



INSTRUCTIONS FOR OPERATION AND INSTALLATION OF THE EXTRACTION UNIT AND THE ATACAMA DESTRATIFICATION UNIT

 **ATACAMA**

CONTENT


1. General information	4
1.1. Introduction	4
1.2. Use of the unit.....	4
1.3. Transport, inspection of delivery and storage.....	4
1.4. Contents of the package	5
1.5. Before start of installation.....	5
2. Technical parameters	5
2.1. Atacama heating unit design.....	5
EXHAUST COVER.....	5
2.1.1. EXHAUST COVER.....	5
2.1.2. WATER EXCHANGER.....	5
2.1.3. FAN	5
2.1.4. CONSOLE.....	5
2.2. Main dimensions and minimum working space requirements for Atacama units	6
2.3. Technical data	7
2.4. Technical data of water heaters.....	7
3. Installation of heating units in the working position	9
3.1. General information, recommendations and safety during installation of the Atacama heating unit	9
3.1.1. Electrical safety before assembling the unit	9
3.1.2. Modification of existing heating distribution systems	9
3.1.3. Load bearing capacity of the assembly site.....	9
3.1.4. Minimum assembly distances	9
3.1.5. Minimum safety distance from flammable substances.....	9
3.2. Ceiling installations	10
3.3. Wall installation.....	10
3.4. Examples of chained heating units ATACAMA	10
3.5. Water exchanger connection.....	11
3.5.1. Connection of the unit to the existing hot water distribution system	11
3.5.2. Water exchanger connection	11
3.5.3. Venting (discharge) valve.....	12
3.5.4. Example of hydraulic diagram of the unit	12
3.6. Electrical installation and electrical connection.....	12
3.6.1. General Information -Safety	12
3.6.2. Power and control cables of the unit	13
3.6.3. Description of power and control cables	13
3.6.4. Connection to the mains.....	14
3.7. Direction lamellas setting	15

4.	Regulation	15
4.1.	General Information –Safety	15
4.2.	Control elements	15
5.	Atacama heating unit wiring diagram	16
5.1.	Wiring diagram for connection of units ATA1-2-ECV, ATA1-3-ECV, ATA4-ECV with regulator ELEMENTAIR-E-M1	16
5.2.	Connection of chained units ATA1-2-ECV, ATA1-3-ECV, ATA4-ECV with regulator ELEMENTAIR-E-M1	16
5.3.	Connection of units ATA1-2-ECS, ATA1-3-ECS, ATA4-ECS with regulator ELEMENTAIR-B-M1	17
5.4.	Connection of chained units ATA1-2-ECS, ATA1-3-ECS, ATA4-ECS with regulator ELEMENTAIR-B-M1	17
5.5.	Connection of units withoutregulation	18
6.	Commissioning	18
6.1.	Before the first start , check the following:	18
6.2.	Switching on	18
7.	Regular maintenance and cleaning of Atacama heating unit	18
7.1.	Regular maintenance	18
7.2.	Cleaning procedure	19
8.	Service	20
8.1.	Troubleshooting procedure	20
9.	Decommissioning and recycling	20
10.	Warranty	21
11.	Conclusion	21

1. General information

1.1. Introduction

- This document "Installation and Operating Manual" is intended for the heating unit Atacama (hereinafter referred to as the "Unit") used to heat the required space by warm air. Detailed familiarisation with this document is important for correct and safe installation and functioning of the unit. Failure to follow the conditions in this document may result in malfunction of the unit.



- **The assembly and connection of the unit may only be carried out by a trained person with the appropriate authorization to connect electrical equipment, which has suitable tools and means available. During the assembly, it is necessary to observe all the instructions and recommendations in this manual.**

- For the correct operation and long-term service life of the unit, it is necessary to prevent access to unauthorised persons and to train operators according to this document and applicable legislative regulations.

- The documentation must always be available at the place of installation for any service intervention. It is forbidden to interfere in any way with the internal connection of the unit, which does not correspond to the instructions given in this manual. Due to the continuous development of our products, we reserve the right to change this manual without prior notice.

1.2. Use of the unit

- The Atacama heating unit is designed to heat and filter air in the indoor environment (it is possible to order filters as accessories) of industrial halls, warehouses, sports facilities, workshops and smaller facilities.

- The unit is intended for indoor and dry spaces with ambient temperatures from 5°C to +40°C.

- The unit can also be used for environments with a higher non-condensing humidity corresponding to the protection levels IP54 and IP44 according to EN 60529, depending on the type of unit. The unit may also be used in corrosion environment C2, according to EN ISO 9223. The unit must not be operated in environments with a risk of explosion and increased dustiness.

- Neither the manufacturer nor the supplier is liable for damage caused by improper use of the units. The risk is borne by the user alone.

- The unit must not be operated during finishing construction activities, especially during activities that create excessive dustiness, e.g. by grinding concrete, plasterboard, etc...

1.3. Transport, inspection of delivery and storage

- Before starting the installation and before unpacking the unit from the box, it is necessary to check for any traces of damage on the packaging. In case of damage to the packaging, please contact your carrier.

- Check if the product ordered by you is in agreement. After unpacking, check that the unit and other components are intact. Please report any non-conformity with the order to the supplier immediately. If an order complaint is not made immediately after delivery, it will not be taken into account later.

- If you do not install the unit immediately after purchase, it must be stored in an indoor, non-condensing environment at temperatures in the range of 5 to 40°C. If the product has been transported at temperatures below 5°C, it must be stored after unpacking for at least 2 hours in the working environment where it will be installed.



- **Use adequate tools to prevent damage to the goods and to avoid health and safety risks of persons.**

1.4. Contents of the package

Atacama heating unit	1x	
Assembly console	1x	
Assembly accessories – screw M6x20		4x
Quick manual + Safety Data Sheet	1x	
Name plate	1x	

1.5. Before start of installation

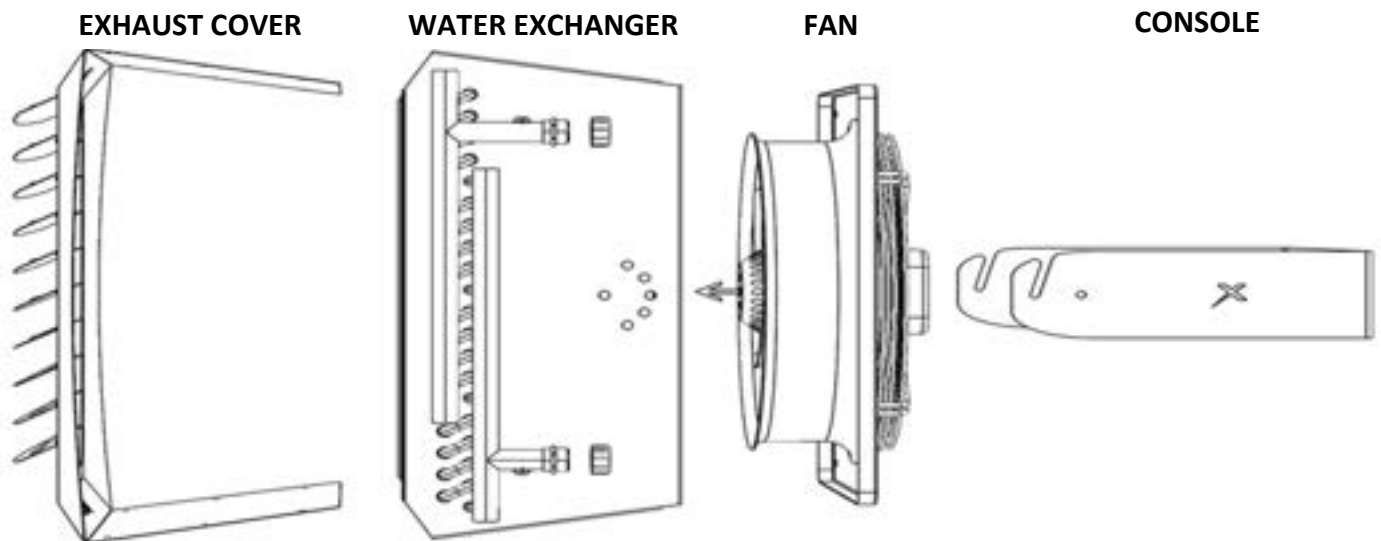
- Before starting the installation, we recommend that you attach the serial nameplate (normally delivered with the unit in its package) to the operational documentation (e.g.: equipment operating book, etc.), which is subsequently kept for a later maintenance record and the respective servicing.



- **Before starting all installation or maintenance work, it is necessary to switch off the power supply and secure the switch against switching it on again.**

2. Technical parameters

2.1. Atacama heating unit design



2.1.1. EXHAUST COVER

It forms a sheet metal casing of the unit and also contains turning lamellas to direct the air blowing out of the unit, as required by the user. The cover is in RAL 7016 colour.

2.1.2. WATER EXCHANGER

Maximum permissible temperature/pressure of heating medium is 120°C / 1.6MPa. The exchanger consists of an aluminium - copper structure that is protected by powder coating RAL 9005. The connection to the water exchanger is solved by connecting collectors with mail thread 3/4". The exchanger is equipped with a venting valve on both collectors.

