



USER MANUAL



Grinding and welding workstation **UES-UNI** with extraction and recirculated-air filtration

EN



This user manual applies to the following device models:

Part No	Type
902U33	UES-UNI



User manual – title: „Grinding and welding workstation UES-UNI with extraction and recirculated-air filtration”

The structure and format of this user manual incorporate the principles outlined in: EN 82079-1, EN ISO 20607, EN ISO 7010, the Machinery Directive 2006/42/EC, and other harmonised standards.



KLIMAWENT

Po prostu niezawodnie

Name and address of the manufacturer:

KLIMAWENT S.A.

ul. Chwaszczyńska 194, 81-571 Gdynia

tel.: +48 58 629 64 80

fax: +48 58 629 64 19

e-mail: klimawent@klimawent.com.pl

website: www.klimawent.com.pl

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Publication date: **2026-09-14**

Number of pages: 104

TABLE OF CONTENTS

1.	INTRODUCTION	5
1.1.	INITIAL INFORMATION	5
1.2.	STRUCTURE AND INFORMATION PRINCIPLES OF THE USER MANUAL	5
1.3.	MANUFACTURER DATA AND ADDRESS	6
2.	DECLARATION OF CONFORMITY.....	7
3.	SAFETY OF USE	9
3.1.	SAFETY RULES.....	9
3.2.	INTENDED USE	10
3.3.	FORESEEABLE MISUSE	11
3.4.	REQUIRED PERSONAL PROTECTIVE EQUIPMENT	13
3.5.	WARNINGS	14
3.6.	RESIDUAL RISK INFORMATION	15
4.	DEVICE DESCRIPTION	21
4.1.	OPERATING PRINCIPLE	21
4.2.	STRUCTURE	21
4.3.	TECHNICAL DATA	24
4.4.	DIMENSIONAL DRAWINGS	25
5.	TRANSPORT AND STORAGE	27
5.1.	TRANSPORT	27
5.1.1.	TRANSPORT USING LIFTING EQUIPMENT	28
5.1.2.	TRANSPORT USING FORKLIFT TRUCKS	31
5.2.	STORAGE	32
6.	ASSEMBLY, INSTALLATION AND START-UP	33
6.1.	WORK AREA AND COMMUNICATION SPACE	33
6.2.	ASSEMBLY	35
6.3.	INSTALLATION.....	36
6.3.1.	CONNECTING THE POWER SUPPLY.....	37
6.3.2.	ELECTRICAL DIAGRAM.....	39
6.4.	START-UP / INSPECTION / TESTING.....	41
6.4.1.	MOTOR CHECK	41
6.4.2.	CHECKING THE EARTHING AND EQUIPOTENTIAL BONDING CONNECTIONS.....	43
6.4.3.	CHECKING THE IMPELLER ROTATION DIRECTION	44
6.4.4.	CHECKING VIBRATION	45
7.	USE	47
7.1.	OPERATION	47
7.1.1.	DEVICE CONTROL.....	47
7.1.2.	CONTROL PANEL	50
7.1.3.	SWITCHING ON THE POWER SUPPLY	50
7.1.4.	SWITCHING ON THE FAN	52
7.1.5.	SWITCHING OFF THE FAN.....	53
7.1.6.	SWITCHING OFF THE POWER SUPPLY.....	54
7.1.7.	RESETTING THE MOTOR CIRCUIT BREAKER.....	55
7.1.8.	CONNECTING THE WELDING MACHINE RETURN CABLE.....	57
7.1.9.	FILTER REPLACEMENT	58
7.1.9.1.	FILTER REMOVAL.....	60
7.1.9.2.	FILTER INSTALLATION.....	62
7.1.10.	CLEANING / MANUAL REGENERATION OF FILTERS	63
7.1.11.	REMOVING AND EMPTYING THE DUST CONTAINER	64
7.1.12.	ALARM SIGNALS	68
7.1.12.1.	MOTOR FAILURE.....	69
7.1.12.2.	LIMIT FILTER CONTAMINATION	70
7.1.13.	STOPPING THE DEVICE IN AN EMERGENCY.....	71
7.1.14.	PROCEDURE IN THE EVENT OF A FIRE HAZARD OR FILTER IGNITION	72

7.1.14.1.	SIGNS OF A FIRE HAZARD.....	72
7.1.14.2.	PROCEDURE IN THE EVENT OF A FIRE.....	73
7.1.14.3.	RECOMMENDED FIRE-FIGHTING EQUIPMENT	74
7.1.14.4.	PROCEDURE AFTER A FIRE	75
7.1.15.	RETURN TO NORMAL OPERATION AFTER REMOVING THE PROBLEM.....	76
7.1.16.	UNPLANNED STOP AND RESTART.....	77
8.	MAINTENANCE AND REPAIR INSTRUCTIONS	79
8.1.	GENERAL GUIDELINES	79
8.2.	MAINTENANCE WORK SCHEDULE	81
8.2.1.	FILTER MAINTENANCE	82
8.2.2.	DUST CONTAINER MAINTENANCE	87
8.2.3.	FAN MAINTENANCE.....	88
8.2.4.	ELECTRICAL EQUIPMENT MAINTENANCE	90
8.3.	SERVICE AND REPAIRS.....	91
8.4.	REPLACEABLE PARTS.....	92
9.	OPERATING FAULTS, CAUSES AND REMEDIAL MEASURES.....	93
10.	DISASSEMBLY, DECOMMISSIONING AND SCRAPPING	99
10.1.	DISASSEMBLY AND DECOMMISSIONING	99
10.2.	SCRAPPING.....	101
11.	WARRANTY TERMS	102

1. INTRODUCTION

1.1. INITIAL INFORMATION

This user manual is intended for the user of the **UES-UNI** grinding and welding workstation. The purpose of the manual is to provide the information necessary for safe transport, installation, commissioning, use, cleaning, maintenance, removal of typical faults and withdrawal of the device from service.

INFORMATION



Due to the continuous improvement of its products, the manufacturer reserves the right to make design changes whose purpose is to improve functional values and safety of use.

! CAUTION



The user is required to comply with the provisions of this user manual and the related documentation, including the operating instructions for the electric motor. This user manual **DOES NOT** include the operating instructions for the electric motor.

IMPORTANT!

READ THE INSTRUCTIONS BEFORE USE!

KEEP FOR FUTURE USE!

1.2. STRUCTURE AND INFORMATION PRINCIPLES OF THE USER MANUAL

This user manual contains **four types** of safety and information messages, each consisting of **a signal word and a graphic symbol** corresponding to the level and probability of the hazard, i.e.:

INFORMATION



Hazard level: very low or none

Content, note, explanation presenting a typical condition and appearance, typical action and behaviour. The content describes important information of general significance that must be implemented by those who read the user manual.

! CAUTION



Hazard level: low

Warning content indicating an increased level of attention by the user. The explanation included in the content presents a risk that may cause damage to the device, but not of a nature causing destruction or immobilisation, or has a minor effect on the user.

! WARNING



Hazard level: high

Warning content indicating a high level of attention by the user. The explanation in the content presents a risk that may cause damage or destruction of the device or may cause bodily injury to the user.

! DANGER



Hazard level: very high

Warning content indicating a very high level of attention by the user. The explanation in the content presents a risk that may cause destruction of the device or other nearby devices or may cause serious bodily injury or death. Corrective actions must be taken immediately after the risk is noticed. All activities leading to an increase in the hazard are prohibited!

**1.3. MANUFACTURER DATA AND ADDRESS**

All requests for information or repair work or inquiries concerning the technical aspects of this document should be addressed to:

KLIMAWENT S.A.
Chwaszczyńska 194
81-571 Gdynia, Poland
Tel.: +48 58 629 64 80
Fax: +48 58 629 64 19
e-mail: klimawent@klimawent.com.pl



2. DECLARATION OF CONFORMITY

The manufacturer, **KLIMAWENT S.A.**, hereby declares that the product: *Grinding and welding workstation UES-UNI with extraction and recirculated-air filtration* meets the requirements of the following European directives, harmonised standards and other specifications:

- **Directive 2006/42/EC (MD)** - Machinery Directive,
- **Directive 2009/125/EC (ECO)** - Directive establishing a framework for setting ecodesign requirements for energy-related products,
- **Commission Regulation (EU) No. 327/2011 (ErP)** - Regulation implementing Directive 2009/125/EC with regard to ecodesign requirements for fans driven by motors with an electric input power between 125 W and 500 kW,
- **Directive 2014/30/EU (EMC)** - Electromagnetic Compatibility Directive,
- **Directive 2011/65/EU (RoHS)** - Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, amended by Commission Delegated Directive (EU) 2015/863.

The manufacturer additionally declares conformity with harmonised standards, national standards or parts thereof:

- **PN-EN ISO 12100:2012** - Safety of machinery - General principles for design - Risk assessment and risk reduction,
- **PN-EN ISO 13857:2020-03** - Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs,
- **PN-EN 14120:2016-03** - Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards,
- **PN-EN 1837:2021-05** - Safety of machinery - Integral lighting of machines,
- **PN-EN 60204-1:2018-12** - Safety of machinery - Electrical equipment of machines - Part 1: General requirements,
- **PN-EN IEC 61000-6-2:2019-04** - Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments,
- **PN-EN IEC 61000-6-4:2019-04** - Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments,
- **PN-EN IEC 63000:2019-01** - Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

! CAUTION



THE DECLARATION OF CONFORMITY APPLIES ONLY TO THE DEVICE IN ITS FACTORY CONDITION. Design, electrical or functional changes made by the user may result in the loss of compliance of the device with safety requirements and in the transfer of responsibility for safety to the entity making the changes.



