



# ALFA EC



# FULL MANUAL INSTALLATION AND OPERATION







#### 1 – BEFORE STARTING

#### 1.1 – DETAILS ABOUT THE MANUAL

The following symbols are used for an easier orientation in the text herein. Their respective meanings are listed in the table below.

Symbol	Meaning
A CAUTION!	Warning or note
Q PLEASE NOTE!	Important instructions
<b>★</b> YOU WILL NEED	Practical tips and information
TECHNICAL INFORMATION	Detailed technical information
<b>4</b>	Reference to another part of the manual



Before connecting the unit, read the following information with care, and follow the instructions regarding use and maintenance. 2VV s.r.o. reserves the right to modify the technical documentation without prior notice.

Keep the manual for future use. The manual is an integral part of the product.

#### 1.2 - INFORMATION ABOUT THE PRODUCT AND INSTALLATION

ALFA4 EC Comfort is a unit that feeds air into a building, filters and extracts it from the building, heats it or cools it, depending on the unit. ALFA4 EC Comfort should not be used solely for heating.

The unit is designed to ventilate offices, small shops, bars, restaurants, sports facilities and other indoor spaces. The design of the ventilation unit must be in charge of a professional in the field.



#### TECHNICAL INFORMATION

- The unit is designed for indoor use, to operate in a temperature range of +5 °C to +35 °C and a relative humidity of up to 90 %. It can absorb air free of large particles of dust, grease, chemical fumes and other impurities, at temperatures between -30 °C and +40 °C and a relative humidity of up to 90 %. The fan's electrical protection is IP20
- The unit has automatic regulation and control, allowing to set precise parameters of ventilation, and heating and cooling rates.

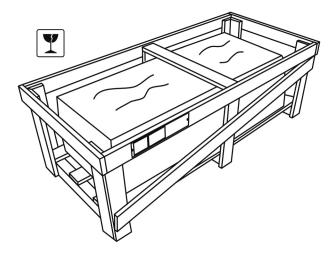
#### 1.3 - DECLARATION OF CONFORMITY

The product has been designed, produced an marketed in compliance with all the applicable provisions, and abides to the provisions of the European Parliament and Council, including the amendments under which it has been classified. It is safe under normal conditions and under the conditions laid down by the manual. The assessment was conducted pursuant to harmonized European standards included in the relevant EC Declaration of Conformity. The current and full version of the EC Declaration of Conformity can be found at www.2vv.cz.



#### 2 - UNPACKING

#### 2.1 - CONTROLLING THE DELIVERY



#### O PLEASE NOTE!

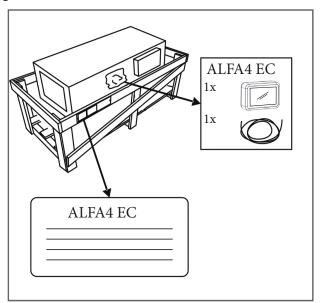
- Control the product for damages upon delivery. If the packaging presents damages, contact the transporter.
- Any complaints must be filed in a timely manner, otherwise, they will be disregarded.
- Control whether the product corresponds to your order. In case of receiving a different product, do not unpack it and notify the supplier immediately.
- After unpacking, check that the product and the accessories are in perfect condition. In case of doubt, contact the supplier.
- Under no circumstances try to install a damaged product.
- If the product is not unpacked upon delivery, store it in a dry place, protected from the elements, at a temperature between + 5 °C and + 35 °C.



All the product's packaging materials are environmentally friendly and can be reused or recycled. Thank you for your active contribution to the protection of the environment by appropriately disposing of or recycling the packaging.



#### 2.2 - UNPACKING THE UNIT

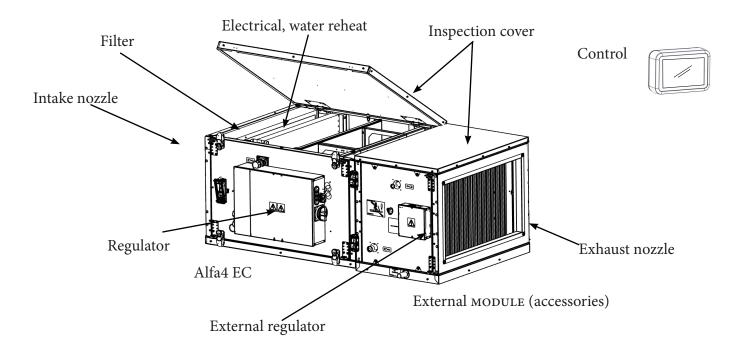


#### Q PLEASE NOTE!

• If the unit has been shipped in temperatures lower than 0°C, after unpacking, leave it disconnected at operational conditions for at least 2 hours to balance the temperature inside.

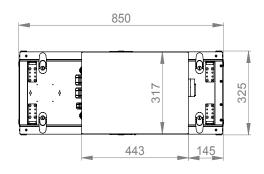


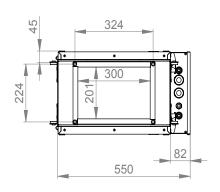
#### 3 - MAIN PART

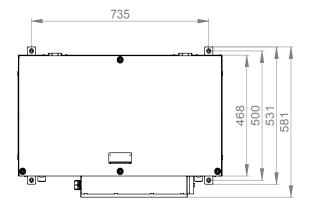


#### 4 - DIMENSIONS

AHAL4-05-EL (electric heat exchanger)

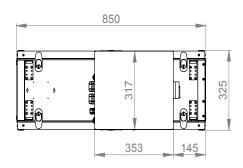


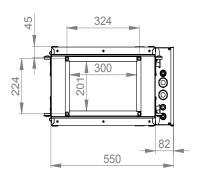


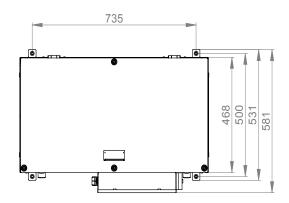




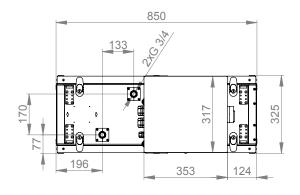
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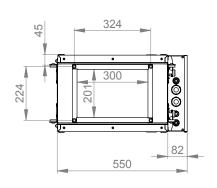


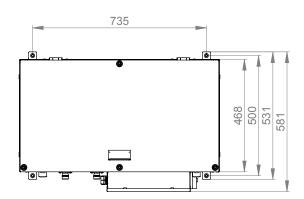




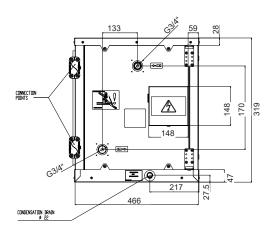
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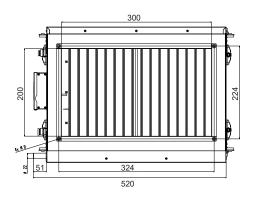


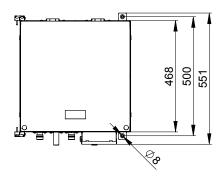




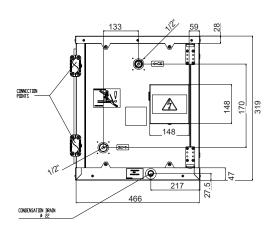


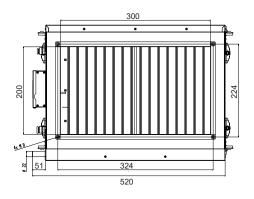


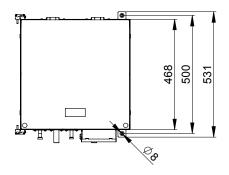




## DX EXTERNAL MODULE - AHAL4-05

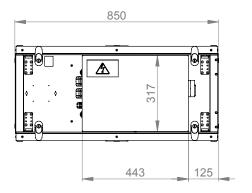


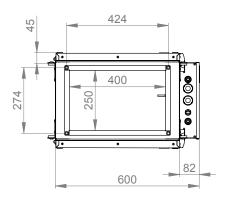


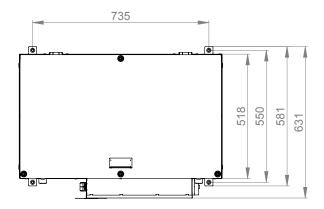




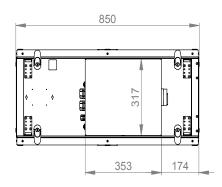
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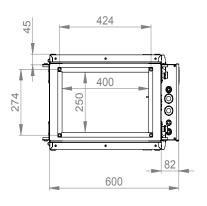


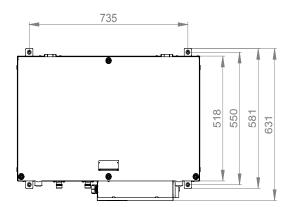




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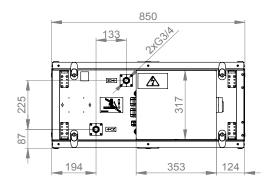


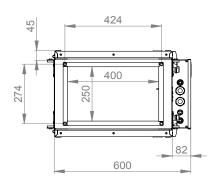


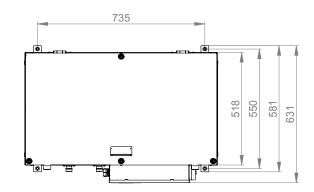




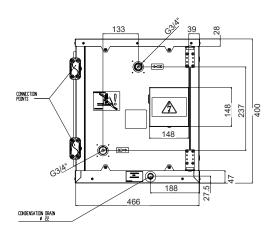
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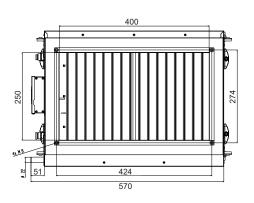


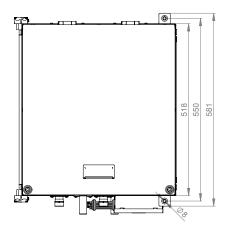




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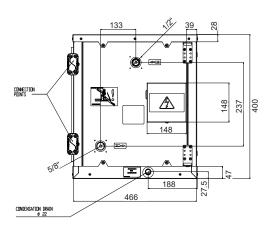


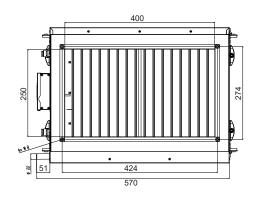


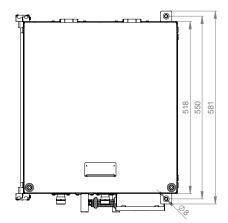




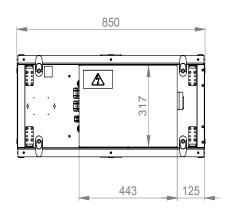
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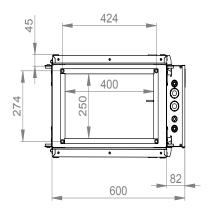


