212	263	326
Δ P heating	kPa	6,5	10,5	14,5	5,7	8,5	10,8	5,7	10,8	16,6	3,6	6,0	9,0	8,8	13,8	20,5	5,0	7,8	11,0
Fan	W	25	32	57	25	32	44	25	44	68	25	44	68	32	57	90	32	57	90
	A	0,11	0,15	0,27	0,11	0,15	0,20	0,11	0,50	0,32	0,11	0,20	0,32	0,15	0,27	0,45	0,15	0,27	0,45
Water content Cooling mode	l	1,0			1,4			1,4			1,7			1,4			1,7		
Water content Heating mode	l	0,6			0,7			0,7			0,5			0,7			0,5		
Sound pressure level - Lw	dB(A)	33	40	50	33	40	45	33	45	53	33	45	53	41	49	59	41	49	59
Sound pressure level - Lp	dB(A)	24	31	41	24	31	36	24	36	44	24	36	44	32	40	50	32	40	50

COOLING : Air inlet temperature: 27°C D.B - 19°C W.B / Water temperature 7/12 °C.

HEATING : Air inlet temperature: 20°C D.B - 19°C W.B / Water temperature 70/60 °C.

The sound pressure levels apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 seconds.

CWC		800 x 800														
4 pipe version		440			540			560			640			660		
Speed		min	med	max	min	med	max	min	med	max	min	med	max	min	med	max
Airflow	m ³ /h	630	820	1140	710	970	1500	710	970	1500	710	1280	1820	710	1280	1820
Cooling capacity	kW	4,14	5,03	6,34	4,52	5,66	7,71	4,99	6,33	8,77	4,52	6,93	8,89	4,99	7,84	10,2
Sensible cooling capacity	kW	2,96	3,65	4,69	3,25	4,15	5,83	3,53	4,55	6,49	3,25	5,18	6,84	3,53	5,73	7,68
Water flow	l/h	712	865	1090	777	974	1326	858	1089	1508	777	1192	1529	858	1348	1754
Δ P cooling	kPa	8,8	12,5	18,9	10,3	15,4	26,9	9,0	14,0	25,0	10,3	22,1	34,7	9,0	20,0	32,0
Heating capacity	kW	5,91	7,19	9,10	6,45	8,10	11,0	5,23	6,42	8,56	6,45	9,98	12,7	5,23	7,74	9,80
Water flow	l/h	508	618	783	555	697	946	450	552	736	555	858	1092	450	666	843
Δ P heating	kPa	9,8	14,0	21,4	11,5	17,4	29,9	6,5	9,2	15,3	11,5	25,3	38,8	6,5	13,0	19,5
Fan	W	33	48	77	42	63	120	42	63	120	42	95	170	42	95	170
	A	0,15	0,23	0,36	0,18	0,28	0,53	0,18	0,28	0,53	0,18	0,42	0,74	0,18	0,42	0,74
Water content Cooling mode	l	3,0			3,0			3,6			6,0			3,6		
Water content Heating mode	l	1,4			1,4			1,1			1,4			1,1		
Sound pressure level - Lw	dB(A)	33	40	48	34	40	53	34	40	53	34	48	58	34	48	58
Sound pressure level - Lp	dB(A)	24	31	39	25	31	44	25	31	44	25	39	49	25	39	49

COOLING : Air inlet temperature: 27°C D.B - 19°C W.B / Water temperature 7/12 °C.

HEATING : Air inlet temperature: 20°C D.B / Water temperature 70/60 °C.

The sound pressure levels apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 seconds.

General data - EC version

CWC EC		600 x 600									800 x 800					
2 pipe version		120			220			320			420			520		
Speed		min	med	max	min	med	max	min	med	max	min	med	max	min	med	max
Airflow	m ³ /h	310	380	535	310	445	710	360	610	880	630	870	1165	710	1130	1770
Cooling capacity	kW	1,84	2,17	2,75	2,24	3,05	4,33	2,56	3,87	5,02	4,21	5,15	6,33	5,29	7,72	10,75
Sensible cooling capacity	kW	1,35	1,61	2,09	1,57	2,17	3,18	1,81	2,81	3,74	3,03	3,77	4,72	3,69	5,53	7,94
Water flow	l/h	317	373	473	385	524	744	441	666	864	723	885	1089	909	1328	1848
Δ P cooling	kPa	4,9	6,6	10,1	4,6	9,4	15,1	5,9	12,4	19,7	10,9	15,6	22,7	9,4	18,5	33,6
Δ P heating	kPa	4	5,5	8,7	3,6	6,6	13,1	4,7	10,5	17,7	8,7	12,8	19,5	7,2	14,9	28,8
Fan	W	5	8	16	5	11	31	7	21	62	10	17	33	10	32	108
Water content	l	1,4			2,1			2,1			3,0			4,0		

COOLING : Air inlet temperature: 27°C D.B - 19°C W.B / Water temperature 7/12 °C.

