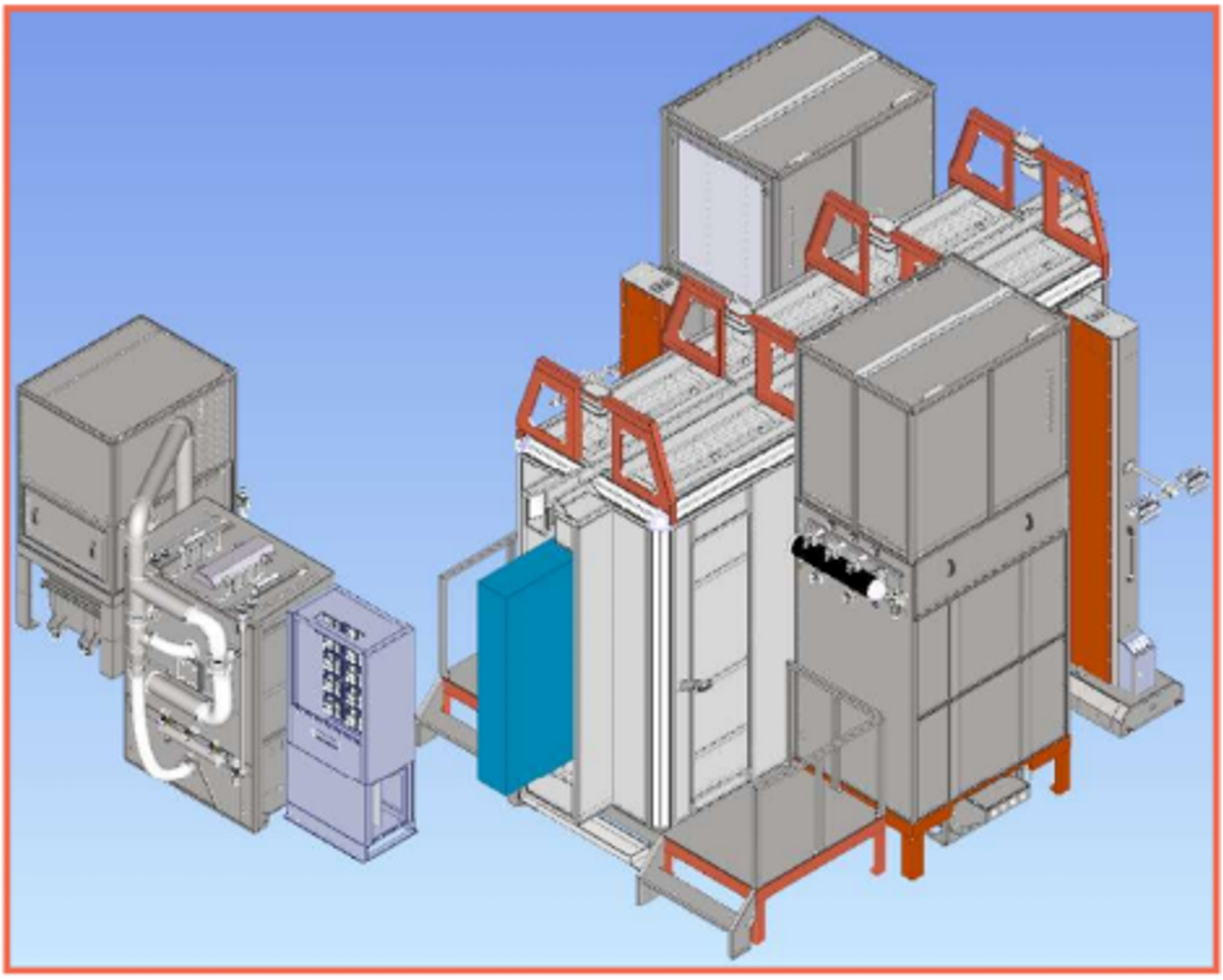
Electron

Electrostatic Powder Coating

AUTOMATIC POWDER PAINT APPLICATION BOOTH

USAGE GUIDELINE



COMPANY : First In Finishing
LINE TYPE : (E-BOOTH EcoX-10)
PRODUCTION YEAR : 2024

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10010 sk. No:10
35470
İTOB Organize Sanayi Bölgesi, Menderes
İzmir TÜRKİYE

General Safety Rules

This section contains the basic safety rules for the CABIN user. These rules should be read and understood before the CABIN is operated.

1. Security Symbols

Attention!!!
Electricity and moving parts pose a danger
Possible Consequences: Death or serious injury.

Warning!!!
Improper use will damage the device or cause malfunction.
Possible consequences: Minor injuries or damage to equipment.

2. Suitability for Use

1. The CYCLONE CABIN is manufactured to the latest specifications and technically according to the latest safety rules. The design is made according to the normal powder paint and wet paint application.
2. The product cannot be used for any other function. The manufacturer is not responsible for malfunctions that may occur as a result of improper use. The end user is responsible for these situations.
3. The operating, service and maintenance instructions are specified by the manufacturer. The use, maintenance and commissioning of the Cyclone Cabin should be carried out by trained persons.
4. Commissioning of the Cyclone Cabin should be carried out by looking at the user manual.
5. All local health and occupational safety rules related to use must be observed and applied.

3. Machine Safe Operation Instruction

1. No one else will use the machine except the operator.
2. The machine will not be abandoned in working condition.
3. Adjustment, maintenance and measurement will not be performed while the machine is running.
4. Look at the electrical panels. If there is no lock, notify Electrical Maintenance.
5. Elk dangling, open-ended, or insulated damaged cable and broken, damaged buttons.Notify maintenance.
6. The machine protectors will be installed in place.
7. Pay attention to the electrical panel and motors.
8. Cut off power during breakdown and maintenance. Lock the electrical Panel and the start button. Put a warning label on it.
9. If there is a broken place on the conveyor, notify Mechanical Maintenance.
10. Before starting maintenance, hang the “MAINTENANCE IS AVAILABLE” sign on the switch part.
11. The machine and its surroundings will always be well-maintained and clean.Jul.
12. Clean the exterior of the machine with a cloth.

4. Technical Safety Regulation of Stationary Electrostatic Powder Coating Equipment

General Information

Electron brand powder coating equipment produced by Sistem Teknik Makina has been produced for safe use with the latest technology. Electrostatic powder coating equipment can create hazardous environments when not used within the specified framework. In addition, there may be a danger to life, loss of limbs or damage to a tertiary October machine. The following are the things to be considered in the use of the hardware.

1. The user manual must be read before using the powder coating spray equipment. Otherwise, damage may occur due to improper use, or the use of hardware may get out of control.
2. Compliance with occupational safety rules should be checked before each start-up. The product should not be operated in incompatible situations. Regular maintenance is the basis for safe operation.
3. Local occupational safety rules should be taken into account when using the product.
4. The product must be unplugged from the outlet before maintenance or repair.
5. The connections between the powder coating equipment and the plug can only be removed when the product is Decommissioned.
6. Product cable connections should be made in such a way as not to damage the product in case of operation, they should not be made in such a way as to reduce working performance or prevent operation. In addition, attention should be paid to local occupational safety rules.
7. Genuine parts guarantee the protection of the hardware from explosion. When using parts other than the original, Sistem Teknik Makina cannot be held responsible for the damage that may occur and the product goes out of warranty.
8. If Electron brand products are to be used together with products produced by a different manufacturer, the instructions for use of other products / products should also be taken into account.
9. Care should be taken when working in Air/Dust mixture environments. Within a certain concentration December, this mixture can be explosive and flammable. Therefore, smoking is prohibited in work areas.

10. As an important information, it should be ensured that operators using pacemakers do not work in high voltage areas or places where there is an electromagnetic surface in any way. In the same way, they should not be present in the powder coating hardware assembly.

WARNING!
The customer is the only party responsible for the safety of the equipment used. Electron cannot be held responsible for damage to products that are not used safely.

Notes on Specific Hazards

1. **Power: Current shutdown procedures should be considered against high voltage hazards. Equipment should not be switched on at high voltage - the outlet should be pulled out. There is a danger of electrical shock.**
2. **Powder Paint: Powder air mixtures can catch fire. There should be a sufficient amount of ventilation. It may cause the powder paint to slip when it is on the ground.**
3. **Static Load: Static load can have consequences such as electric shock and glare. Objects must be removed from static load.**
4. **Grounding: All materials and / or machines with electrical communication in the work area should be made at a distance of no more than 1.5 meters from one point and at least 2.5 meters from both sides of the cabinet descriptions. The grounding direction should be no more than 1MΩ. Grounding directors should be tested at regular December intervals. Grounding test devices should be kept constantly available for regular measurement.Compressed Air: Compressed air can be generated after long paus Tues of the equipment, and this creates a risk of damage to the pneumatic hose or uncontrolled release and misuse of compressed air. Compressed air must be properly discharged.Compressed Air: The compressed air inside the equipment must be discharged during long-term stops. Damaged or free-ended pneumatic hoses, improper use of compressed air pose risks in terms of occupational safety.**
5. **Crushing and Cutting: During the operation, the moving parts in the working area can start to move automatically. In accordance with the instructions, trained personnel can approach the moving parts.**
6. **Abnormal Situations: Local occupational safety rules must be strictly ensured. Metal bars v. To make it difficult to access the product where necessary.b. things can be placed in the production area.**
7. **Changes and Modifications to the Product: All planned changes and modifications must be notified to Sistem Teknik Makina and changes to the original design of the product must never be made without permission from Sistem Teknik. Otherwise, the product remains under warranty and its suitability for use is invalid. The product should not be used while damaged in any way. Spare parts used outside the System Technical supply exclude the product from the warranty scope. Product repairs are carried out in the places approved by Sistem Teknik Makina.**

Personal Safety Rules for the Working Company / Staff

1.First of all, to stay away from all kinds of things that will negatively affect the operation of the product for technical safety is required.
2.Machine operators should have sufficient knowledge that the product should not be used outside trained personnel.
3.The company that will use the product must provide its own employees with instructions for using the product, prepare a document that simply describes the potential dangers of the product, the procedure that must be performed when transporting the product, and all measures necessary for the safe operation of the product. This document should be given to each operator who will use the product.
4.Themachineoperatorshouldcheckwhetherthereisanydamagetotheexternalsurfacesbeforetheshiftinwhichtheproductwillbeused, while working, when a characteristic other than normal is noticed, it should be forwarded to the department responsible.
5.Users are obliged to ensure working conditions at an adequate level of suitability for use. In cases not provided hardware should not be used.
6.The company using the product must provide the operators with the necessary protective equipment. (Example: face mask, work suit)
7.The company that uses the product also guarantees that the working environment of the product is kept clean Jul. Regularly inspect the area of use.
8.Safety tools should always be present on the product. If the product is to be taken for maintenance or cleaning, these tools can be removed from the product. The product should never be operated before it is placed back into the product immediately after cleaning or maintenance. Product users should be informed about this.
9.Dust ventilation and high-voltage spray gun controls should be performed while the product is turned off.

