

User's
Manual

AZURE WHEEL

ROTARY HEAT RECOVERY VENTILATION

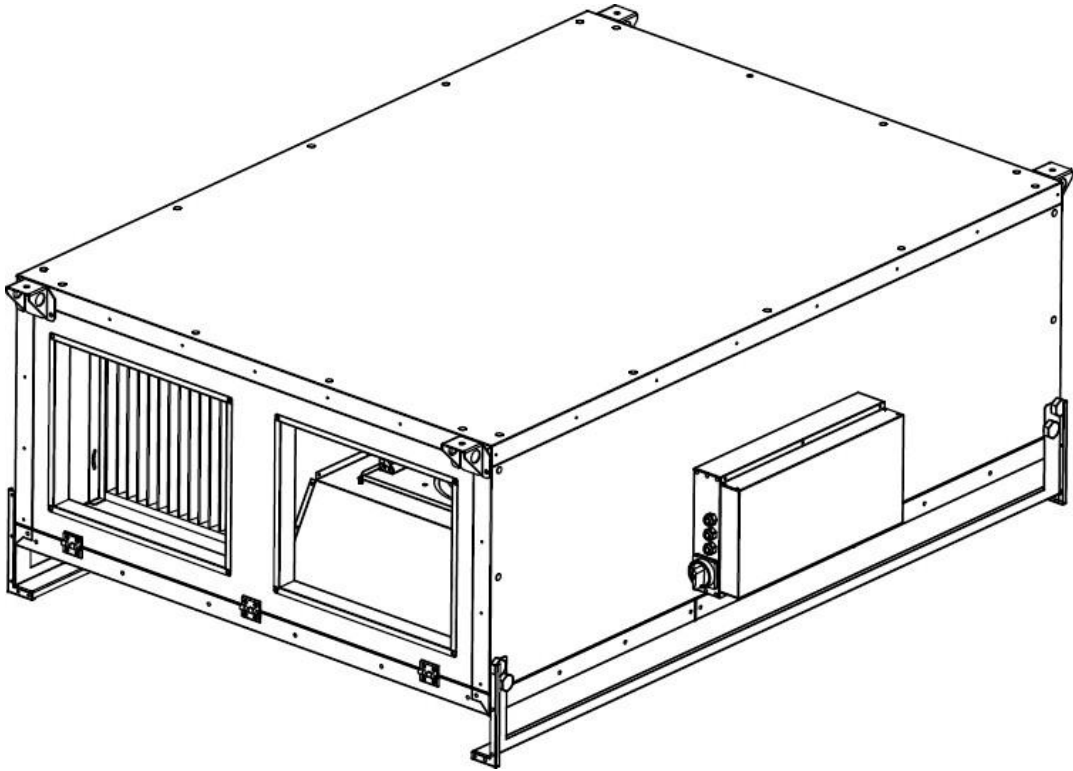


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CHAPTER 1

GENERAL INSTALLATION AND OPERATING INSTRUCTIONS

1.0 Important information

To ensure safety and correct operation please read and observe the following instructions carefully before proceeding. Important information is specified in the maintenance section on filter changes and necessary cleaning and maintenance activities. The user usually carries out maintenance work. The chapter "Installation" with important installation tips and basic unit adjustments is intended for the specialised installer.

⚠ The electrical connection must be fully isolated from the supply up to the final assembly!

⚠ This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

The planning office provides the planning documents necessary for system calculations. Additional information can be requested ex works. Keep the installation and operating instructions as a reference at the device. After the final assembly, the document must be handed out to the operator (tenant/owner).

1.1 Warning and safety instructions

⚠ The adjacent symbol is a safety-relevant prominent warning symbol. All safety regulations and/or symbols must be absolutely adhered to, so that any dangerous situation is avoided.

1.2 Warranty claims – Exclusion of liability

If the preceding instructions are not observed, all warranty claims and accommodation treatment are excluded. This also applies to any liability claims extended to the manufacturer.

The use of accessories not offered or recommended by AERA is not permitted. Potential damages are not covered by warranty.

1.3 Regulations – Guidelines

If the product is installed correctly and used to its intended purpose, it conforms to all applicable CE standards at its date of manufacture. The AERA AZURE WHEEL ventilation units in this series are compliant with Eco-Design 2018.

1.4 Storage

When storing for a prolonged time the following steps are to be taken to avoid damaging influences:

Protection by dry, air- dustproof packing. The storage place must be water protected, vibration-free and free of temperature variations. (Ambient temperature limit, min/max, 0°C/ +40°C) Damages due to improper transportation, storage or putting into operation are not covered by warranty.

1.5 Transport

The unit is packed ex works in a timber frame so that it is protected against normal transport strain. Carry out the shipping carefully. It is recommended to leave the unit in the original packaging until installation to avoid possible damages and soiling.

The transport must be carried out by trained and experienced personnel and the necessary safety precautions should be taken to prevent overturning and slipping of the device. During transport of the devices it should be ensured that the weight is evenly distributed over the four corners.

⚠ Danger due to overhead loads – risk of grave injuries or death!

- Never stand beneath suspended loads, since there is always a risk that the lifting gear, tackle, ropes or slings are faulty or damaged.

- Make sure that equipment is firmly seated before lifting it.

 **Risk of injury! Watch out for nails when disassembling the timber frame!**

 **Warning! Risk of personal injury and equipment damage!**

Due to a high center of gravity, some equipment can tend to tip over and cause damage to persons and property.

- When transporting the unit, carefully observe its behavior and do not get near any possible hazardous areas.

1.6 Intended use

AZURE WHEEL 25 device is designed to correspond the need of 2500 m³/h air flow. There is a ePM1 55% class filter on the fresh air side and a ePM10 50% class filter on the exhaust side as standard. The units are produced according to European Union energy criteria.