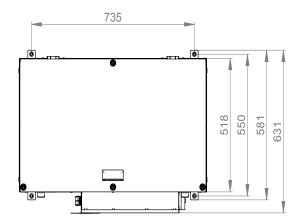




AHAL4-20-EL (electric heat exchanger)

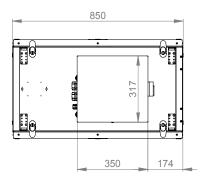


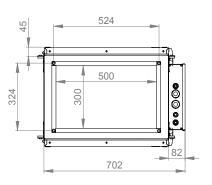


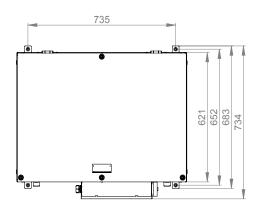




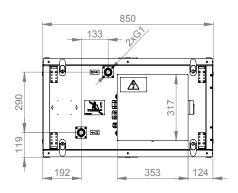
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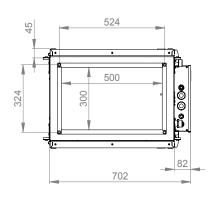


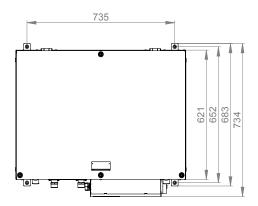




## AHAL4-20-VV (water heat exchanger)

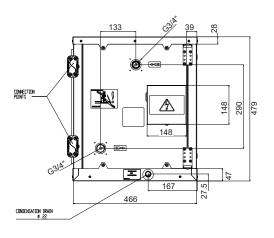


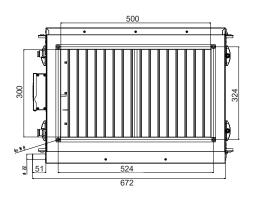


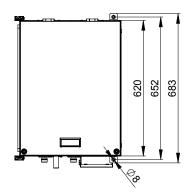




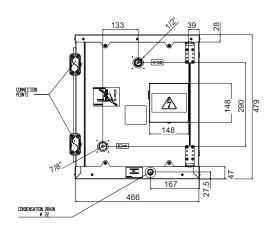
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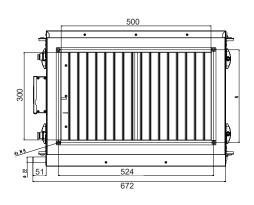


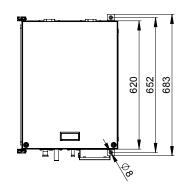




## DX EXTERNAL MODULE - AHAL4-20

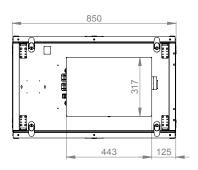


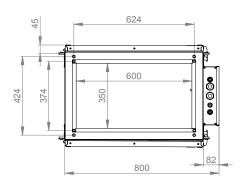


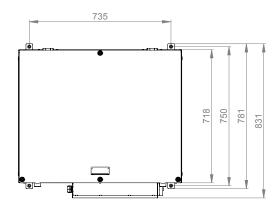




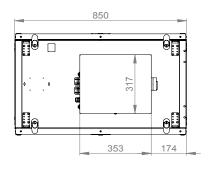
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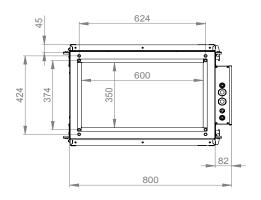


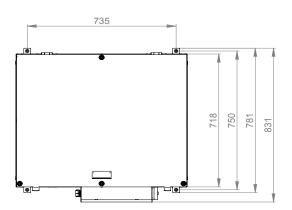




# AHAL4-30-S (without reheating)

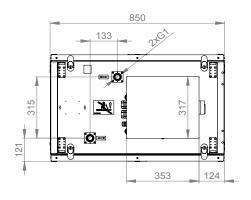


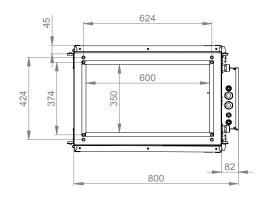


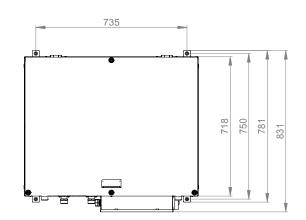




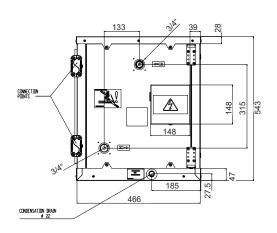
# AHAL4-30-VV (water heat exchanger)

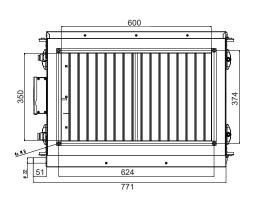


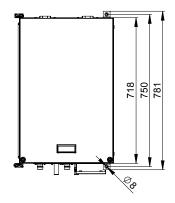




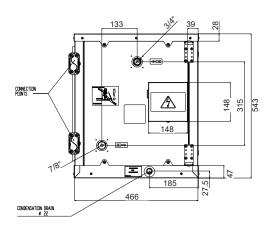
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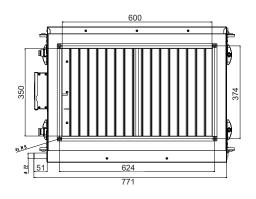


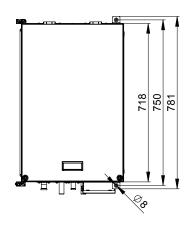




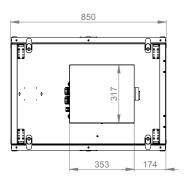


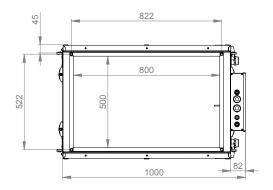


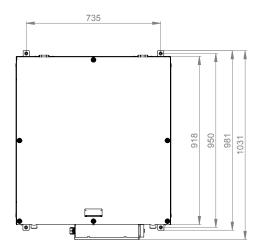




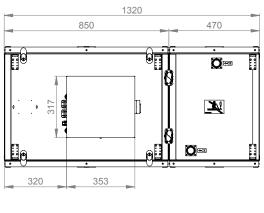
AHAL4-50-S (without reheating)

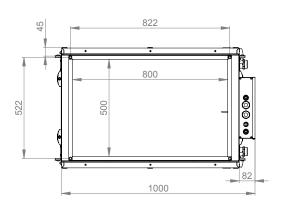


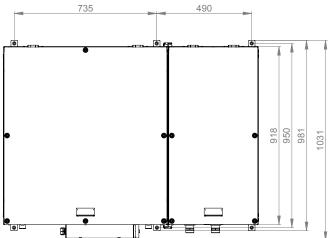




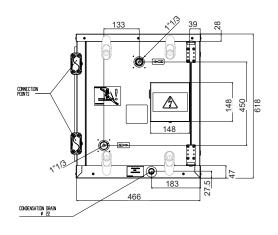


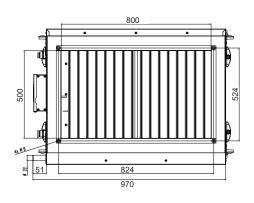


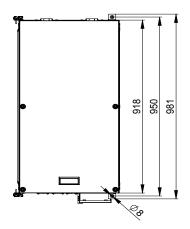




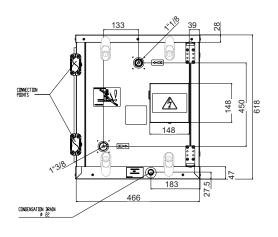
## C/O EXTERNAL MODULE - AHAL4-50

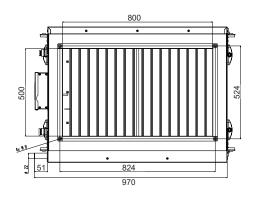


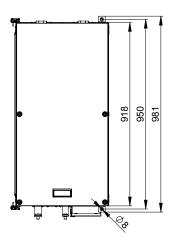




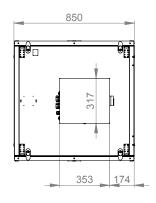


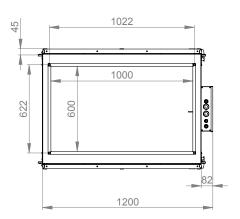


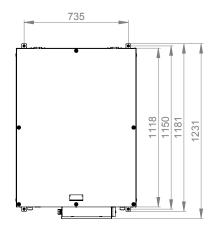




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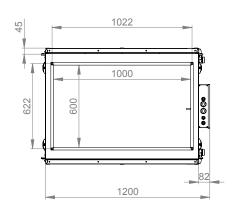


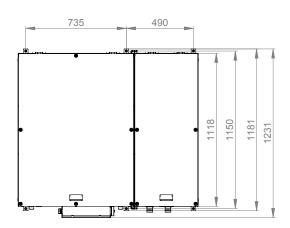
#### AHAL4-80-VV

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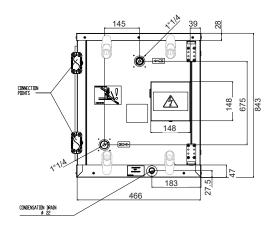


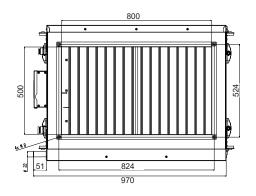
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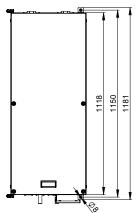