2.1.3. FAN

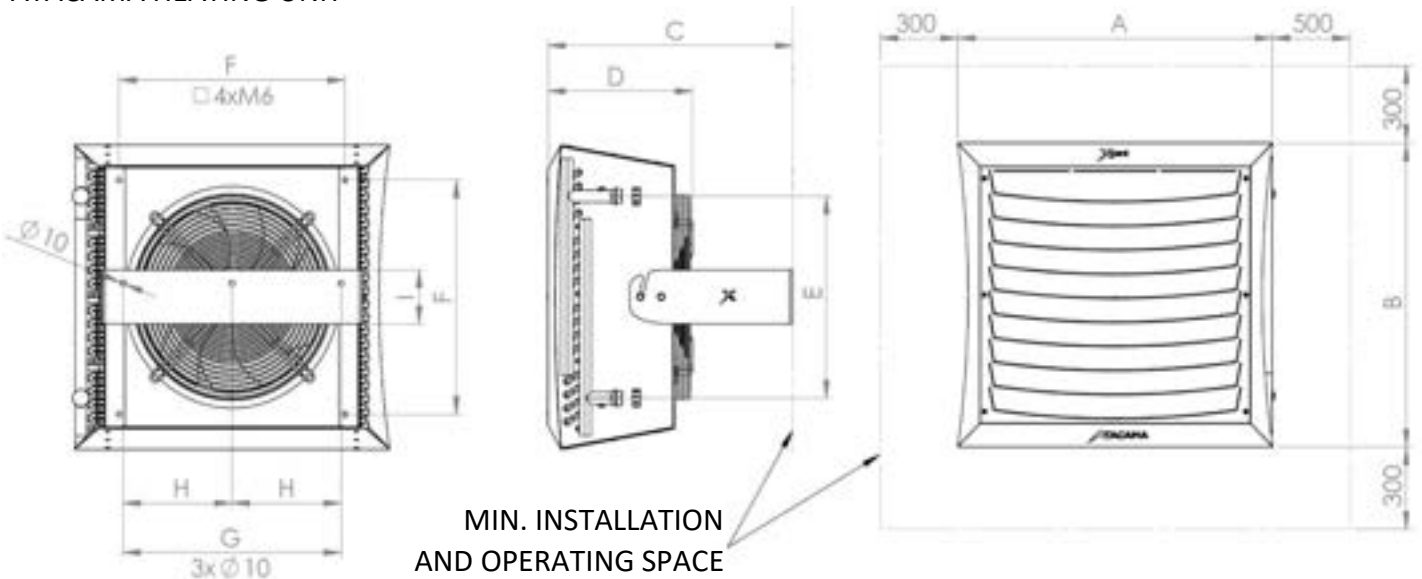
The maximum operating temperature of the fan motor is + 60°C, operating humidity 0-90% non-condensing, protection class IP54 and IP44 according to the selected unit type, motor insulation class B. The fan fan and its board are treated with powder coating RAL 9005.

2.1.4. CONSOLE

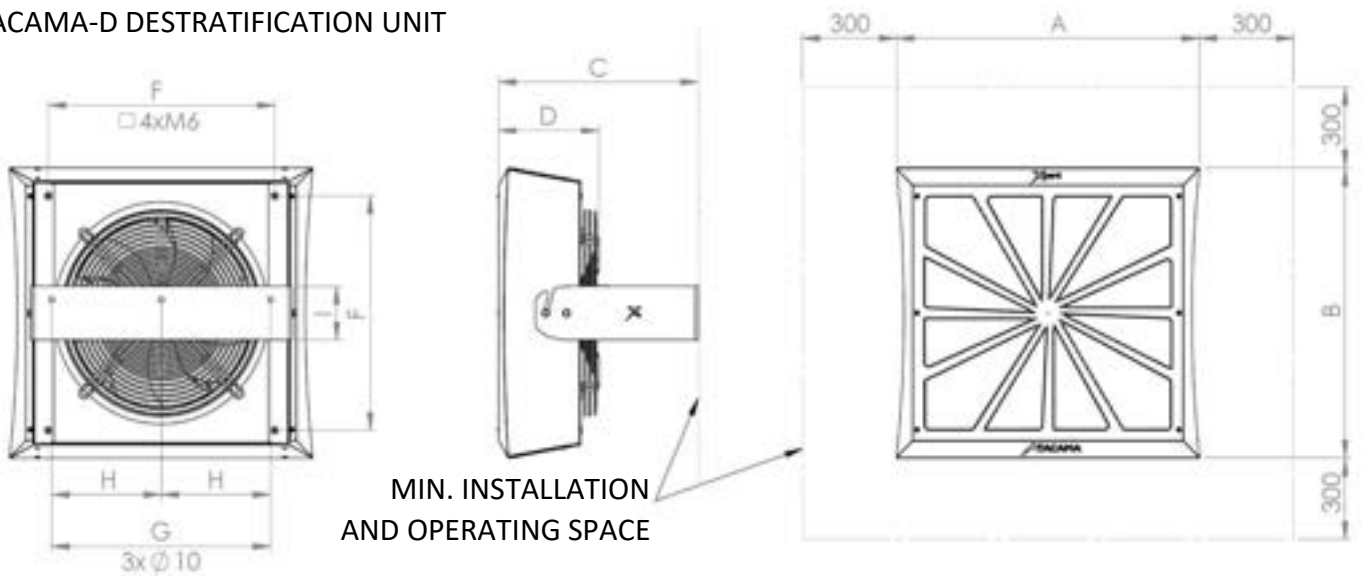
Standard part of the delivery. Steel sheet structure with thickness of 3 mm, treated against corrosion with RAL 9005.

2.2. Main dimensions and minimum working space requirements for Atacama units

ATACAMA HEATING UNIT



ATACAMA-D DESTRATIFICATION UNIT



	ATACAMA - 2,3	ATACAMA - 4	ATACAMA D - 2,3	ATACAMA D - 4
A	605 mm	695 mm	580 mm	675 mm
B	565 mm	655 mm	540 mm	635 mm
C	470 mm	470 mm	385 mm	385 mm
D	280 mm	280 mm	195 mm	195 mm
E	375 mm	470 mm	-	-
F	435 mm	520 mm	435 mm	520 mm
G	420 mm	520 mm	420 mm	520 mm
H	210 mm	260 mm	210 mm	260 mm
I	100 mm	150 mm	100 mm	150 mm

2.3. Technical data

Name		ATACAMA 2		ATACAMA 3		ATACAMA 4	
Motor type	-	EC	EC	EC	EC	EC	EC
Typical service area (ceiling height 4m)	m2	0-300		0-500		0-1000	
Airflow	m3/h	2350	2250	3000	2600	4700	4400
Heat output range	kW	3 - 32	4 - 39	4 - 38	5 - 44	9 - 58	11 - 71
Number of heat exchanger rows	-	2	3	2	3	2	3
Heat exchanger data		maximum operating water temperature 120 °C; maximum operating pressure 1.6MPa; pipe connection dimension G 1/2"					
Maximum horizontal blowing distance *	m	13	12	17	14	15	12
Maximum vertical blowing distance *	m	8	7	10	8	8	6
Noise level **	dB(A)	42,3	42,1	51,7	50,3	52,1	51,6
Unit weight / with console ***	kg	15 / 17,5	16 / 18,5	17 / 19,5	18 / 20,5	23 / 26	25 / 28
The volume of water in the exchanger	dm3	1,4	2,1	1,4	2,1	2	3
Power supply of the unit	V/Hz	1 ~ 230/50-60		1 ~ 230/50-60		1 ~ 230/50-60	
Motor output	W	114	117	184	189	359	379
Motor current	A	0,86	0,9	1,33	1,41	1,53	1,63
Speed	rpm	1370		1790		1310	
Protection Class	IP	54		44		54	
Sales Code	-	ATA1-2-ECV2CL-0-A-0	ATA1-2-ECV3CL-0-A-0	ATA1-3-ECV2CL-0-A-0	ATA1-3-ECV3CL-0-A-0	ATA1-4-ECV2CL-0-A-0	ATA1-4-ECV3CL-0-A-0

* Maximum air blowing distance at flow rate 0,5 m/s

** Sound pressure level at 5m, Q = 2

*** unit weight, without water

Name		ATACAMA 2 DESTRA	ATACAMA 3 DESTRA	ATACAMA 4 DESTRA
Motor type	-	EC	EC	EC
Typical service area (ceiling height 4m)	m2	0-300	0-500	0-1000
Airflow	m3/h	2700	3350	5600
Maximum vertical blowing distance *	m	10	13	12
Noise level **	dB(A)	43	52,9	52,6
Unit weight / with console ***	kg	9,5 / 12	11,5 / 14	16,5 / 19,5
Power supply of the unit	V/Hz	1 ~ 230/50-60	1 ~ 230/50-60	1 ~ 230/50-60
Motor output	W	102	177	337
Motor current	A	0,78	1,31	1,45
Speed	rpm	1370	1750	1320
Protection Class	IP	54	44	54
Sales Code	-	ATA1-2-EC30DI-0-A-0	ATA1-3-EC30DI-0-A-0	ATA1-4-EC30DI-0-A-0

* Maximum air blowing distance at flow rate 0,5 m/s

** Sound pressure level at 5m, Q = 2

*** unit weight, without water

EC Declaration of Conformity – the current and full version of the EC Declaration of Conformity can be seen on our website www.xvent.cz under the Atacama product documents

2.4. Technical data of water heaters

ATA1-2-EC2CL-0-A-0

Input air temperature	90/70				80/60				70/50				60/50				50/30				
	Air flow	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop
°C	m ³ /h	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa
0	2350	32,1	44	5,42	25	28,1	47,8	5,24	20	24	31,7	5,05	17	13,9	25,8	0,86	12	15,8	38,4	0,87	8
	1400	22,2	52,2	0,98	14	19,6	45	0,88	11	16,8	37,8	0,74	11	13,9	30,7	0,61	8	16,9	23,2	0,47	5
	450	8,99	68,5	0,4	5	8,02	59,5	0,35	4	6,99	50,5	0,31	3	5,89	41,4	0,26	2	4,72	32,1	0,21	4
5	2350	29,8	46,1	5,31	27	29,9	40,1	5,14	17	23,8	33,9	0,95	15	17,5	27,8	0,76	10	13,1	21,7	0,57	7
	1400	20,7	54	0,91	12	18	46,7	0,79	10	15,3	39,6	0,67	9	12,6	32,4	0,54	6	9,34	25,2	0,41	6
	450	8,42	69,1	0,37	4	7,43	60,1	0,31	4	6,38	51,2	0,28	3	5,27	42,2	0,23	3	4,12	32,9	0,18	3
10	2350	27,7	48,5	5,22	19	23,7	42,1	5,04	14	19,5	36,1	0,86	12	15,3	30	0,67	9	10,8	23,9	0,47	7
	1400	18,2	55,7	0,85	11	16,5	48,5	0,73	10	11,8	41,1	0,6	7	10,8	34,1	0,47	5	7,79	25,9	0,34	4
	450	7,8	70,1	0,35	4	6,86	61,1	0,3	3	5,78	52	0,25	2	4,65	42,9	0,2	4	3,46	33,6	0,15	4
15	2350	25,5	50,7	5,12	18	21,5	44,5	0,94	13	17,4	38,1	0,76	11	13,1	32,2	0,57	7	8,53	26	0,37	5
	1400	17,7	57,4	0,78	9	15	50,2	0,66	8	12,2	41	0,54	4	9,28	35,8	0,4	5	6,18	28,5	0,27	3
	450	7,27	70,8	0,32	3	6,25	61,8	0,27	3	5,18	52,8	0,21	3	4,06	43,5	0,18	3	2,8	34,2	0,12	3