AZURE WHEEL devices are designed with high energy efficient, low sound pressure and low power consumption plug fans. Plug fans with EC motors can be driven with 3 fixed speeds or steplessly with the help of an air quality sensor thanks to build in smart control system.

The AZURE WHEEL units are equipped with rotary heat exchangers. Through this procedure more than 80 % of the extract air heat is transferred to the external air. The supply air is led by the duct system to the primary (supply air needing) areas. The used air is extracted from the secondary areas (like e.g. social rooms, toilets, showers etc.). It flows back through the ducting to the ventilation unit, transfers the heat and is discharged by the exhaust air duct to the atmosphere.

The heat recovery efficiency depends on several factors, which include, among other things, air humidity and the temperature variation of outside air and exhaust air. The fan performance can be adjusted by the controller in scope of delivery. Various sensors e.g. CO₂ or humidity sensors (accessory) are available on request, with which automatic fan control is possible.

 Permissible operating air temperature and humidity is 0/40 °C and 95% RH for AZURE WHEEL units.

1.7 Performance data

Mechanical connections must be made correctly in order to obtain maximum efficiency from the device. The device's thermal efficiency, sound level and electrical performance may vary depending on the ambient conditions the device is operating. These conditions may affect the measurement result on site and vary from the catalogue data.

1.8 Guideline series VDI 6022

The AERA AZURE WHEEL ventilation units in this series are produced compliant with VDI 6022. The guidelines range from operating regulations and material requirements through to construction regulations, which ensure high air quality. It must be ensured that only original AERA accessories are used for operation compliant with VDI 6022.

1.9 Heat systems

The simultaneous use of controlled ventilation (AZURE WHEEL) and heat systems which depend on room air (tile oven, gas stove etc.) requires compliance with all applicable regulations.

The use of heat systems which depend on room air are only permitted in state-of-the-art dense apartments with separate combustion air supply; only then are AZURE WHEEL and heat systems decoupled from each other and operable meeting the demands.

The relevant applicable regulations on the combined use of heat systems, domestic ventilation and extractor hoods (Federal Association of Chimney Sweeps (ZIV)) must be observed!

1.10 Technical Data

MODEL	AZURE WHEEL 25	AZURE WHEEL 55
Air flow (m3/h)	2500	5500
Max. total rated current (A)	9	8
Max. power consumption (kW)	1,67	5
Voltage/Frequency	400 V / 50 Hz / 3 ~	400 V / 50 Hz / 3 ~
Filter class (extract / outdoor air)	ePM1 55 % (F7) / ePM10 50% (M5)	ePM1 55 % (F7) / ePM10 50% (M5)
Weight (kg)	285	460
Sound pressure (dB)	61	64

1.11 Disassembly and re-assembly

WARNING ⚠ Before starting any disassembly or re-assembly operation, please ensure that the product is isolated from its mains electrical supply, in order to ensure that fans cannot be run. As disassembly and re-assembly are not part of routine maintenance, these should be carried out by qualified personnel.

⚠ Ensure the unit is voltage-free and isolated, earth and short circuit the unit, cover or shield off neighbouring live components. Ensure that the hydraulic circuit is switched off.

⚠ Close all hydraulic shut-off valves.

Isolate all connections and ensure leak-free condition regarding oil, refrigerant

As the coil piping diameter is small, waste water can remain in the unit following normal evacuation. For safety reasons, use compressed air to blow through the system in order to remove all remaining water.

WARNING ⚠ Risk of personal injury and equipment damage!

Due to a high center of gravity, some equipment can tend to tip over and cause damage to persons and property.

⚠ When transporting the unit, carefully observe its behaviour and do not get near any possible hazardous areas.

1.12 Disposal

WARNING ⚠ Before starting any operation, please ensure that the product is isolated from its mains electrical supply, in order to ensure that fans cannot be run.

⚠ Dispose of all components and filters and disused operating materials (e.g. oil, refrigerants) in an environmentally-friendly manner in accordance with the local codes, practices and environmental regulations.

An authorized appointed contractor specializing in waste processing must dispose of the unit or its individual components. This appointed contractor must ensure that:

- the components are separated according to material types
- the used operating materials are sorted and separated according to their respective properties.

CHAPTER 2

INSTALLATION

2.0 Assembly

AZURE WHEEL compact devices are suitable for ceiling mounting thanks to the hanging apparatuses found on. Due to noise level which change according to working conditions, it is recommended to install the AZURE WHEEL units in the different rooms. Assembly should take place in such a way to enable preferably short ventilation ducts and their trouble-free connection to the unit. Tight bends in the channel will cause high pressure drops.

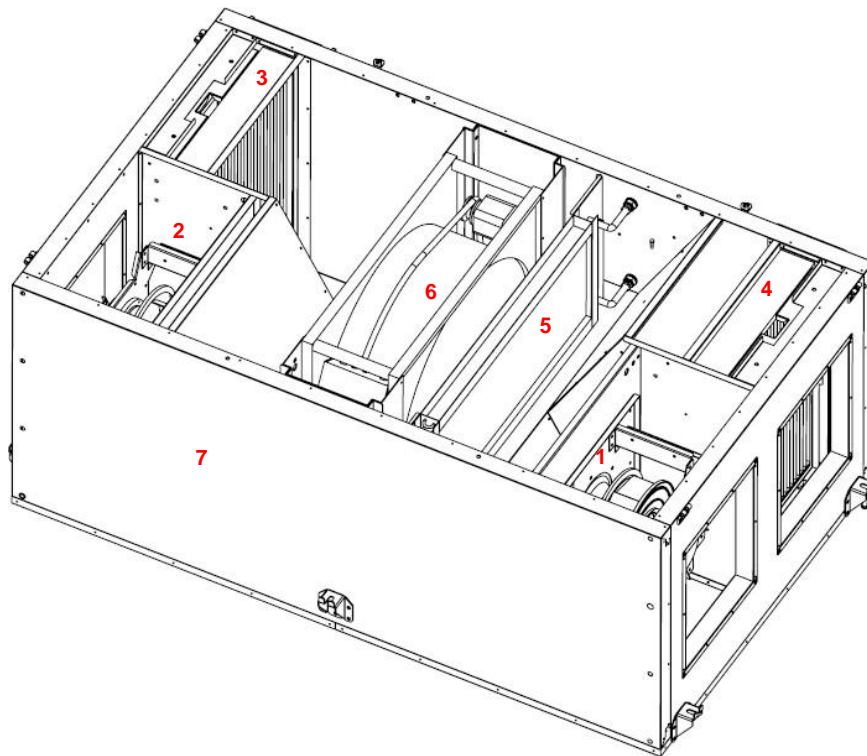
Important notes:

1. The ventilation ducts must not become kinked.
2. The connections to the connection valves must be firm and tight.
3. Flange connections must be leakproof and firm
4. The terminal box is connected to the side of the casing and maintenance and service space should be left for the doing any work on the device.
5. The assembly of the AZURE WHEEL compact unit must only take place in rooms that are free of frost, as there is a danger of freezing. The room temperature must not fall below +5 °C
6. In order to prevent sound transmission, appropriate acoustic decoupling must be provided on site depending on the building material.

CHAPTER 3

FUNCTIONAL DESCRIPTION

3.0 Unit Description (Fig. 4)

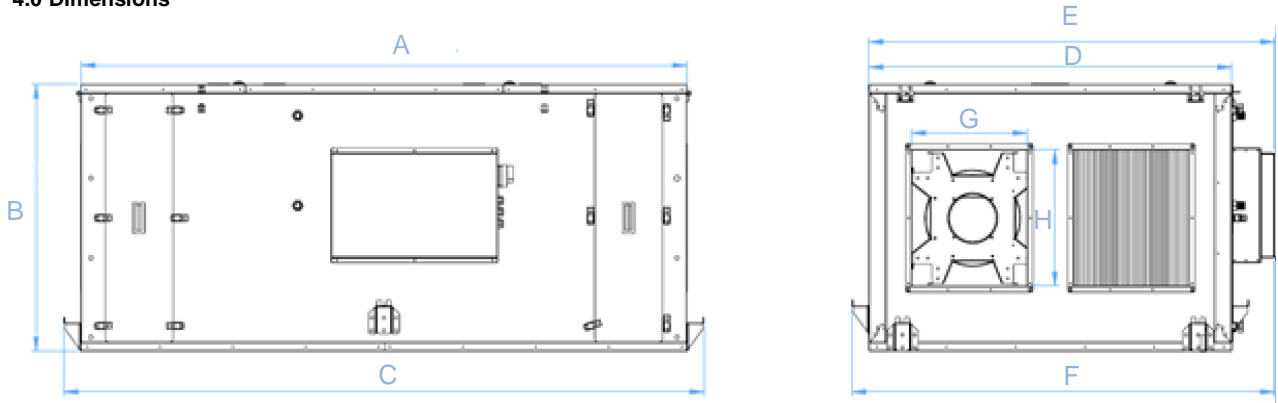


1. Supply Fan
2. Exhaust Fan
3. Outdoor Air Filter (ePM1 55%)
4. Extract Air Filter (ePM10 50%)
5. Electrical Pre-heater
6. Counter Flow Heat Exchanger
7. Casing