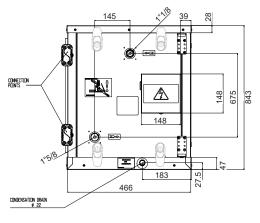
#### C/O EXTERNAL MODULE - AHAL4-80

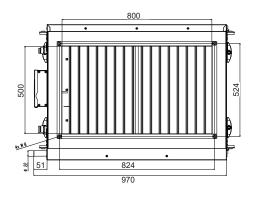


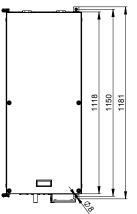












## 5 - TECHNICAL PARAMETERS

Type of unit	Supply voltage	Fan speed (rpm)	Current (A)	Input power (kW)	Weight (kg)
AHAL4-050HX00E40-XS0	230V - 50/60Hz	3635	1	0.17	34
AHAL4-050HX00E40-XE1	230V - 50/60Hz	3635	15.5	3.40	36
AHAL4-050HX00E40-XE2	400V - 50/60 Hz	3635	10.5	6.7	36
AHAL4-050HX00E40-XV2	230V - 50/60Hz	3635	1	0.17	36
AHAL4-100HX00E40-XS0	230V - 50/60Hz	2900	1.1	0.18	37
AHAL4-100HX00E40-XE0	230V - 50/60Hz	2900	15.5	3.40	41
AHAL4-100HX00E40-XE1	400V - 50/60Hz	2900	10.5	6.7	41
AHAL4-100HX00E40-XE2	400V - 50/60 Hz	2900	15	10	41
AHAL4-100HX00E40-XE3	400V - 50/60 Hz	2900	20	13.65	41
AHAL4-100HX00E40-XV2	230V - 50/60Hz	2900	1.1	0.18	41
AHAL4-200HX00E40-XS0	230V - 50/60Hz	2600	2.9	0.47	50
AHAL4-200HX00E40-XE1	400V - 50/60 Hz	2600	21	14	55
AHAL4-200HX00E40-XE2	400V - 50/60 Hz	2600	28	18.5	55
AHAL4-200HX00E40-XE3	400V - 50/60 Hz	2600	41	27.5	55
AHAL4-200HX00E40-XV2	230V - 50/60Hz	2600	2.9	0.47	55
AHAL4-300HX00E40-XS0	400V - 50/60 Hz	2580	2	1.1	65
AHAL4-300HX00E40-XE1	400V - 50/60 Hz	2580	31	21	70
AHAL4-300HX00E40-XE2	400V - 50/60 Hz	2580	41	28	70
AHAL4-300HX00E40-XE3	400V - 50/60 Hz	2580	59.8	41	70
AHAL4-300HX00E40-XV2	400V - 50/60 Hz	2580	2	1.1	70
AHAL4-500HX00E40-XS0	400V - 50/60 Hz	2600	2.65	1.8	95
AHAL4-500HX00E40-XV2	400V - 50/60 Hz	2600	2.65	1.8	104
AHAL4-800HX00E40-XS0	400V - 50/60 Hz	2040	4.15	2.85	120
AHAL4-800HX00E40-XV2	400V - 50/60 Hz	2040	4.15	2.85	128



## Water temperature drop 90/70 ° C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature			-20°C				-10°C		
AHAL4-050HX00A40-XV2C-0A0	500	500 36.9 9.16 0.11 9 41.20 8.12					8.12	0.10	8
AHAL4-100HX00A40-XV2C-0A0	1000	30.4	16.4	0.20	7	35.3	14.5	0.18	6
AHAL4-200HX00A40-XV2C-0A0	2000	24.3	29.3	0.36	5	29.8	25.9	0.32	4
AHAL4-300HX00A40-XV2C-0A0	3000	24.5	44.1	0.54	7	30	39	0.48	5
AHAL4-500HX00E40-XV2C-0A0	5000	23.9	72.6	0.89	12	29.6	64.3	0.79	9
AHAL4-800HX00E40-XV2C-0A0	8000	24.5	117	1.44	5	29.9	104	1.27	4
Intake temperature			0°C				10°C		
AHAL4-050HX00A40-XV2C-0A0	500	45.50	7.11	0.10	6	49.70	6.11	0.08	5
AHAL4-100HX00A40-XV2C-0A0	1000	40.1	12.7	0.16	4	44.9	10.8	0.13	3
AHAL4-200HX00A40-XV2C-0A0	2000	35.2	22.5	0.28	4	40.5	19.2	0.23	3
AHAL4-300HX00A40-XV2C-0A0	3000	35.5	33.9	0.42	6	40.9	29	0.36	4
AHAL4-500HX00E40-XV2C-0A0	5000	35.1	56	0.69	9	40.7	48	0.59	6
AHAL4-800HX00E40-XV2C-0A0	8000	35.4	90.1	1.10	5	40.7	76.9	0.94	3

## Water temperature drop 80/60 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature		-20°C -					-10°C		
AHAL4-050HX00A40-XV2C-0A0	500	500 30.30 8.27 0.10 8				34.70	7.23	0.09	6
AHAL4-100HX00A40-XV2C-0A0	1000	24.4	14.7	0.18	6	29.3	12.8	0.16	5
AHAL4-200HX00A40-XV2C-0A0	2000	18.8	26.2	0.32	4	24.3	22.7	0.28	4
AHAL4-300HX00A40-XV2C-0A0	3000	19.1	39.5	0.48	6	24.6	34.4	0.42	6
AHAL4-500HX00E40-XV2C-0A0	5000	18.7	65.2	0.79	10	24.4	56.8	0.69	9
AHAL4-800HX00E40-XV2C-0A0	8000	19	105	1.28	4	24.5	91.1	1.11	3
Intake temperature			0°C				10°C		
AHAL4-050HX00A40-XV2C-0A0	500	39	6.21	0.08	5	43.20	5.22	0.06	6
AHAL4-100HX00A40-XV2C-0A0	1000	34.2	11	0.13	3	39	9.16	0.11	4
AHAL4-200HX00A40-XV2C-0A0	2000	29.7	19.3	0.24	3	35	16	0.19	4
AHAL4-300HX00A40-XV2C-0A0	3000	30.1	29.3	0.36	5	35.5	24.4	0.30	5
AHAL4-500HX00E40-XV2C-0A0	5000	48.6	30	0.59	7	35.5	40.6	0.49	5
AHAL4-800HX00E40-XV2C-0A0	8000	29.9	77.7	0.95	3	35.3	64.5	0.79	2

## Water temperature drop 70/50 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	
Intake temperature			-20°C				-10°C			
AHAL4-050HX00A40-XV2C-0A0	500	500 23.90 7.35 0.09 7				28.20	6.31	0.08	5	
AHAL4-100HX00A40-XV2C-0A0	1000	18.4	13	0.16	5	23.3	11.1	0.14	4	
AHAL4-200HX00A40-XV2C-0A0	2000	13.3	22.9	0.28	4	18.8	19.4	0.24	3	
AHAL4-300HX00A40-XV2C-0A0	3000	13.7	34.7	0.42	6	19.3	29.6	0.36	5	
AHAL4-500HX00E40-XV2C-0A0	5000	13.6	57.6	0.70	9	19.2	49.1	0.60	7	
AHAL4-800HX00E40-XV2C-0A0	8000	13.6	92	1.12	4	19.1	78.3	0.95	4	
Intake temperature			0°C		U		10°C			
AHAL4-050HX00A40-XV2C-0A0	500	32.50	5.29	0.06	6	36.80	4.28	0.05	6	
AHAL4-100HX00A40-XV2C-0A0	1000	28.2	9.24	0.11	4	33	7.44	0.09	3	
AHAL4-200HX00A40-XV2C-0A0	2000	24.2	16.1	0.19	4	29.6	12.8	0.16	2	
AHAL4-300HX00A40-XV2C-0A0	3000	24.8	24.6	0.30	5	30.2	19.7	0.24	3	
AHAL4-500HX00E40-XV2C-0A0	5000	24.8	41	0.50	5	30.3	33	0.40	5	
AHAL4-800HX00E40-XV2C-0A0	8000	24.5	64.8	0.79	2	29.9	51.7	0.63	3	

#### C/O MODULE 90/70 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature			-20°C				-10°C		
AHAL4-050 EC	500	64.3	12.5	0.15	5	65.9	11.2	0.14	4
AHAL4-100 EC	1000	59.1	23.5	0.29	7	61.2	21	0.26	6
AHAL4-200 EC	2000	54.3	44.7	0.55	11	56.9	39.9	0.49	9
AHAL4-300 EC	3000	24.5	44.1	0.54	7	30	39	0.48	5
AHAL4-500 EC	5000	50.08	107	1.31	8	53.7	95.8	1.17	6
AHAL4-800 EC	8000	52.7	175	2.15	5	55.3	156	1.91	4
Intake temperature			0°C				10°C		
AHAL4-050 EC	500	67.5	9.9	0.12	5	69	8.6	0.11	4
AHAL4-100 EC	1000	63.2	18.6	0.23	5	65.2	16.1	0.20	5
AHAL4-200 EC	2000	59.4	35.2	0.43	9	61.9	30.5	0.37	7
AHAL4-300 EC	3000	35.5	33.9	0.42	6	40.9	29	0.36	4
AHAL4-500 EC	5000	56.5	84.2	1.03	6	59.3	72.8	0.89	5
AHAL4-800 EC	8000	57.9	138	1.68	3	60.4	119	1.46	4



#### C/O MODULE 80/60 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature			-20°C				-10°C		
AHAL4-050 EC	500	55.1	11.4	0.14	4	56.7	10.1	0.12	5
AHAL4-100 EC	1000	50.2	21.5	0.26	6	52.3	18.9	0.23	5
AHAL4-200 EC	2000	46	40.7	0.50	10	48.6	35.9	0.44	8
AHAL4-300 EC	3000	19.1	39.5	0.48	6	24.6	34.4	0.42	6
AHAL4-500 EC	5000	42.7	97.6	1.19	6	45.6	85.7	0.04	6
AHAL4-800 EC	8000	19	105	1.28	4	24.5	91.1	1.11	3
Intake temperature			0°C				10°C		
AHAL4-050 EC	500	58.3	8.76	0.11	4	59.8	7.45	0.09	3
AHAL4-100 EC	1000	54.4	16.4	0.20	5	56.4	13.9	0.17	4
AHAL4-200 EC	2000	51.1	31	0.38	7	53.7	26.3	0.32	5
AHAL4-300 EC	3000	30.1	29.3	0.36	5	35.5	24.4	0.30	5
AHAL4-500 EC	5000	48.4	74	0.90	5	51.5	62.4	0.76	3
AHAL4-800 EC	8000	29.9	77.7	0.95	3	35.3	64.5	0.63	2

#### C/O MODULE 70/50 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature			-20°C				-10°C		
AHAL4-050 EC	500	500 45.8 10.3 0.13 6 47				47.4	8.93	0.11	4
AHAL4-100 EC	1000	41.4	19.3	0.23	5	43.5	16.7	0.20	6
AHAL4-200 EC	2000	37.7	36.5	0.44	8	40.3	31.6	0.38	8
AHAL4-300 EC	3000	13.7	34.7	0.42	6	19.3	29.6	0.36	5
AHAL4-500 EC	5000	34.6	87.2	1.06	6	37.5	75.1	0.91	5
AHAL4-800 EC	8000	13.6	92	1.12	4	19.1	78.3	0.95	4
Intake temperature			0°C				10°C		
AHAL4-050 EC	500	49.1	7.58	0.09	3	50.6	6.23	0.08	2
AHAL4-100 EC	1000	45.6	14.1	0.17	4	47.7	11.6	0.14	3
AHAL4-200 EC	2000	42.9	26.7	0.33	6	45.4	21.9	0.27	5
AHAL4-300 EC	3000	24.8	24.6	0.30	5	30.2	19.7	0.24	3
AHAL4-500 EC	5000	40.3	63.2	0.77	4	43.2	51.5	0.63	4
AHAL4-800 EC	8000	24.5	64.8	0.79	2	29.9	51.7	0.63	3