- mentioned air flows are represented maximum, middle and minimum air flow

ATA1-2-1CCL-0-A-0

Input air temperature	Air flow	80/70				80/50				70/50				60/50				50/50			
		Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop
°C	m ³ /h	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa
0	2250	39	58,4	1,77	26	34,3	50,4	1,52	23	29,8	42,5	1,31	18	24,8	34,8	1,09	15	19,7	35,7	0,86	10
	1750	25,5	47,5	1,08	14	21,8	38,6	0,98	11	19	49,7	0,83	8	16	49,7	0,7	4	12,8	37,7	0,56	4
	750	10,1	19,1	0,44	5	9,08	16,4	0,4	5	8,03	30,4	0,35	4	6,88	49,4	0,3	3	5,83	35,7	0,24	3
5	2250	36,5	59,8	1,61	23	31,5	51,8	1,4	20	27,2	43,9	1,19	18	22,2	39	0,97	12	17	28,1	0,74	9
	1250	22,9	46,1	1,01	12	20,2	39,4	0,89	10	17,4	50,5	0,78	9	14,3	43,6	0,62	7	13,1	32,5	0,48	4
	750	8,48	19,6	0,42	5	8,45	49,7	0,37	4	7,86	39,7	0,32	3	6,18	49,8	0,27	2	4,9	35,3	0,21	4
10	2250	33,9	61,1	1,49	22	29,3	53,2	1,29	17	24,5	45,3	1,07	16	19,5	37,3	0,85	10	14,2	29,6	0,62	7
	1250	21,4	49,2	0,94	12	18,6	40,3	0,82	8	15,7	51,3	0,69	8	12,7	42,4	0,55	5	9,44	33,2	0,41	5
	750	8,87	19,8	0,39	4	7,82	49,9	0,34	3	6,7	39,9	0,29	3	5,5	49,7	0,24	3	4,22	38,2	0,18	3
15	2250	31,7	62,3	1,38	19	26,7	54,6	1,17	15	21,9	46,4	0,96	12	16,8	38,7	0,73	9	13,4	30,6	0,49	5
	1250	19,8	50	0,87	9	17	41,2	0,75	8	14,3	52,2	0,62	8	11	43,3	0,48	4	7,98	33,9	0,33	3
	750	8,26	40,3	0,36	4	7,19	30,3	0,32	3	6,05	40	0,26	2	4,82	49,8	0,21	4	3,47	31,1	0,15	4

- mentioned air flows are represented maximum, middle and minimum air flow

ATA1-3-1CCL-0-A-0

Input air temperature	Air flow	80/70				80/50				70/50				60/50				50/50			
		Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop
°C	m ³ /h	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa
0	3000	37,8	40,1	1,67	32	33,1	34,4	1,45	29	28,1	28,8	1,23	22	23,1	23,2	1,05	16	17,8	17,6	0,77	10
	2000	28,7	46,6	1,27	26	25,2	40,1	1,11	18	21,6	33,6	0,94	14	17,8	27,3	0,78	10	13,9	20,7	0,6	6
	750	13,7	63,7	0,6	7	12,1	53,3	0,53	5	10,5	45,3	0,46	4	8,62	36,7	0,38	3	7	38,4	0,3	2
5	3000	35,2	42,6	1,55	30	30,4	36,9	1,34	25	25,5	31,3	1,12	19	20,4	25,7	0,89	13	15,2	20	0,66	8
	2000	26,7	48,7	1,18	18	23,2	42,2	1,02	15	19,6	25,7	0,86	12	15,8	29,2	0,68	8	11,8	22,8	0,51	5
	750	12,8	62,9	0,51	6	11,2	54,5	0,49	4	9,61	46,2	0,42	3	7,87	37,8	0,34	2	6,02	29,5	0,28	1
10	3000	32,5	45,1	1,43	28	27,8	39,4	1,22	20	22,9	33,8	1	15	17,8	28,1	0,72	10	12,5	22,5	0,54	5
	2000	24,8	50,8	1,09	17	21,2	44,2	0,84	12	17,6	37,7	0,72	10	13,8	31,3	0,6	4	9,18	24,8	0,42	1
	750	11,8	68	0,52	5	10,4	50,6	0,45	4	8,68	47,3	0,38	3	6,91	39	0,3	2	5,04	30,6	0,22	1
15	3000	30	47,6	1,32	22	25,2	41,6	1,11	16	20,3	36,2	0,89	12	15,1	30,6	0,66	7	9,82	24,9	0,43	4
	2000	22,8	42,8	1,01	15	19,3	46,1	0,85	11	15,6	39,8	0,68	8	11,8	33,3	0,52	5	7,75	28,8	0,34	2
	750	11	62,2	0,48	5	9,44	58,8	0,41	5	7,25	48,5	0,34	2	5,96	40,3	0,26	1	4,06	33,6	0,18	1

- mentioned air flows are represented maximum, middle and minimum air flow

ATA1-3-1CCL-0-B-0

Input air temperature	Air flow	80/70				80/50				70/50				60/50				50/50			
		Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop
°C	m ³ /h	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa
0	2600	43,5	56	1,82	32	38,4	48,1	1,69	29	33,1	40,6	1,45	22	27,6	33,2	1,2	16	21,8	25,5	0,85	12
	1900	34,2	63,2	1,51	22	30,4	52,9	1,31	19	26,3	44,7	1,15	15	22	36,4	0,96	12	17,5	28,2	0,78	10
	750	14,9	75	0,66	7	13,3	65,3	0,59	6	11,8	55,8	0,52	5	10	45,9	0,44	4	8,13	36,2	0,35	4
5	2600	40,5	57,5	1,79	28	35,5	49,8	1,56	23	30,2	42,2	1,32	18	24,6	34,6	1,07	15	18,7	26,9	0,81	9
	1900	32	62,4	1,41	20	28,1	54,1	1,23	16	24	45,9	1,05	14	19,7	37,8	0,86	10	15,3	29,4	0,66	8
	750	14	75,4	0,62	6	12,4	63,8	0,54	5	10,8	56	0,47	4	9,02	46,4	0,39	3	7,07	38,5	0,31	3
10	2600	37,7	59	1,66	25	32,6	51,1	1,43	21	27,2	43,7	1,19	16	21,8	36,1	0,99	13	15,8	28,6	0,68	8
	1900	29,8	63,6	1,21	17	25,8	55,2	1,11	14	21,7	47,3	0,95	12	17,3	38,8	0,75	10	12,6	30,3	0,55	5
	750	13	75,8	0,57	5	11,5	66,2	0,51	4	9,82	56,5	0,43	3	7,99	48,8	0,35	4	5,99	36,8	0,26	2
15	2600	34,9	60,5	1,54	23	29,7	52,8	1,3	18	24,3	45,2	1,08	14	18,8	37,8	0,82	9	13,5	28,8	0,54	5
	1900	27,5	64,8	1,21	15	23,5	56,5	1,03	11	19,4	48,2	0,85	9	14,9	40	0,65	7	10,2	33,5	0,44	4
	750	12,1	78,1	0,52	5	10,6	66,6	0,48	4	8,81	56,9	0,39	4	6,96	47,3	0,3	3	4,9	36,9	0,21	4

- mentioned air flows are represented maximum, middle and minimum air flow


ATA1-4-1CCL-0-A-0

Input air temperature	Air flow	80/70				80/50				70/50				60/50				50/50			
		Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop	Heating performance	Supply air temperature	Water flow	Water pressure drop
°C	m ³ /h	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa	kW	°C	m ³ /h	kPa
0	4700	58	39,2	2,55	49	30,7	33,7	2,23	39	43,3	28,2	1,89	30	35,6	27,8	1,55	24	27,6	17,4	1,2	15
	3500	42,7	43,9	2,3	34	43,9	37,8	1,84	28	35,8	31,7	1,57	22	29,6	29,7	1,29	17	23,3	19,6	1	11
	1950	21,3	53,2	1,38	18	27,2	46	1,21	14	23,8	38,7	1,04	11	19,9	31,3	0,83	9	15,2	24,2	0,68	8
5	4700	53,9	41,8	2,38	43	45,7	36,3	2,05	34	39,2	30,8	1,72	25	35,5	25,1	1,37	19	23,5	19,9	1,02	13
	3500	44,4	46,2	1,96	30	38,6	40,1	1,69	24	32,5	34	1,42	20	28,2	27,9	1,14	14	19,2	23,9	0,85	9
	1950	22,2	55	1,29	16	25,5	42,6	1,12	14	21,7	40,4	0,95	11	17,7	33,2	0,77	7	13,5	25,9	0,58	6
10	4700	50	44,3	2,3	37	42,7	38,8	1,87	29	35,2	33,3	1,54	21	27,5	27,9	1,2	15	19,4	22,6	0,86	9
	3500	31,2	48,4	1,85	26	35,2	42,3	1,55	22	29,2	36,2	1,38	16	22,9	30,2	1	12	16,4	24,1	0,71	8
	1950	27,1	56,6	1,2	18	23,4	49,4	1,03	12	19,6	42,3	0,86	9	15,5	34,8	0,68	7	11,2	27,6	0,49	4
15	4700	46	46,9	2,03	32	38,7	43,3	1,7	24	31,2	35,9	1,17	18	23,5	30,4	1,02	12	15,4	26,8	0,67	7
	3500	38	50,7	1,67	23	32	44,6	1,41	19	25,9	38,5	1,14	13	19,6	32,4	0,85	8	12,9	26,3	0,54	5
	1950	25,1	58,3	1,1	13	21,3	51	0,94	10	17,4	43,7	0,76	9	13,8	36,						

3. Installation of heating units in the working position

3.1. General information, recommendations and safety during installation of the Atacama heating unit

3.1.1. Electrical safety before assembling the unit

 Before starting any assembly works, it is necessary to switch off the power supply to the prepared electrical installation for subsequent activation of the unit. During installation, the switch must be secured against being switched on again.