DEKLARACJA ZGODNOŚCI WE

zgodnie z Dyrektywą Maszynową 2006/42/WE, załącznik II 1, cz. A

EC DECLARATION OF CONFORMITY

in accordance with the Machinery Directive 2006/42/EC, Annex II 1, Part A



Nr / No.: XXXX

1. **Producent / Manufacturer:** KLIMAWENT S.A. 81-571 Gdynia, ul. Chwaszczyńska 194, Polska
2. **Opis produktu / Product name:** **Stanowisko szlifiersko-spawalnicze z odciąganiem i filtracją powietrza**
Grinding and welding station with extraction and air filtration
3. **Model / Model:** UES-UNI
4. **Nr produktu / Product number:** 902U33
5. **Nr seryjny / Serial number:** -
6. **Rok produkcji / Year of production:** od 2026
7. **Wymieniony powyżej produkt spełnia wymagania następującego unijnego prawodawstwa harmonizacyjnego / The product mentioned above complies with the requirements of the following Union harmonisation legislation:**
 - 2006/42/WE - Dyrektywa w sprawie maszyn
 - 2009/125/WE - Dyrektywa ustanawiająca ogólne zasady ustalania wymogów dotyczących ekoprojektu dla produktów związanych z energią
 - 2011/65/UE - Dyrektywa w sprawie ograniczenia stosowania niektórych niebezpiecznych substancji w sprzęcie elektrycznym i elektronicznym, zmieniona dyrektywą delegowaną Komisji (UE) 2015/863
 - 2014/30/UE - Dyrektywa w sprawie kompatybilności elektromagnetycznej
 - Rozporządzenie Komisji (UE) nr 327/2011 - Rozporządzenie w sprawie wykonania dyrektywy 2009/125/WE w odniesieniu do wymogów dotyczących ekoprojektu dla wentylatorów napędzanych silnikiem elektrycznym o poborze mocy od 125 W do 500 kW
8. **Odniesienia do zastosowanych norm zharmonizowanych (lub ich fragmentów), w odniesieniu do których deklarowana jest zgodność / References to the harmonised standards (or parts thereof) used, in relation to which conformity is declared:**
 - PN-EN 1837:2021-05
 - PN-EN 60204-1:2018-12
 - PN-EN ISO 12100:2012
 - PN-EN ISO 13857:2020-03
 - PN-EN ISO 14120:2016-03
 - PN-EN IEC 63000:2019-01
9. **Odniesienia do innych zastosowanych norm technicznych i specyfikacji / References to other technical standards and specifications used:**
 - PN-EN IEC 61000-6-2:2019-04
 - PN-EN IEC 61000-6-4:2019-12
10. **Osoba upoważniona do przechowywania i przygotowania dokumentacji technicznej: / A person authorized to store and prepare technical documentation:** Teodor Świrbutowicz, KLIMAWENT S.A.
81-571 Gdynia, ul. Chwaszczyńska 194, Polska
11. **Niniejsza deklaracja zgodności jest podstawą do oznakowania wyrobu znakiem: / This declaration of conformity is the basis for marking the product with the mark:**

Niniejsza deklaracja zgodności została wydana na wyłączną odpowiedzialność producenta i sporządzona w oparciu o przeprowadzony proces oceny zgodności. Odnosi się ona wyłącznie do wyrobu w stanie, w jakim został wprowadzony do obrotu lub udostępniony na rynku. Deklaracja nie obejmuje modyfikacji, zmian ani działań wykonanych po tym momencie przez użytkownika końcowego lub podmioty trzecie. / This declaration of conformity is issued under the sole responsibility of the manufacturer and is based on the completed conformity assessment process. It applies only to the product in the state in which it was placed or made available on the market. The declaration does not cover any modifications, alterations, or actions performed after that point by the end user or third parties.

W imieniu producenta podpisali / Signed on behalf of the manufacturer by:



Michał Kulczyński

CZŁONEK ZARZĄDU /
MEMBER OF THE BOARD

Joanna Koniarek

PREZES ZARZĄDU /
CEO

Data i miejsce wystawienia /
Date and place of issue: Gdynia, 2026.04.30



3. SAFETY OF USE

3.1. SAFETY RULES

! CAUTION



UNAUTHORISED MODIFICATIONS of the device, **REMOVAL OF GUARDS, CHANGES TO ELECTRICAL INSTALLATION COMPONENTS, CHANGES TO THE FILTRATION SYSTEM** and use of parts other than those approved for use with the device are prohibited.

The device may be used **ONLY BY TRAINED PERSONS** who have read this manual and are familiar with the hazards occurring during the technological process carried out on the table.

! CAUTION



READ this manual before starting the device. Keep the manual in a place accessible to operators, maintenance personnel and persons responsible for occupational health and safety.



PROTECT the device against mechanical damage, moisture, flooding, corrosion and contamination that may reduce filtration efficiency or work safety.



PROTECT all markings, the rating plate, descriptions of controls and warnings against damage, dirt, abrasion or detachment.

The device is intended for **PROFESSIONAL USE**. Operation, maintenance, cleaning and filter replacement may be performed only by **TRAINED PERSONNEL**.



3.2. INTENDED USE

The **UES-UNI** device is intended for use as a workbench with local extraction, filtration and recirculation of cleaned air into the room.

The device may be used only for processes for which the user has confirmed that **F9-class filtration** and **air recirculation** are permissible, on the basis of a workstation assessment, the characteristics of emitted contaminants, the safety data sheets of the materials used and applicable legal requirements.

The device is intended for operation in industrial or workshop conditions, on level, load-bearing and stable ground, with free access to the table, control panel, filter chamber, fan chamber and service area.

Intended use includes:

- work at the work table with extraction switched on if the process causes emissions that can be captured and filtered by the device,
- use of grates as a support surface for workpieces within the permissible load,
- use of side guards as elements limiting the spread of sparks, filings and contaminants,
- periodic cleaning of the table, grates, separators, filter chamber and other accessible components,
- replacement of filters in accordance with the maintenance schedule and filter contamination indication,
- use of the electrical socket installed on the control panel only in accordance with its permissible current and intended purpose.

! CAUTION



The device may operate with a maximum **dust load at the contaminated-air inlet not exceeding 8 g/h**, provided that the nature of the dust, temperature, humidity, chemical composition of contaminants and air recirculation requirements are consistent with the applied filtration system.

Exceeding the permissible dust load, using the device for a process inconsistent with its intended use or modifying the filtration system **may reduce filtration efficiency, cause excessive filter clogging, increase flow resistance, damage the device and create a health hazard for users.**



3.3. FORESEEABLE MISUSE

Foreseeable misuse includes in particular:

- using the device to extract combustible dusts, combustible vapours, combustible mists or mixtures capable of creating an explosive atmosphere,
- using the device in an explosion hazard zone,
- using paints, varnishes, solvents or cleaning agents that produce flammable or explosive vapours,
- using the device for toxic substances, gases or vapours for which F9 filters and recirculation do not provide sufficient filtration,
- working with damaged, incorrectly installed or excessively contaminated filters,
- working without a grate or with an unstably seated grate; overloading grates, point loading or striking them with heavy elements; using the table as a platform, step, climbing place or support for people,
- using side guards as a handle, support, storage place or element pressing the workpiece,
- routing the power cable through passage areas in a way that creates a tripping risk,
- opening the electrical assembly by unauthorised persons without appropriate qualifications,
- changing settings of electrical apparatus without authorisation from the manufacturer or authorised representative,
- accessing the fan chamber without disconnecting the power supply and without waiting for the impeller to stop completely,
- leaving the fan switch in the ON position after a power failure.

! WARNING

Risk of device damage, injury or serious bodily harm!

Before starting the device, make sure that:

- the device is set stably on level ground; working grates, covers, filters and the dust container are correctly installed,
- the power cable is made in accordance with the requirements of this manual,
- the PE protective conductor is correctly connected; there are no unauthorised persons in the work area,
- the material being processed and the contaminants generated are consistent with the intended use of the device.



DO NOT use the device if there is visible damage to the electrical cable, control panel, housing, fan, filters, dust container, working grates or PE protective connections.

DO NOT exceed the permissible load of the worktable: **max. 300 kg.**

DO NOT carry out maintenance work, cleaning, filter replacement or emptying of the dust container while the device is operating. Before starting these activities, switch the device off, disconnect the power supply and secure it against accidental start-up.

! WARNING**Risk of damage to the device, operational disruptions.**

The temperature of the conveyed air **MUST NOT** exceed **+60°C**.

Ambient temperature **DURING OPERATION MUST BE** within the range **from -20°C to +35°C**.

The fan motor should not be exposed to direct sunlight or other heat radiation that could significantly heat the motor body.



The device is intended only for indoor operation and **MUST NOT** operate outdoors or in places exposed to precipitation, flooding, condensation or accelerated corrosion.

Relative ambient humidity **MUST NOT** exceed **90%** without condensation.

The maximum dust load at the contaminated-air inlet must not exceed 8 g/h.

This value applies provided that the type of dust, air temperature and humidity, chemical composition of contaminants and air recirculation requirements are consistent with the intended use of the device and the applied filtration system.

! DANGER**Risk of device damage, fire or explosion!**

IT IS FORBIDDEN to use the device for cleaning air containing:

- **combustible or explosive gases, vapours, mists or dusts forming an explosive atmosphere with air,**
- **carcinogenic, radioactive, biologically contaminated dusts or dusts containing pathogens,**
- **corrosive, chemically aggressive, sticky substances** or substances causing accelerated corrosion,
- mixtures of unknown composition or with unevaluated fire and explosion risk.



3.4. REQUIRED PERSONAL PROTECTIVE EQUIPMENT

The selection of personal protective equipment depends on the process performed at the table and the contaminants generated during work. As a minimum, provide:

- fitted work clothing without loose parts,
- securing of long hair,
- cut-resistant protective gloves when removing, cleaning and arranging grates, filters, separators and covers,
- safety footwear when handling grates, filters, housing elements and during transport of the device,
- eye and face protection if the process produces sparks, filings, dusts or aerosols,
- hearing protection at noise levels above 80 dB(A) or according to the noise exposure assessment,
- respiratory protection during filter replacement and cleaning of deposits.

PERSONAL PROTECTIVE EQUIPMENT	
	HEARING PROTECTION The warning indicates the requirement to wear hearing protection while operating the device. During operation, the device generates noise that may adversely affect persons nearby.
	EYE PROTECTION The warning indicates the requirement for personnel to use protection. Protective equipment must always be used during operation and maintenance.
	FOOT PROTECTION The warning indicates the requirement for personnel to use protection. Protective equipment must always be used during operation and maintenance.
	HAND PROTECTION The warning indicates the requirement for personnel to use protection. Protective equipment must always be used during operation and maintenance.
	PROTECTIVE CLOTHING The warning indicates the requirement for personnel to use protection. Protective equipment must always be used during operation and maintenance.
	DUST MASK The warning indicates the requirement for personnel to use protective equipment. Protective equipment must always be used during operation and maintenance.

PERSONAL PROTECTIVE EQUIPMENT



DISCONNECT THE DEVICE FROM THE MAINS POWER SUPPLY

The warning indicates the requirement to disconnect the device from the power supply when carrying out maintenance, troubleshooting, and similar operations requiring the opening of covers and access to hazardous parts, especially the fan impeller.



3.5. WARNINGS

RECOMMENDED MARKING ON OR NEAR THE DEVICE



WARNING: NOISE HAZARD!

This warning indicates that hearing protection must be worn while the device is operating. During operation, the device generates **noise** and may adversely affect persons nearby.



CAUTION: DUSTY ATMOSPHERE HAZARD!

The device itself is not a source of dust emissions; however, due to its intended use for air filtration, dust from the filtration process accumulates inside, on the filter surfaces, as well as on the hopper and in the dust container. Opening the device or emptying the dust container may expose the user to potentially harmful process dust.



CAUTION: CUTTING HAZARD!



Gratings, sheet metal edges, filters, covers, and process waste may have sharp edges. Wear protective gloves during cleaning, filter replacement, and component disassembly.



CAUTION: ELECTRIC SHOCK HAZARD!

Work on the electrical system may only be performed by properly qualified personnel. Before opening the housing, cleaning, or performing maintenance, disconnect the device from the power supply and secure it against accidental start-up.

3.6. RESIDUAL RISK INFORMATION

! CAUTION



The entity placing the **UES-UNI** device on the market has conducted a risk assessment for the device in the condition in which it was delivered to the user. This assessment does not cover additional risks arising from local conditions, workplace organisation, the type of processed materials, the type of contaminants generated, or the method of connecting the device to facility installations.