Notes on Specific Hazards

1.Power: Current shutdown procedures should be considered against high voltage hazards. Equipment should not be switched on at high voltage – the outlet should be pulled out. There is a danger of electrical shock.
2.Powder coating: Powder air mixtures can catch fire. There should be a sufficient amount of ventilation. Powder coating can cause slipping when it is on the ground.
3.Static Load: Static load can have consequences such as electric shock and glare. Objects must be removed from static load.
4.Grounding: All materials and / or machines with electrical conductivity located in the work area should be made at a distance of no more than 1.5 meters from one point and at least 2.5 meters from both sides of the cabinet openings. The grounding resistance should be no more than 1MΩ. Grounding resistors should be tested at regular December intervals. Grounding test devices should be kept constantly available for regular measurement.
5.Compressed Air: The compressed air inside the equipment must be discharged during long-term stops. Damaged or free-ended pneumatic hoses, improper use of compressed air pose risks in terms of occupational safety.
6.Crushing and Cutting: During the operation, the moving parts in the working area can start to move automatically. In accordance with the instructions, trained personnel can approach the moving parts.
7.Abnormal Situations: Local occupational safety rules must be strictly ensured. Metal bars v. To make it difficult to access the product where necessary.b. things can be placed in the production area.
8.Changes and Modifications to the Product: All planned changes and modifications must be notified to Sistem Teknik Makina and changes to the original design of the product must not be made without permission from Sistem Teknik. Otherwise if the product remains under warranty and is suitable for use, it becomes invalid. The product should not be used while damaged in any way. Spare parts used outside the System Technical supply exclude the product from the warranty scope. Product repairs are carried out in the places approved by Sistem Teknik Makina.

Safety Requirements For Electrostatic Powder Coating

1.The use of powder coating equipment is dangerous unless the operating instructions are followed.
2.Every piece with electrostatic conductivity around 5 meters of the product must be grounded.
3.The floor of the area to be covered must be conductive.
(Normal concrete is generally conductive, it is recommended to look at your building project)
4.Operators should use shoes with electrical conductivity.
5.The powder coating guns are grounded, so their use should be carried out with bare hands. If the pistols are to be used with gloves, the gloves must have electrical conductivity.
6.The ground wire must be connected to the grounding nut, which is part of the gun. This cable must be well connected to the cabinet, the recycling bin and, if any, the conveyor.
7.The powder coating cabinet should be in the closed position during the cleaning period.
8.Grounding should be measured once a week. The grounding resistance should be ez more than 1MOhm in total.
9.The powder coating cabinet equipment can only be operated when the area to be used (cabinet) provides the necessary conditions. If there is a problem in the cabin, the product should be turned off and not used until the repair is provided.

10.When the nozzle is to be replaced, the E-COAT control units must be switched off.

11.Use only System Technical original spare parts in the product. Thus, you ensure the warranty coverage of the product and suitability for use.

12.Cleaning products entail the danger of the outflow of dangerous gases. You need to contact the manufacturers of the cleaning products you will use and get the necessary information.

13.If there is any damage to the product, you should not use the product.

14.Particular attention should be paid to environmental compliance when cleaning the product, however, within the limits given by the manufacturer it should be studied.

15.Product repairs should be carried out by the expert personnel of Sistem Teknik Makina. Repairs cannot be made in the production area.

16.The hazardous dust concentration level should be avoided. In the area where the product is used, there should be a ventilation system that provides sufficient technical suction (for example, the cabin suction line). This system must be designed to create a concentration at least 50% higher than the lowest explosion limit. If the upper explosion limit is unknown, the concentration of the air/dust mixture should not be more than 10g/m3.

2014/34/EU	Directive on protection from Potentially Hazardous Atmospheres. (EU)
EN 12100-1 EN 12100-2	Machine Safety
EN IEC 60079-0	Electrical equipment operating in a hazardous atmosphere
EN 50 050	Electrical devices-Used in a potentially explosive atmosphere-Hand-held electrostatic spraying equipment
EN 50 177	Safety requirements for flammable powder coatings
EN 12981	Coating facilities - Spray baths for organic powder coating materials - Safety requirements
EN 60 529	Degrees of protection provided by enclosures (IP code) (in electrical equipment)
EN 60 204	Safety in machines- Electrical equipment of machines- Part 11: 1000 v a.a or 1500 v d.rules for high voltage equipment used at voltages above a and not exceeding 36 kv

Product Safety

1.Setup

If all or part of the installation is to be done by the customer, the local rules should definitely be examined and the installation is these it should be done with consideration.
The production area and the factory should be examined for any foreign matter, in addition, it should be noted that there are no foreign substances around the product, on the inner surfaces of the cabinet where the product is used, in its ventilation.
All equipment must be grounded in accordance with local regulations.

2.Hardware Operation Security

Before operating the powder coating cabinets, the user manuals of all the equipment used in the cabinets should be read. These can be E-GUN, E-FEED, E-ROBOT products. All operating manuals of the equipment should be stored close to the cabinets and potential problem solutions and spare parts should be examined from these manuals. Electron After-Sales Services will help the customer in any problem.

3.Before Each Run

-If there are foreign substances in and around the cabin, they should be removed from the environment.

-The pneumatic connections of the cabinet and all products connected to the cabinet must be observed.

Shipment and Storage

1. Safety Rules

The correct carrier elements should be used for transportation. These elements should be selected taking into account the weight and structure of the furnace. The personnel who will carry out the transportation must be trained. The detachable parts of the cabin must be properly separated and transported.

2. Transportation

Forklifts should be used for short-distance equipment transportation or relocation in the same environment.

The dimensions of the cabin should definitely be taken into account before the transportation process is carried out.

1)Necessary precautions should be taken to ensure that the cabin parts are not affected by environmental conditions during transportation.

2) Care should be taken to avoid damage to the environment and equipment during transportation.

3) Do not stand under and near the lifting equipment against the movement of the lifting equipment to the wrong side, falling parts and unexpected accidents.

4) Falling or hitting the ground quickly can cause damage to the oven. The load should be carried and released with smooth movements.

3. Control

When taking delivery of the cabinet, the following points should be noted;

1) Whether the delivered product is the ordered product or not,

2) Whether any damage occurred during transportation,

3) If any damage or deficiency has been detected in the cabin, please inform our company orally or in writing as soon as possible.

4. Storage

1) The cabinet equipment must be stored properly after shipment until installation.

2) The cabin equipment must be stored as shipped in order to avoid being affected by environmental conditions. If the assembly will be delayed, October measures should be taken. (Lubrication against corrosion, covering v.b. as)

WARNING - WARNING SIGNS

IT IS FORBIDDEN FOR ANYONE OTHER THAN THE EMPLOYEE TO TOUCH THE SWITCH

ANYONE WITH A PACEMAKER CANNOT ENTER

DO NOT APPROACH WITH FIRE

PHOTOGRAPHY IS PROHIBITED

DANGER OF FALLING

EXPLOSIVE ENVIRONMENT

Attention

ELECTRICAL HAZARD

USE A MASK

USE EAR PROTECTION

WEAR ANTISTATIC SHOES

READ THE OPERATING INSTRUCTIONS

GROUNDING

GENERAL INFORMATION

During the electrostatic powder painting process, approximately 70% of the paint sticks on the part, depending on structure of the part. For the paint which does not get stuck on the part to be not get spread in the environment, a “Powder Paint Application Booth” is required.

Dimensions of the powder paint application cabinet, capacity and pressure of the sucking fan, filter count and using suitable filters etc. is extremely important.

To create a suitable air velocity within the cabinet and overcome resistance of the filters during the painting process, a fan with suitable quality must be selected; a sufficient number of filters must be used according to the number of powder paint guns to be used.

Because of the remaining powder paint, which amounts to 30% of total paint and which does not stick to the part in the filtered type powder paint application cabinet, is recycled directly, it keeps the physical specifications of the powder paint; and removes the disabilities that are seen at second used powder paints such as becoming dull and denying the electrostatic.