3.1.2. Modification of existing heating distribution systems

- It is appropriate to use filters for rough impurities in the heating systems to protect the water exchanger from possible damage from the existing distribution systems.


3.1.3. Load bearing capacity of the assembly site

- The selected assembly site must be suitable for the permanent load by the unit. In case of doubt, the load capacity of the wall/walls must be verified by structural engineer or other responsible person.

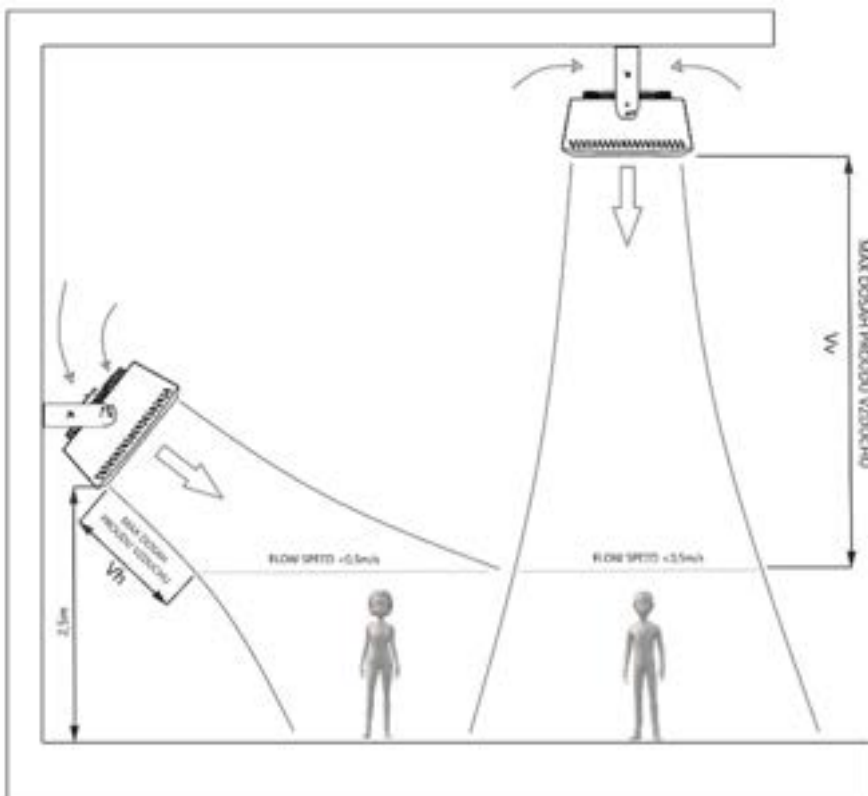
3.1.4. Minimum assembly distances

- the minimum distance of the unit from the wall is 0.2 m. If this distance is not observed, the unit may not work properly and the fan may be damaged or the unit's noise may increase. The minimum height of assembly of the unit from the floor is 2.5 m. Adjust the exhaust of the unit so that there is no draft in the heated space. The air flow exiting the exhaust grid must not be directed directly to walls, beams, shelves, machines, etc.

3.1.5. Minimum safety distance from flammable substances

 The minimum safety distance from flammable substances is at least 0.5 m from the side of the unit and 1 m in the direction of exhaust from the unit

Installation distances in relation to blowing capacity from ATACAMA unit



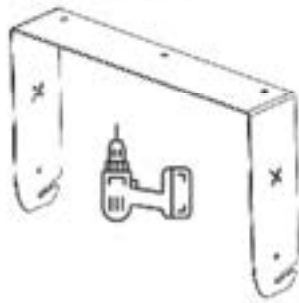
Unit type	Vv (max. air flow dis- tance)	Vh (max. airflow distance)
ATA-1-2-ECV2CL-0A0	8	13
ATA-1-2-ECV3CL-0A0	7	12
ATA-1-3-ECV2CL-0A0	10	17
ATA-1-3-ECV3CL-0A0	8	14
ATA-1-4-ECV2CL-0A0	8	15
ATA-1-4-ECV3CL-0A0	6	12
ATA-1-2-ECS0CL-0A0	10	
ATA-1-3-ECS0CL-0A0	13	
ATA-1-4-ECS0CL-0A0	12	

3.2. Ceiling installations

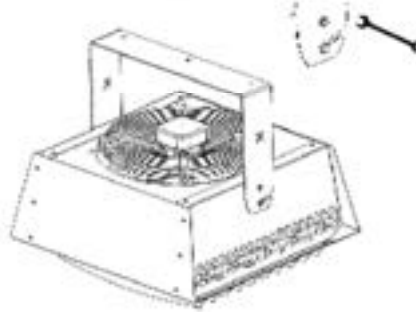
Positioning the console and marking the mounting holes



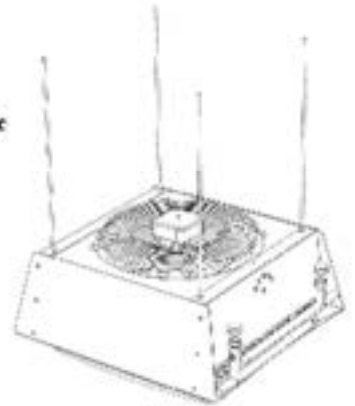
Drilling holes, fitting holes with dowels and screwing on the console



Hanging on the consoles and then tightening the screws + respective turning of the unit

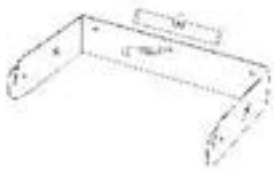


Suspension by M6 threaded rods

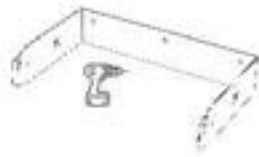


3.3. Wall installation

Positioning the console and marking the mounting holes



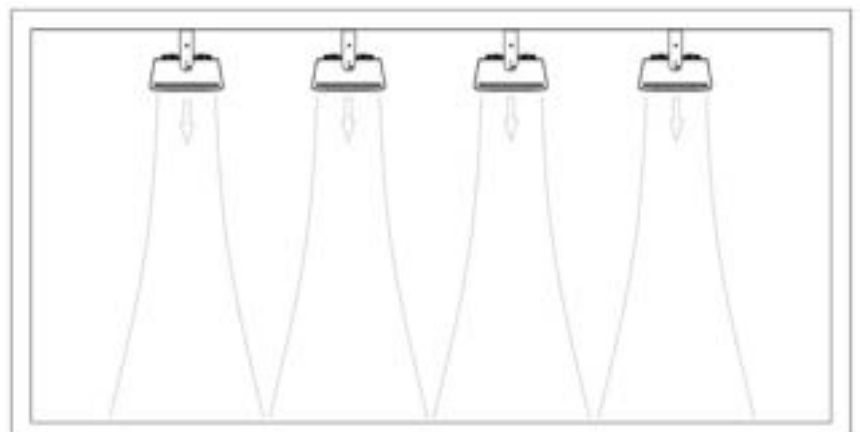
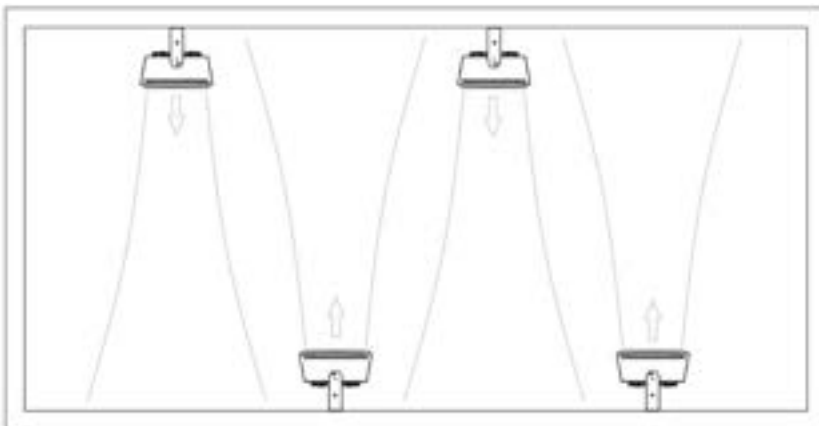
Drilling holes, fitting holes with dowels and screwing on the console



Hanging on the consoles and then tightening the screws + respective turning of the unit