#### C/O MODULE 60/40 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature	-20°C -10°C								
AHAL4-050 EC	500	500 36.5 9.09 0.11 5 38.2 7.71					0.09	3	
AHAL4-100 EC	1000	32.6	17	0.20	6	34.7	14.4	0.17	4
AHAL4-200 EC	2000	29.3	32.1	0.38	8	32	27.1	0.23	6
AHAL4-300 EC	3000	27.3	46.5	0.56	4	30.1	39.1	0.47	3
AHAL4-500 EC	5000	26.4	76.2	0.92	5	29.4	64	0.77	4
AHAL4-800 EC	8000	27.6	124	1.50	5	30.3	105	1.26	3
Intake temperature			0°C				10°C		
AHAL4-050 EC	500	39.8	6.32	0.07	2	41.3	4.54	0.06	4
AHAL4-100 EC	1000	36.8	11.7	0.14	3	38.8	9.16	0.11	4
AHAL4-200 EC	2000	34.6	22.2	0.27	5	37.1	17.3	0.21	5
AHAL4-300 EC	3000	32.8	31.7	0.38	4	35.5	24.4	0.29	4
AHAL4-500 EC	5000	32.3	52	0.63	4	35.1	40	0.48	2
AHAL4-800 EC	8000	33	84.8	1.02	3	35.6	65.2	0.78	2

#### C/O MODULE 6/12 °C

Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature			25°C				30°C		
AHAL4-050 EC	500	14	2,2	0,09	3	14,9	4,1	0,16	7
AHAL4-100 EC	1000	14,7	3,9	0,16	4	16	7,5	0,30	10
AHAL4-200 EC	2000	14,9	6,9	0,27	6	16,6	14,3	0,57	16
AHAL4-300 EC	3000	15,6	9,6	0,38	4	17,3	19,4	0,77	7
AHAL4-500 EC	5000	15,8	15,8	0,63	4	17,5	32	1,27	9
AHAL4-800 EC	8000	15,6	25,7	1,02	4	17,3	51,9	2,06	6
Intake temperature			35°C				40°C		
AHAL4-050 EC	500	16	6,3	0,25	13	17,2	9	0,36	23
AHAL4-100 EC	1000	17,3	11,7	0,46	17	18,8	16,6	0,66	32
AHAL4-200 EC	2000	18,2	22,1	0,88	32		-		
AHAL4-300 EC	3000	19	31	1,23	15	20,8	44,7	1,78	28
AHAL4-500 EC	5000	19,2	50,8	2,02	18	21,1	73,3	2,91	33
AHAL4-800 EC	8000	19	82,8	3,29	13	20,7	120	4,76	23



Туре	Air flow (m3/h)	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]	Air temperature after exchanger (°C)	Output (kW)	Medium flow (l/s)	Pressure of medium [kPa]
Intake temperature			25°C				30°C		
AHAL4-050 EC	500	14,2	1,8	0,07	2	15,7	3,8	0,15	6
AHAL4-100 EC	1000	15,1	3,4	0,13	3	16,6	6,9	0,27	8
AHAL4-200 EC	2000	15,6	6,4	0,25	5	17,2	13	0,52	13
AHAL4-300 EC	3000	16,3	8,9	0,35	4	17,9	17,7	0,70	8
AHAL4-500 EC	5000	16,4	14,6	0,58	4	18	29,2	1,16	7
AHAL4-800 EC	8000	16,3	23,7	0,94	3	17,9	47,2	1,88	5
Intake temperature			35°C				40°C		
AHAL4-050 EC	500	16,7	6	0,24	12	17,9	8,6	0,34	21
AHAL4-100 EC	1000	18	11	0,44	15	19,4	16	0,63	29
AHAL4-200 EC	2000	18,8	20,9	0,83	29		-		
AHAL4-300 EC	3000	19,6	29,2	1,16	14	21,3	42,9	1,70	26
AHAL4-500 EC	5000	19,8	48	1,90	16	21,6	70,4	2,80	31
AHAL4-800 EC	8000	19,5	78,1	3,10	11	21,3	115	4,57	21

#### DX MODULE

Туре	Air flow	Cooling capacity	Air temperature	Exhaust rel. humidity	Air pressure drop	Fluid pressure drop	External temperature
	m3/h	kW	°C	%	Pa	kPa	°C
		1.9	8.9	81.9	27	11	20
AHAL4-050	500	3.0	11.6	74.3	35	23	25
AHAL4-050	500	4.1	13.9	73.3	35	41	30
		5.4	16.5	72.8	34	67	35
	1	3.5	10	76.4	45	14	20
			12.7	71.8	59	30	
AHAL4-100	1000	5.4					25
		7.4	15.4	71	58	53	30
		9.8	18.2	70.4	58	87	35
		6.3	10.9	71.5	72	8	20
		8.0	13.3	82.9	71	13	25
AHAL4-200	2000	13.6	16.5	68.8	94	32	30
		18.1	19.4	68.3	92	53	35
	1					1	
		9.4	11	71.3	78	14	20
AHAL4-300	3000	11.9	13.4	82.3	77	22	25
		20.0	16.6	68.5	91	55	30
		26.5	19.7	68	90	90	35
		15.2	11.2	70.2	89	14	20
		19.4	13.7	80.8	88	21	25
AHAL4-500	5000	32.7	16.9	67.8	104	53	30
		43.2	20	67.4	103	86	35
					·	1	
		25.5	10.8	72.1	75	24	20
AHAL4-800	8000	32.2	13.3	83.1	74	37	25
	8000	53.6	16.6	68.7	87	90	30
		69.9	19.8	68.3	86	143	35

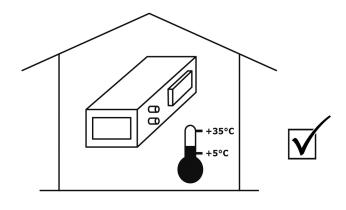


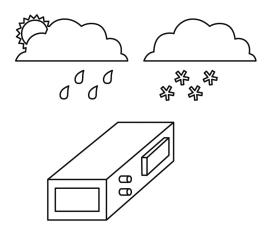
#### 6.1 - CHOOSING THE PLACE FOR INSTALLATION

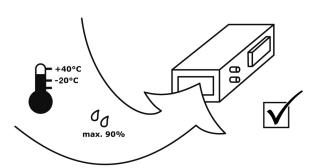


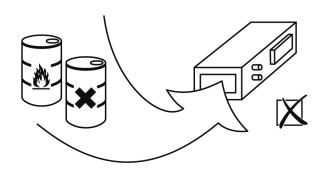
#### TECHNICAL INFORMATION

• It must be operated in dry indoor spaces, at a temperature range of +5°C to +35°C







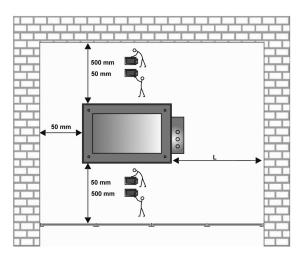


The air temperature should be between -30°C and +40°C, with a relative humidity of up to 90%.

The unit is not designed for air containing flammable or explosive mixtures, chemical fumes, coarse dust, soot, grease, poisons, germs etc.

The electrical protection of the unit connected to the ductwork is IP 20 (protection against objects bigger than 12.5 mm, unprotected against water!)

#### 6.1.1 - ASSEMBLING DIMENSIONS



Туре	L (mm)
AHAL4-050	550
AHAL4-100	550
AHAL4-200	650
AHAL4-300	750
AHAL4-500	850
AHAL4-800	850



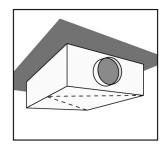


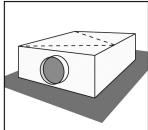
#### TECHNICAL INFORMATION

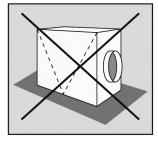
• All the unit models can be installed in a horizontal position. Any other position is forbidden

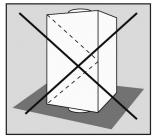
The unit must be installed so that the direction of the air flow corresponds to that of the distribution system.

It must be installed allowing adequate access in case of maintenance, service or disassembly; in particular, access to the inspection covers—to open them—to the cover of the regulation cabinet, the connection of the unit on its side, and the air filter cover







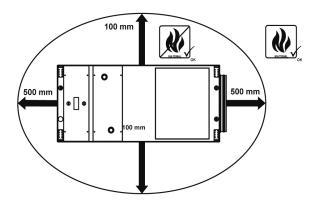


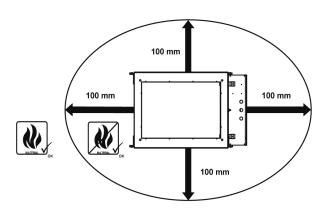
#### 6.1.2 - CLEARANCE



#### CAUTION!

- Only materials that are incombustible (do not burn, flare or carbonate) or that are non easily flammable (do not burn, mostly flare like plasterboard) may be located within a 100 mm radius from the unit. Those materials, however, must not cover the inlet or exhaust ports.
- The safe distance between combustible materials and the intake is 500 mm.
- The safe distance for combustible materials in all directions is 100 mm.

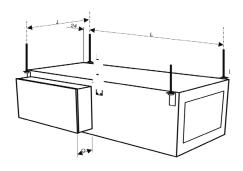






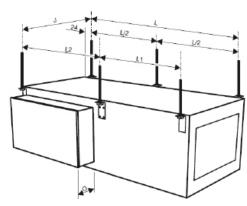
#### 6.1.3 - HANGING THE UNIT

Measure the place for installation according to the following anchor point template.



J	L	0
500	735	82
550	735	82
550	735	82
750	735	82
	550 550	550     735       550     735

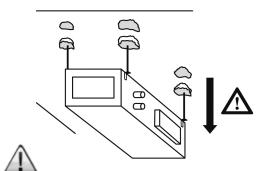
All dimensions are in mm,



ALFA4 EC without ex- changer	J	L	L1	L2	0
5000	950	735	X	735	82
8000	1150	735	X	735	82

ALFA4 EC	J	L	L1	L2	О
5000	950	1225	490	735	82
8000	1150	1225	490	735	82

Drill a hole in the ceiling, check that structure is strong enough and hang the unit from the brackets on the sides.

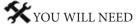


#### ATTENTION

- The fixed supports must be able to carry the weight of the unit!
- Given the weight of the unit, appropriate lifting equipment is required (forklift, etc.), or two or more people must be employed to lift the unit so it may be properly installed.