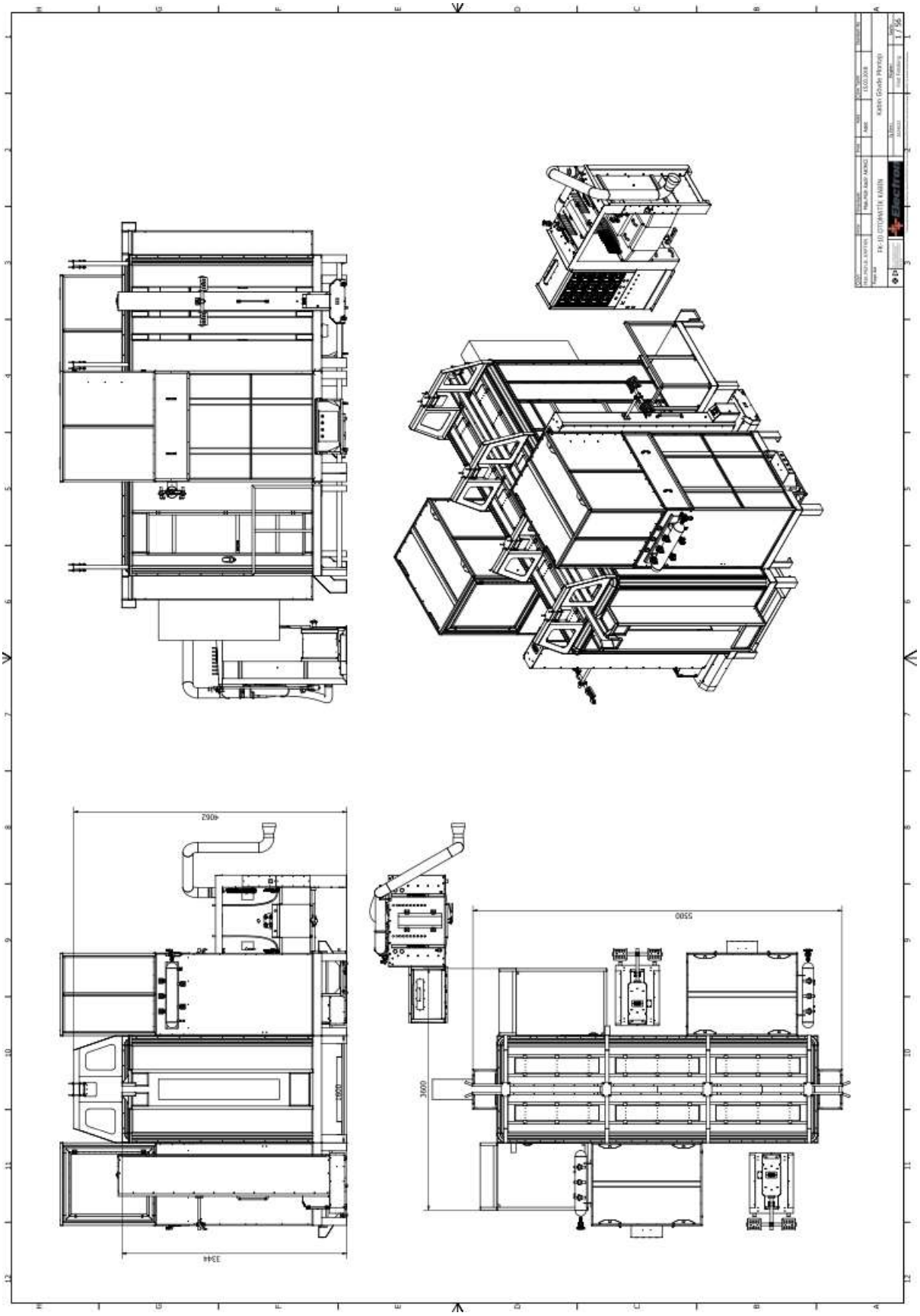
Accumulated in the cabin floor paint is automatically directed to the cyclone swept pneumatic system. “Swept Paint Depot” and “Under Cyclone Depot” the accumulated powder coated they are transferred back into the system with automatic PAINT CENTER. Thus, 3-4% in the filter group and very small paint particles move in, filter load decreases and life is prolonged. Filters are not changed during color changes, filter costs are reduced. Only the booth body color change in, cyclone group and recovery system cleaning is enough. Paint Center is very efficiency equipment for the paint recovery.

In the powder paint cabinet, the filters must be kept clean and their pores must be open. Cleaning of the filters is automatically performed through an electronic card located on the command panel. The opening frequency and time of the pulse valves as well as the operating and stopping time of the sub-cyclone hopper can be set on the electronic card. The pulse valves, which are set at the demanded frequency and which are opened respectively, pump compressed air into filters and pour out the powder, which was coated over the filters, to the residue hopper. After the filters are cleaned, vibration motors operate automatically and transfer the paint accumulated in the hopper to the recycling hopper through sieving. This process goes on automatically as set.

The default settings of the electronic card were set considering its specifications and the number of the powder paint pistols; however, the user is also able to make their own settings as per the terms of use to change.

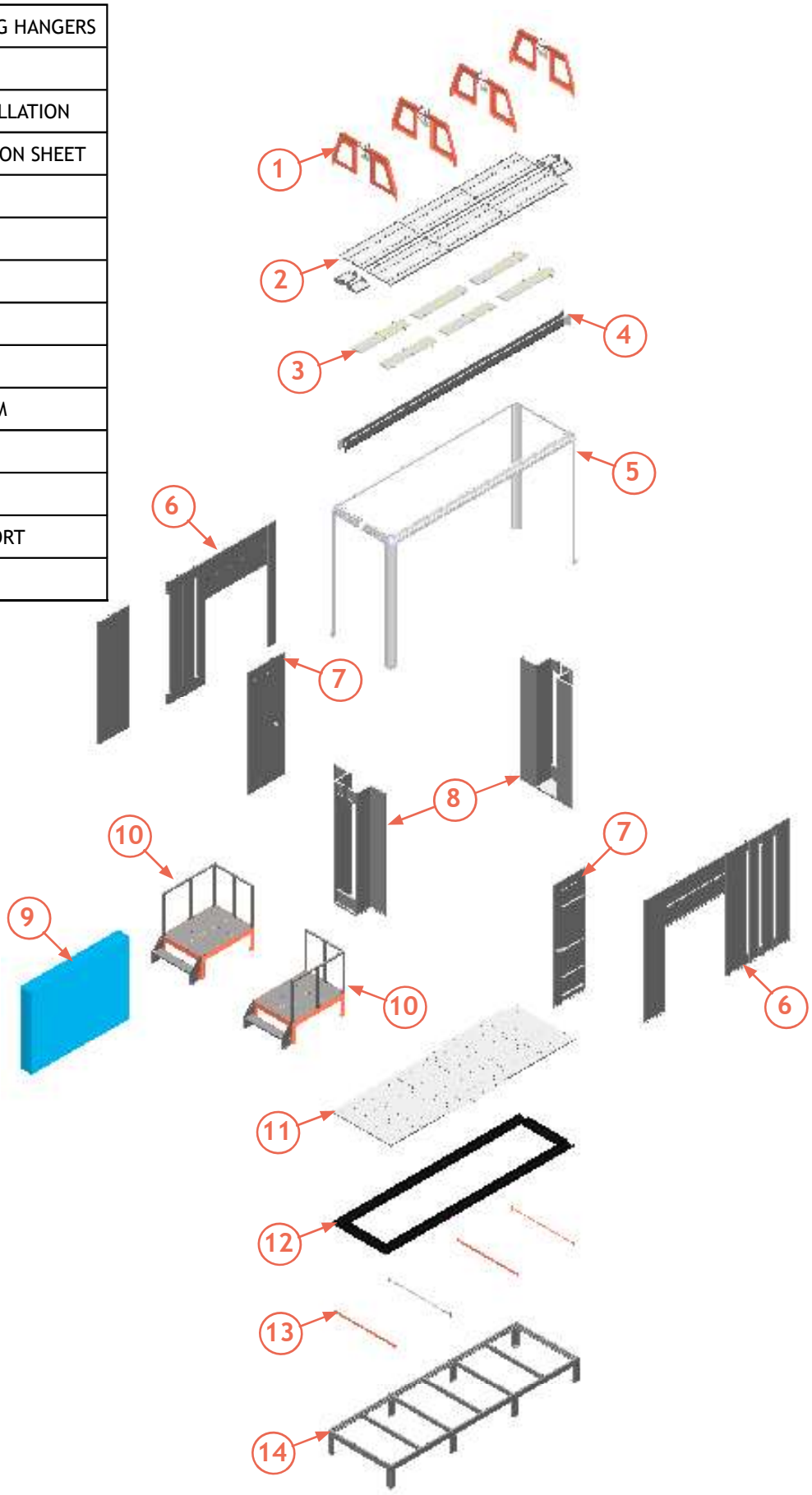
The Powder Paint Application Booth was designed and manufactured by SISTEM TEKNIK A.S. to allow all types of powder paint to be applied. Dimensions of the cabinet, control panel, and equipment such as fan were designed according to the part to be painted, number of Powder paint guns and facility where it will be used.

POWDER PAINT APPLICATION BOOTH (WITH 10 FILTER)