3.4. Examples of chained heating units ATACAMA



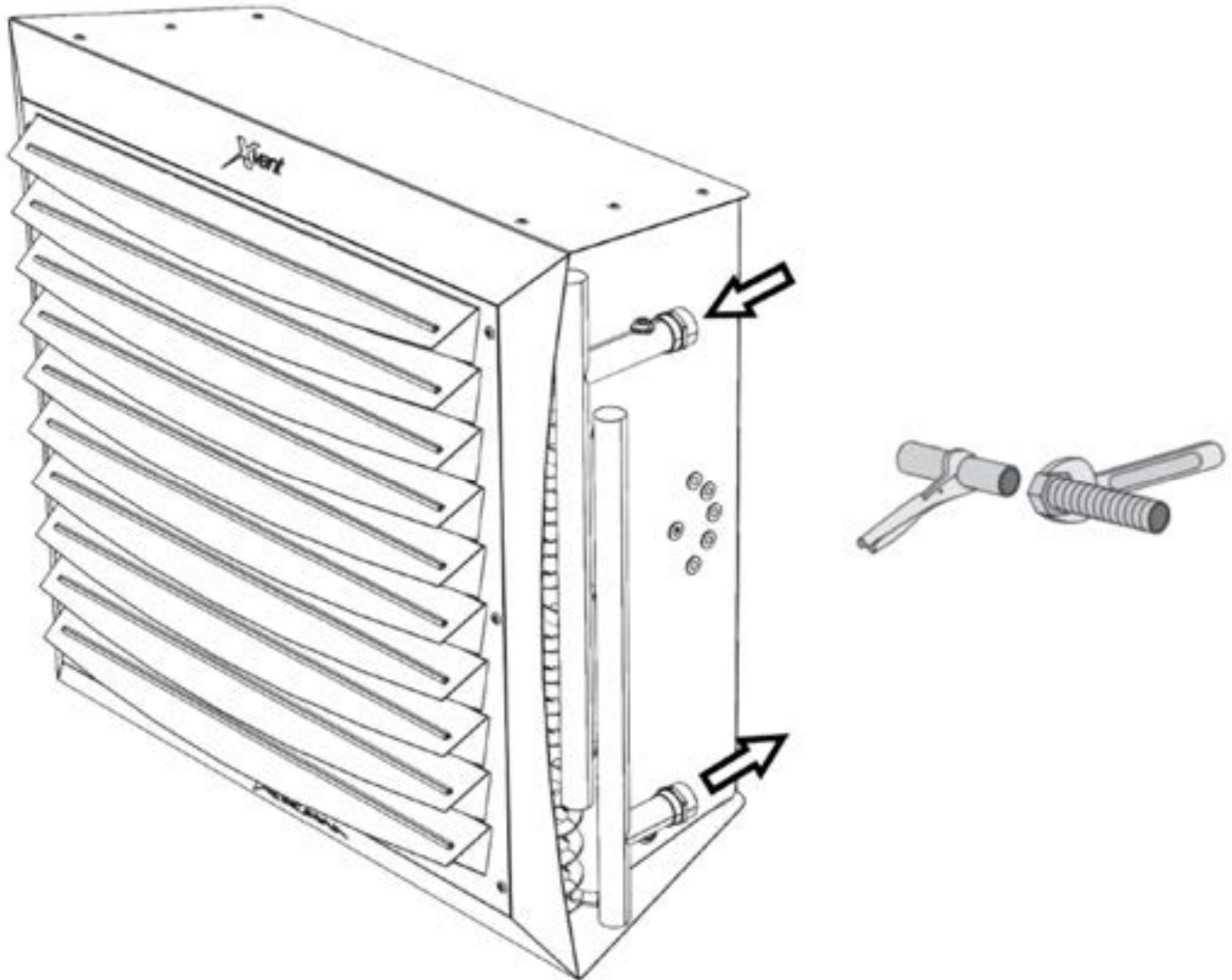
3.5. Water exchanger connection

3.5.1. Connection of the unit to the existing hot water distribution system

- Connect the unit to the heating system using a flexible connection (e.g. flexible hoses – with braided armour). The heating system piping must not put any load on the exchanger throats.

3.5.2. Water exchanger connection

- Water supply and drainage necks are marked on the water exchanger collectors. To tighten the connected piping to the unit, use the hexagonal profile on the water exchanger neck. This prevents the exchanger outlet from being overturned, which may result in irreversible damage to the water exchanger.



- After connecting the water exchanger to the heating system, a pressure test of the unit connection is recommended.

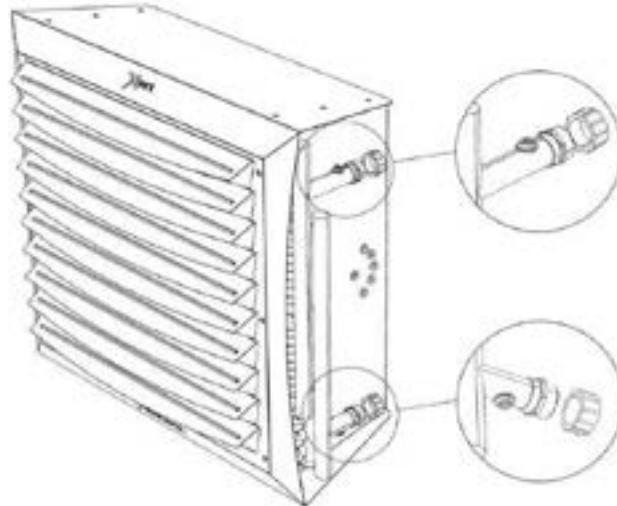


The tests must be carried out by a person qualified in this field with knowledge of the applicable regulations and standards of the country concerned.

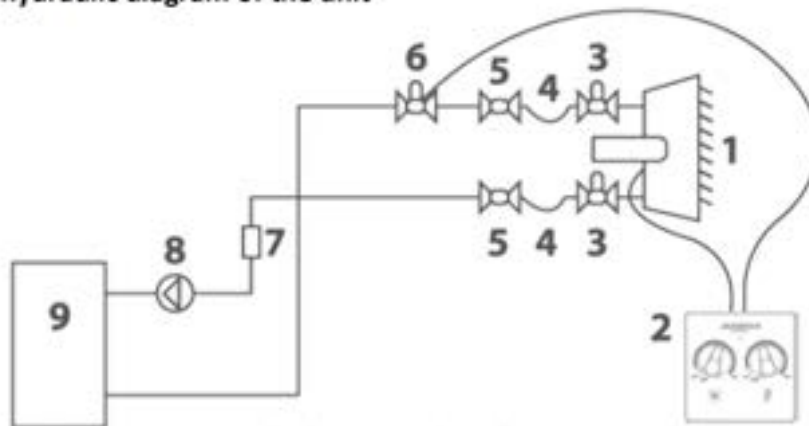
- We recommend installing shut-off valves on the water exchanger inlet and outlet for the shut-off of the heating medium, or to allow the unit dis-assembly without the need to drain water from the heating system.

3.5.3. Venting (discharge) valve

- Water supply and drainage necks are marked on the water exchanger collectors. To tighten the connected piping to the unit, use the hexagonal profile on the water exchanger neck. This prevents the exchanger outlet from being overturned, which may result in irreversible damage to the water exchanger.
- Drain the heating medium from the exchanger, by loosening the lower vent screw. If the unit is refilled with a heating medium, check that the exchanger is vented.
- Place the vent valves at the highest installation point.



3.5.4. Example of hydraulic diagram of the unit



- If the automatic control valve is not installed to control the heating capacity, we recommend to shut off the heating water supply to the exchanger when the fan is switched off. Any high temperature inside the unit on the exchanger may reduce the fan lifespan.

3.6. Electrical installation and electrical connection


3.6.1. General Information -Safety



The relevant electrical installation and electrical assembly of the units may only be performed by persons qualified for this activity with valid authorization and knowledge of the applicable standards and directives. Before starting any assembly works, it is necessary to switch off the power supply to the prepared electrical installation for subsequent activation of the unit. During installation, the switch must be secured against being switched on again by an unauthorized person.



The unit shall be connected to the main power supply by the TN-S system (neutral wire connected) using an insulated cable in accordance with the diameter and corresponding regulations.

-  - The supply voltage of the unit must be connected in such a way that all poles of the network are disconnected from the power supply by one element (e.g. main switch). The unit inlet phase must be connected via a protective power circuit breaker (protective switch) according to the corresponding current. The minimum distance between the disconnected contacts must be greater than 3mm.
- Before installation, check that the cable marking corresponds to the electrical diagram. If you have any doubts, please contact your supplier.

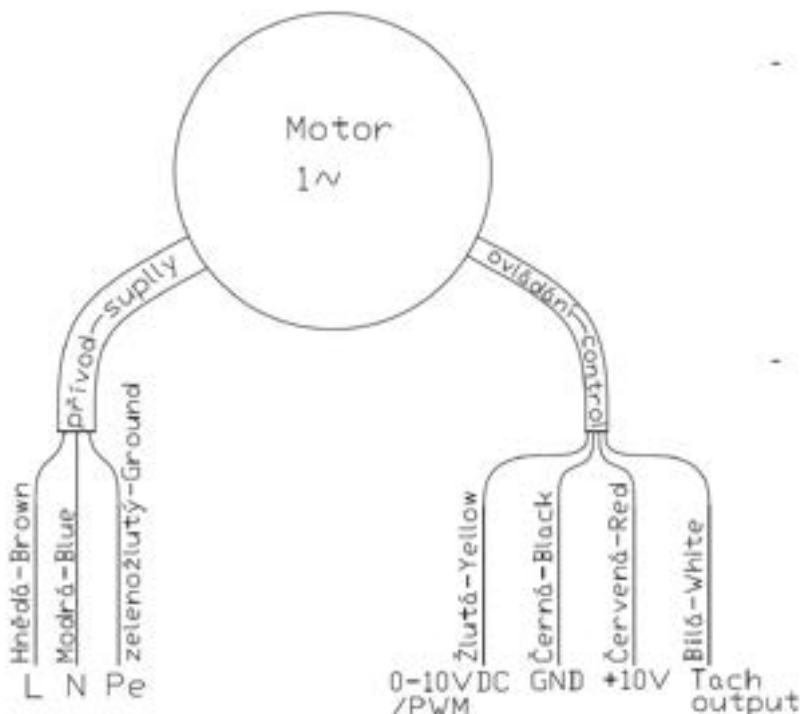
3.6.2. Power and control cables of the unit

- the unit is equipped with a separate power supply and separate control cable (strand-type cable). Stripping of cables to individual conductors is 80mm. The conductors are equipped with a crimped terminal with insulation (sleeve).
- Table with minimum cable cross-section and recommended value of safety cut-out:

unit type	number of conductors x conductor cross section in mm ²			recommended types of controllers
	power supply	control*	recommended control	
ATA1-2-ECV	3 x 1	*X x 0,75	2 x 0,75	ELEMETAIR-E-M1
ATA1-3-ECV	3 x 1,5	*X x 0,75	2 x 0,75	ELEMETAIR-E-M1
ATA1-4-ECV	3 x 1,5	*X x 0,75	2 x 0,75	ELEMETAIR-E-M1
ATA1-2-ECS	3 x 1	*X x 0,75	3 x 0,75	ELEMETAIR-B-M1
ATA1-3-ECS	3 x 1,5	*X x 0,75	3 x 0,75	ELEMETAIR-B-M1
ATA1-4-ECS	3 x 1,5	*X x 0,75	3 x 0,75	ELEMETAIR-B-M1

*the number of conductors in cable must be selected according to the selected type of controller, but max. 4

3.6.3. Description of power and control cables




the power supply cable contains 3 conductors.