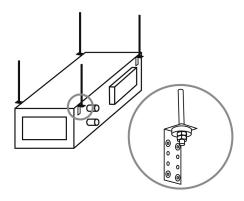
Туре	Poids (kg)	Unité + module C/O (kg)	Unité + Module DX (kg)
AHAL4-050HX00E40-XS0	34	60	60
AHAL4-050HX00E40-XE1	36	62	62
AHAL4-050HX00E40-XE2	36	62	62
AHAL4-050HX00E40-XV2	36	not possible	62
AHAL4-100HX00E40-XS0	37	67	67
AHAL4-100HX00E40-XE0	41	71	71
AHAL4-100HX00E40-XE1	41	71	71
AHAL4-100HX00E40-XE2	41	71	71
AHAL4-100HX00E40-XV2	41	not possible	71
AHAL4-200HX00E40-XS0	50	88	88
AHAL4-200HX00E40-XE1	55	93	93
AHAL4-200HX00E40-XE2	55	93	93
AHAL4-200HX00E40-XE3	55	93	93
AHAL4-200HX00E40-XV2	55	not possible	93
AHAL4-300HX00E40-XS0	65	109	109
AHAL4-300HX00E40-XS0	70	114	114
AHAL4-300HX00E40-XE1	70	114	114
AHAL4-300HX00E40-XE2	70	114	114
AHAL4-300HX00E40-XE3	70	not possible	114
AHAL4-500HX00E40-XS0	95	147	147
AHAL4-500HX00E40-XV2	104	not possible	147
AHAL4-800HX00E40-XS0	120	202	202
AHAL4-800HX00E40-XV2	128	not possible	202



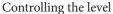


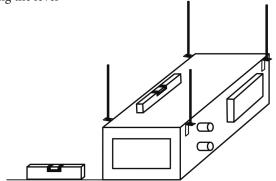
- 4 to 8 lock nuts M8 (depending on unit type)
- 4 to 8 threaded rods
- 4 to 8 dowels of appropriate type and sizes (depending on the material of the ceiling and the weight of the unit)
- drill and bit of appropriate size
- Pliers and side wrench

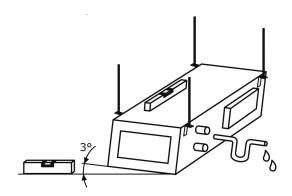
Place the unit horizontally and lock the nuts against unscrewing



If you are installing a unit with a C/O (heating/cooling) exchanger, adjust the threaded rods so that unit is slightly tilted towards the drainage nozzle of the condense tray.







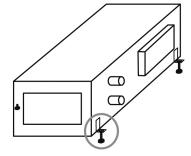
#### 6.1.4 - POSITIONING THE UNIT

Fix the adjustable legs (not included) to the brackets on both sides of the unit.

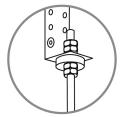


## YOU WILL NEED

- 4 to 6 adjustable legs (depending on the type of the unit; not included).
- Side wrench.

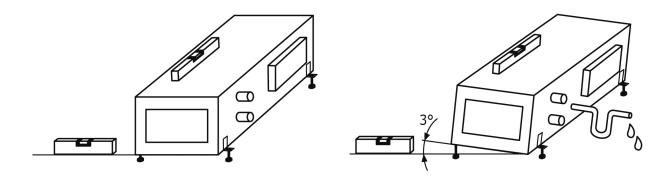


Set the unit in a horizontal position and secure it against loosening





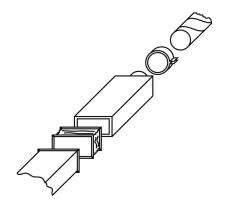
If you are installing a unit with a C/O (heating/cooling) exchanger, tilt it towards the drainage nozzle of the condense tray.

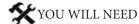


#### 6.2 - CONNECTING THE DUCTWORK

#### 6.2.1 - FLEXIBLE CONNECTION

Connect the ductwork to the exhaust and inlet nozzles with flexible connections in order to prevent the transfer of vibrations.





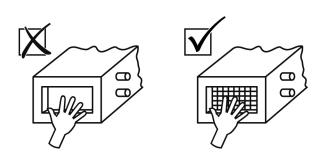
- 4 to 8 M8 screws (depending on type of unit)
- 1 or 2 flexible connection squares (depending on type of unit)
- side wrench
- flexible connection ring (depending on type of unit)
- Phillips screwdriver
- sealing tape, sealant



- The connected ductwork must be of the same size as the intake and exhaust nozzles. A smaller ductwork could the affect the performance of the unit and, in some cases, reduce the lifespan of the fans.
- All the joints between the unit and the ductwork must be sealed with sealant or tape.
- The shortest distance between bends or fittings in the ductwork and the unit's nozzles is 500 mm

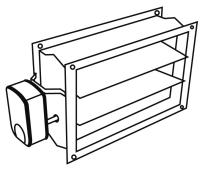
#### 6.2.2 - PROTECTIVE GRILLE

Any nozzles not connected to the ductwork must be equipped with a strong protective grille to prevent contact with the moving parts of the fan, the heating elements, etc.



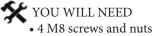


#### 6.3 - PŘIPOJENÍ MECHANICKÉHO PŘÍSLUŠENSTVÍ



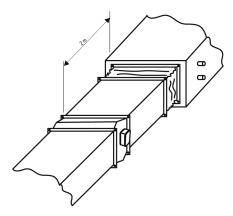
#### 6.3.1 - TIGHT SHUT-OFF VALVE

The actuator controlled, MLKR/S tight shut-off valve (if the unit is equipped with a water heater, an actuator with a return spring is recommended) is used to seal the ductwork connected to the unit.



- 8 washers
- side wrench
- flat and Phillips head screwdriver
- sealing tape, sealant

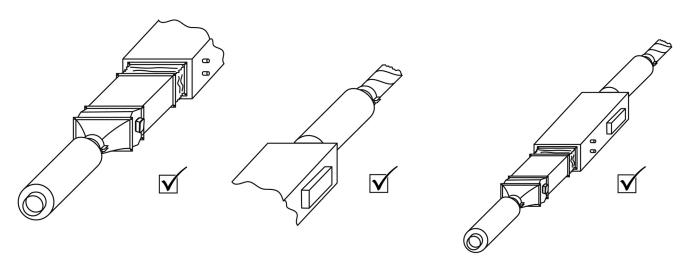
Install the valves in the ductwork, approx. 2m before the intake unit and approx. 2m after the exhaust unit. Connect the actuators to the appropriate terminals in the regulator cabinet. See Connecting the wiring and electrical accessories



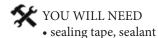
Set the valve so that it will be fully closed when the unit is off, and fully open when the unit is on. Different settings may damage the unit.

#### 6.3.2 - SILENCER

Silencer SPTGLX. It is used to reduce the level of the noise coming out of the unit to the ductwork. Install it before and/or after the unit, depending on where you want to reduce the noise.

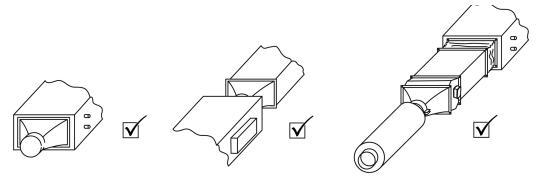


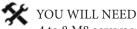




#### 6.3.3 - REDUCER

ALFA-PR reducer. It is used as a transition between a ring and square connections. It can be installed on both nozzles and/or the ductwork





- 4 to 8 M8 screws with nuts and washers (depending on the location of the reducer)
- side wrench
- sealing tape, sealant

#### 6.4 - CONNECTING THE WIRING AND ELECTRICAL ACCESSORIES

#### **CAUTION!**

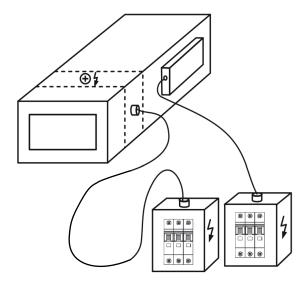
- Disconnect the power supply before any work inside the unit!
- The unit's electrical connection must be done according to a professional project by a qualified specialist. The installation can be done only by a qualified professional. The instructions given herein, as well as the applicable standards, regulations and laws must be observed.
- The electrical diagrams on the product have a higher priority than the diagrams herein! Before installing, check that the terminal markings correspond to the wiring diagram. In case of doubt, contact your supplier and do not connect the unit.
- If the product is connected to a control system other than the original, the regulation and measurement components will have to be connected by the supplier of said system.
- The unit must be connected to the power supply with an insulated, strong and heat-resistant cable with the appropriate cross-section, according to the applicable regulations.
- All cables must pass through a grommet on the side of the regulator cabinet in order to preserve the electrical protection class.
- Alterations of the internal wiring of the unit are not permitted and will result in the loss of warranty.
- The functioning of the unit is guaranteed only with original accessories.
- If a sensor or regulating component has to be installed inside or on the cover of the unit, this will have to be consulted with the producer or his representative.





#### 6.4.1 - POWER CORD

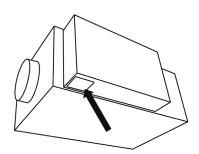
The connection terminals of the power cord are located in the regulation cabinet. If the unit is equipped with a an electric heater, the heater has its own terminals for the power cord.



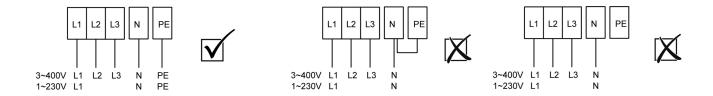


TECHNICAL INFORMATION

• The electrical parameters can be found on the nameplate, located in the regulation cabinet.



The unit must be connected with a NT-S system, meaning that the neutral conductor must be always connected.



All the phases of the power supply must be connected through circuit breakers of appropriate current and type. The distance between open contacts must be greater than 3 mm. The unit must be connected so the power supply may be disconnected with one component.



Table of minimal dimensioning of electrical power cables and circuit breakers used in the ALFA4 EC models.