HEATING : Air inlet temperature: 20°C D.B / Water temperature 50 °C. Water flow rate as for cooling conditions.

CWC EC		600 x 600									800 x 800					
4 pipe version		140			260			360			440			560		
Speed		min	med	max	min	med	max	min	med	max	min	med	max	min	med	max
Airflow	m ³ /h	310	380	535	310	445	710	360	610	880	630	870	1165	710	1130	1770
Cooling capacity	kW	1,85	2,18	2,77	2,09	2,81	3,93	2,38	3,53	4,53	4,3	5,28	6,51	4,98	7,17	9,87
Sensible cooling capacity	kW	1,34	1,6	2,08	1,49	2,04	2,95	1,71	2,62	3,46	3,08	3,84	4,83	3,52	5,2	7,4
Water flow	l/h	318	375	476	359	483	676	409	608	779	740	908	1120	856	1233	1697
Δ P cooling	kPa	4,6	6,2	9,5	3,5	5,7	10,5	4,1	8,4	13,1	9,4	13,6	19,8	8,8	17	30,1
Heating capacity	kW	2,43	2,85	3,62	1,98	2,53	3,35	2,2	3,06	3,79	6,14	7,54	9,36	5,22	7,16	9,51
Water flow	l/h	209	245	311	170	217	288	189	263	326	528	649	805	449	616	818
Δ P heating	kPa	5,7	7,6	11,7	3,5	5,5	9	4,5	7,5	11	10,5	15,5	22,5	6,5	11	18
Fan	W	5	8	16	5	11	31	7	21	62	10	17	33	10	32	108
Water content Cooling mode	l	1,4			1,7			1,7			3,0			3,6		
Water content Heating mode	l	0,7			0,5			0,5			1,4			1,1		
Sound pressure level - Lw	dB(A)	33	39	47	33	43	54	37	50	60	33	39	48	34	47	57
Sound pressure level - Lp	dB(A)	24	30	38	24	34	45	28	41	51	24	30	39	25	38	48

COOLING : Air inlet temperature: 27°C D.B - 19°C W.B / Water temperature 7/12 °C.

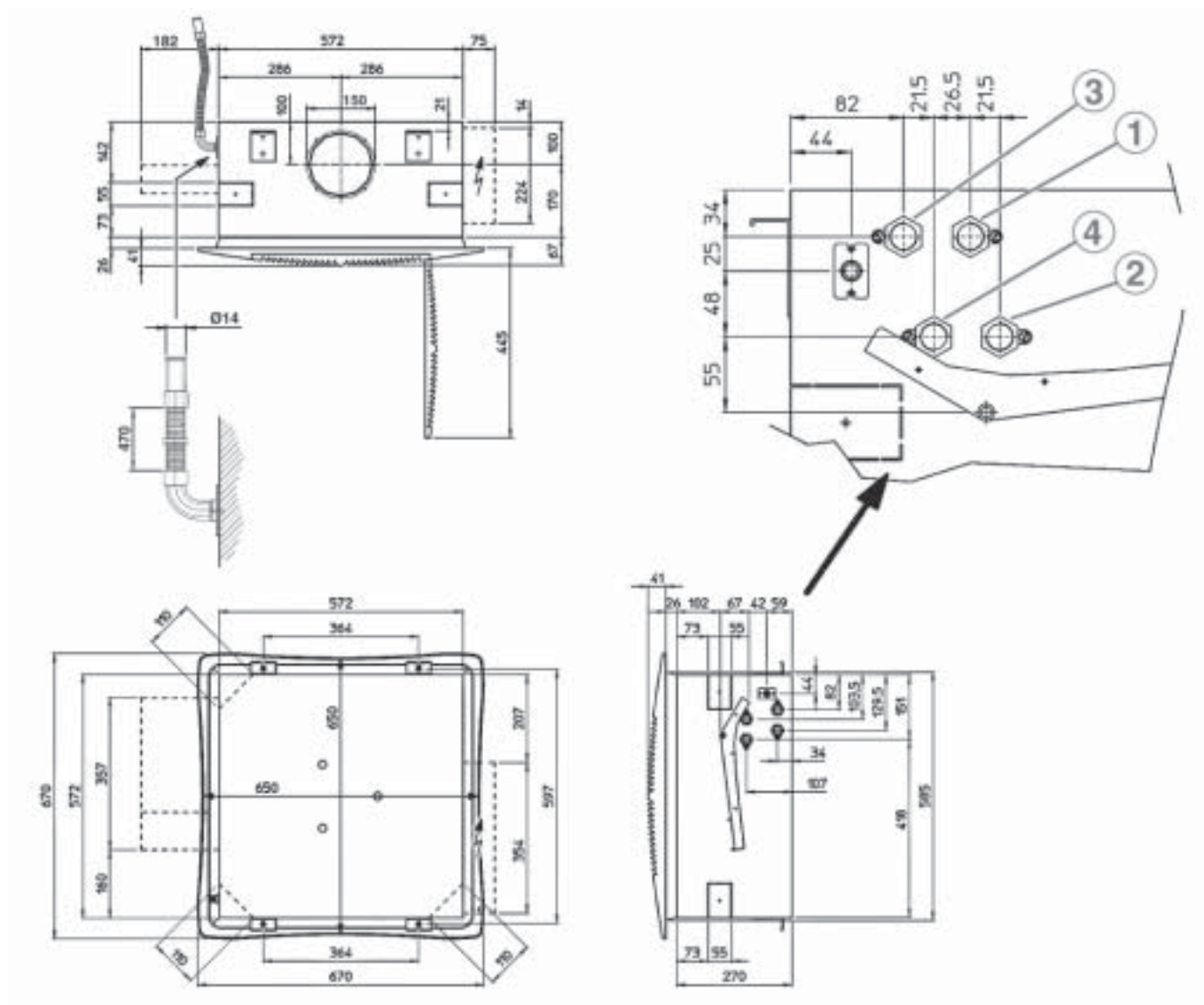
HEATING : Air inlet temperature: 20°C D.B / Water temperature 70/60 °C.