CHAPTER 4

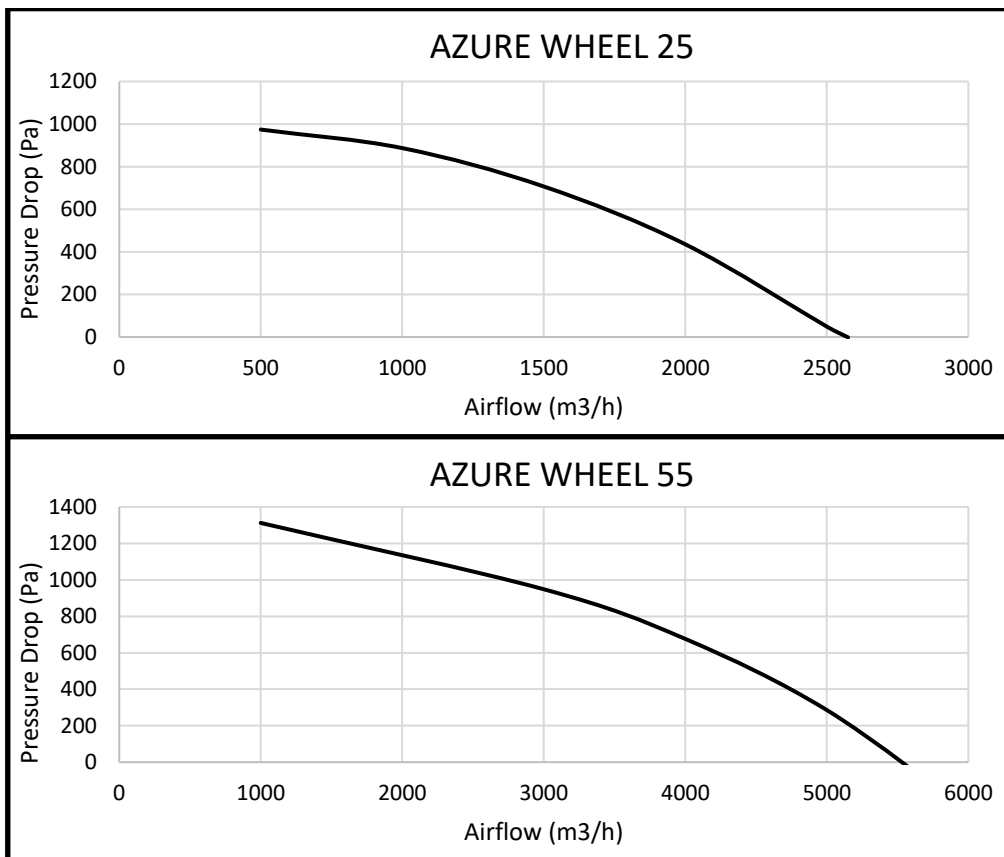
DIMENSIONS PERFORMANCE CURVE

4.0 Dimensions



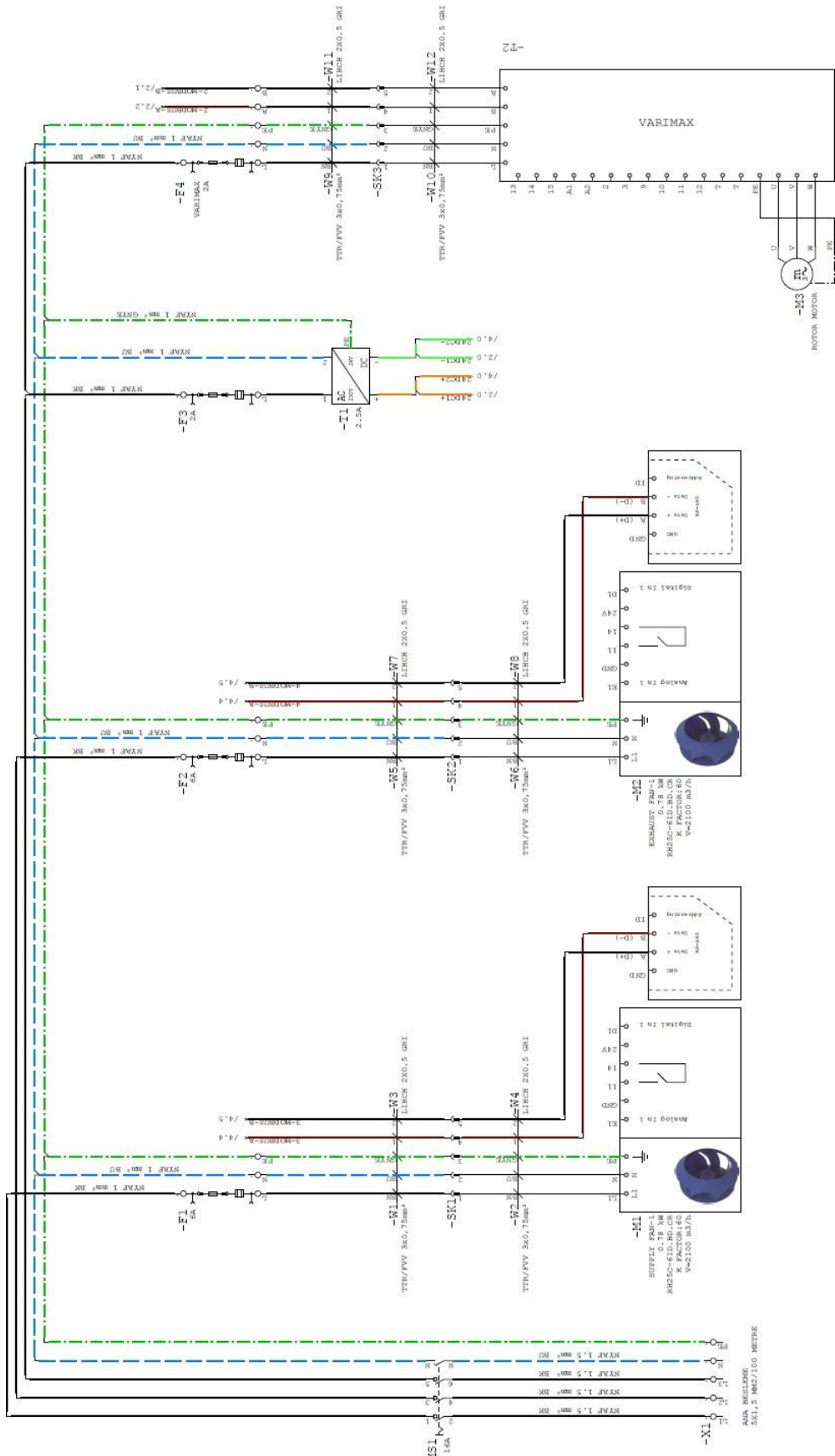
AZURE WHEEL		A	B	C	D	E	F	G	H
MODEL	25	1840	803	1944	1231	1101	1284	350	410
	55	1940	856	2044	1944	1814	1997	650	410