Type of unit		Parameters of electric heating/preheating		Circuit breakers for the el. heating section		Regulation circuit breaker		Туре
	Total power (kW)	Voltage (V)	Current (A)	Phases (Pcs)	cord of the el. heating section	Current (A)	Phases (Pcs)	of power cord of regulation
AHAL4-050HX00E40-XS0	-	-	-	-	-	6	1	CYKY 3Cx1,5
AHAL4-050HX00E40-XE1	3,3	230	14,4	1	CYKY 3Cx2,5	6	1	CYKY 3Cx1,5
AHAL4-050HX00E40-XE2	6,3	400	9,5	3	CYKY 4Bx2,5	6	1	CYKY 3Cx1,5
AHAL4-050HX00E40-XV2	-	-	-	-	-	6	1	CYKY 3Cx1,5
AHAL4-100HX00E40-XS0	-	-	-	-	-	6	1	CYKY 3Cx1,5
AHAL4-100HX00E40-XE0	3,3	230	14,4	1	CYKY 3Cx2,5	6	1	CYKY 3Cx1,5
AHAL4-100HX00E40-XE1	6,3	400	9,5	3	CYKY 4Bx2,5	6	1	CYKY 3Cx1,5
AHAL4-100HX00E40-XE2	9,9	400	14,3	3	CYKY 4Bx2,5	6	1	CYKY 3Cx1,5
AHAL4-100HX00E40-XE3	13,5	400	19,5	3	CYKY 4Bx4	6	1	CYKY 3Cx1,5
AHAL4-100HX00E40-XV2	-	-	-	-	-	6	1	CYKY 3Cx1,5
AHAL4-200HX00E40-XS0	-	-	-	-	-	6	1	CYKY 3Cx1,5
AHAL4-200HX00E40-XE1	13,5	400	19,5	3	CYKY 4Bx4	6	1	CYKY 3Cx1,5
AHAL4-200HX00E40-XE2	18	400	26	3	CYKY 4Bx6	6	1	CYKY 3Cx1,5
AHAL4-200HX00E40-XE3	27	400	39	3	CYKY 4Bx10	6	1	CYKY 3Cx1,5
AHAL4-200HX00E40-XV2	-	-	-	-	-	6	1	CYKY 3Cx1,5
AHAL4-300HX00E40-XS0	-	-	-	-	-	6	3	CYKY 5Cx1,5
AHAL4-300HX00E40-XE1	20	400	29	3	CYKY 4Bx6	6	3	CYKY 5Cx1,5
AHAL4-300HX00E40-XE2	27	400	39	3	CYKY 4Bx10	6	3	CYKY 5Cx1,5
AHAL4-300HX00E40-XE3	40	400	58	3	2x CYKY 4Bx6	6	3	CYKY 5Cx1,5
AHAL4-300HX00E40-XV2	-	-	-	-	-	6	3	CYKY 5Cx1,5
AHAL4-500HX00E40-XS0	-	-	-	-	-	6	3	CYKY 5Cx1,5
AHAL4-500HX00E40-XV2	-	-	-	-	-	6	3	CYKY 5Cx1,5
AHAL4-800HX00E40-XS0	-	-	-	-	-	6	3	CYKY 5Cx1,5
AHAL4-800HX00E40-XV2	-	-	-	-	-	6	3	CYKY 5Cx1,5



#### 6.4.2 - ELECTRICAL ACCESSORIES

The electrical accessories must be connected to the terminals inside the regulation cabinet, according to the wiring diagram and the terminal markings.

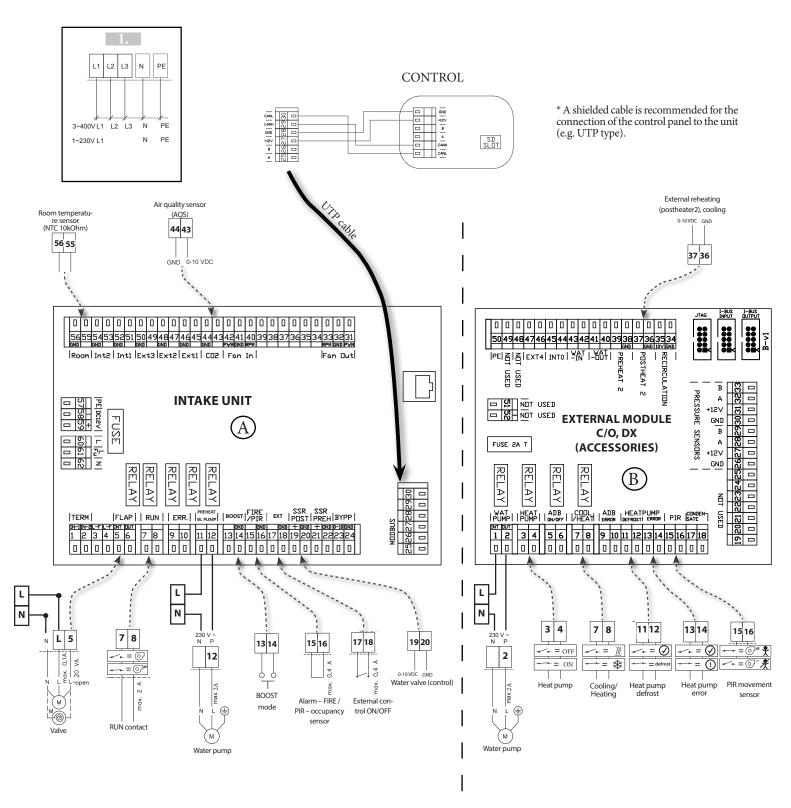


#### PLEASE NOTE!

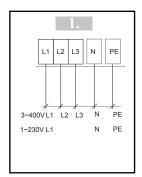
- The wiring diagram is pasted on the inside of the lid of the regulation cabinet.
- Either a cable supplied by us or one conforming to their respective specifications must be used for each component.

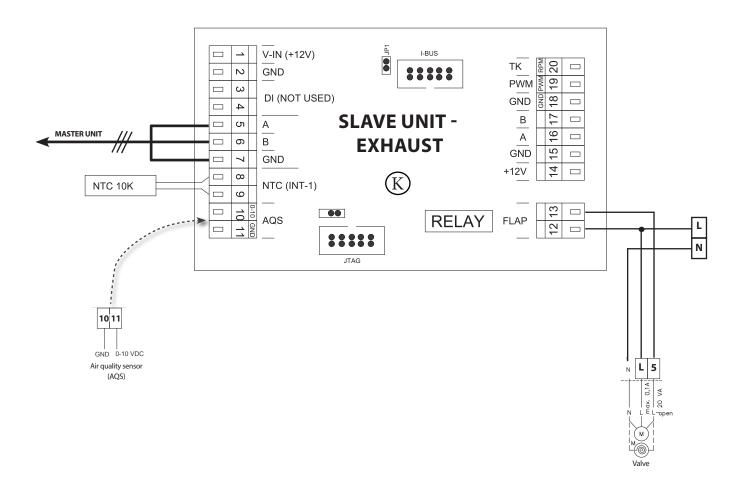
#### **ELECTRIC POWER DIAGRAM AND CONNECTION OF ACCESSORIES:**

Intake unit – view of connections (input/output)



Exhaust unit (slave) – view of connections (input/output)





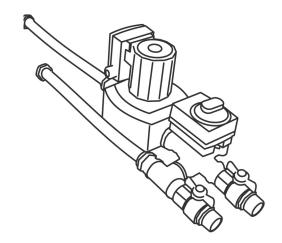


#### 6.4.2.1 – MIXING NODE ACTUATOR (water exchanger)



#### TECHNICAL INFORMATION

Electric 24 V AC actuator and CC 0-10V control. Cable: four conductor cable with a minimum diameter of 0.5 mm2. Maximum length 50 m.



#### 6.4.2.2 - EXTERNAL CONTROL



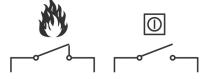
#### TECHNICAL INFORMATION

Floating contact NO / NC contact - contact load 12V, 0.4A

• CABLE: wire cable with min. cross-section of 0.5 mm2. Maximum length 50 m.



• The rest position of the contact is set in the service menu – chapter 7.6-13

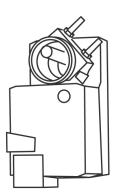


#### 6.4.2.3 -SHUT-OFF VALVE ACTUATOR



### TECHNICAL INFORMATION

Actuator with 230V - three-wire control CABLE: three-wire cable with min. cross-section of 0.5 mm2. Maximum length 50 m.



#### 6.4.2.4 - TECHNICAL INFORMATION



#### TECHNICAL INFORMATION

Actuator with 230V - two-wire control CABLE: two-wire cable with min. cross-section of 0.5 mm2. Maximum length 50 m.



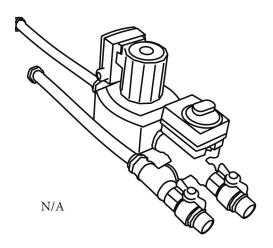


#### 6.4.2.5 - Circulation pump



# TECHNICAL INFORMATION

- Pump, 230 V, maximum 1 A.
- Cable: three-wire cable with min. cross-section of 0.5 mm2. Maximum length 50 m.

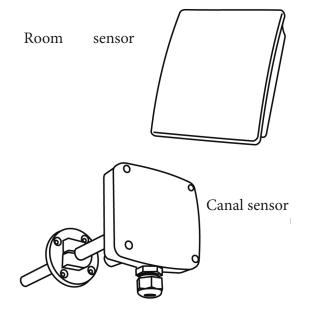


#### 6.4.2.6 - CO2 CONCENTRATION SENSOR



# informations techniques

Sensor power supply 24V AC, max. 0.2A Output signal 0-10V, max. 0.2A CABLE: four(three)-wire cable with min. cross-section of 0,5 mm2. Maximum length 50 m.

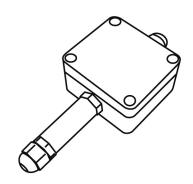


#### 6.4.2.7 – Relative humidity sensor



# TECHNICAL INFORMATION

Sensor power supply 14-30V DC, max. 0.2A Output signal 0-10V, max. 0.2A CABLE: three-wire cable with min. cross-section of 0.5 mm2. Maximum length 50 m.

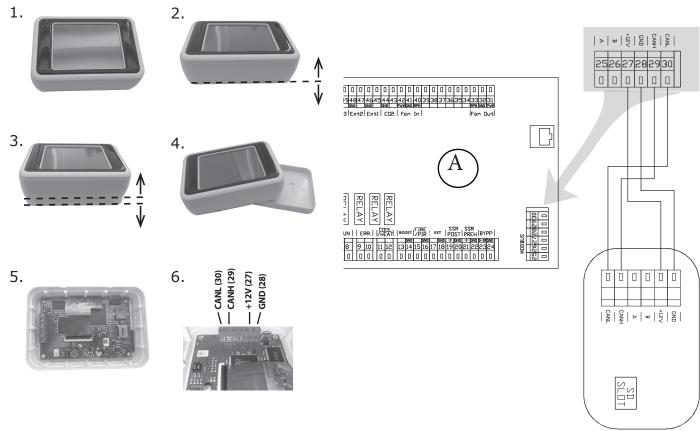




# **Control panel**







- plug the other end of the cable to one of the connectors of the electronic board

# Q PLEASE NOTE!

The cable should not be routed together with the power cable, and should be at a sufficient distance from it.

- See that the connectors click when connected.
- When fixing the cable to a wall, etc. the insulation must not be compromised.
- If the cable is not connected immediately after installing the controls and screens, put electrical tape on its end or the connector to prevent mechanical damage or short-circuit.
- The cable connector must not come into contact with water or other liquids.



#### 6.4.4 - CONNECTING THE INTAKE AND EXHAUST UNITS

If installed, the intake and an exhaust units are controlled from the same control panel.

The control panel must be connected to the intake unit, as detailed below.