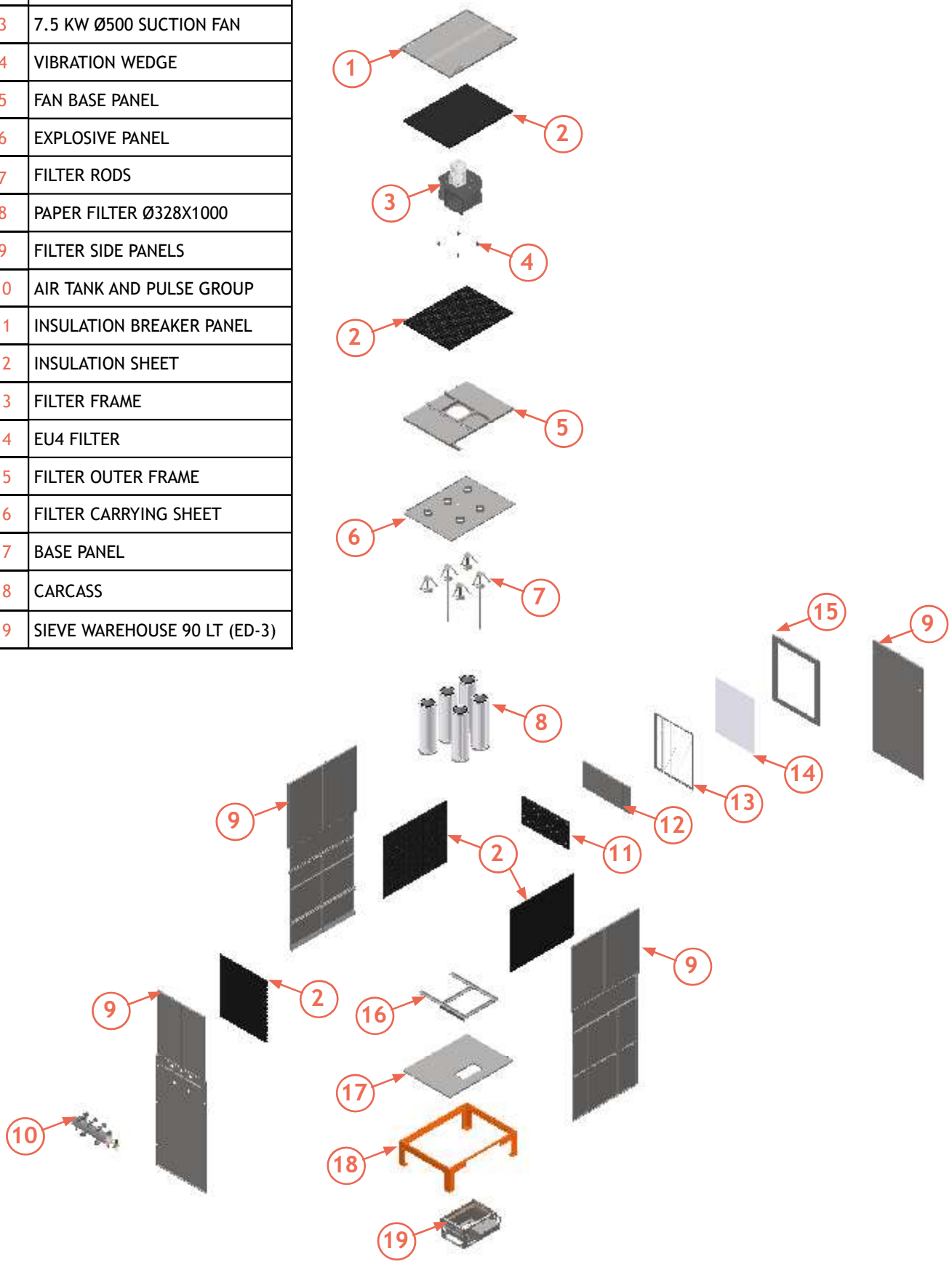
POWDER PAINTING APPLICATION BOOTH PARTS

1	CONVEYOR CARRYING HANGERS
2	CEILING PANEL
3	FLUORESCENT INSTALLATION
4	CONVEYOR TRANSITION SHEET
5	CARRYING POLES
6	ROBOT PANELS
7	DOOR
8	SIDE PANELS
9	PIECE
10	OPERATOR PLATFORM
11	BASE PANEL
12	WIRE CAGE
13	WIRE CAGE TRANSPORT
14	CARCASS

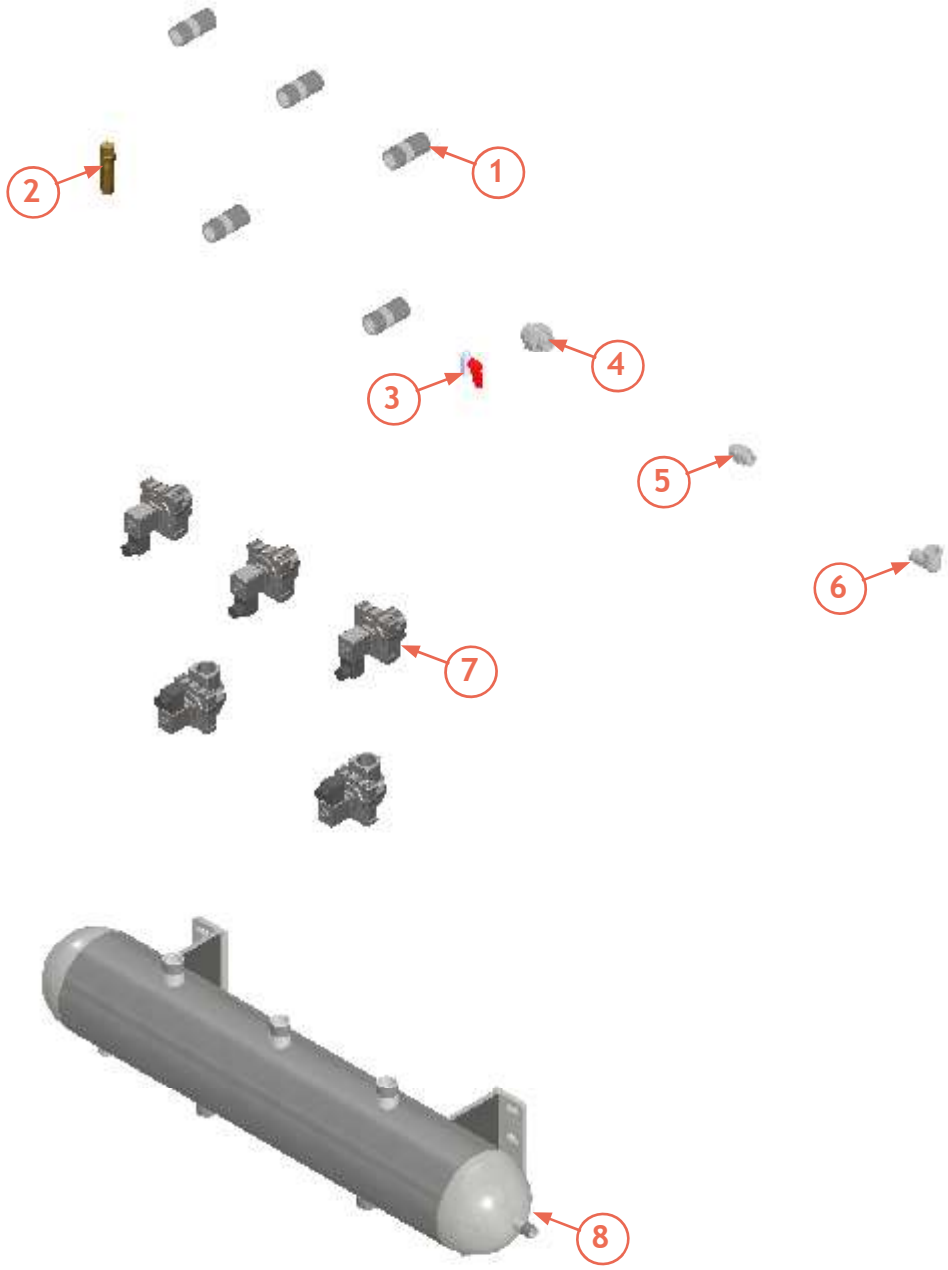


FILTER PARTS (FILTER UNIT SPECIAL)

1	FAN CEILING PANEL
2	SOUND INSULATION VIOLA
3	7.5 KW Ø500 SUCTION FAN
4	VIBRATION WEDGE
5	FAN BASE PANEL
6	EXPLOSIVE PANEL
7	FILTER RODS
8	PAPER FILTER Ø328X1000
9	FILTER SIDE PANELS
10	AIR TANK AND PULSE GROUP
11	INSULATION BREAKER PANEL
12	INSULATION SHEET
13	FILTER FRAME
14	EU4 FILTER
15	FILTER OUTER FRAME
16	FILTER CARRYING SHEET
17	BASE PANEL
18	CARCASS
19	SIEVE WAREHOUSE 90 LT (ED-3)



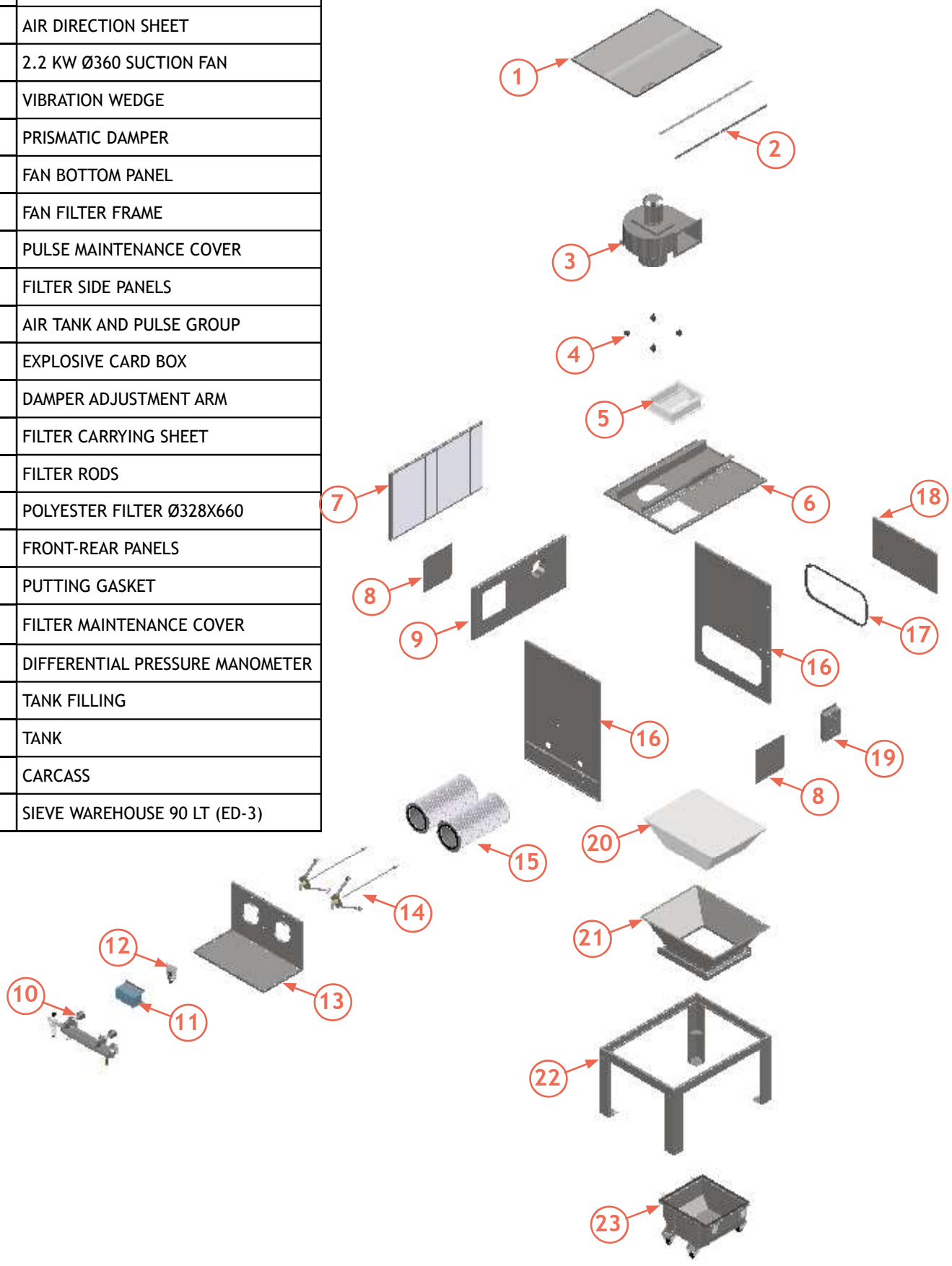
AIR TANK AND PULSE GROUP (FILTER UNIT SPECIAL)