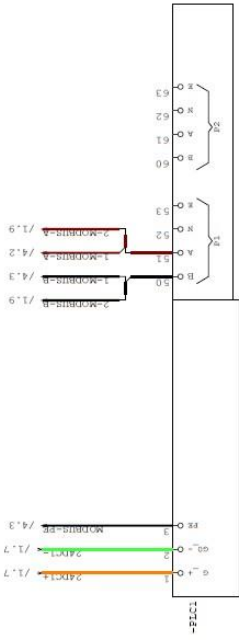
4.1 Performance curves



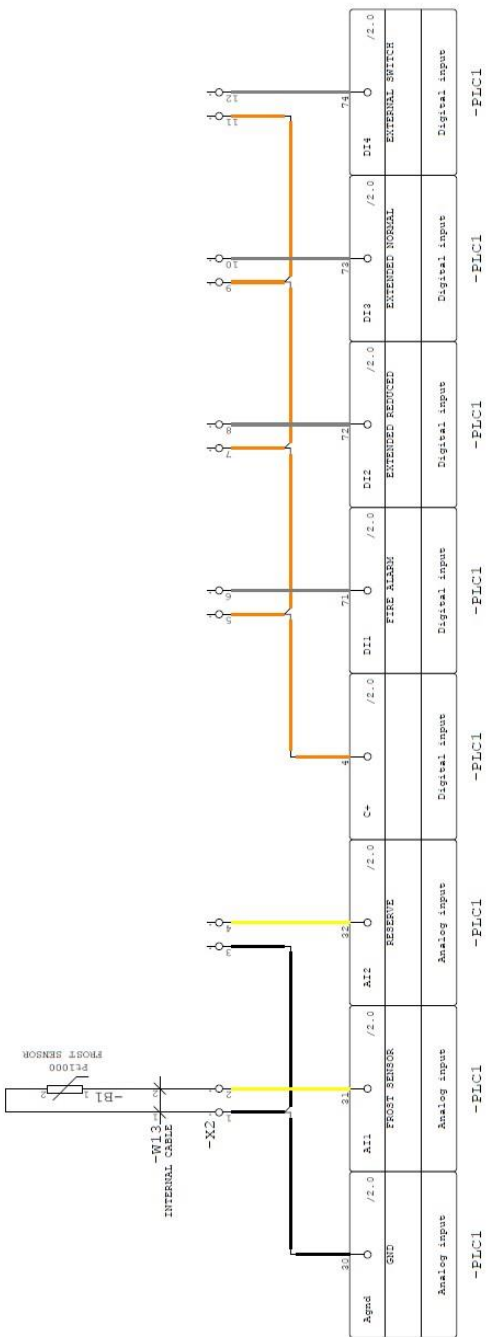
CHAPTER 5 WIRING DIAGRAM

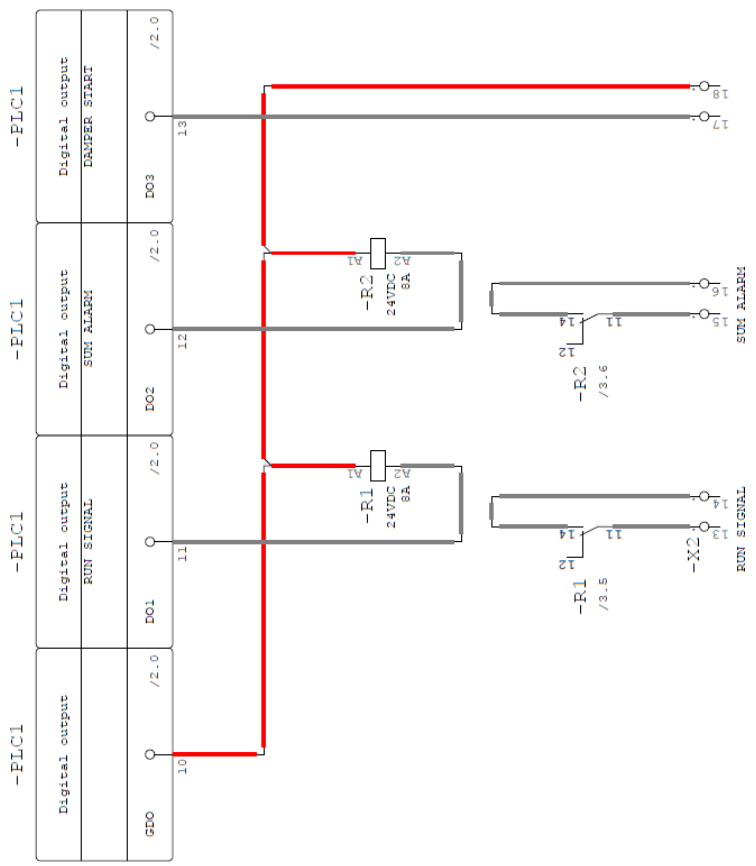
Azure Wheel 25



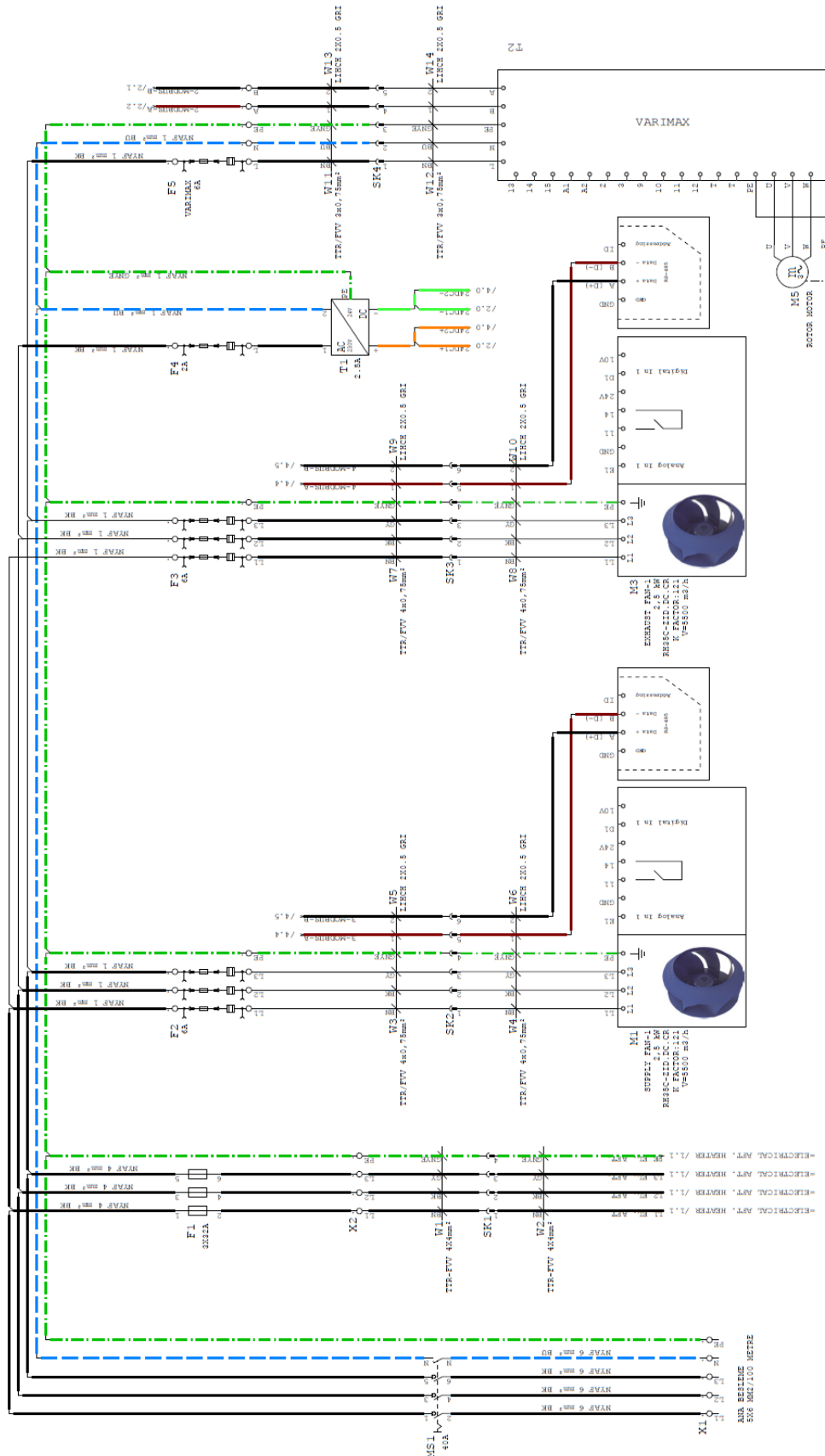


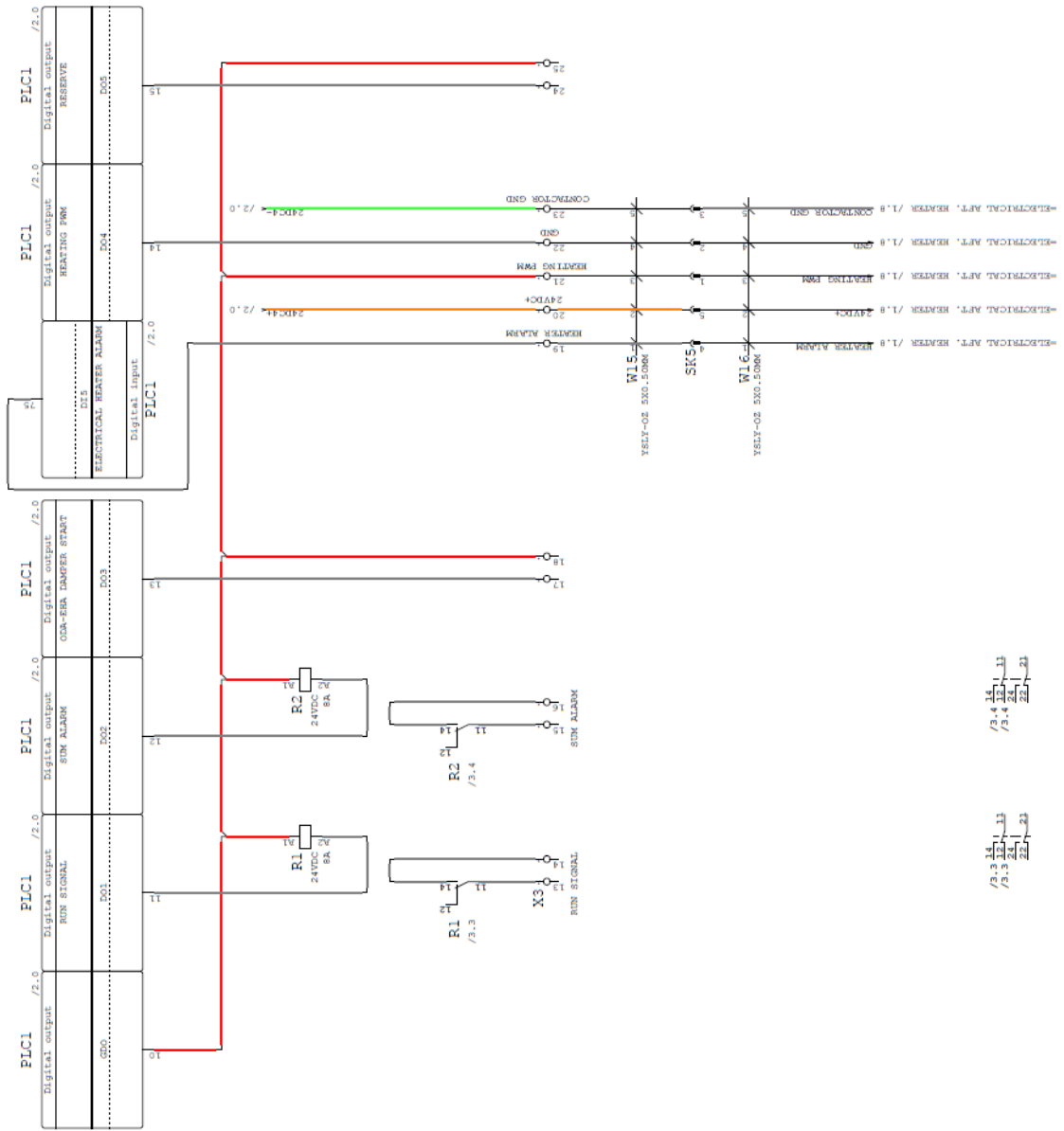
10	GND	/3.4	/2.6 FIRE ALARM
11	DI1	/3.4	/2.7 EXTENDED REDUCED
12	DI2	/3.4	/2.8 EXTENDED REDUCED
13	DI3	/3.4	/2.9 EXTENDED REDUCED
14	DI4	/3.4	/2.8 EXTENDED NORMAL
15	DI5	/3.4	/2.9 EXTENDED NORMAL
16	DI6	/3.4	/2.8 EXTENDED NORMAL
17	DI7	/3.4	/2.9 EXTENDED NORMAL
18	DI8	/3.4	/2.8 EXTENDED NORMAL
19	DI9	/3.4	/2.9 EXTENDED NORMAL
20	DI10	/3.4	/2.8 EXTENDED NORMAL
21	DI11	/3.4	/2.9 EXTENDED NORMAL
22	DI12	/3.4	/2.8 EXTENDED NORMAL
23	DI13	/3.4	/2.9 EXTENDED NORMAL
24	DI14	/3.4	/2.8 EXTENDED NORMAL
25	DI15	/3.4	/2.9 EXTENDED NORMAL
26	DI16	/3.4	/2.8 EXTENDED NORMAL
27	DI17	/3.4	/2.9 EXTENDED NORMAL
28	DI18	/3.4	/2.8 EXTENDED NORMAL
29	DI19	/3.4	/2.9 EXTENDED NORMAL
30	DI20	/3.4	/2.8 EXTENDED NORMAL
31	DI21	/3.4	/2.9 EXTENDED NORMAL
32	DI22	/3.4	/2.8 EXTENDED NORMAL
33	DI23	/3.4	/2.9 EXTENDED NORMAL
34	DI24	/3.4	/2.8 EXTENDED NORMAL