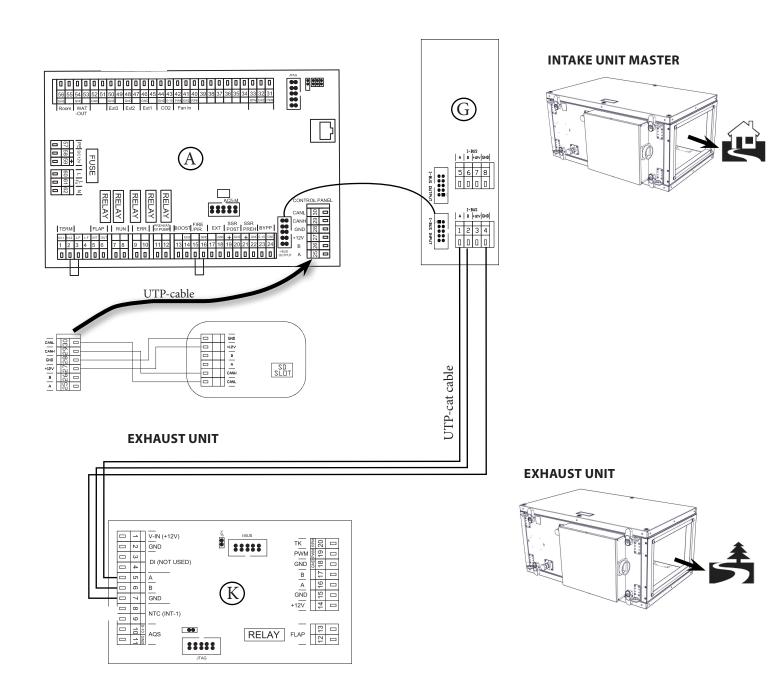
The regulators of both units are connected with a communication cable.

- plug one end of the data cable to the connector on the electronic board of the exhaust unit
- the other, to a connector on the electronic board of the intake unit. It doesn't matter which.

#### PLEASE NOTE!

The main power cords are routed to each unit separately.

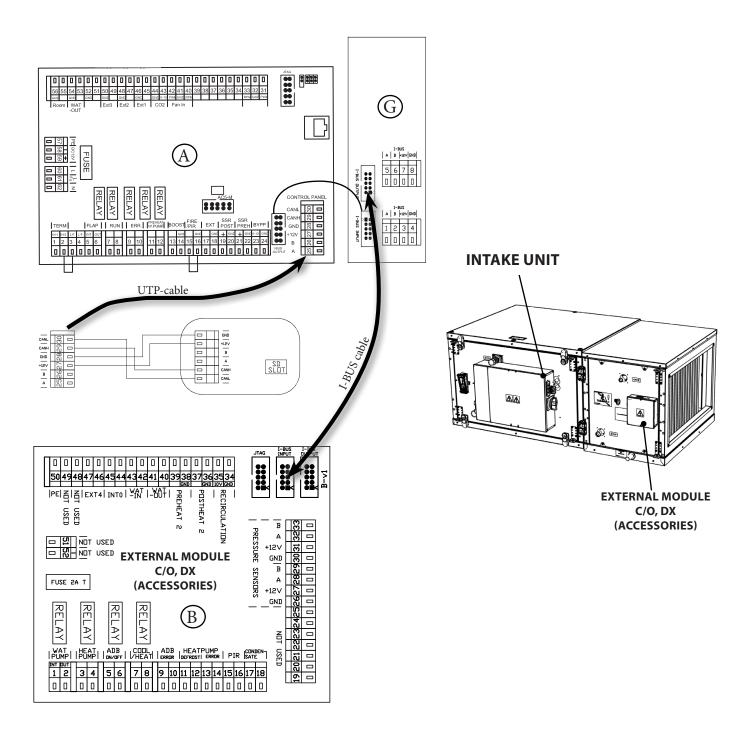
## **INTAKE UNIT**



The UPT data cable is not included

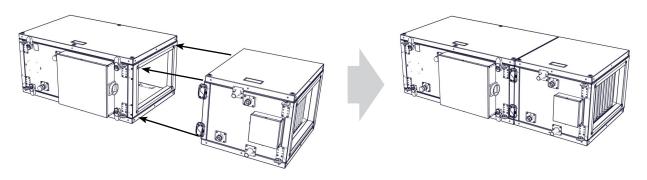


# **INTAKE UNIT**



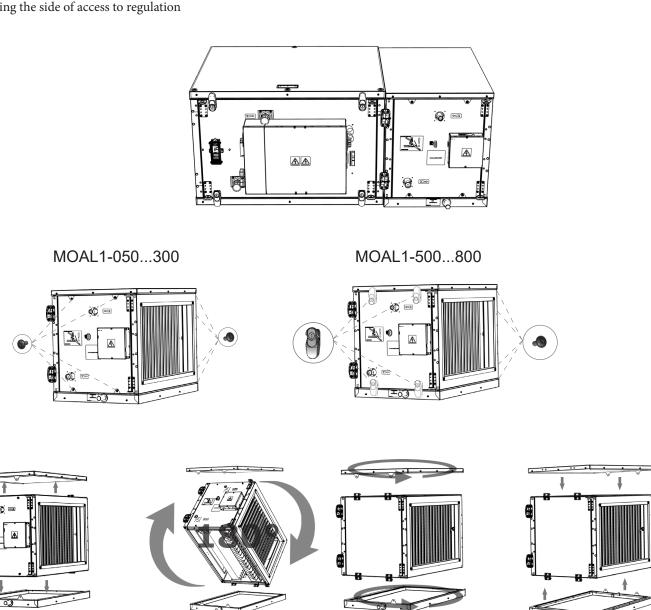
The I-BUS cable to connect the intake unit is included with the external module.



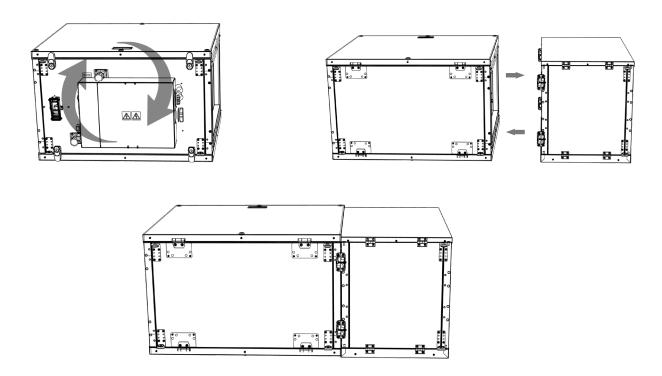


The cable and locks necessary for the installation are included with the external module

# Changing the side of access to regulation

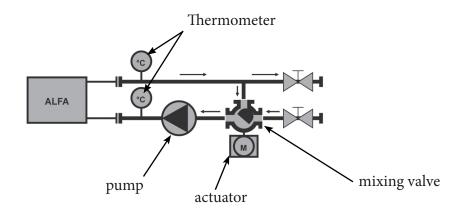






# 6.5 – CONNECTING THE WATER EXCHANGER (HEATER, COOLER)

If the unit has a water exchanger, the exchanger has to be connected to a SMU mixing node, and the unit, to the water grid.





- 4 sealants
- side wrench

The connection and the pressure tests of the heater must be carried out by qualified professional, in compliance with the applicable standards and regulations.



#### TECHNICAL INFORMATION

- The exchanger must be connected against the flow See that it doesn't cover the water inlet and outlet.
- Maximum water temperature: +100°C
- Maximum water pressure: 1,6MPa
- There must be no steam in the water exchanger
- Check the thermal resistance of the connected mixing node!
- We recommend to install a shut-off valve to be able to close the water supply.
- When connecting the exchanger, hold the outlets to prevent damage or tear



# PLEASE NOTE!

All the water exchangers have anti-freeze sensors already connected to the regulator and set at an optimal temperature. To ensure the anti-freeze protection of the water exchanger, a MLKR/S shut-off valve with actuator and LF230 spring must be installed before the unit, otherwise the protection will not be active!

The actuator of the mixing valve and the pump of the SMU mixing node, or the actuator of the zone valve are connected to the unit's regulator. See "Connecting the wiring and electrical accessories"

## 6.6 - CONDENSATE DRAIN CONNECTION

If the unit has a water cooler (C/O), it has to be connected to a siphon and piping to drain the condensate.

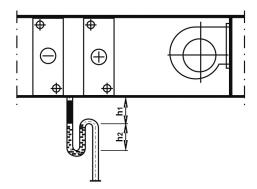
#### YOU WILL NEED

- 1 siphon
- PVC drain pipe
- glue for the pipe

Туре	h1 [mm]	h2 [mm]
0500	60	60
1000	60	60
2000	80	80
3000	90	90
5000	90	90
8000	90	90

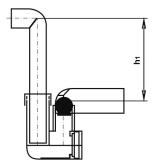
# 7 - COMMISSIONING

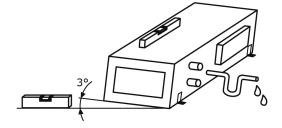
# Normal siphon



The nozzle of the condensate tray is located on the side of the unit Connect to it the siphon, drain pipe or the hose that will lead the water to the sewer.

# Ball trap







# Q PLEASE NOTE!

- Check that the unit is titled so that the condensate can flow freely.
- Drain the siphon before activating the unit! Otherwise the unit could be flooded and damaged.

# Q PLEASE NOTE!

Before activating the unit make sure that:

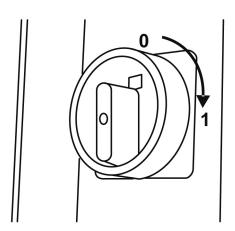
- it is properly fastened to the supporting structure
- it is properly closed, all nozzles are connected and/or have a protective grille, and that there is no risk of injury due to moving or hot parts.
- the main power supply is well connected, including earthing and external shut-off protection.
- all the electric components are well connected
- the condensate drain is connected (only for units with cooling)
- the installation is in compliance with all the instructions herein
- no tools or other objects that may cause damage have been left inside the unit

#### **CAUTION!**

- Alterations to the internal connections of the unit are not permitted and will result in a loss of warranty.
- We recommend using accessories supplied by us. In case of doubt regarding the use of accessories of different producers, contact your supplier.

# 7.1 - STARTUP

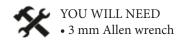
The unit is activated (Stand by) turning the main switch to I (on). After turning the main switch on, the display of the control lights up and the service data begins to load. Once the data is loaded, the unit is ready to start up





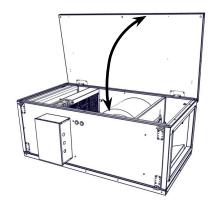
# 8 - MAINTENANCE

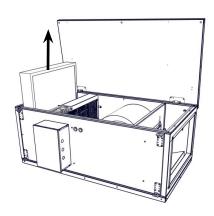
## 8.1 - FILTER CHANGE





Filter change is indicated on the control's display – chapters 1.4-3 and 1.4-4.