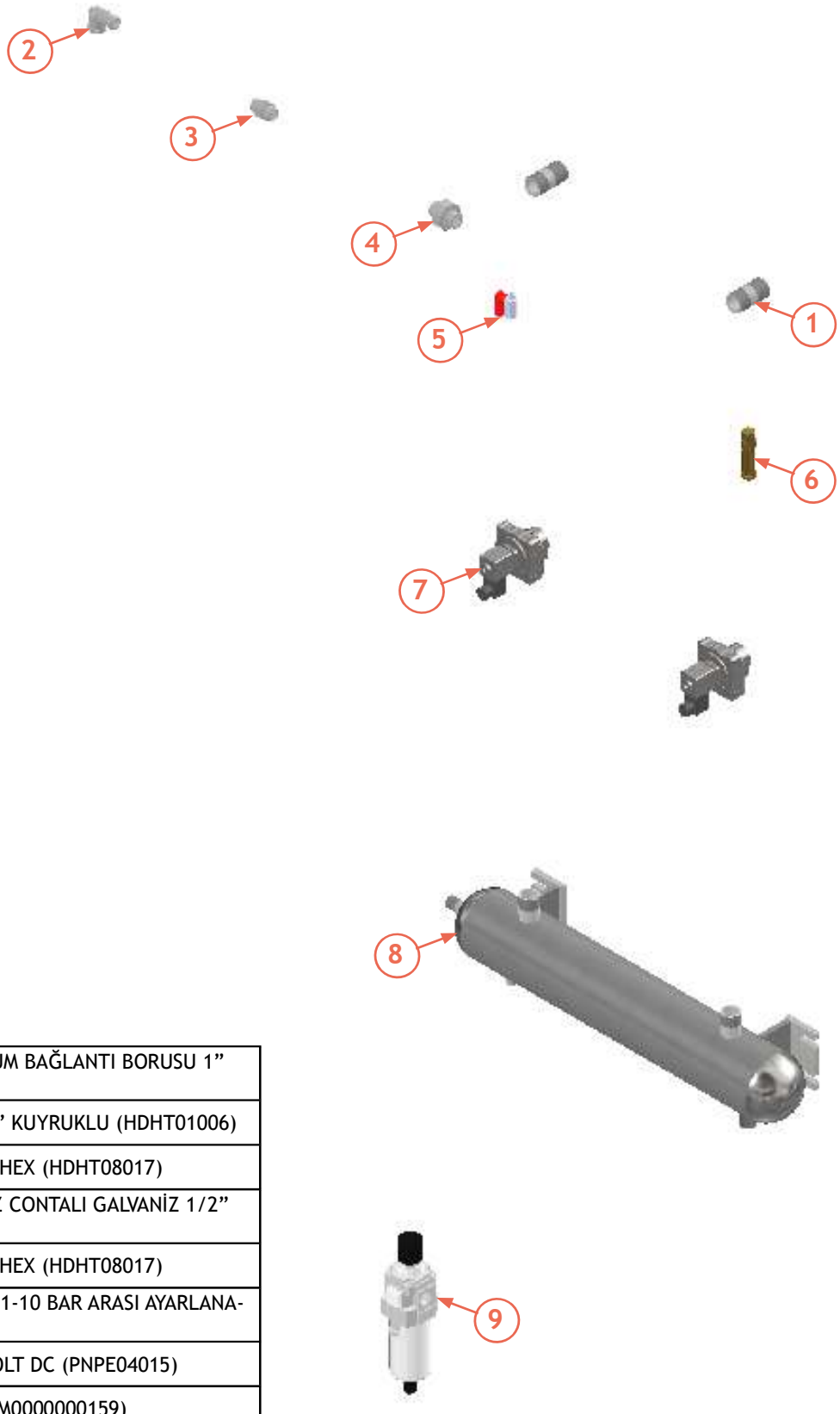
1	TORNA PATLAÇ HORTUM BAĞLANTI BORUSU 1” L70 (TRTM08164)
2	EMNİYET VENTİLİ 1/2 1-10 BAR ARASI AYARLANA-BİLİR (PNRD05014)
3	VANA KÜRESEL GALVANİZ 1/4” MİNİ (HDHE01002)
4	RAKOR 3 PARÇALI DÜZ CONTALI GALVANİZ 1/2” (HDHT01024)
5	NİPEL GALVANİZ 1/2” HEX (HDHT08017)
6	DİRSEK GALVANİZ 1/2” KUYRUKLU (HDHT01006)
7	VALF PATLAÇ 1” 24 VOLT DC (PNPE04015)
8	HAVA TÜPÜ 5Lİ (KBNYM0000000159)
9	REGÜLATÖR - SMC - AW40-F04EH-B 1/2” KARE MANOMETRELİ FR MONOBLOK (PNPE01031)

FILTER PARTS (FILTER UNIT 2 PACKS)

1	FAN TOP PANEL
2	AIR DIRECTION SHEET
3	2.2 KW Ø360 SUCTION FAN
4	VIBRATION WEDGE
5	PRISMATIC DAMPER
6	FAN BOTTOM PANEL
7	FAN FILTER FRAME
8	PULSE MAINTENANCE COVER
9	FILTER SIDE PANELS
10	AIR TANK AND PULSE GROUP
11	EXPLOSIVE CARD BOX
12	DAMPER ADJUSTMENT ARM
13	FILTER CARRYING SHEET
14	FILTER RODS
15	POLYESTER FILTER Ø328X660
16	FRONT-REAR PANELS
17	PUTTING GASKET
18	FILTER MAINTENANCE COVER
19	DIFFERENTIAL PRESSURE MANOMETER
20	TANK FILLING
21	TANK
22	CARCASS
23	SIEVE WAREHOUSE 90 LT (ED-3)



AIR TANK AND PULSE GROUP (FILTER UNIT 2 PACKS)



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7	VALF PATLAÇ 1” 24 VOLT DC (PNPE04015)
8	HAVA TÜPÜ 5Lİ (KBNYM0000000159)
9	REGÜLATÖR - SMC - AW40-F04EH-B 1/2” KARE MANOMETRELİ FR MONOBLOK (PNPE01031)

TECHNICAL SPECIFICATONS AND EQUIPMENT USED

Filters	: 5 pieces + 2 pieces
	: FİLTRE TEFLON Ø325X1000 (FRFL06004) + KABİN FİLTRESİ Ø324 X 660 (ELECTRON) (FRFL03013)
Filter Type	: Aluminum coated polyester
Pulse Valves	: 10 pcs + 2 pcs
Suction fan motor	: 2 x 7,5 KW Ø500 + 1 x 2,2 KW Ø360
Lighting	: 6 x KABİN ARMATÜR PLEKSİ
Powder Transfer	: High capacity injector

PRODUCTION AND ASSEMBLY METHOD

The cabinet is fixed on site and allows manual and automatical paint application from both sides. Frame of the cabinet is manufactured from 1.5-2 mm AISI 304. All of the parts of the paint cabinet are manufactured disassembled, assembled with bolts and can be demonted easily when required.

FILTER GROUP

During the painting process, the paint which did not stick on the part, with the effect of the suction valve, by sticking on the filters their extrusion to the external environment is avoided. The paint is poured onto powder hopper with sieve as the filters are cleaned through reverse washing line (pulse valves).

To clean the filters, compressed air is transmitted into the filters automatically. This process is fulfilled by means of the pulse valves commanded by the electronic card.

malzeme: *composition:*	**Atalet etkisi ile çift katmanlı kraft kağıt** ***double layer kraft paper with inertial effect***
kalınlık: *thickness:*	**65 mm**
maksimum çalışma sıcaklığı: *max. working temperature:*	**180° C**
tavsiye edilen geçiş hızı: *advisable cross speed:*	**0,75 m/s**
basınç düşümü: *initial pressure drop:*	**30 Pa**
toz tutma kapasitesi: *dust holding capacity:*	**5.000 – 15.000 (paint-stop) g/m²**
alev direnci: *flame resistance:*	**2 (U.L. 2-697A)**
yenilenme: *regeneration:*	**hayır** ***no***

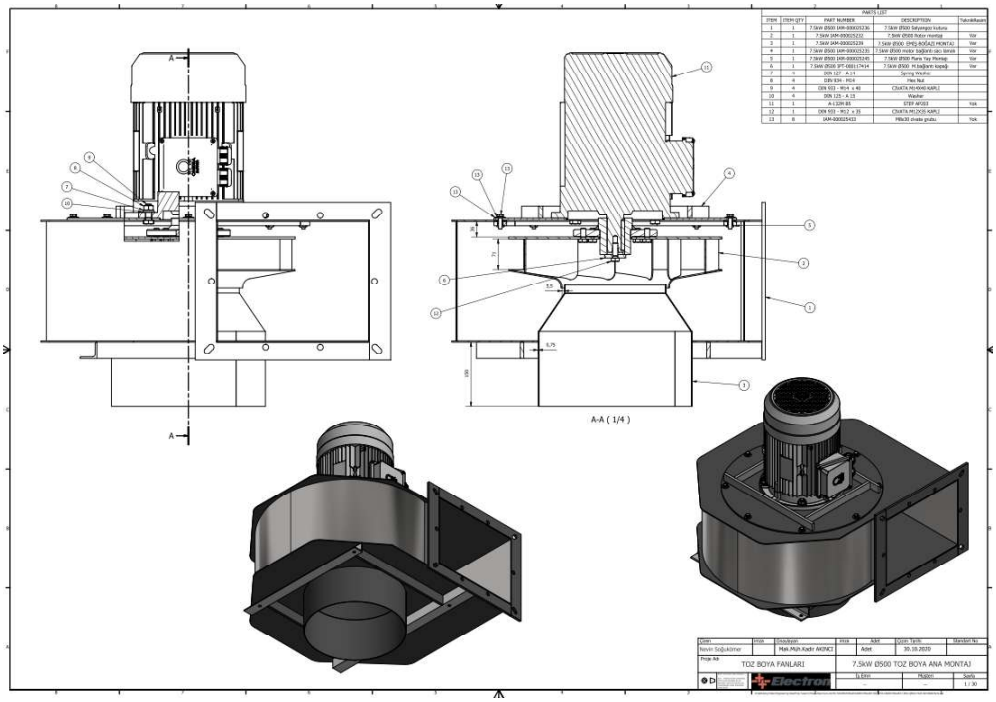
Technical Specifications of Pulse (solenoid) Valves