35	DI25	/3.4	/2.9 EXTENDED NORMAL
36	DI26	/3.4	/2.8 EXTENDED NORMAL
37	DI27	/3.4	/2.9 EXTENDED NORMAL
38	DI28	/3.4	/2.8 EXTENDED NORMAL
39	DI29	/3.4	/2.9 EXTENDED NORMAL
40	DI30	/3.4	/2.8 EXTENDED NORMAL
41	DI31	/3.4	/2.9 EXTENDED NORMAL
42	DI32	/3.4	/2.8 EXTENDED NORMAL
43	DI33	/3.4	/2.9 EXTENDED NORMAL
44	DI34	/3.4	/2.8 EXTENDED NORMAL
45	DI35	/3.4	/2.9 EXTENDED NORMAL
46	DI36	/3.4	/2.8 EXTENDED NORMAL
47	DI37	/3.4	/2.9 EXTENDED NORMAL
48	DI38	/3.4	/2.8 EXTENDED NORMAL
49	DI39	/3.4	/2.9 EXTENDED NORMAL
50	DI40	/3.4	/2.8 EXTENDED NORMAL
51	DI41	/3.4	/2.9 EXTENDED NORMAL
52	DI42	/3.4	/2.8 EXTENDED NORMAL
53	DI43	/3.4	/2.9 EXTENDED NORMAL
54	DI44	/3.4	/2.8 EXTENDED NORMAL
55	DI45	/3.4	/2.9 EXTENDED NORMAL
56	DI46	/3.4	/2.8 EXTENDED NORMAL
57	DI47	/3.4	/2.9 EXTENDED NORMAL
58	DI48	/3.4	/2.8 EXTENDED NORMAL
59	DI49	/3.4	/2.9 EXTENDED NORMAL
60	DI50	/3.4	/2.8 EXTENDED NORMAL
61	DI51	/3.4	/2.9 EXTENDED NORMAL
62	DI52	/3.4	/2.8 EXTENDED NORMAL
63	DI53	/3.4	/2.9 EXTENDED NORMAL
64	DI54	/3.4	/2.8 EXTENDED NORMAL
65	DI55	/3.4	/2.9 EXTENDED NORMAL
66	DI56	/3.4	/2.8 EXTENDED NORMAL
67	DI57	/3.4	/2.9 EXTENDED NORMAL