# QPLEASE NOTE!

- If a pressure switch is installed to indicate filter clogging, the warning symbol will automatically disappear from the display.
- The filter change is indicated after a set number of operational hours has expired, the timer will have to be reset chapter 1.4-3



# CAUTION!

Failure to properly clean (or replace) the filter may result a reduced performance of the unit or in damage to the fan.

Type of unit	G4	M5	F7
AHAL4-050	ALFA-G4D-05	ALFA-M5D-05	ALFA-F7D-05
AHAL4-100	ALFA-G4D-10	ALFA-M5D-10	ALFA-F7D-10
AHAL4-200	ALFA-G4D-20	ALFA-M5D-20	ALFA-F7D-20
AHAL4-300	ALFA-G4D-30	ALFA-M5D-30	ALFA-F7D-30



#### 8.2 - REGULAR CLEANING



## YOU WILL NEED

- 3 mm Allen wrench
- vacuum cleaner
- brush
- cloth
- not aggressive cleanser (soapy water)

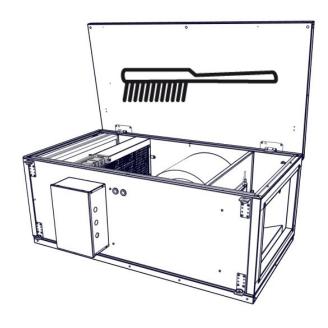
We recommend to control the unit when cleaning it after six months of operation, though the interval should be adapted to the local conditions. A full cleaning should be done at least once a year.

If the unit has been inactive for a longer period, we recommend to turn it on for one hour at least once a year.

Unscrew either the upper or the lower inspection cover – never

both at the same time. Bear in mind the weight of the inspection cover to prevent injuries.

Clean the unit with a vacuum cleaner, a brush, a cloth and soapy water. Do not use: sharp objects, aggressive chemicals, solvents abrasive cleaners, pressurised water, air or steam.

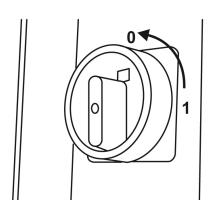


# 9 - TROUBLESHOOTING



#### CAUTION!

Before and during the performance of maintenance, service and repairs the unit must be securely disconnected from the power supply and the main switch must be turned off



If you are not sure of the correct steps, do not attempt to perform any repairs and call a professional service!



# TECHNICAL INFORMATION

Most errors are signalled with a text message on the control's display – see table below.



Description	Unit's behaviour	Likely problem	Solution
4 – Supply fan error	Unit is not working	Overheated fan or defect on thermal contact of inlet fan	Determine the cause of the overheating (defective bearing, short-circuit) or replace the engine.
5 – Exhaust fan error	Unit is not working	Overheated fan or defect on thermal contact of inlet fan	Determine the cause of the overheating (defective bearing, short-circuit) or replace the engine.
6 – Intake filter clogged	Unit is ventilating	Clogged filter	If the unit does not have a pressure sensor for the filter, RESET the clogged filter according to the manual.
7 – Exhaust filter clogged	Unit is ventilating	Clogged filter	If the unit does not have a pressure sensor for the filter, RESET the clogged filter according to the manual.
9 - Failure in exchanger 1	Unit is ventilating	Preheated electric exchang- er or damaged sensor Open exchanger's thermostat	Check that air can flow freely through the unit, electric heat exchanger is not cooling sufficiently. Check the safety thermostat on the electric reheating for damages.
10 - Failure in exchanger 2	Unit is ventilating	Preheated electric exchang- er or damaged sensor Open exchanger's thermostat	Check that air can flow freely through the unit, electric heat exchanger is not cooling sufficiently. Check the safety thermostat on the electric reheating for damages.
12 – CO2 sensor failure	Unit is ventilating	Defective air quality sensor	Check that the CO2 sensor is connected correctly or check that it is operating correctly (output signal value)
15 - Heat pump error	Unit is ventilating	Heat pump failure	Check that the input error is correctly con- nected to the electronics or, if necessary, that the heat pump is operating correctly (according to the instructions of its man- ufacturer)
16 – Intake – External temperature sensor failure (T-EXT1)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly con- nected to the electronics or test it measur- ing its resistance (the resistance value at +20°C is around 10kW)
17 - Intake – Temperature sensor behind the recuperator failure (T-EXT2)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly con- nected to the electronics or test it measur- ing its resistance (the resistance value at +20°C is around 10kW)
18 – Intake – Temperature sensor failure in the supply canal (T-EXT3)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)
19 - Intake - Temperature sensor behind the exchanger failure (T-EXT4)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)
20 - Exhaust – Temperature sensor failure in the exhaust canal (T-INT0)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)
21 – Exhaust – Tempera- ture sensor failure in the exhaust canal (T-INT1)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)



Description	Unit's behaviour	Likely problem	Solution
23 - Temperature sensor failure exchanger's water supply (T_WATER_IN)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)
24 – Exchanger's return sensor failure (T_WATER_OUT)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)
25 – Room temperature sensor failure (T_Room)	Unit is ventilating	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance (the resistance value at +20°C is around 10kW)
26 – Exhaust filter's pressure sensor failure	Unit is ventilating	Pressure sensor failure	Check the supply point for mechanical damage or whether it is clogged by dirt, or whether the supply hoses are free. The pressure sensor will likely need to be replaced
27 - Intake filter's pressure sensor failure	Unit is ventilating	Pressure sensor failure	Check the supply point for mechanical damage or whether it is clogged by dirt, or whether the supply hoses are free. The pressure sensor will likely need to be replaced
28 – Intake fan's pressure sensor failure	Unit is not working correctly	Pressure sensor failure	Check the supply point for mechanical damage or whether it is clogged by dirt, or whether the supply hoses are free. The pressure sensor will likely need to be replaced
29 - Exhaust fan's pressure sensor failure	Unit is not working correctly	Pressure sensor failure	Check the supply point for mechanical damage or whether it is clogged by dirt, or whether the supply hoses are free. The pressure sensor will likely need to be replaced
32 - Air quality sensor failure	Unit is ventilating	Defective air quality sensor	Check that the quality sensor is connected correctly or check that it is operating correctly (output signal value)
33 – Recirculation's humid- ity sensor failure	Unit is ventilating	Defective relative humidity sensor	Check that the humidity sensor is connected correctly or check that it is operating correctly (output signal value)
34 – External temperature BMS sensor failure	Unit is ventilating	Defective sensor in BMS or incorrectly received data	Check that the address and values of the sensor in the BMS system are correct. Check that the sensor in the BMS system is working.
36 - B moduli error	Unit is not working	The unit can not control the peripherals connected to Module B	Unable to communicate with module B. Check whether the communication cable between motherboards A and B is dam- aged If necessary, replace module B
50-Filtre d'amenée encrassé > 80 %	L'unité aère	Filtre encrassé	On recommande de remplacer le filtre
51-Filtre de sortie encrassé > 80 %	L'unité aère	Filtre encrassé	On recommande de remplacer le filtre
70-Protection antigel de l'échangeur thermique a eau	L'unité aère	La protection antigel de l'échangeur thermique a eau est active.	La protection automatique de l'échangeur à eau est active pour empêcher son endommagement par un basse température de l'air. Cette fonction est autonome et s'achèvera dès que le risque de gel passera.
71 – Water heater – waiting for water temperature	Unit is ventilating	The unit controls the temperature of the liquid in the exchanger	The automatic process that assess the water temperature in the exchanger to activate the next steps is in progress



Description	Unit's behaviour	Likely problem	Solution
71 – Water heater – waiting for water temperature	Unit is ventilating	The unit controls the temperature of the liquid in the exchanger	The automatic process that assess the water temperature in the exchanger to activate the next steps is in progress
72 - Water heater - waiting for temperature of intake air	Unit is ventilating	The unit controls the tem- perature of the air flowing through the exchanger	The automatic process that assess the temperature of the air flowing through the exchanger to activate the next steps is in progress
73 – WCO detects tempera- ture of the water supply (cold / hot)	Unit is ventilating	The unit controls the tem- perature of the liquid in the exchanger	The automatic process that assess the water temperature in the exchanger to activate the next steps is in progress
73/78 - Pre-freecooling active	Unit is ventilating	Temperature evaluation for freecooling mode in progress	Preparation for freecooling mode in progress. It evaluates the temperature and the conditions necessary to activate this mode.
74 – Flow reduction, minimum temperature in the canal not reached	Unit operates in a restricted mode	The unit is trying to reach the set values of the chan- nel's minimum	The temperature of the air flowing into the inlet branch of the building has not been reached. The performance of the unit is being automatically corrected to reach this minimum level. Automatic process
76 – Water pump defrosting	Unit operates in a restricted mode	The unit is waiting until the heat pump defrosts.	The heat pump is reporting that it is defrosting. The unit is operating in defrost-waiting mode Automatic process

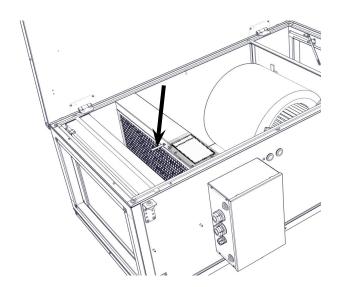
# PLEASE NOTE!

• After a power outage, the unit will return to the state it was before the outage. The unit always remembers its operational status and settings.

If you are unable to determine or remove a defect, and/or if access to device is required, contact an authorised service!

#### Electric heater overheated:

In case of overheating, the safety thermostat disconnects the electric heater After eliminating the cause of the problem the preheat has to be reset manually with the safety thermostat located on the electric heater. Its location is indicated with a RESET label found in every unit under the cover of the electric heater.





# A CAUTION!

If an overheating of the electric heating is announced three times in a row, the unit will automatically shut-off and the cause of the failure will have to be removed before turning the unit on again with the main switch.



# 10 - DECOMMISSIONING THE PRODUCT - LIQUIDATOIN

Before scrapping the product, make it unusable. Old products still have raw materials that can be reused. Take them to a collection centre for secondary raw materials. It is preferable to have the product liquidated by a specialist so that the recyclable materials may be reused. Take the unusable parts to an appropriate waste disposal site. The liquidation of materials must observe the applicable waste management regulations.

# Disassembling the engine:

- release the bracket from the set square bit no. 2
- release the engine from the bracket Allen bit no. 2.5

## Printed circuit:

- open boards with a flat screwdriver
- removing the boards from the plastic frame pliers for precision mechanics
- releasing the printed circuit Philips screw no. 0

# Plastic parts

- ceiling insulation of front panels - box cutter

## 11 - CONCLUSION



After installing the unit, read carefully the operational and maintenance manual, as well as the instructions for the safe use of the unit. This manual also includes a list of possible problems and troubleshooting. In case of any doubts or questions, do not hesitate to contact our sales or technical support departments.

The producer shall not be liable for damages caused as a result of improper installation and operation contrary to the manual and the common practice of installation and operation of ventilation devices and regulations systems.

# **CONTACT**

# **Address**

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http://www.2vv.cz/