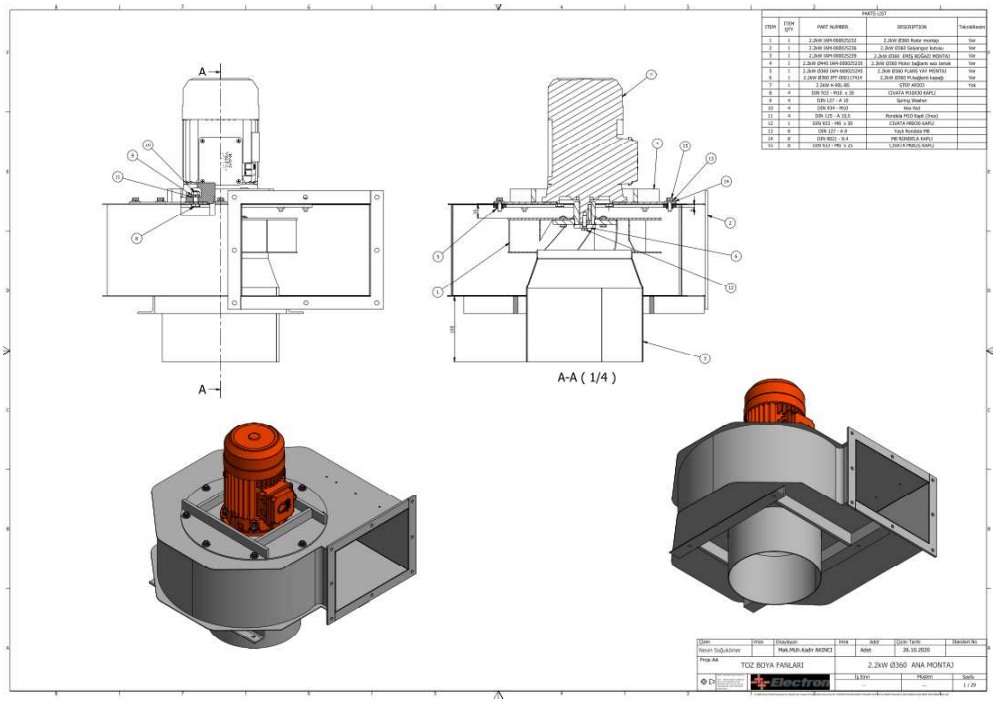
Code of Product : PNPE04015 10pc + 2pc
Nominal diameter : 1 “
Working Strength : 24 Volt
Working Pressure : 6 bar

SUCTION FAN

Over filter group; there is a suction fan designed especially for the powder paint cabin.

Product Code : STD24002097 + STD24002095
Fan type : Coupled directly, with high wings
Motor power : 2pc x 7,5 KW Ø500 KABİN FANI 3000 D/D SAĞ (UL ONAYLI)(GÜCÜ ARTTIRILMIŞ)
1pc x 2,2 KW Ø360 KABİN EMİŞ FANI 3000 D/D(UL ONAYLI)(GÜCÜ ARTTIRILMIŞ)
Vibration wedges : 8 pcs. ,VİBRASYON TAKOZU M8X20 50X30 ÇİFT TARAFLI NO:6 (AKUA03028)

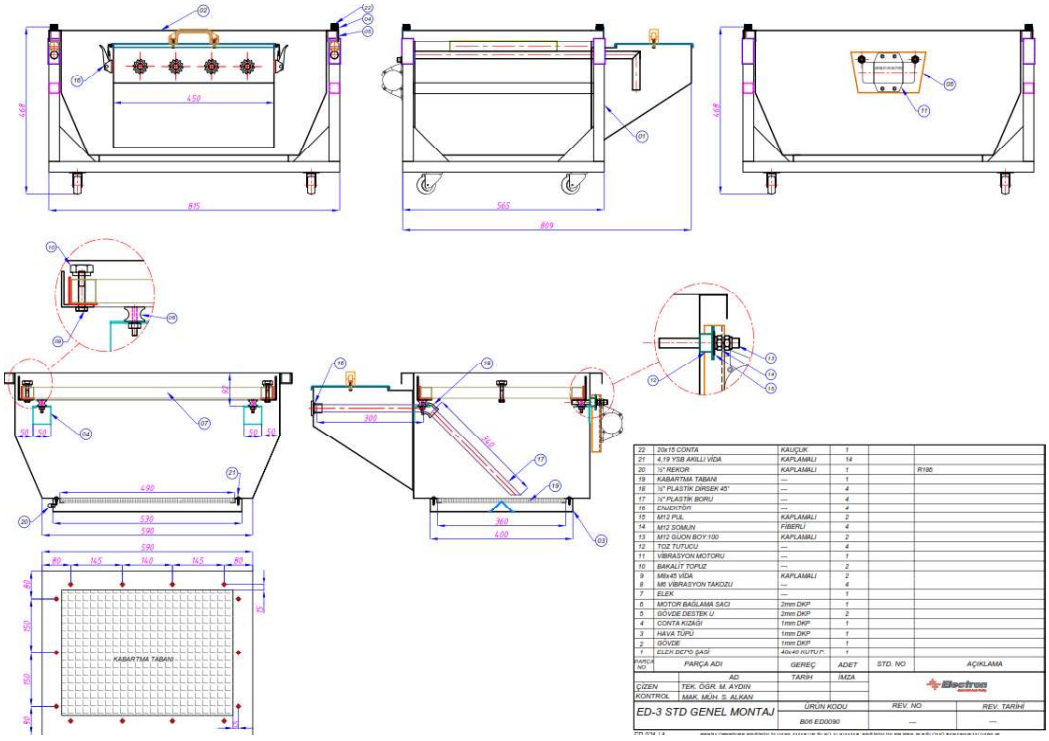




SIEVE WAREHOUSE

Under each filter group, the powder dye spilled from the filters is sieved and accumulated, and from there to the guns with injectors there are powder paint warehouses where fresh paint is transferred; at the same time, fresh paint is put. The sieved tank can be filled with powder paint from outside without removing it from its place.

product code	STD24002082
product name	ELEK DEPO 90 LT (ED-3)
Vibration motor type	220 V Vibration motor
Vibration motor product code	MPMT03001
sieve wire	250 µ (60 mesh)
Clamping vibration wedges seal	M6-30x50



ACTIVATING AND DEACTIVATING THE POWDER PAINT APPLICATION BOOTH

Use the automation guideline.

GROUNDING OF THE POWDER PAINT CABINET

Use the electron grounding directive (Available to the installation personnel)

DESIGN AND FUNCTIONS

Powder filter units are produced for mass production areas. Electron powder filter units are designed to be cleaned easily and to be managed by PLC system.
Few significant features are listed below;

-High efficiency filtration.
-Proper for continously working lines.
-Strength filter.

FUNCTION DEFINITION

While the filter unit is in operation, the contaminated air enters through the inlet of the filter unit and passes through the filter cartridges.

The powder / dye mixture is collected on the outside of the filters. The filtered air passes through the filters and it is returned from the output filter as clean air to ambient. The filter cartridges are automatically cleaned at regular intervals.Thus, the filter units can be used efficiently.

During cleaning of the filter unit, the timer sends energy to the solenoid valve and it is given compressed air from the diaphragm valve to filters at the same time.(to outward from the inside of the filters.) Therefore, The powder/dye mixtured which are collected in outside of the filter pours under the filter unit and it is cumulated in the waste storage.

With the aid of the fan on the filter unit, firstly, the dust passes through from air canals in powder coating booth. It is holded in filters after passes from cyclone seperator. It is ensured the air that given to outside can keep clean. Besides, air/powder mixture concentration can keep away from explosion potantiol interval because of the suction fan speed

SET UP AND START UP

It is needed to apply following substances if the first time operation or long periods of stoppage.

1)Make sure that there is no dust / impurity on the fan outlet.
2)Make sure that the waste storage is placed under of the filter unit.
3)Set the air damper to 75% open position.
4)Make sure that the inspection hatch are closed.
5)Turn on the energy from the switch.
6)Measure the air flow with a micro manometer and set the air flow through the damper.If the air stream is higher than the level wanted, the fan and the filter lifetime reduce seriously.(It should be done by authorized service.)
7)Give the compressor air and set it to 6 bar. Above 7 bar air can damage the filter.

APPLICATION

Before every operation, apply above following.

- Read all user manuals, which sent with the filter units insructions.
- Check the grounding of the filter unit
- Listen the fan noise. If it is existed noise more than normal level, the fan can be problematic.
- If it is proper , test the filter unit functions.

During long stances

- Clean the clean air room.
- Check the pulse valve timer.(It should be done by authorized service.)
- Check the waste storage of the filter unit to be sure in its place. If it is needed , it can be emptied.
- Check the compresor air and air/ water concentration.
- Check the pulse valve for air leaks.
- Check the door of the filter against leakege.
- Check the elbow for air leaks.
- The filters should be changed after using 2 years.(for the one shift)

In operation,

-Operate the compressor and set up inlet pressure.(generally 6 bar)
-Turn on the main switch.
-Check the operation of the system and control data of guns from the main control cabinet.