68	DI58	/3.4	/2.8 EXTENDED NORMAL
69	DI59	/3.4	/2.9 EXTENDED NORMAL
70	DI60	/3.4	/2.8 EXTENDED NORMAL
71	DI61	/3.4	/2.9 EXTENDED NORMAL
72	DI62	/3.4	/2.8 EXTENDED NORMAL
73	DI63	/3.4	/2.9 EXTENDED NORMAL
74	DI64	/3.4	/2.8 EXTENDED NORMAL
75	DI65	/3.4	/2.9 EXTENDED NORMAL
76	DI66	/3.4	/2.8 EXTENDED NORMAL
77	DI67	/3.4	/2.9 EXTENDED NORMAL
78	DI68	/3.4	/2.8 EXTENDED NORMAL
79	DI69	/3.4	/2.9 EXTENDED NORMAL
80	DI70	/3.4	/2.8 EXTENDED NORMAL
81	DI71	/3.4	/2.9 EXTENDED NORMAL
82	DI72	/3.4	/2.8 EXTENDED NORMAL
83	DI73	/3.4	/2.9 EXTENDED NORMAL
84	DI74	/3.4	/2.8 EXTENDED NORMAL
85	DI75	/3.4	/2.9 EXTENDED NORMAL
86	DI76	/3.4	/2.8 EXTENDED NORMAL
87	DI77	/3.4	/2.9 EXTENDED NORMAL
88	DI78	/3.4	/2.8 EXTENDED NORMAL
89	DI79	/3.4	/2.9 EXTENDED NORMAL
90	DI80	/3.4	/2.8 EXTENDED NORMAL
91	DI81	/3.4	/2.9 EXTENDED NORMAL
92	DI82	/3.4	/2.8 EXTENDED NORMAL
93	DI83	/3.4	/2.9 EXTENDED NORMAL
94	DI84	/3.4	/2.8 EXTENDED NORMAL
95	DI85	/3.4	/2.9 EXTENDED NORMAL
96	DI86	/3.4	/2.8 EXTENDED NORMAL
97	DI87	/3.4	/2.9 EXTENDED NORMAL
98	DI88	/3.4	/2.8 EXTENDED NORMAL
99	DI89	/3.4	/2.9 EXTENDED NORMAL
100	DI90	/3.4	/2.8 EXTENDED NORMAL