The sound pressure levels apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 seconds.

Physical data

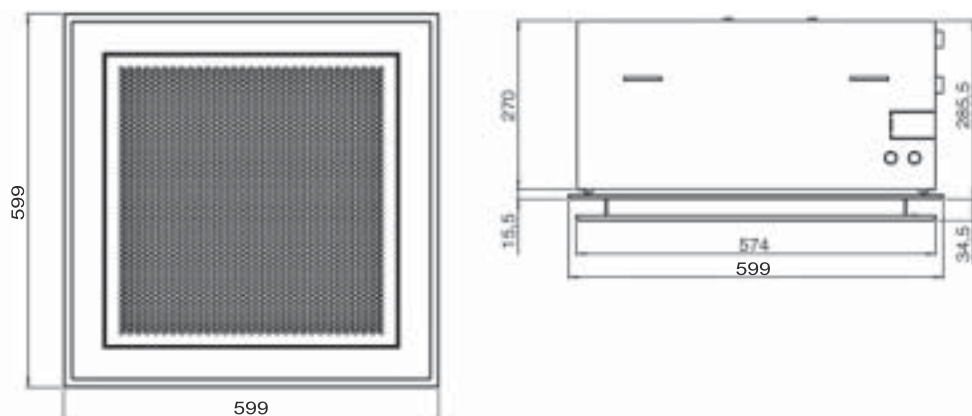
CWC 020 - 040 - 120 - 140 - 220 - 240 - 260 - 320 - 340 - 360