The device may be operated **ONLY BY TRAINED PERSONNEL** who are familiar with this manual and with the hazards occurring during the technological process conducted on the table.

The risk assessment was performed in accordance with the principles of the **EN ISO 12100:2010** standard. Despite the application of design, technical, and organisational measures, residual risks may occur during the operation of the device, which cannot be completely eliminated without compromising the functionality of the device.

The user is required to conduct their own workplace risk assessment, including in particular:

- the technological process conducted on the table,
- the type of materials processed,
- the type and quantity of generated dust, fumes, aerosols, spatter, and hot particles,
- the potential formation of combustible dust or explosive atmospheres,
- work organisation,
- personal protective equipment (PPE),
- room ventilation,
- the layout of other machines and workstations, personnel qualifications,
- procedures for handling waste and used filters.

The table below presents residual risk information and procedures to be followed at each phase of the device life cycle.

CAUTION: THE DEVICE IS SAFE PROVIDED THAT THE PROVISIONS SET OUT BELOW ARE OBSERVED.

Table 3-1 Safety rules and residual risk information

HAZARDS AND SAFETY GUIDELINES			
No	Phase	Hazard	Procedure
1.	Transport	Crushing, impact or being crushed by the moving device.	Transport only with lifting equipment or forklifts with appropriate lifting capacity. Do not stay under the load or in the possible tilting zone.
2.	Transport	Device sliding off forks, slings or transport means.	Use only the intended transport and suspension points. Before transport, perform a trial lift and check load stability.
3.	Transport	Damage to housing, control panel, filters or covers.	Secure the device against displacement, impact, moisture and precipitation. Do not attach slings to housing elements not designed to carry loads.
4.	Unpacking and positioning	Cutting on sharp edges, metal elements or grates.	Use protective gloves and safety footwear. Do not put hands into hidden places or structural gaps.
5.	Installation	Overturning or instability due to incorrect positioning.	Place the device on level, stable, dry and load-bearing ground. Check levelling and stability before start-up.
6.	Installation	Restricted access to the control panel, filters, dust container or escape routes.	Maintain minimum working and communication spaces. Do not obstruct the control panel, service covers, dust container or passages.
7.	Installation / electrical connection	Electric shock during connection or inspection.	Electrical connection and inspection may be performed only by persons with appropriate electrical qualifications. Check the PE conductor before start-up.
8.	Installation / electrical connection	Incorrect fan impeller rotation direction after three-phase power connection.	Check impeller rotation before first start-up and after any power connection change. Do not use the device with incorrect rotation direction.
9.	Commissioning	Unintentional start of fan or lighting after power is supplied.	Before connecting power, check that switches 1S1 and 1S3 are in the OFF position.
10.	Commissioning	Damage to the device or hazard to the operator due to operation with covers open, without filters or without the dust container.	Before start-up, check that covers are closed, filters correctly installed, dust container inserted and working grates correctly arranged.
11.	Normal operation	Operator contact with dust, fumes, aerosols or other process contaminants.	Use PPE suitable for the process: respiratory, eye, face, hand protection and protective clothing. Provide proper room ventilation.
12.	Normal operation	Ineffective extraction due to contaminated filters, clogged grates or overfilled dust container.	Check extraction efficiency. Clean or replace filters. Empty the dust container regularly and remove deposits from working surfaces.
13.	Normal operation	Noise generated by the fan and process.	Use hearing protection if required by the noise exposure assessment or if the workplace noise level exceeds permissible values.



HAZARDS AND SAFETY GUIDELINES

No	Phase	Hazard	Procedure
14.	Normal operation	Sparks, hot particles or sharp waste generated during the process.	Use eye and face protection, gloves and protective clothing. Do not conduct processes causing risk of ignition of filters, dust or device components without additional risk assessment.
15.	Normal operation	Loose clothing, hair or light objects being drawn in by the airflow.	Use fitted work clothing, secure long hair and do not leave loose objects on the working surface or in the suction zone.
16.	Normal operation/welding	Incorrect connection of the welding machine return cable.	Connect the return cable clamp only to the point marked Y. Do not connect the clamp to grates, covers, hinges, control panel, PE conductor or random housing parts.
17.	Normal operation/welding/grinding	Ignition of dust, filters or deposits inside the device due to sucked-in sparks, embers or hot particles.	Do not perform processes causing intensive sparking without additional process risk assessment. Remove dust and deposits regularly. Do not allow the dust container to overfill or work with excessively contaminated filters. In the event of smoke, burning smell, embers or flame, stop work immediately, switch off the fan, disconnect the device from power and follow the fire procedure.
18.	Normal operation	Fire or explosion due to suction of combustible dusts, gases, vapours, mists or explosive mixtures.	Do not use the device in explosive atmospheres or for filtration of combustible or explosive substances.
19.	Normal operation	Contact with substances not permitted for filtration, e.g. wet, sticky, corrosive, toxic, carcinogenic, radioactive or biologically hazardous dusts.	Use the device only in accordance with its intended use.
20.	Control panel operation	Incorrect use of switches or ignoring alarm signals.	The operator must know the functions of controls. When lamp 1H1 or buzzer 1B1 operates, stop work and determine the cause.
21.	Failure/malfunctions	Damage to motor, fan or electrical system.	In the event of unusual noise, vibration, burning smell, smoke or overheating, immediately switch off the device, disconnect power and do not restart before inspection.
22.	Failure/malfunctions	Operation with excessively contaminated filters.	After the limit filter contamination signal, end work at the nearest safe moment. Clean or replace filters according to the manual.
23.	Switching off	Contact with the impeller coasting after fan switch-off.	After switching off the fan, wait until the impeller stops completely. Do not open covers or perform maintenance before the fan stops.
24.	Filter cleaning	Contact with process dust during manual filter regeneration.	Before cleaning, disconnect power. Use respiratory protection, goggles, gloves and protective clothing. Remove dust in a way limiting secondary dusting.
25.	Filter cleaning	Filter damage due to improper cleaning.	Do not strike the filter against hard surfaces, crush, puncture, or scrape the filter medium. Use compressed air according to the manual and do not exceed the permissible pressure.
26.	Filter replacement	Cuts, hand trapping or contact with contaminated filters.	Work with power disconnected. Remove filters slowly and steadily. Use gloves, goggles and respiratory protection.



HAZARDS AND SAFETY GUIDELINES

No	Phase	Hazard	Procedure
27.	Filter replacement	Install filters according to the procedure. Check sealing surfaces, pressure and service cover closure before start-up.	Install filters according to the procedure. Check sealing surfaces, pressure and service cover closure before start-up.
28.	Dust container emptying	Secondary dusting and inhalation exposure.	Empty the container regularly. Do not shake the container and do not use compressed air for blowing. Use methods limiting dust suspension.
29.	Dust container emptying	Contact with sharp filings or contaminated waste.	Use protective gloves, goggles, protective clothing and respiratory protection. Treat waste according to its properties and material safety data sheets.
30.	Maintenance	Unexpected start-up during cleaning, filter replacement or inspection.	Before maintenance, switch off the fan, disconnect the device from power and secure it against accidental restart.
31.	Maintenance	Cutting on sharp grate, cover, fastening element or deposit edges.	Use cut-resistant protective gloves. Be careful when removing grates, covers, filters and the dust container.
32.	Maintenance	Electric shock during work on electrical equipment.	Electrical work, measurements, repairs and opening of the electrical unit may be performed only by persons with appropriate qualifications.
33.	Maintenance	Excessive vibration, loosened connections or fan damage.	Regularly check the condition of the fan, motor, fastenings and bolted connections. In the event of excessive vibration, stop the device and determine the cause.
34.	Device cleaning	Moisture in electrical components or filters.	Do not wash the device with pressurised water. Do not allow flooding of the electrical unit, control panel, motor, filters or sockets.
35.	Service and repairs	Use of incorrect spare parts or unauthorised modifications.	Use parts consistent with the technical documentation. Do not modify filtration, control, protective, structural or electrical systems without authorisation.
36.	Service and repairs	Loss of conformity and increased risk after structural or electrical changes.	Every change that may affect safety requires assessment by a competent person. Unauthorised modifications are prohibited.
37.	Storage	Corrosion, moisture, damage to filters or electrical equipment.	Store the device in a dry, clean and ventilated place without condensation or corrosive substances.
38.	Storage	Damage to bearings or rotating elements after long standstill.	During long standstill, periodically check device condition and free impeller rotation if possible and safe.
39.	Dismantling	Contact with dust, deposits and contaminated device elements.	Before dismantling, empty the container, remove filters and clean the device interior. Use respiratory, eye and hand protection and protective clothing.
40.	Dismantling	Cuts, crushing or falling of heavy elements.	Dismantle in a controlled way using proper tools and transport means. Secure heavy elements against falling.
41.	Scrapping	Incorrect disposal of filters, dusts, electrical and electronic components.	Classify used filters, dusts and deposits according to process properties. Deliver electrical and electronic components to the appropriate WEEE collection system.

**! CAUTION**

The information in the table does not replace the workstation risk assessment performed by the user. **If the device is used in a process other than intended, with other materials or in conditions different from those described in this manual, the user must perform an additional risk assessment and determine the required protective measures.**

! WARNING

DO NOT use the device if there is a hazard that has not been assessed or cannot be reduced by technical or organisational measures or personal protective equipment. In such a case, stop work and consult further use with the person responsible for machine safety or occupational health and safety.



4. DEVICE DESCRIPTION

4.1. OPERATING PRINCIPLE

During normal operation of the **UES-UNI** device, air contaminated with dust, fumes or fine particles generated during work at the table is drawn from below through the grates and from the front through the plate separator. Heavier particles and some filings are separated on the separating elements and fall into the dust container. The remaining contaminants settle on the cartridge filters. Cleaned air is transported by the radial fan out of the device into the room through the upper perforated cover.

! CAUTION



The design and operating principle of the device allow operation with systematic monitoring of filter contamination and the fill level of the dust container.

Overfilling the dust container or clogging the filters reduces extraction efficiency and may increase operator exposure to dust.

4.2. STRUCTURE

Grinding and welding workstation **UES-UNI** consists mainly of:

- table body with support structure, extraction chamber, filter chamber and fan chamber,
- working grates forming the workpiece support surface and the contaminated-air suction surface,
- movable side guards limiting escape of filings, sparks and spatter outside the working area,
- plate separator limiting direct impact of hot particles on the filters,
- two cartridge filters,
- radial fan installed inside the device,
- dust container; adjustable rotating table,
- control panel with control and signalling elements,
- electrical assembly,
- accessory socket 1X1,
- connection point for the welding machine return cable clamp,
- service access to the filter chamber,
- rear access allowing manual compressed-air cleaning of filters from the clean side.