- Brown conductor – supply phase. In the diagram marked as L
- Blue conductor - neutral wire. In the diagram marked as N
- Green-yellow conductor — earthing conductor.

In the diagram marked as Pe

- Yellow wire – input control signal 0-10VDC or PWM. In diagram marked as 0-10VDC/PWM
- Black wire - input special grounding conductor to the fan control signal. It shall not be used other than to control the fan. In diagram marked as GND

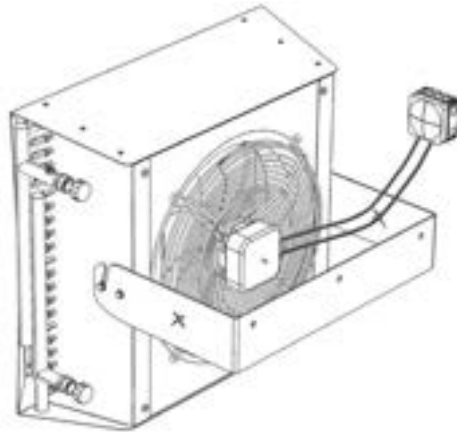
-  - The correct connection and use of all or part of the conductors taken out from the unit is subject to the selected type of control. The connection of the supply and control wires must be carried out in such a way that they cannot in any case be interconnected or confused. This would result in the destruction of the unit fan and possible further damage to the property and health of persons.

3.6.4. Connection to the mains

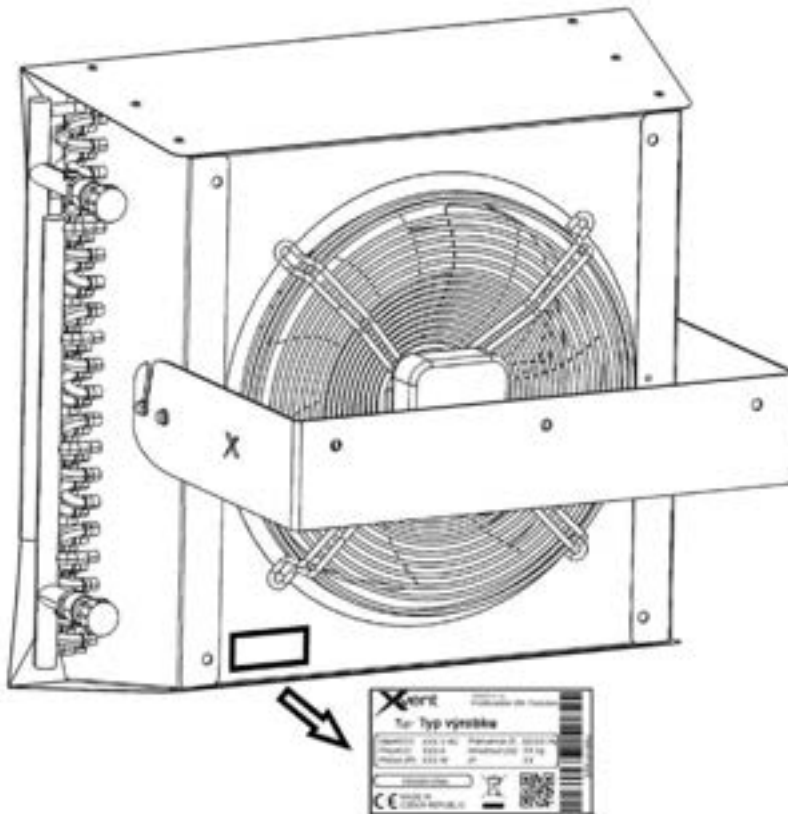
- Connection to the mains is recommended by means of the wiring box with the corresponding electrical protection class (according to the installation space).
- The electric installation box must be attached to a solid non-combustible surface at the maximum distance from the unit according to length of the motor cables.
- Table of cable lengths on the unit

unit type	cable length at the unit
ATA1-2	450mm
ATA1-3	450mm
ATA1-4	1000mm

- In the wiring box, connect the unit cable with cable from the mains



3.6.5. Display of electrical parameters on the unit

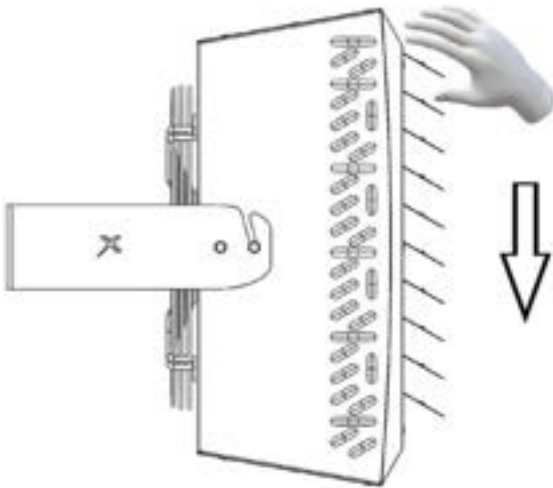


3.7. Direction lamellas setting

- Adjust the exhaust lamellas by deflecting them from the front exhaust cover.
- The minimum lamellas deflection for a correct function of the unit is from 45°, which allows ideal direction of the blown air into the heated space.



The lamellas must always be opened during operation of the unit



Gradually flex the lamellas from top to bottom

4. Regulation

4.1. General Information –Safety



The electrical connections of the control elements may only be performed by persons qualified for this activity with the applicable authorization and knowledge of the relevant standards and directives. Before starting any assembly work, it is necessary to switch off the power supply. During installation, the switch must be secured against being switched on again by an unauthorized person.

- Before starting the installation of the control elements and connecting the installation, it is necessary to familiarize yourself with the original documentation of the individual elements.

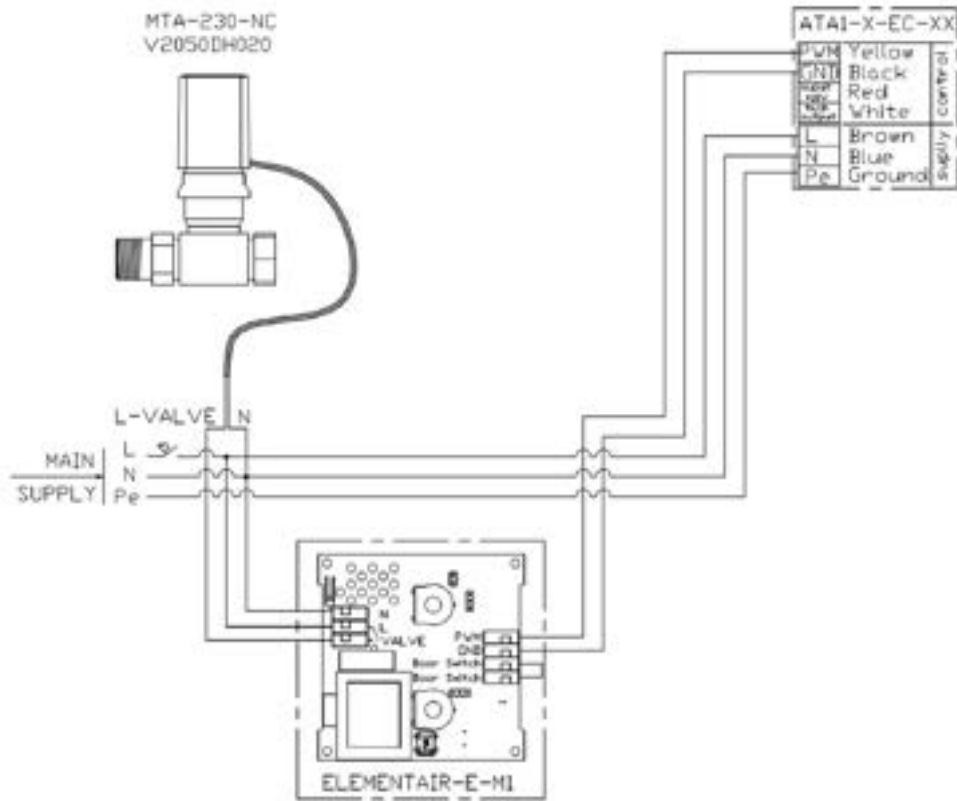
4.2. Control elements

name / sales code	illustration of control element	technical data			Comments
		description of the variables	units	value	
Speed and temperature regulator ELEMENTAIR-E-M1		Regulator input voltage	V/Hz	1 ~ 230/50-60	- Up to 8 Atacama Units can be connected to one regulator - Description of individual regulator functionalities is described in a separate catalog sheet. - Regulator is mainly designed to control following units: ATA1-2-ECV, ATA1-3-ECV, ATA1-4-ECV
		Max. current carrying capacity	A	5	
		Max. loading capacity for valve servo control	A	5	
		Output signal for fan control	VDC	0-10	
		Permissible load (for EC variant 0-10)	A	0,02	
		Temperature control range of the room thermostat	°C	5 - 35	
		Temperature sensor	-	Integrated	
		Protection type	-	IP20	
Speed regulator ELEMENTAIR-B-M1		Input voltage	VDC	+10	- Up to 3 Atacama Units can be connected to one regulator - We recommend powering the controller from +10V fan output. - Description of individual regulator functionalities is described in a separate catalog sheet. - Regulator is mainly designed to control following units: ATA1-2-ECS, ATA1-3-ECS, ATA1-4-ECS
		Max. current carrying capacity	mA	10	
		Output signal for fan control	VDC	0-10	
		Protection type	-	IP20	
		Net weight	kg	0,12	
Valve + actuator (servo-unit) MTA-230-NC + V2050CH020		Power supply	V/Hz	230/50 - 60	- we recommend to attach the assembly on the return pipe - the servo-unit is controlled by a room thermostat from the ELEMENTAIR-E-M1 regulator - we recommend connecting the servo-unit with cable with a cross-section of 2 x 0.75mm ²
		Consumption	W	2	
		Connection dimension	"	3/4	
		Max. medium temperature	°C	120	
		Max. ambient temperature	°C	50	
		Protection class - in any position	-	IP 44	
		Net weight	kg	0,3	
Filter FILTER-350		Filtration Class	-	G2 (ISO Coarse)	- filter designed for units ATA1-2-EC, ATA1-3-EC
		Net weight	kg	0,1	
		Filter FILTER-450	Filtration Class	-	
Net weight	kg		1,1		