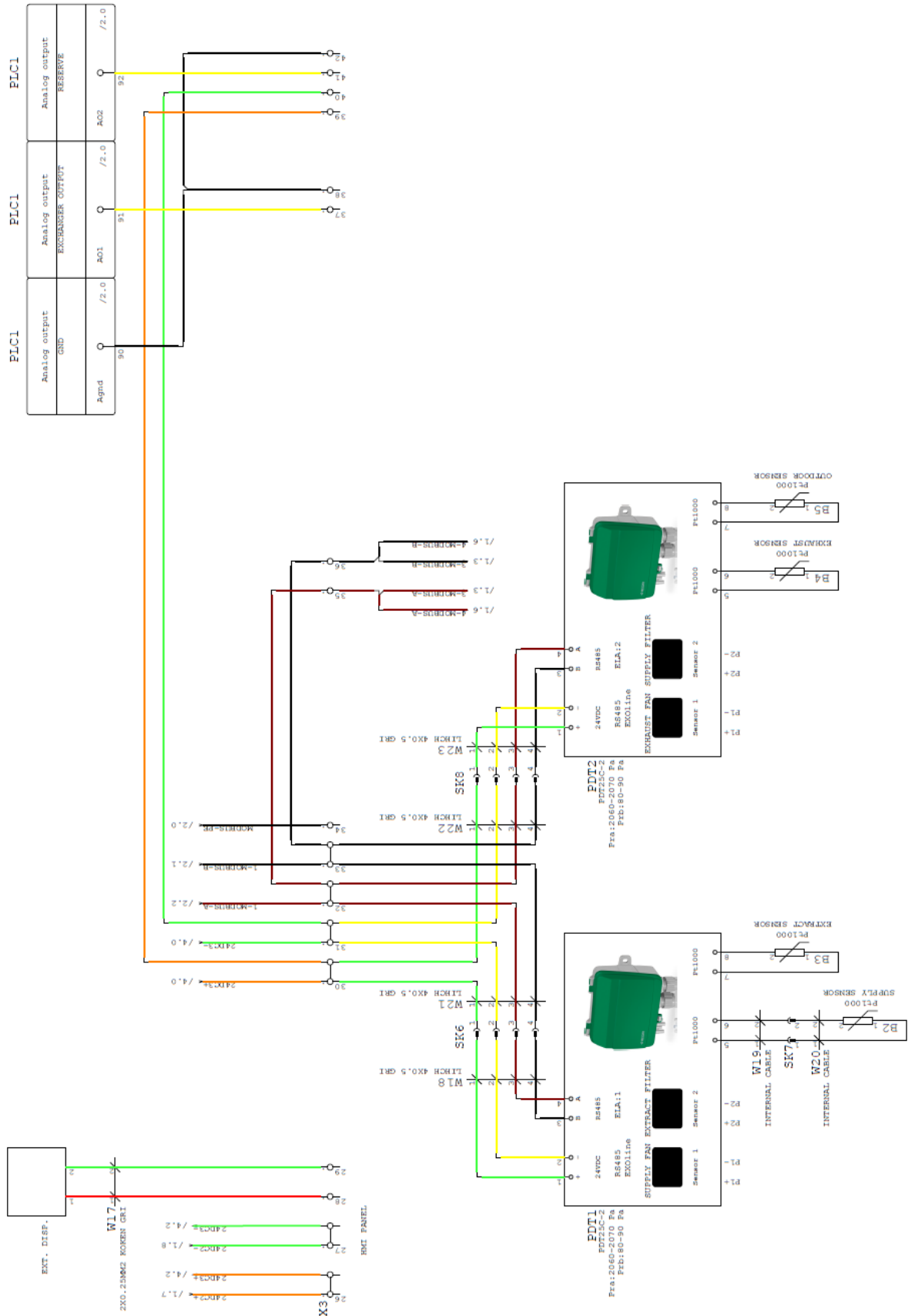




Azure Wheel 55







CHAPTER 6

6.0 After Sales Services

AERA heat recovery devices do not have any parts replacement or repair work to be performed by user other than cleaning and eye inspection. Users should contact the AERA company for faults detected during operation or maintenance. If you have problems and need to get a service, please contact the following address.

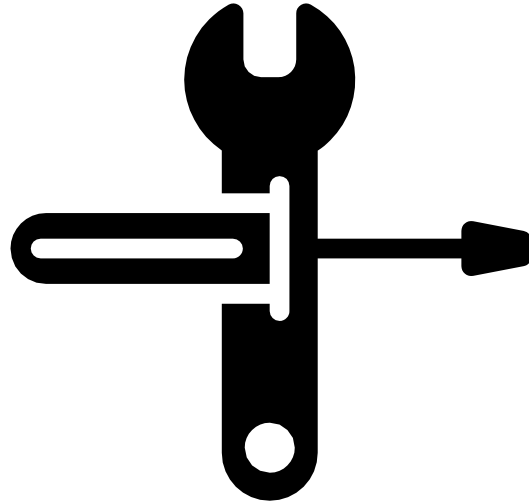
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AZURE WHEEL

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