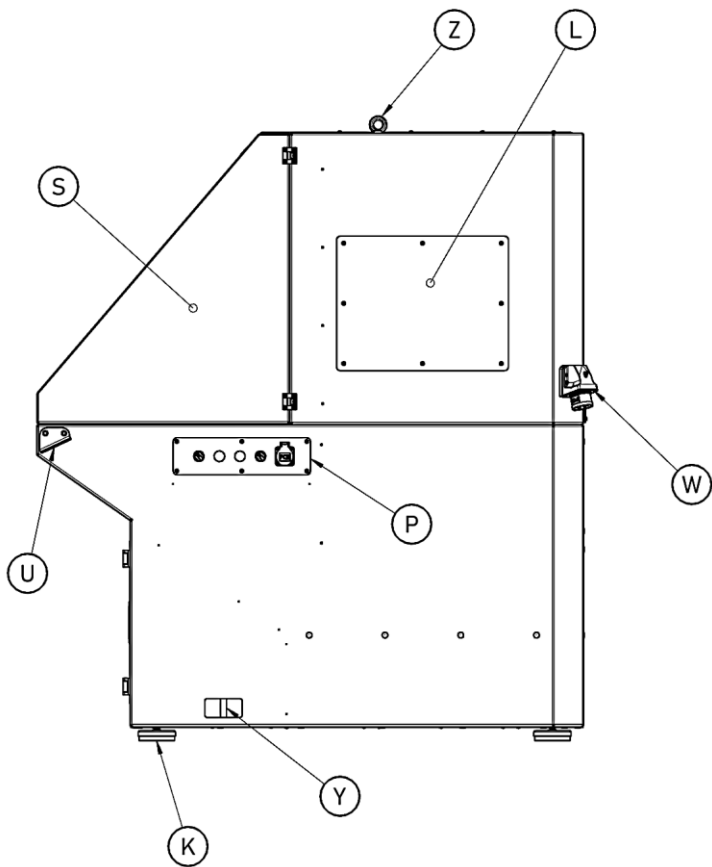


Figure 4-1 Right side

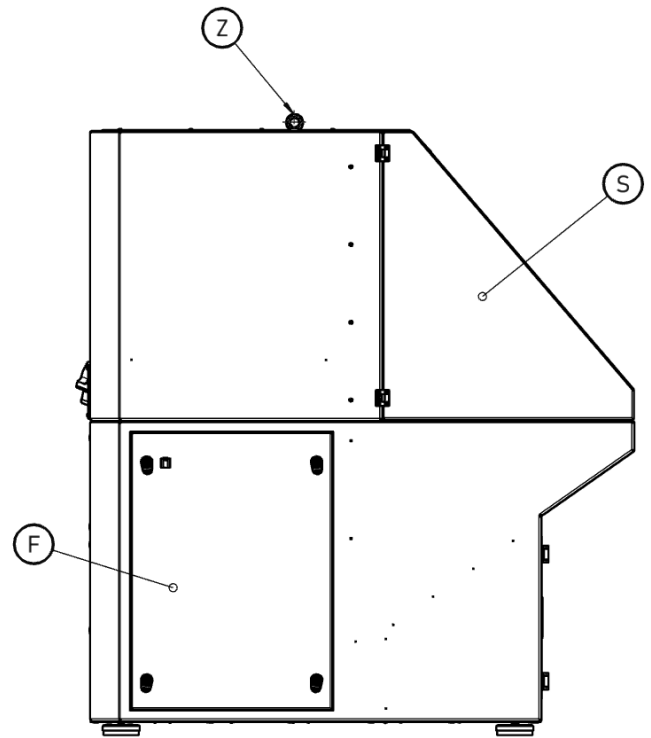


Figure 4-2 Left side

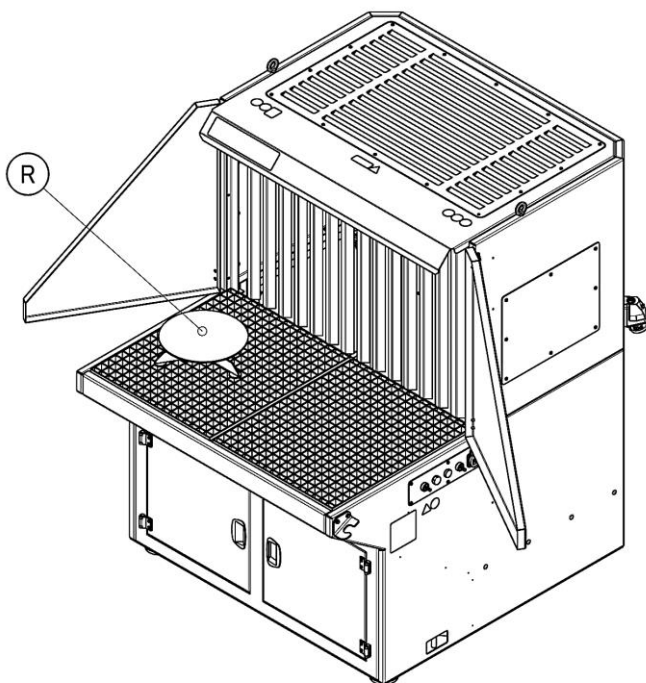


Figure 4-3

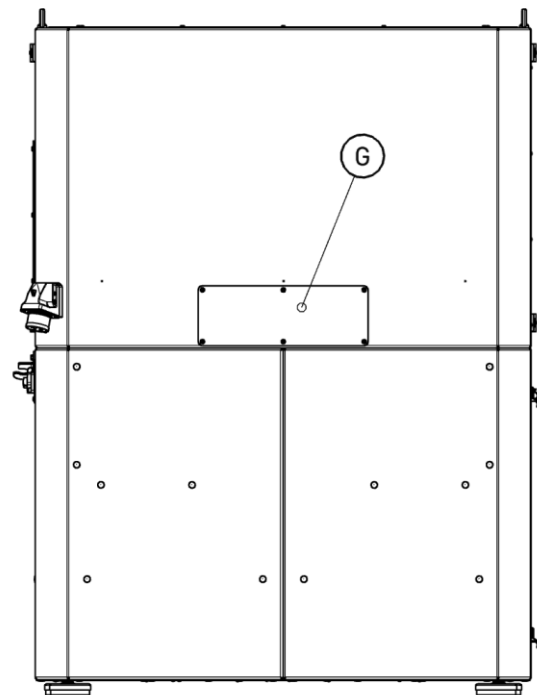


Figure 4-4 Back

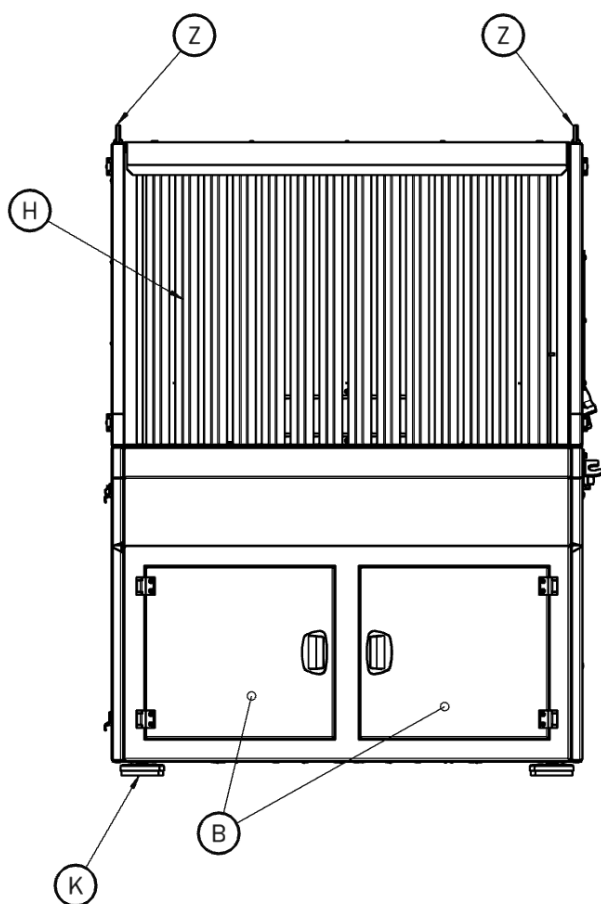


Figure 4-5 Front

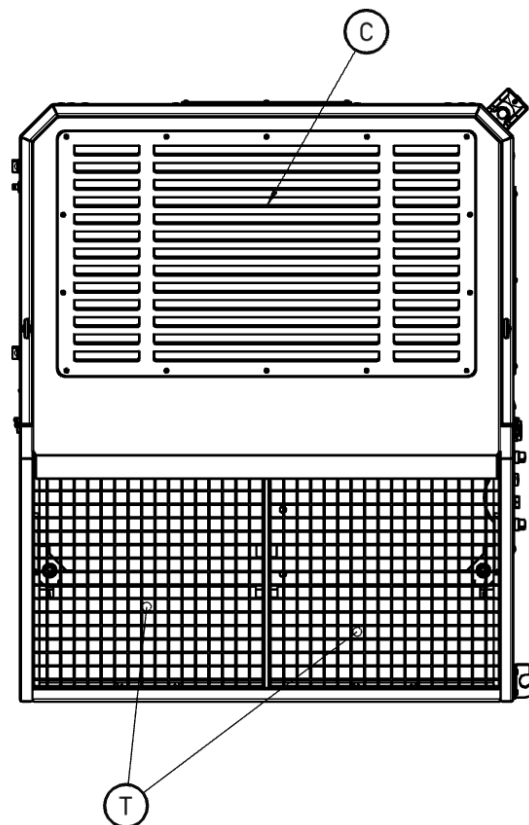


Figure 4-6 Top

EXPLANATION

Z – Lifting eyes; **S** – Side guards/screens; **P** – Control panel; **W** – power inlet; **Y** – Welding machine return cable clamp connection; **U** – Welding torch holder; **K** – Adjustable feet; **F** – Filter chamber inspection hatch; **B** – Tool cabinet door; **H** – Plate separator; **T** – Extraction grating/Workbench; **C** – Fan chamber ventilation guard; **R** – Adjustable rotary table; **L** – Inspection cover for electrical unit and fan access; **G** – Filter cleaning inspection cover



4.3. TECHNICAL DATA

Table 4-1 Technical Data of the UES-UNI

Catalogue No Type		902U33 UES-UNI
Extraction capacity		2 500 m³/h
Net weight		420 kg
Sound pressure level		75 dB(A)
Operating temperature of the device		from -20°C to +35°C
Process air temperature		Max +60°C
Maximum dust load		8 g/h
Technological process		<i>Grinding, mechanical cutting, welding, soldering</i>
Maximum grating load		5,0 kN/m ² / 190 kg
Maximum table load		Up to 380 kg total across 2 table gratings, under uniformly distributed load
Site conditions		Indoors, dry, with proper general ventilation
Power supply		
Motor power		1.5 kW
Supply voltage and frequency		3×400 V AC – 50 Hz
Rated motor current		3.34 A
Synchronous speed		1500 rpm
Equipment		
Cartridge filters	Filter model	PNB205038PS450/450
	Filtration class	F9
	Catalogue No.	400F30
	Filtration area	40 m² (2 × 20 m²)
	Type of contaminants	Dry, non-sticky dust and fumes from technological processes ¹
	Number of filters in the device	2
Workstation lighting		LED lamp / Illuminance >500 lx
Accessory outlet capacity		16 A ²
Accessory outlet voltage		230 V AC

¹ Dry, non-sticky process dust and fumes generated during processes approved for the device based on the user's workplace risk assessment. Contaminants must not be flammable, explosive, corrosive, sticky, wet, radioactive, biologically contaminated, nor contain substances for which F9 class filtration and air recirculation do not provide the required level of protection.