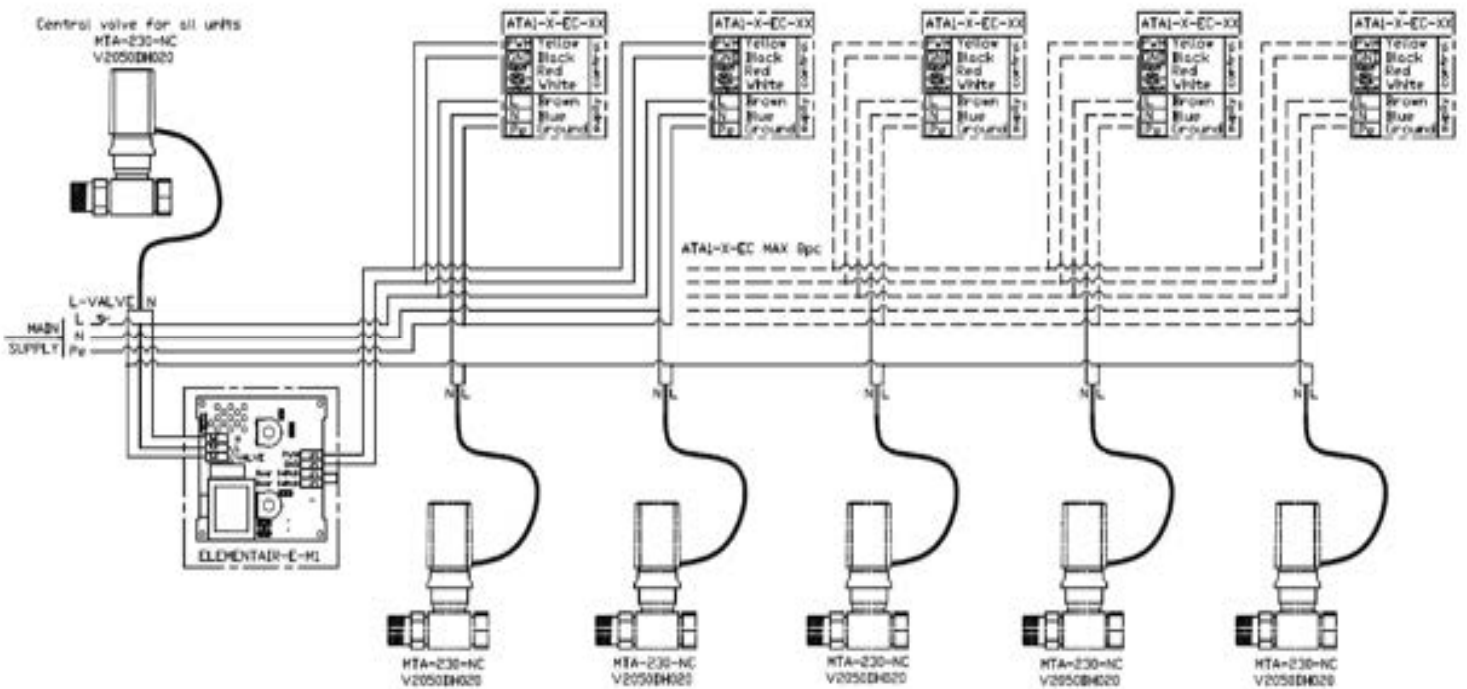
A detailed description of the water exchanger control can be found in the instructions for the individual control elements

5. Atacama heating unit wiring diagram

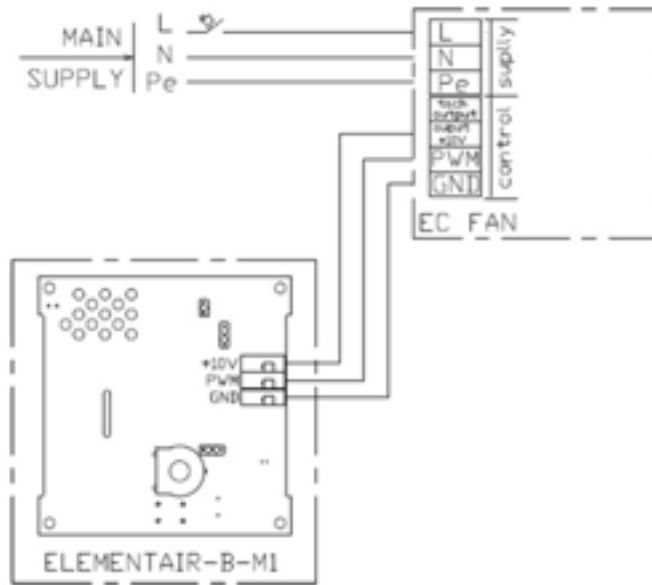
5.1. Wiring diagram for connection of units ATA1-2-ECV, ATA1-3-ECV, ATA4-ECV with regulator ELEMENTAIR-E-M1



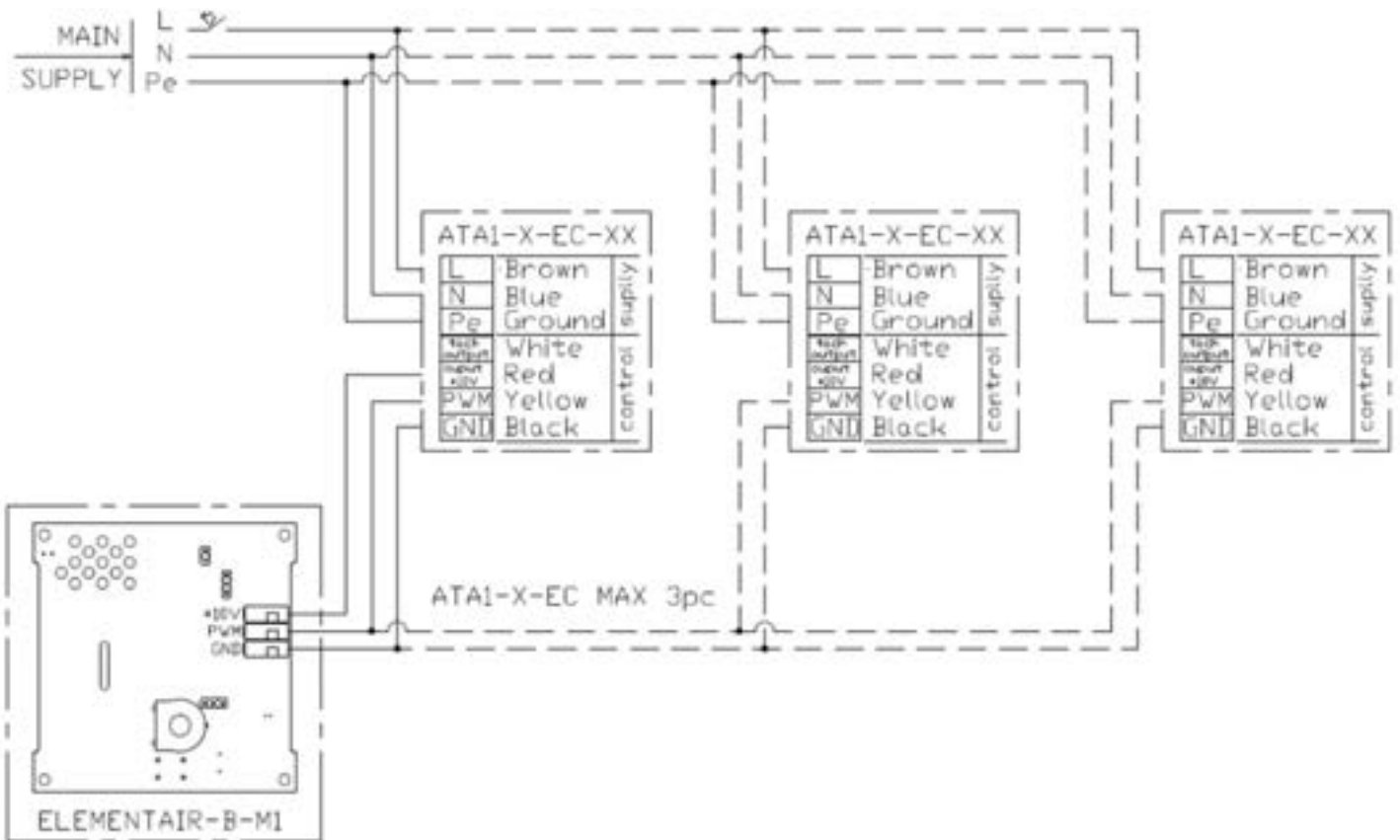
5.2. Connection of chained units ATA1-2-ECV, ATA1-3-ECV, ATA4-ECV with regulator ELEMENTAIR-E-M1



5.3. Connection of units ATA1-2-ECS, ATA1-3-ECS, ATA4-ECS with regulator ELEMENTAIR-B-M1



5.4. Connection of chained units ATA1-2-ECS, ATA1-3-ECS, ATA4-ECS with regulator ELEMENTAIR-B-M1

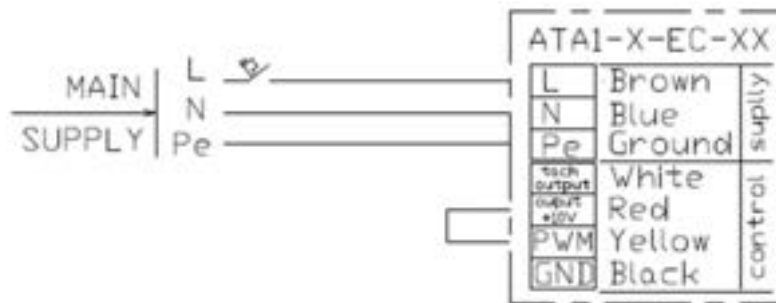


5.5. Connection of units without regulation

- Unit – the fan operation – can be switched on and off only by the ON/OFF controls at the power supply to the fan.
- Switching/disconnection of the supply voltage can be solved by e.g.: timer, spatial thermostat.
- Other regulation elements will not be connected to the regulator functionality. Their regulation must be dealt with separately.