While stop operation,

-If the booth is managed by automatically, stop automatic mode.
-Turn off E-COAT control units.
-Switch off the booth.
-Switch off the powder center management.
-Turn off the main switch.

FILTER CLEANING

-Filter units are cleaned by compressed air at factory-set intervals.Each filter takes 300 seconds.

-Filters have to be changed. Changing time for filters can be undenstood by differential pressure gauge which is located on the filter unit.

-When pressure reaches 1750 Pa level, It is needed to alter filters.

-This process can be applied by electron personnel or employees who are educated by electron personnel. All changes again must be made by these employees.

FILTER CHANGING

Procedure

a.De-energize.

b.Open the doors of the filter unit.

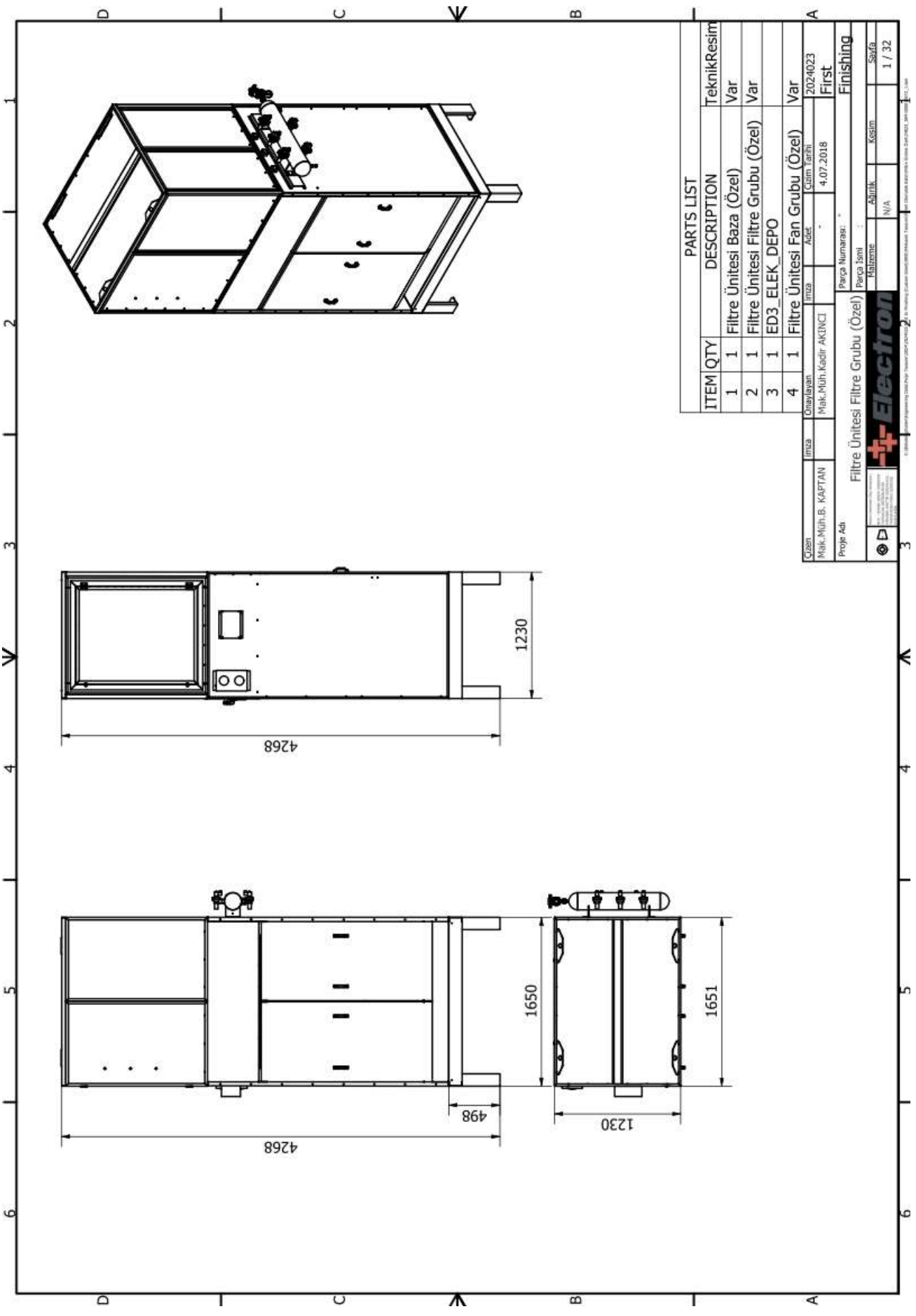
c.Loosen the knob which is under the filter unit but it should not be removed.

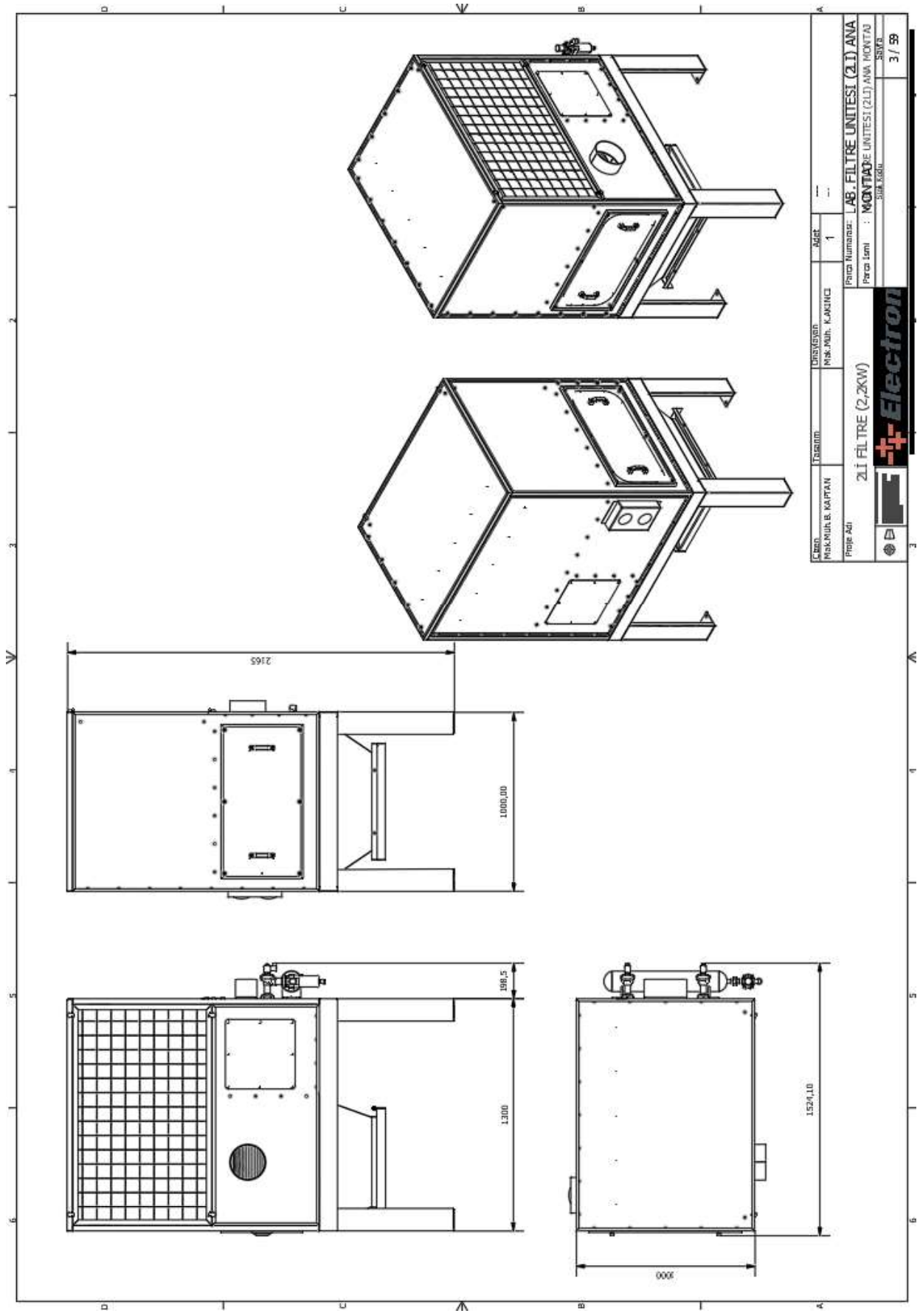
d.Push the filter with reciprocating motion and remove it from the hook.

e.Place the new filter by pushing it towards the hook.

f.Tighten down the knob under the filter .

g.Close the doors of filter unit.


PARTS LIST
ITEM QTY DESCRIPTION TeknikResim
1 1 Filtre Ünitesi Baza (Özel) Var
2 1 Filtre Ünitesi Filtre Grubu (Özel) Var
3 1 ED3_ELEK_DEPO
4 1 Filtre Ünitesi Fan Grubu (Özel) Var
Çizen Mak.Müh.B. KAPTAN
Onaylayan Mak.Müh.Kadir AKINCI
Çizim Tarihi 4.07.2018
2024023
First
Finishing
Filtre Ünitesi Filtre Grubu (Özel)
Malzeme
Ağırlık N/A
Kesim
Sayfa 1 / 32
1230
4268
1650
1651
498
4268
1230


2165
1000,00
198,5
1300
1524,10
3000
2Lİ FİLTRE (2,2KW)
LAB. FİLTRE UNİTESİ (2Lİ) ANA MONTAJ
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1
3 / 59

THE PERIODIC MAINTENANCES OF THE POWDER PAINT APPLICATION CABINET

1.DAILY MAINTENANCES AND CHECKS

•Before operating the booth ;
1.Make sure that the filters are in place.
2.Check the swept powder paint hopper, if it is in place and fixed.
3.If available, check the exit filters and waste paint hopper, if they are in place and mounted by compression nuts.
4.Check the painting robots and guns, if they are operating successfully.
5.Check the swept powder paint hopper, if it has enough paint in the hopper.
6.Check the air of the cabin; air pressure should be 6 bar.
7.Check the air dryer and compressor and empty the waste water and make sure that dry air is flowing into the cabinet.
8.Make sure that there is no air flowing at the environment that brings dust, dirt etc. into the cabinet. So, shut the doors and windows.