² Do not use the socket during fan startup.

4.4. DIMENSIONAL DRAWINGS

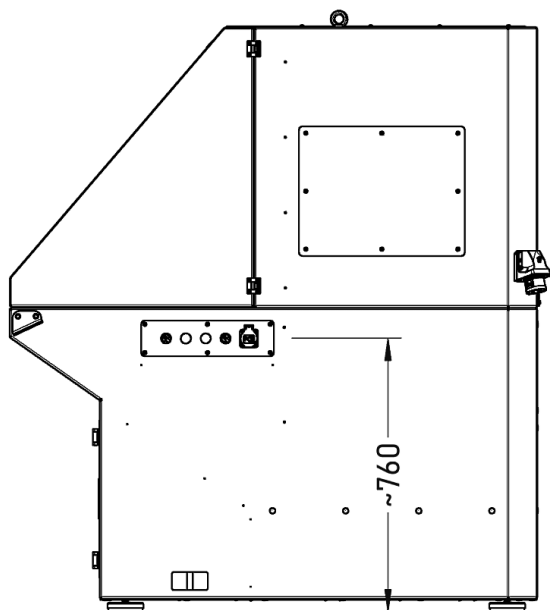


Figure 4-7

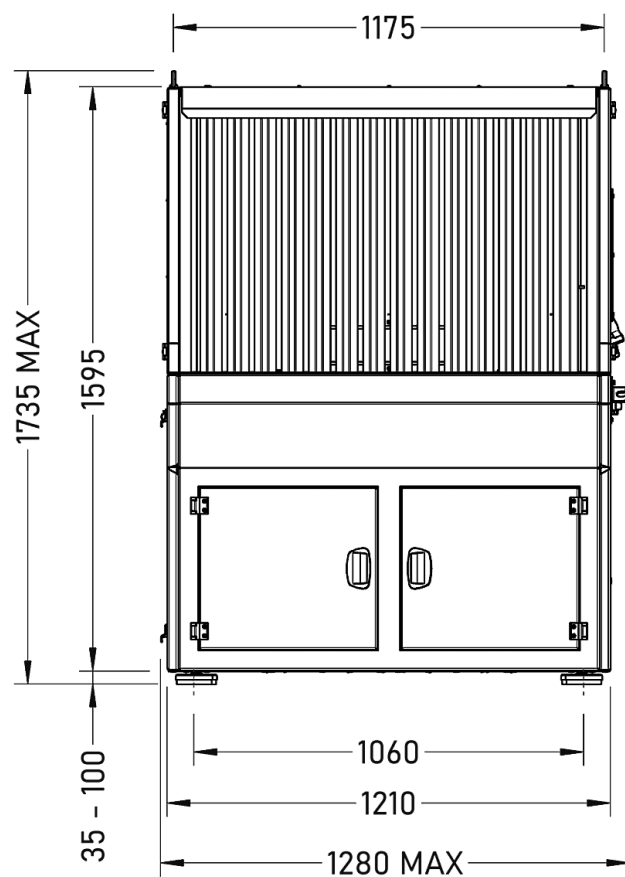


Figure 4-8

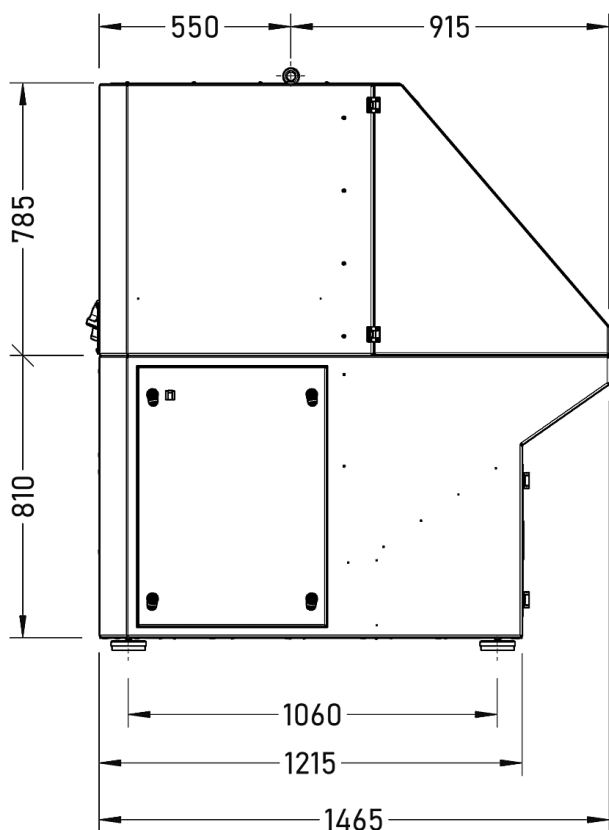


Figure 4-9

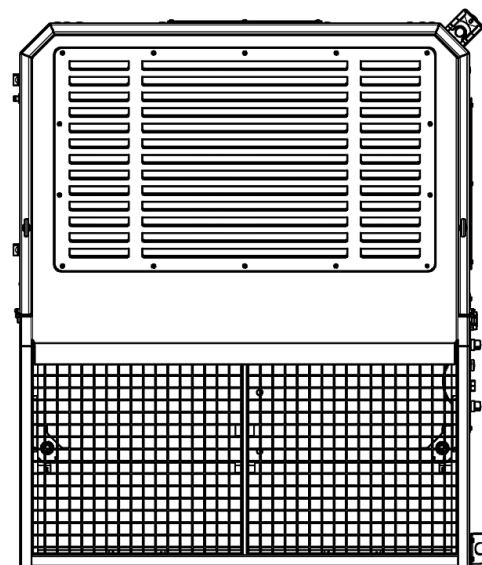


Figure 4-10

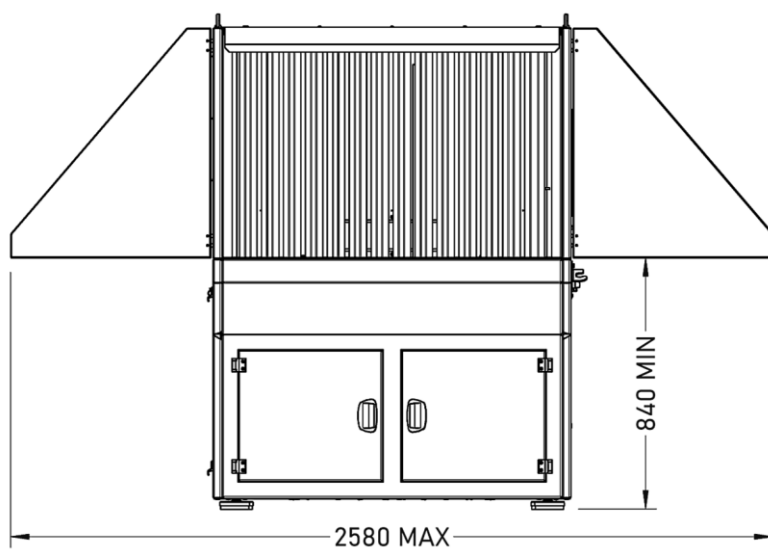


Figure 4-11

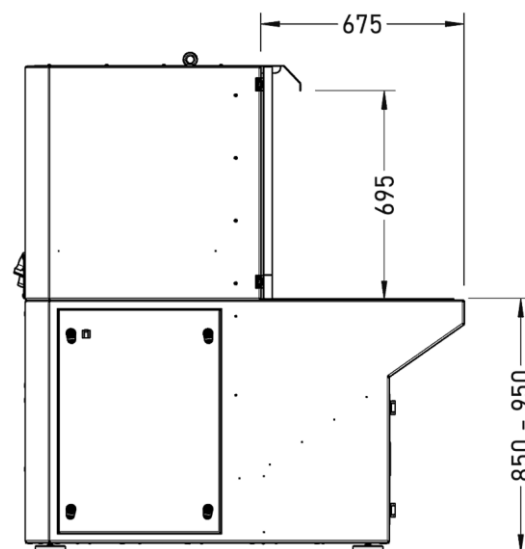


Figure 4-12

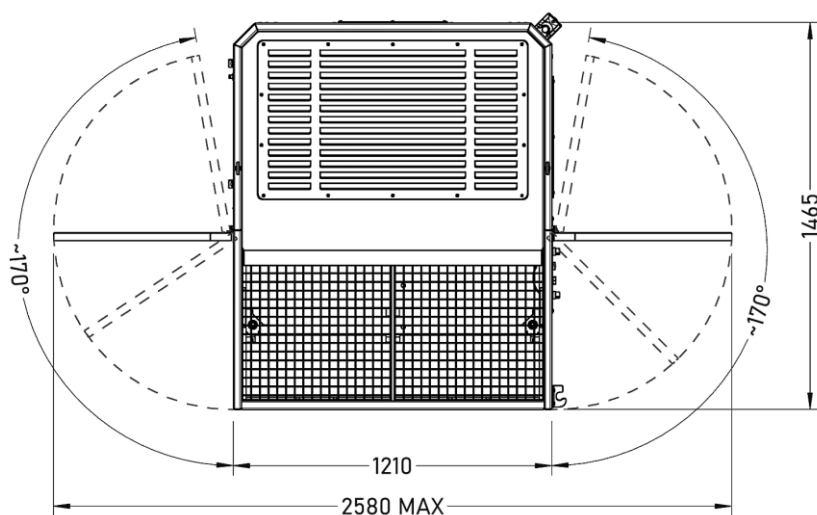


Figure 4-13



5. TRANSPORT AND STORAGE

5.1. TRANSPORT

The **UES-UNI** device must be transported in a manner protecting it against mechanical damage, overturning, slipping, moisture and weather effects.

During transport, observe the following rules:

- A. The device may be transported using lifting equipment or forklifts with capacity appropriate for the device weight.
- B. Transport temperature should be within the range from **-30°C to +40°C**.
- C. Do not allow moisture, flooding or condensation inside the device. During transport, the device must be protected against precipitation.
- D. Secure the device against displacement, tilting, overturning and impacts.
- E. Before lifting, check the technical condition of slings, hooks, chains, straps or forklift forks and their permissible working load.
- F. During lifting and movement, persons are prohibited from staying under the load and in the possible fall or tilt zone of the device.
- G. If the device tilts, moves, or if the slings or forks do not work stably, stop lifting immediately, lower the device and correct the securing method.

! DANGER

Risk of device damage, loss of stability, crushing or serious injury.



The device **MAY BE** lifted only in the manner provided in this manual. It is **FORBIDDEN** to attach slings to housing elements, covers, working grates, control panel, handles not intended for transport or other structural elements that are not transport points.