Version 600 x 600

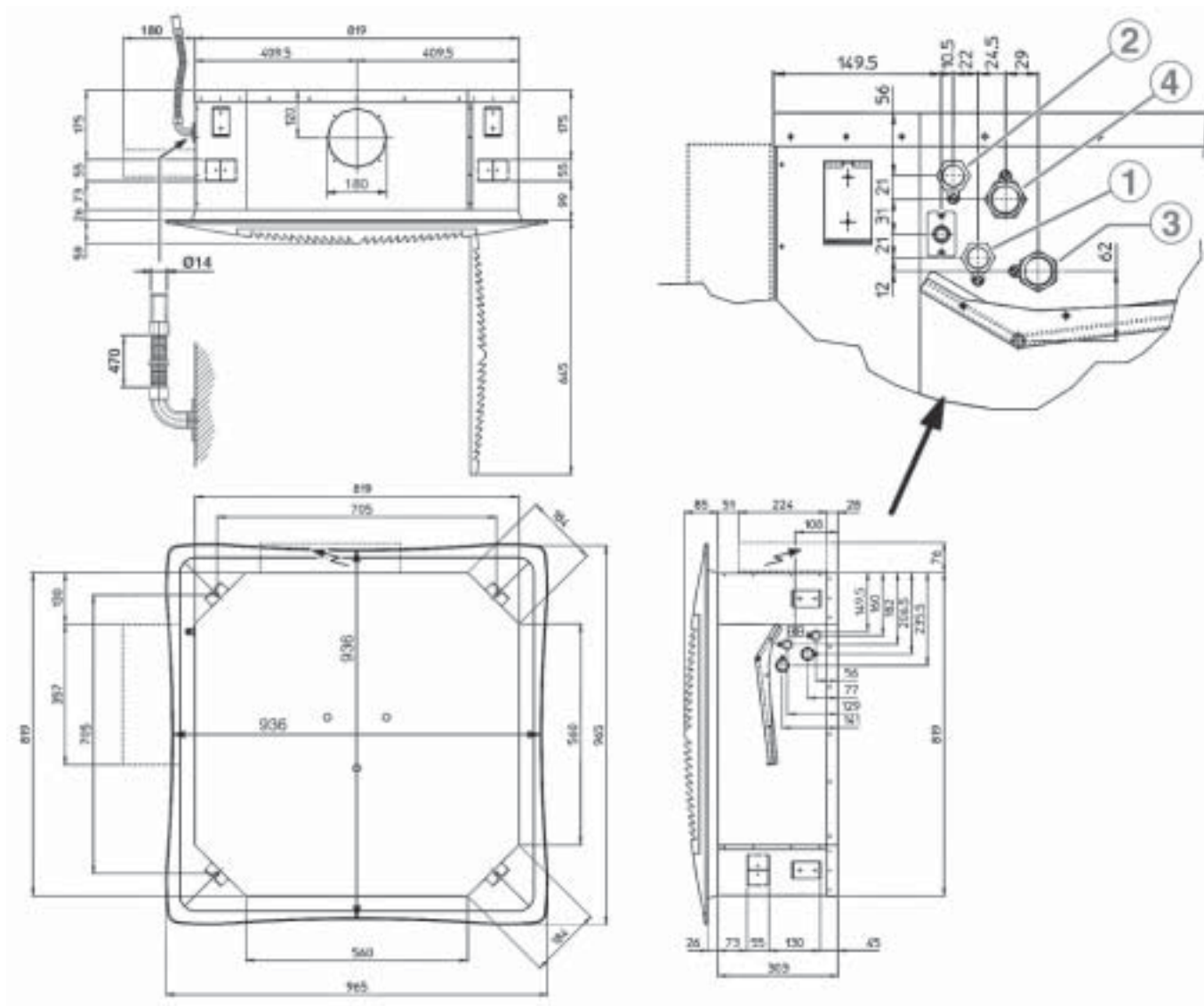


2 pipes units		4 pipes units	
3	Inlet, heating/cooling 1/2"	1	Heating 1/2"
4	Outlet, heating/cooling 1/2"	2	Heating 1/2"
		3	Cooling 1/2"
		4	Cooling 1/2"

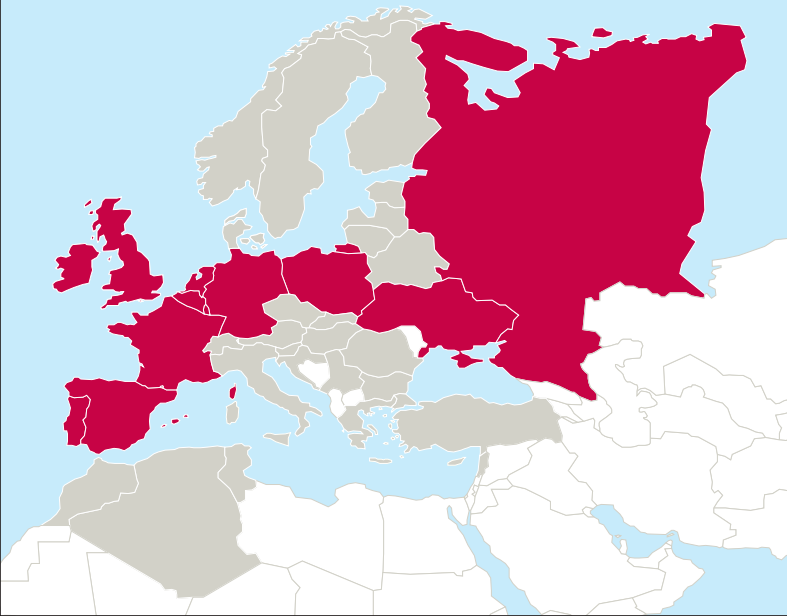
Metallic diffuser



CWC 420 - 440 - 520 - 540 - 560 - 620 - 640 - 660
Version 800 x 800



2 pipes units		4 pipes units	
3	Inlet, heating/cooling 3/4"	1	Inlet, heating 1/2"
4	Outlet, heating/cooling 3/4"	2	Outlet, heating 1/2"
		3	Inlet, cooling 3/4"
		4	Outlet, cooling 3/4"



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