•At the end of the daily shift ;
9.While the fan is operating, collect the paints that are poured on the floor and wall of the cabinet by sweeping through a broom like a glass wiper.
10.Put the paints, collected in the swept powder paint hopper, in the package and close it. This procedure prevents the dampening of the powder paint.
11.Make sure that there is no air flowing at the environment that brings dust, dirt etc. into the cabinet. So, shut the doors and windows.
12.Leave the manual painting doors as closed.
•Cleaning of the cabinet;
13.While the fan is operating, collect the paints that are poured on the floor or wall of the cabinet by sweeping through a broom like a glass wiper.
14.While the fan is operating, collect the paints remained on the floor or wall in the swept powder paint hopper by directing them to filter group through pressured air.
15.Pour the paint on the filters down via pulsation the valves manually.
16.Close the suction fans.
17.Rip the filters and pour the paints on the filters in the swept hopper by flapping manually.
18.Rip the swept powder paint hopper; put the paints in the hopper to the package and close it.
19.Clean the swept hopper and inner part of the cabinet through a humid cloth completely.
20.Clean the paint guns, hoses, injectors etc., through pressured air.
21.Replace the filters for new painting colour; put the new paint in the swept hopper; and prepare other painting equipment to operate.

Powder paint booth is ready to operate in a new colour.

PROBLEMS, POSSIBLE REASONS AND RECOMMENDATIONS FOR SOLUTIONS

PROBLEMS	POSSIBLE REASONS	RECOMMEMDATIONS FOR SOLUTIONS
1.Too much suction, the paint is sucked without getting stuck onto the part .	1.Filters are torn or not fully screwed, there is air leakage 2.Waste holder under the exit filters is not mounted.	1.Check the filter, mount the waste holder and fix it.
1.Insufficient suction, excess paint escapes outside from openings of the cabinet.	1.Filters are worn out or moistened, choked. 2.Exit filters are old. 3.Pulse valves are not working or working scarcely. 4.Exit filters are choked up.	1.Replace the filters. 2.Replace the exit filters. 3.Check the pulse valves; increase the working temperature 4.Clean the exit filters
1.The paints stuck on the filters do not be poured.	1.Air pressure of pulse valves is poor 2. Pulse valves are working scarcely.	1.Increase the air pressure up to 6 bars. 2.Increase the working frequency of the pulse valves.
1.There is dirt, dust etc. on the painted part.	1.The environment is not clean 2. Doors or windows are opened. 3. There are some non-prevented air flows that affect the suction negatively.	1.Clean the environment and prevent dust rising from the floor. 2.Shut the doors and windows to prevent air flowing. 3.Put the cabinet into a different cell and by flowing fresh air into the cell create a positive pressure.
1.There are coloured points and stains on the painted part.	1.The cabin and other equipment did not be cleaned carefully during the colour change operation. 2. It is blended on the paint, any different paint or dirt in varied colours.	1.Clean the cabin and other painting equipment carefully. 2.Check the paint; use the paint through a new package, if necessary.

Part #	Part Name	Order Code	Usage Unit	Qty
1	SUCTION FANS (3000 d/d)		Filter Unit	1
1.1	1,5 kW Ø330	TDTS05057	"	1
1.2	2,2 kW Ø360	TDTS05060	"	1
1.3	3 kW Ø445	MPMT03059	"	1
1.4	4 kW Ø445	MPMT06013	"	1
1.5	7,5 kW Ø500	TDTS05010	"	1
1.5.1	7,5 kW Ø500-EXPROOF	TDTS05013	"	1
1.6	11 kW Ø530	TDTS05011	"	1
1.6.1	11 kW Ø530-EXPROOF	TDTS05012	"	1
1.7	15 kW Ø560	MPMT03057	"	1
1.8	22 kW Ø550	TDTS05047	"	1
1.8.1	22 kW Ø550-EXPROOF	TDTS05052	"	1
1.9	30 kW Ø615	TDTS05046	"	1
1.9.1	30 kW Ø615-EXPROOF	TDTS05051	"	1
1.10	37 kW Ø615	TDTS05061	"	1
2	ARMATURE LIGHTING	B08EMM06009	Booth	Mutable
3	FLUORESCENT 36W SNOW WHITE	ELAY01003	Booth	Mutable
4	REGULATOR /W SQUARE MANOMETER	PNPE01010	Booth	1
5	FILTERS		Filter Unit	Mutable
5.1	Mahle Filters		"	"
5.1.1	FILTER Ø328 X 660 mm POLYESTER	FRFL05001	"	"
5.1.2	FILTER Ø328 X 1000 mm POLYESTER	FRFL06002	"	"
5.2	EU4 Filters		"	"
5.2.1	EU4 PANEL FILTER 1000X400X48 mm	FRFL05007	"	"
5.2.2	EU4 PANEL FILTER 890X600X48 mm	FRFL05008	"	"
5.2.3	EU4 PANEL FILTER620X400X48 mm	FRFL05009	"	"
5.2.4	EU4 PANEL FILTER 870X400X48 mm	FRFL05010	"	"
6	VALVE PULSE 1" 24 VOLT DC	PNPE04015	Filter Unit OR Booth	Mutable
7	VALVE SOLENOID 1/2" 24 V /w COIL	PNPE04005	Booth	Mutable
8	Pulse card		Booth Panel	Mutable
8.1	3'lü	B0720030	"	"
8.2	5'li	B0720050	"	"
8.3	6'lı	B0720060	"	"
8.4	9'lu	B0720090	"	"
8.5	12'li	B0720120	"	"

Part #	Part Name	Order Code	Usage Unit	Qty
9	Soft Starter-for motors		Booth Panel	1
9.1	SOFT STARTER 5,5 kW	ELSK02003	"	1
9.2	SOFT STARTER 7,5/11 kW	ELSK02004	"	1
9.3	SOFT STARTER 15 kW	ELSK02005	"	1
9.4	SOFT STARTER 22 kW	ELSK02006	"	1
9.5	SOFT STARTER 30 kW	ELSK02007	"	1
9.6	SOFT STARTER 37 kW	ELSK02002	"	1
9.7	SOFT STARTER 45 kW	ELSK02008	"	1
10	PHASE SEQUENCE RELAY ENTES GKRC-03F VOLTAGE PROTECTION	ELRL04010	Booth Panel	1

SERVICE CHART

DATE	TYPE of MAINTENANCE -Weekly -Yearly -Service	PERSON WHO MADE MAINTENANCE OR SERVICE	OPERATION DONE REPLACED PARTS NOTES	CHECKING OFFICER

EXPECTED LIFE, GUARANTEE AND GUARANTEE TERMS, USAGE CONDITIONS, NOTES

1. EXPECTED LIFE

•The economical usage life of Powder Paint Application Cabinet is roughly 10 years.
•The decrease and increase in the economical usage life depends on the user's making the required periodic maintenances, replacing the filters in time and using the facility properly.
•Replacement times of the filters (with a one-shift work):
Primary Filter Unit: Polyester Filter: Average life 1 year
Paper Filter: Average life 6 months

•SİSTEM TEKNİK A.Ş. guarantees to provide service throughout the usage life and supply the required parts.

2. GUARANTEE VE GUARANTEE CONDITIONS

•The powder paint application cabinet is guaranteed for 2 (two) years against manufacturing and material faults.
Parts replaced within the scope of guarantee are free of charge.
•The guarantee conditions of the producing companies are effective for parts such as engine, reducer, burner and electrical-electronic materials, which were not produced, but purchased and used by SİSTEM TEKNİK A.Ş.
•Damages resulting from faulty usage and/or intervention of unauthorized people are outside the scope of guarantee.

3. USAGE CONDITIONS

•Read the usage guideline before operating the cabinet.
•Persons who do not possess legal working permit may not use the cabinet.
•The cabinet must be used by authorized person who have been trained with regard to the usage.
•Spare parts that were recommended by SİSTEM TEKNİK A.Ş. must be used.
•The checks and periodic maintenances of the cabinet must be carried out and the parts that are in need of replacement must be replaced in time
•The using company must take the work safety measures required for safety of the personnel working within the facility and must not allow personnel who do not comply with work safety regulations to work.
•All of the warnings and recommendations stated in the Usage Guideline must be heeded.

4. NOTES

•The powder paint application cabinet herein was designed by SİSTEM TEKNİK A.Ş. and manufactured in compliance with the required safety and quality standards.
•The powder paint application cabinet herein was assembled, subjected to the required tests and checks and operationalized by SİSTEM TEKNİK A.Ş. personnel.
•SİSTEM TEKNİK A.Ş. may make alterations in order to get better results and make optimizations, if it deems necessary.
The Usage Guideline here in was prepared by SİSTEM TEKNİK A.Ş. and the information and projects within may not be reproduced partially or fully and may not be handed to any third persons or parties other than the authorized officer of the company for which the facility is set up. Otherwise, SİSTEM TEKNİK A.Ş. reserves the right to take legal action.

* Materials that wear and tear as a result of use are not covered by the warranty.
* Consumables are not covered by warranty because they depend on time and use.
* Products that become dirty due to weather and road conditions and expire after a certain period of time are not covered by the warranty.
* Sealing elements are also consumables and are not covered by warranty.
* Products damaged by warping or weld breaks due to overloading by the user are not covered by the warranty.
* Products damaged by accidental cracks, impacts or ruptures due to user use are not covered by the warranty.

AFTER SALES SERVICES:

The design of the furnace is made to obtain the highest possible efficiency from a facility. In the design of our ovens, particular attention has been paid to making maintenance and repair as well as the replacement of damaged or worn parts and structural components as easy as possible.
In order for the oven to have a long life, the durability of the materials is one of the basic elements and this life is qualified and It can be extended by carrying out regular maintenance and repair work.

In order for this situation to occur;
- Maintenance work should be done regularly.
- There must be sufficient spare parts stock so that worn or damaged parts can be replaced immediately.

-You can call our company on the contact numbers below for any information about the oven, spare parts supply and service.

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