When lifting the device, perform a trial lift to a height of approximately 0.2-0.5 m and check:

- load stability
- correct sling attachment or fork positioning
- centre of gravity position
- absence of tilt
- absence of housing deformation
- absence of collision with cables, installation elements or workstation equipment.

5.1.1. TRANSPORT USING LIFTING EQUIPMENT

Vertical transport of the **UES-UNI** device may be performed only using technically sound lifting equipment and slings selected for the weight, dimensions and geometry of the device.

! CAUTION



DEVICE WEIGHT: 420 kg.

Always verify the weight with the device rating plate and delivery documentation. When selecting transport equipment, use the actual device weight including any packaging, additional equipment and transport accessories.

The device has suspension points marked with **symbol Z**. These points are intended for lifting the device with slings. The location of suspension points is shown in **Figure 5-1**.

During transport using lifting equipment:

- A. Use slings of appropriate capacity, length and angle of spread to ensure stable lifting.
- B. Attach slings only to suspension points **Z** structurally intended for lifting the device.
- C. Before lifting, check the condition of suspension points **Z**, in particular for cracks, deformation, corrosion, loose elements and mechanical damage.
- D. Select hooks, shackles or other connecting elements for the suspension point hole diameter of **25 mm** and for the device weight.
- E. Protect device edges against damage by slings using suitable pads or guards.
- F. Lift slowly, without jerks, sudden direction changes or load swinging.
- G. Before transport, perform a trial lift to a small height and check load stability, correct sling arrangement and absence of tilt.
- H. Do not allow the device to strike other machines, walls, columns, transport means or installation elements.
- I. After placing the device at its destination, check its stability, levelling and housing condition.

! WARNING

Risk of load slipping, tilting or device damage.



It is **FORBIDDEN** to lift the device by housing elements not designed to carry loads. It is also **FORBIDDEN** to lift the device with open covers, pulled-out dust container, unsecured working grates or loose equipment elements.

! DANGER



During lifting and movement of the device, persons are **PROHIBITED** from staying under the load and in the possible fall, tilt or swinging zone of the device.

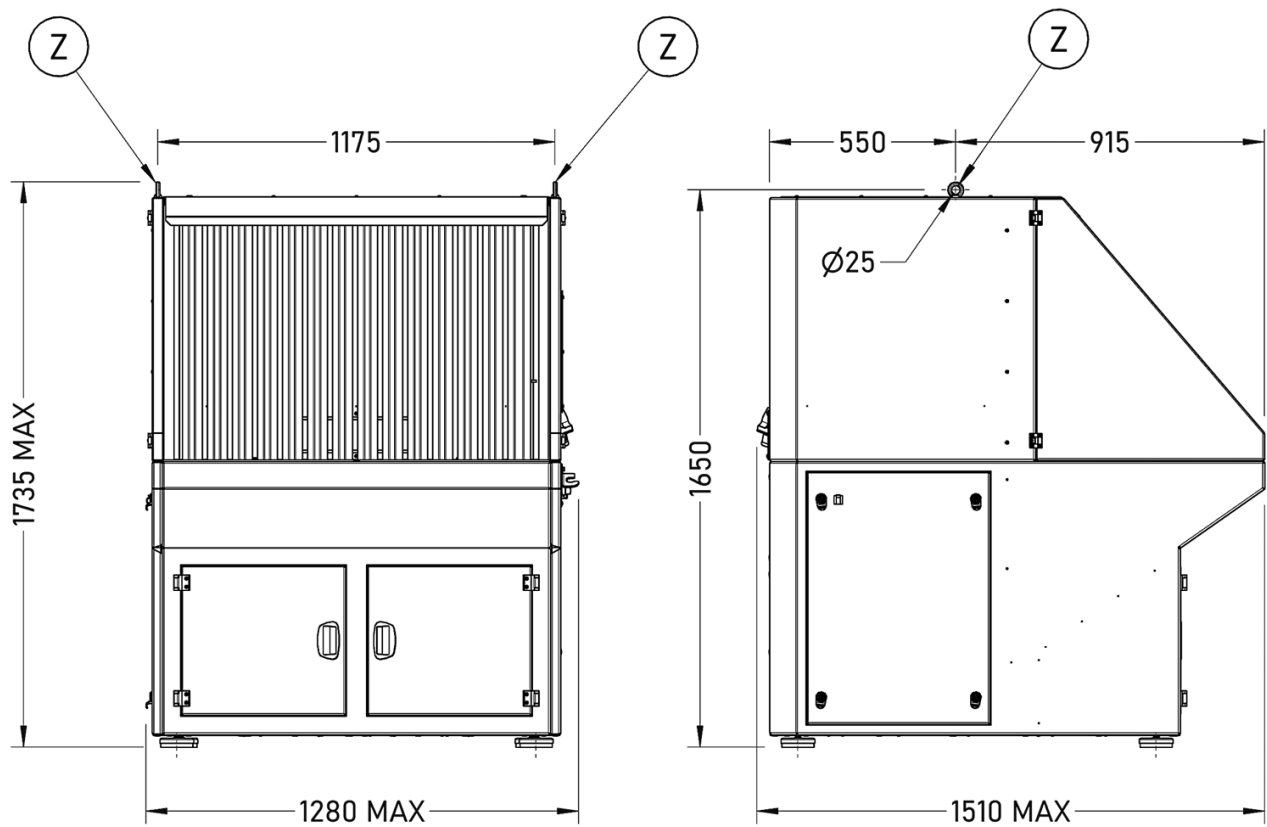


Figure 5-1

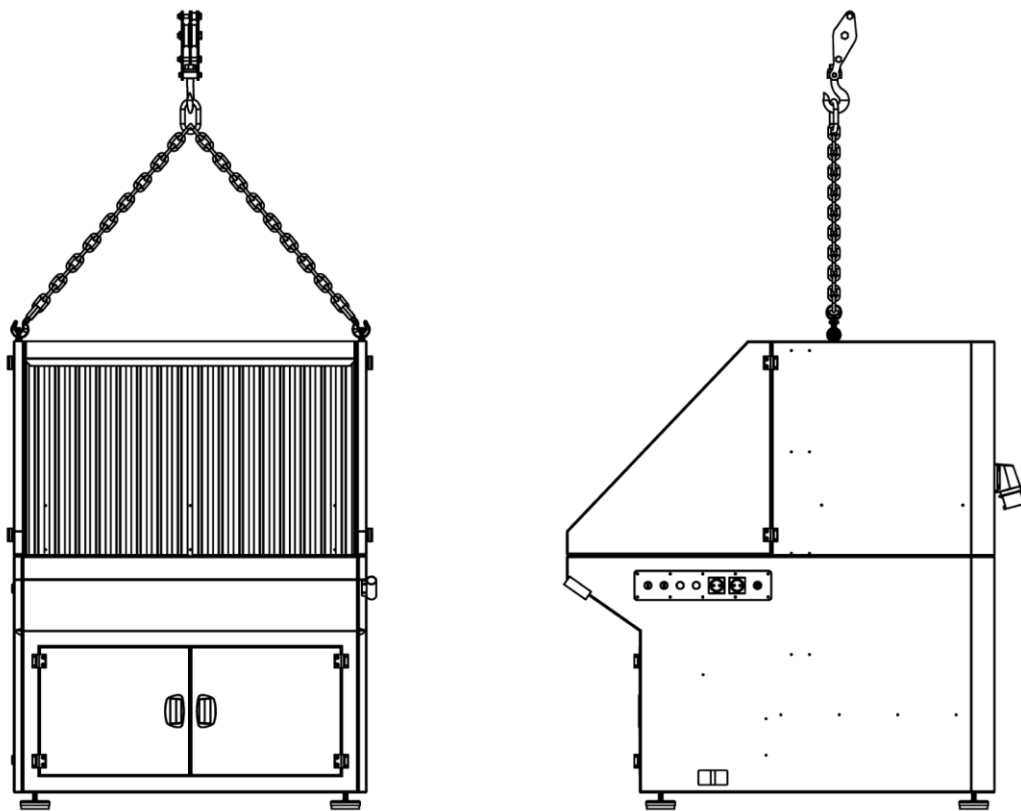


Figure 5-2

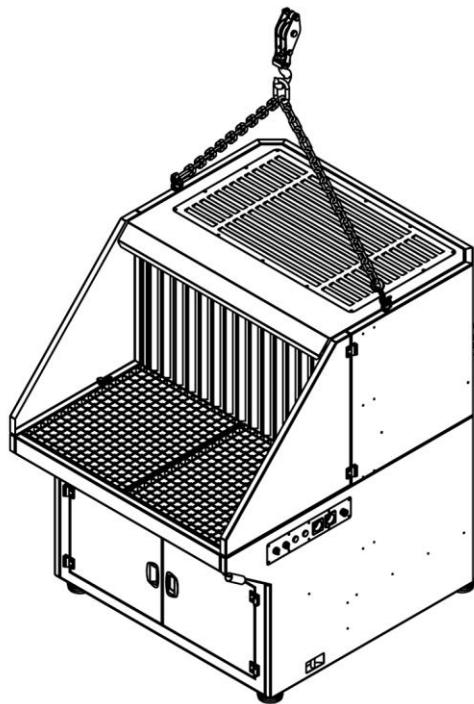


Figure 5-3

5.1.2. TRANSPORT USING FORKLIFT TRUCKS

Horizontal transport of the device may be performed using a forklift truck with lifting capacity appropriate for the device weight.

! CAUTION

**DEVICE WEIGHT: 420 kg.**

Always verify the weight with the device rating plate and delivery documentation. When selecting transport equipment, use the actual device weight including any packaging, additional equipment and transport accessories.

During transport using a forklift truck:

- A. Position the forks symmetrically relative to the device centre of gravity.
- B. Insert the forks as deeply as possible under the device base to ensure stable support.
- C. Before movement, perform a trial lift and check that the device does not tilt or slide off the forks.
- D. Transport the device at the minimum height required for safe movement.
- E. Move slowly, without sudden braking, acceleration or turning.
- F. Secure the device against sliding off the forks.

! WARNING

Risk of device sliding off the forks or dangerous tilting.



IT IS UNACCEPTABLE to lift the device higher than necessary for safe transport. During movement, the device should be as low above the ground as possible.

5.2. STORAGE

The **UES-UNI** device must be stored in a dry, clean, ventilated room and protected against weather effects.

During storage, observe the following rules:

- A. Store the device complete, stably positioned on level, load-bearing ground.
- B. Protect the device against moisture, flooding, condensation, dust, precipitation, sunlight and heat sources.
- C. Storage temperature should be within the range from **-30°C to +40°C**.
- D. Relative air humidity should not exceed **90%**, without condensation.
- E. Secure the device against shocks, impacts, overturning and forces that could deform the housing.
- F. Protect the device against corrosive, oxidising, chemically aggressive substances and other factors causing corrosion or degradation of seals, cables, filters and electrical elements.
- G. Do not store other objects, tools, materials, packaging or elements on the device if they could deform the housing, damage grates, the control panel or equipment components.
- H. If the device is stored for a longer period, periodically check its technical condition, in particular the housing, power cable, control panel, filters, working grates, dust container, cleanliness of the interior and, where possible and safe, free rotation of the fan impeller.
- J. If the device is stored for more than 3 months, a technical inspection must be carried out at least once every 3 months, covering in particular: the condition of the housing, the control panel, filters, work grates, the dust container, the interior of the device, and the free rotation of the fan impeller.
- K. After storage for more than 6 months, or if moisture, mechanical damage, or signs of corrosion are detected, an inspection must be carried out in accordance with **section 6.4 – STARTUP / INSPECTION / TESTING**. In case of uncertainty, the device shall be inspected by an authorised service centre or a properly qualified professional.