The supply voltage to the fan 1~230V/50-60Hz must not be modified in any way, otherwise there is a risk of damage to the unit fan.



- The fan connected in this way only operates at maximum speed and cannot be regulated.

6. Commissioning

6.1. Before the first start , check the following:

- If there are no objects in the unit that could damage the unit (e.g. tools);
- If all the hydraulic connections are properly connected (tightness of the vent valve, connection branch and the mounted valve);
- If all electrical connections are connected correctly according to technical documentation, including connection of regulation and accessories;
- If the unit has all the assembly and installation screws tightened, and the lamellas properly deflected.



All connections must be made in accordance with the technical documentation supplied to the unit and the documentation supplied to the control elements.

6.2. Switching on

- After the first start, check the basic functionality of the individual parts of the unit (fan operation, heating), and also focus on the tightness of hydraulic system.
- Check the other functions of the entire assembly according to the instructions for use of the selected regulator.

7. Regular maintenance and cleaning of Atacama heating unit



Before any maintenance and cleaning of the unit, the unit must be disconnected from the power supply, and the heating water supply to the unit exchanger must be switched off. Work must be carried out only after the exchanger has cooled down. Otherwise, there is a risk of burns and injuries caused by rotating parts!!!

7.1. Regular maintenance

- Regular inspection of the unit, especially the water exchanger, is recommended to perform every 500 hours of operation of the unit.
- The unit must also be checked before the start and at the end of the heating season.
- If the unit is not used for a longer period of time, it is necessary to switch off the supply voltage to the unit.

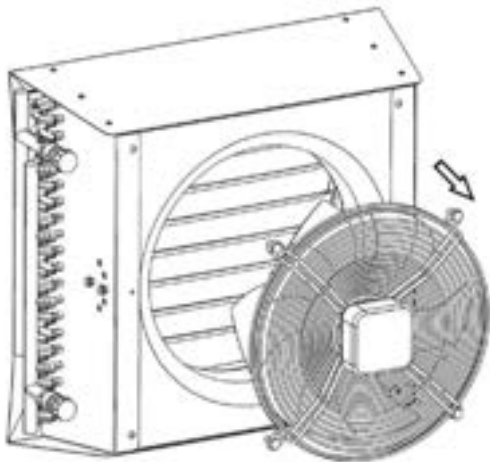
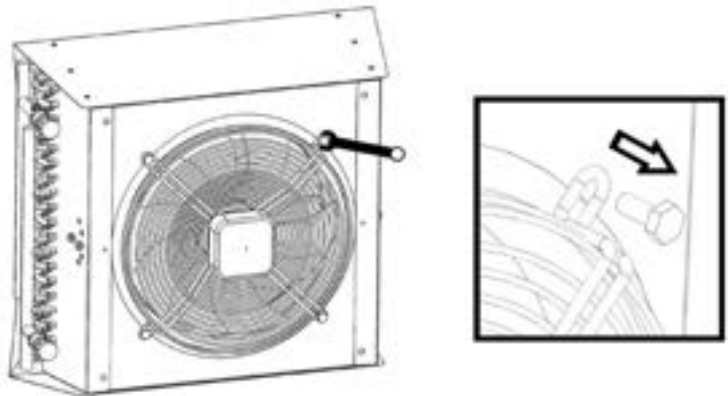
- If the temperature in the space is assumed to fall below 5°C and the temperature of the heating water is low, there is a risk of the heat exchanger freezing – bursting. Unit – exchanger is not equipped with anti-freeze protection.
- Regular maintenance must include:
 - o Check the heat exchanger and clean it from dust and grease, if any.
 - o Check of the motor and fan (bearings), remove the dust and grease on the protective cage and fan blades.
 - o Check of tightening of all screw joints on the unit (e.g. screws for unit fixation on the console, mounting screws to the wall), including check of mechanical damage of the unit (e.g. loose exhaust lamellas, damaged fan cage)
 - o Check and replace fan filter if necessary. If installed.

7.2. Cleaning procedure

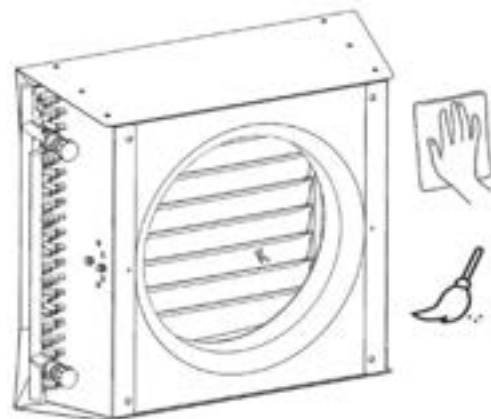
- **Compressed air, aggressive chemicals, water or sharp objects must not be used to clean the unit**
- Always wear protective gloves when cleaning the unit
- The following tools are necessary to clean the unit:

- o Wrench of the appropriate size, depending on the unit
- o Vacuum cleaner
- o A lint-free cloth
- o Brush
- o Cleaning solution (soap water)

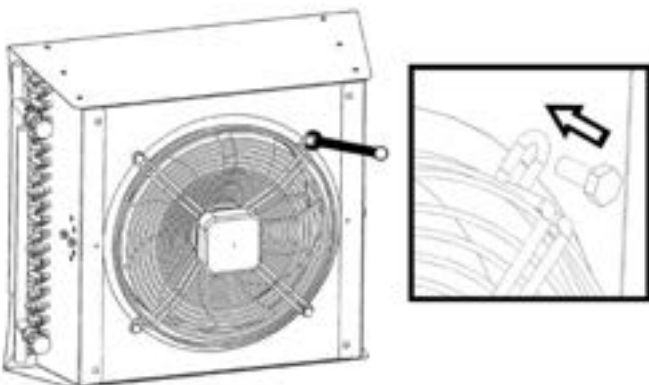
- Using an appropriate wrench, remove the fan from the unit rear plate.



- Clean the fan with brush. Alternatively, wash with a cloth soaked with soap water.



- Clean the water exchanger and inner housing of the unit with the vacuum cleaner



- Put the fan back into the rear plate of the unit. Make sure the fan is properly centred against the

- Clean the housing with a damp cloth soaked with soap water.

8. Service

- Comply with the general country-specific provisions. In case of any service activity, it is necessary to disconnect the unit from the mains and switch off the heating water supply to the unit heat exchanger. Work must be carried out only after the exchanger has cooled down. Any electrical service work must be carried out by a person with professional qualifications. Complete the electrical connection precisely according to the supplied electrical documentation

8.1. Troubleshooting procedure

Failure	Possible cause of the fault	Troubleshooting
Leakage of the heating system, exchanger – dripping	Untightened heating system connections, vent valves	Tighten or reseal all leaking joints
	Heat exchanger rupture due to temperature drop below 0°C and insufficient heating water temperature	The heat exchanger is irreversibly destroyed, disconnect the unit from electricity and heating water. Contact the supplier.
Low heat output of the unit	The exchanger is aerated	Open the vent valve on the heat exchanger. See section 3.5.3
	The exchanger is heavily contaminated with dust and/or grease	Dis-assemble the fan according to the specified procedure and then clean with hot water or steam
	Shut-off or control valves are not fully open	Check and, if necessary, open the shut-off valves. For the control valve, check its correct connection, functionality, or replace it with a new one
	Auxiliary filter clogged	Clean the filter or replace it – contact the supplier
The unit is too noisy	The intake or exhaust space is blocked	Clean; release intake and exhaust
	Fan bearing noise, the fan rotates very hard	Fan replacement required – contact the supplier
	Auxiliary filter clogged	Clean the filter or replace it – contact the supplier
	Unbalanced fan – the fan vibrates extremely during operation	nutná výměna ventilátoru - kontaktujte dodavatele
The unit works independently; after connection with the regulation it does not	Incorrect connection of the regulator with the unit	Check the connection according to the recommended wiring diagram

9. Decommissioning and recycling



All unused or not operable products and packaging should be returned to the appropriate recycling locations where they will dispose of them in a professional manner. Please dispose the unusable parts of the product in a controlled landfill. Only like this the recycled product can be reused and bring a new benefit.



10. Warranty

We do not guarantee the suitability of using the regulator for special purposes; determination of suitability is fully within the competence of the customer and the designer. The regulator warranty is valid according to legal regulations. The warranty only applies if all installation and maintenance instructions are followed. The warranty covers manufacturing defects, defects in material or defects in the operation of the equipment.

The warranty does not apply to defects caused by:

- improper use or project
- incorrect handling
- during transport (damage caused by transport and its financial compensation must be resolved with the carrier)
- incorrect assembly
- incorrect electrical connection or protection
- incorrect operation
- by unprofessional intervention in the regulator
- wear and tear in a normal manner
- as a result of a natural disaster

When applying the warranty, it is necessary to submit a report (part of this document) containing:

- details of the complaining person/company
- date and number of the sales document
- detail defect description
- wiring diagram and protection data
- photo of the product's manufacturing label and, where appropriate, serial number
- photo from the place of product installation
- product measured values: air temperature, voltage, current

The method of handling the warranty repairs is carried out at the company service centre or at the place of installation. The method of resolving warranty repairs is exclusively at the discretion of the company's service centre. The complaining party shall receive a written statement on the result of the complaint – warranty repairs. In the event of an unjustified complaint, all costs associated with this shall be borne by the complaining Party.

11. Conclusion

If you have any doubts about this product, please do not hesitate to contact us.

Contact address:

SMART-FLEX Sp. z o.o.
Mielczarskiego 21/23
42-202 Częstochowa