! CAUTION



KLIMAWENT is not responsible for damage resulting from improper storage, moisture, flooding, corrosion, mechanical damage or long inactivity without the required technical condition inspection.

Before restarting after long storage, perform a pre-start inspection according to the commissioning section.

6. ASSEMBLY, INSTALLATION AND START-UP

6.1. WORK AREA AND COMMUNICATION SPACE

The **UES-UNI** device must be installed in a location protected from adverse weather conditions and free from factors that may cause accelerated corrosion.

For safety reasons, to ensure ease of movement and ergonomic operation of the device, sufficient free space must be provided around the device. This space must allow operating, inspection, maintenance and servicing activities to be carried out safely, and must reduce the risk of tripping, impact, entrapment or obstruction during evacuation from the workstation.

The minimum required clearances around the device are shown in the figures **below**. These clearances should be regarded as minimum values. Where required by local conditions, work organisation, material handling methods, the type of workpieces being processed or the facility's occupational health and safety requirements, the working and communication space must be increased accordingly.

The space around the device must provide unobstructed access to:

- the control panel,
- the working grate,
- the side guards,
- the dust container,
- the filter service cover,
- the filters,
- the fan chamber,
- the electrical unit service cover,
- the **XP1** power inlet,
- the **1X1** accessory socket.

A working zone with depth X must be designated in front of the device to allow the operator to work freely, handle the workpiece safely, access the working surface and move away from the workstation safely in the event of a hazard. This zone should remain free from obstacles, stored materials, cables, packaging, waste and any other items that could obstruct operation or evacuation.

The working and communication area must be kept free of objects that restrict access to the device and items that could be accidentally drawn in by the air stream. Power cables must be routed so as to eliminate the risk of tripping, cutting, crushing or being pulled out of the socket.

! WARNING



Access to the control panel, dust container, service covers, filters, electrical unit and evacuation routes MUST NOT be obstructed.

Obstructed access may prevent the device from being stopped safely, hinder maintenance or troubleshooting, or make it difficult to leave the workstation in an emergency.

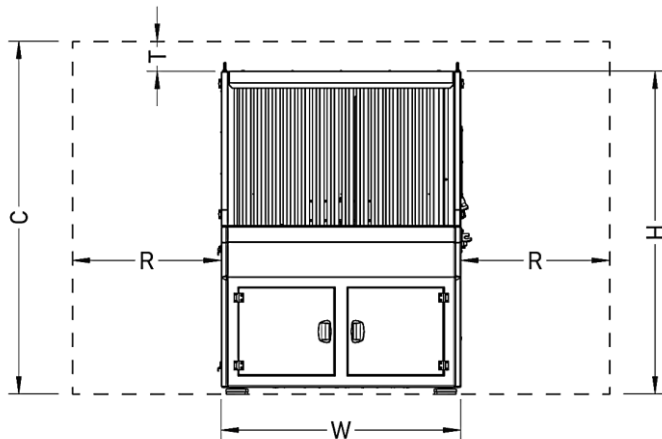


Figure 6-1

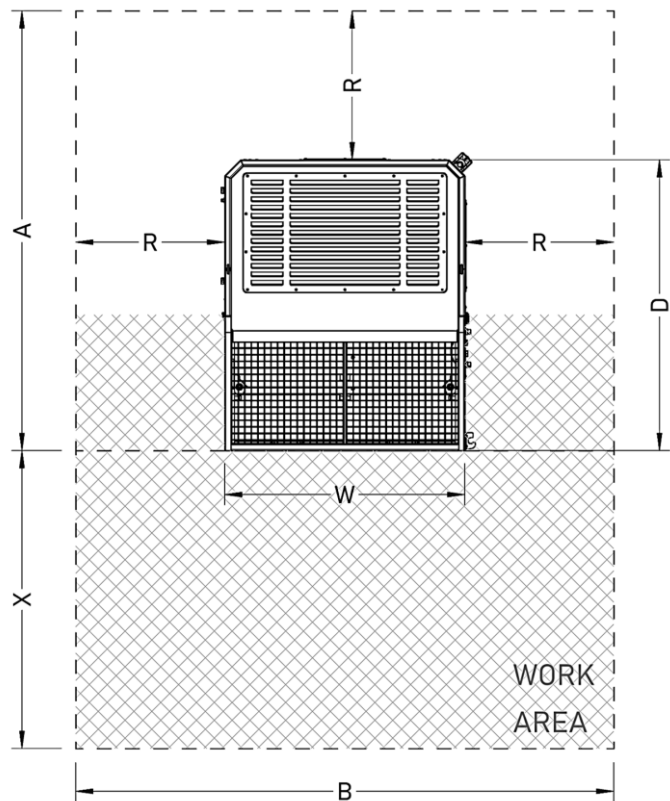


Figure 6-2

	A [m]	B [m]	C [m]	R [m] ¹	T [mm] ²	W [m]	H [m]	D [m]
UES-UNI	Min 2,3	Min 2,7	Min 1,75	0,75 (1,0)	Min 100	1,2	1,65	1,5

!CAUTION

The UES-UNI device does not replace the general ventilation of the room.

Before using the device with air recirculation, the user is obliged to confirm that the general ventilation of the room is sufficient for the technological process being carried out, the type of contaminants emitted, the number of workstations and the exposure time of operators.



Recirculation of purified air is permitted only where the workstation assessment, the safety data sheets for the materials used and the applicable legal requirements confirm that the installed filtration system provides the required level of protection.

The device must not be used as a means of removing gases, vapours, odours or contaminants for which the installed filters are not designed. In case of doubt, the user should carry out workplace environment measurements or discharge the air outside, where required by the risk assessment or applicable regulations.

¹ **CAUTION:** Passages between machines and other equipment or walls, intended only for operating such equipment, should be at least 0.75 m wide. If two-way traffic takes place in these passages, their width should be at least 1 m.

² Distance of the upper outlet from the fan chamber to the ceiling or to an impermeable partition disturbing the airflow.



6.2. ASSEMBLY

INFORMATION



The device is supplied **fully assembled** and requires no additional work other than installation at the workplace and, if necessary, positioning the equipment components in their operating position.

PROCEDURE



1. Place the device on a stable, level and non-combustible surface with a load-bearing capacity suitable for the weight of the device and the workpieces processed on the table.
2. Check that the device is properly levelled. Frame deformation may impair the tightness of the filters, the seating of the grates and the stability of the guards.
3. Check that the grates and side guards are properly secured.
4. Check the condition of the dust container and ensure that all covers are closed.
5. Do not start the device until the electrical inspection and the PE protective connection check have been completed.



6.3. INSTALLATION

The **UES-UNI** device must be installed in a location that ensures safe operation, proper operation of the extraction system and access to components requiring inspection, cleaning and maintenance.

The surface under the device must be level, stable, dry and load-bearing, and suitable for the weight of the device and the loads generated during operation. The device must be positioned and levelled so as to prevent deformation of the supporting structure, housing, covers and working components.

The installation location must provide unobstructed and safe access to:

- the control panel,
- the grates,
- the side guards,
- the dust container,
- the filter service cover,
- the filters,
- the fan chamber,
- the electrical unit cover,
- the XP1 power plug,
- the 1X1 accessory socket.

The space around the device must allow ergonomic operation, safe maintenance, removal of the dust container, filter replacement and safe evacuation of the operator from the workstation.

The device is intended for indoor use only. It must not be installed in a location exposed to precipitation, flooding, condensation, accelerated corrosion, corrosive substances, an explosive atmosphere or environmental conditions that do not comply with the technical data.

Before installation, check that:

- the device has not been damaged during transport,
- the installation location complies with the environmental requirements,
- the surface has sufficient load-bearing capacity,
- the device can be positioned securely and levelled,
- access to operating and service components will not be obstructed,
- the power cable can be routed so that it is protected against damage,
- there are no conditions at the workplace that could cause prohibited contaminants to be drawn into the device.

**After positioning the device, check:**

- that the device is stable,
- that it is properly levelled,
- the condition of the housing,
- the condition of the control panel,
- the condition of the power cable,
- the condition of the **XP1** power plug,
- that the covers are properly closed,
- that the filters are properly seated,
- that the dust container is properly inserted,
- that the grates are correctly positioned.

All installation activities that affect the electrical safety of the device must be carried out or verified by a suitably qualified electrician.

Before the device is started for the first time, check that it is dry and has reached the ambient temperature of the operating environment.

Before starting the device after transport or storage, ensure that no condensation is present on the electrical components, filters, motor, control panel or internal surfaces of the device.

If the device is found to be damp, it must not be started. Before reuse, the device must be dried and inspected in accordance with **section 6.4 – START-UP / INSPECTION / TESTING**.

6.3.1. CONNECTING THE POWER SUPPLY

The **UES-UNI** device must be connected to a power supply network that complies with the device rating data.

Required power supply parameters:

- supply voltage: **3×400 V AC ±10%**,
- frequency: **50 Hz ±1%**,
- conductor configuration: **L1, L2, L3, N, PE**,
- minimum cross-section of the power cable current-carrying conductor: **2.5 mm²**.

The power supply must be supplied via a five-core cable selected according to the device rated current, cable routing method, cable run length, permissible voltage drops, upstream protection and the environmental conditions at the installation location.

The device must be connected to the power supply network using the **XP1** power plug located on the rear wall of the device. Before connection, ensure that the power supply installation is equipped with a functional **PE** protective conductor and protective devices suitable for the device parameters.

To connect the device to the power supply, proceed as follows:

PROCEDURE



1. Check that fan switch **1S1** is in the “**OFF**” position.
2. Check the condition of the power cable, plug and **XP1** power inlet.
3. Connect the power cable to the **XP1** power inlet.
4. Connect the other end of the cable to the **3×400 VAC, 50 Hz** power supply network.
5. Check that the red indicator lamp **1H1** is not illuminated.

The red indicator lamp **1H1** indicates that motor circuit breaker **1Q1** has tripped. If lamp **1H1** lights up after the power supply is connected, do not start the fan. Disconnect the device from the power supply and determine the cause of the protective device tripping.

! WARNING



The device **MUST NOT BE STARTED** until the continuity and correct connection of the **PE protective conductor** have been checked.

Basic protection against electric shock is provided by insulation of live parts and by enclosing them in protective housings. Fault protection is provided by **PE protective connections** and automatic disconnection of the power supply by overcurrent protective devices in the device and in the power supply installation.

! DANGER



Work on the electrical installation, protective measurements, verification of the effectiveness of protection against electric shock, repairs to electrical equipment and opening of the electrical unit may be carried out only by suitably qualified electricians.

The device must not be operated if:

- the power cable is damaged,
- the **XP1** power inlet is damaged,
- there is a suspected fault in the **PE protective conductor**,
- there are signs of overheating,
- sparking or moisture in the electrical equipment,
- indicator lamp **1H1** is illuminated; the fan rotates in the wrong direction.

After the power supply has been connected, the direction of rotation of the impeller must be checked in accordance with **section 6.4.3 - CHECKING THE IMPELLER ROTATION DIRECTION**.

6.3.2. ELECTRICAL DIAGRAM

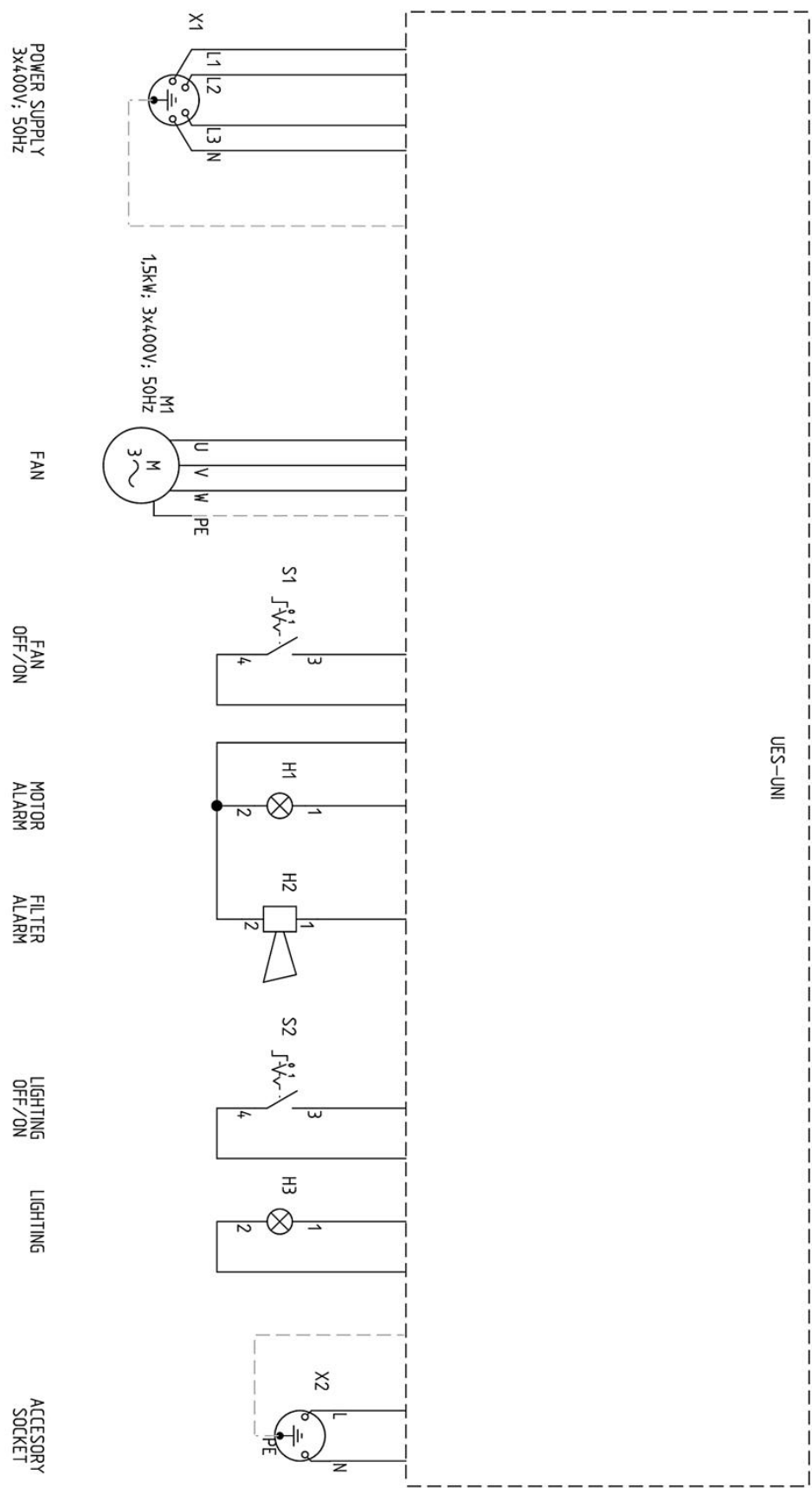


Figure 6-3 Electrical diagram





6.4. START-UP / INSPECTION / TESTING

6.4.1. MOTOR CHECK

A. Before FIRST START-UP of the device, the following must be done:

PROCEDURE



1. Check the condition of the motor winding insulation. If the measured insulation resistance is too low — minimum 1 MΩ at 1000 V — dry the winding. The insulation resistance should also be measured after a prolonged motor standstill,
2. Check that an unobstructed flow of cooling air to the fan cowl is ensured,
3. Check the electrical installation, paying particular attention to the operation of the residual current device (RCD), the motor protection circuit breaker, and other auxiliary and protective devices,
4. Check that all mounting bolts are tightened, that the cable connection is secure and that all components affecting the motor's degree of protection are correctly fitted,
5. Check the quality of the protective earthing,
6. Check that the device is ready for start-up and perform a test run.

B. During the test START-UP, check the following:**PROCEDURE**

1. Check the supply voltage,
2. Check the current drawn by the motor during operation and compare it with the rating plate value,
3. Check the direction of rotation of the motor,
4. Check that the motor cooling is functioning correctly,
5. Check for excessive vibration or other motor operating abnormalities,
6. Check the temperature rise of individual motor components, such as bearing shields, bearings and the motor frame,
7. Check that the starting devices, control equipment and protective devices operate correctly,
8. Check the electrical parameters achieved by the motor.

INFORMATION

The user must comply with the provisions set out in this user manual and in the relevant related instructions, i.e. the user manuals for the electric motor. This user manual does not contain the user manual for the electric motor.



6.4.2. CHECKING THE EARTHING AND EQUIPOTENTIAL BONDING CONNECTIONS

Before first start-up of the device, check the condition of the protective and equipotential bonding connections. This check must also be carried out after each change of the device location, after servicing and after any repairs involving electrical or structural components.

The inspection shall include in particular:

- A. verification that the PE protective conductor is correctly connected,
- B. inspection of the condition of visible protective and equipotential bonding connections,
- C. verification that the protective conductors are not broken, loose, mechanically damaged, corroded or contaminated in a manner that reduces conductivity,
- D. verification of the continuity of protective connections between the conductive parts of the device,
- E. verification that the device is supplied from an installation equipped with the required protection system against electric shock.

! DANGER

Verification of the effectiveness of protection against electric shock, continuity measurements of protective conductors and measurements of the power supply installation may be performed **ONLY** by suitably qualified electricians.



The device **MUST NOT** be started if damage to the **PE** protective conductor, interruption of equipotential bonding connections, damage to the power cable, malfunction of electrical protective devices or ineffective protection against electric shock is suspected.

If any irregularities are found, **DISCONNECT** the device from the power supply, **SECURE** it against accidental reconnection and **REMOVE** the fault before restarting.



6.4.3. CHECKING THE IMPELLER ROTATION DIRECTION

Before first start-up of the device and after each change to the three-phase power supply connection, check the direction of rotation of the fan impeller.

The rotation direction must be checked with the covers closed, the filters correctly installed and the work area secured.

To check the impeller rotation direction:

PROCEDURE



1. Ensure that the device is complete and ready for a brief test run.
2. Check that all covers, filters, working grates and the dust container are correctly installed.
3. Connect the device to the power supply.
4. Briefly start the fan using switch **1S1**.
5. Check the impeller rotation direction. Viewed from the motor side, the impeller should rotate clockwise — see the arrow on the motor.
6. Switch off the fan and wait until it has stopped completely.

! CAUTION

The device must not be operated if the impeller rotates in the wrong direction.



Incorrect rotation may reduce extraction performance, increase noise and vibration, cause motor overheating and damage the fan.

If the impeller rotates in the wrong direction, switch off the device immediately and disconnect it from the power supply. The phase sequence in the power supply installation may be corrected only by a suitably qualified electrician.

! DANGER



DO NOT change the phase sequence, perform measurements or open the electrical unit unless you have the required electrical qualifications. Work on the electrical installation must be carried out only after the device has been disconnected from the power supply and secured against accidental reconnection.



6.4.4. CHECKING VIBRATION

The device fan should operate smoothly, without excessive vibration, unusual noise, rubbing, knocking or pulsation of the airflow.

The vibration check must be carried out:

- A. during the first start-up of the device,
- B. after each relocation of the device,
- C. after transport,
- D. after servicing work involving the fan, motor, mounting components or housing,
- E. after replacement of components that may affect the air flow,
- F. if unusual noise, vibration, reduced extraction performance or uneven fan operation is observed.

During the check, verify the following:

- A. that the device is positioned stably,
- B. that the device is properly levelled,
- C. the condition of the fan and motor mountings,
- D. that there are no foreign bodies in the air flow path,
- E. that the filters are correctly installed,
- F. that the air flow channels are unobstructed,
- G. the condition of the dust container and absence of excessive deposit build-up,
- H. that there are no unusual sounds during fan start-up, operation or run-down.

! WARNING



Excessive vibration may cause bolted connections to loosen, damage the motor bearings, deform fan components, crack structural components, increase noise and create a hazard for the operator and persons nearby.

If excessive vibration occurs during operation of the device, the following procedure must be followed:

PROCEDURE



1. Switch off the fan using switch **1S1**.
2. Wait until the fan has come to a complete stop.
3. Disconnect the device from the power supply.
4. Secure the device against accidental reconnection.
5. Check that the device is standing securely and is properly levelled.
6. Check that there are no foreign bodies in the fan area or in the air flow path.
7. Check the condition of the filters and dust container, and check that the air flow path is unobstructed.
8. If the cause of the vibration cannot be clearly identified, have the device inspected by authorised technical personnel or service personnel.

Periodic measurement of fan vibration is recommended as part of technical inspections, especially during intensive operation of the device, operation in highly dusty conditions or after increased noise has been observed.

The vibration velocity value **V_{rms}** should be assessed in accordance with the applicable standards for evaluating vibration in rotating machinery. If the standards applicable to this type of device do not specify other limit values, the following inspection criteria should be used:

- **V_{rms} ≤ 6,3 mm/s** – operation permitted,
- **V_{rms} > 6,3 mm/s** – inspection of the fan condition and mounting required,
- **V_{rms} ≥ 11,8 mm/s** – alarm condition; prompt technical inspection must be scheduled,
- **V_{rms} ≥ 12,5 mm/s** – stop the device immediately and do not restart it until the cause of the vibration has been eliminated.

! CAUTION



The vibration level may depend on the device positioning, levelling, surface rigidity, dust accumulation and the condition of the impeller.

Vibration assessment should be performed with the device positioned at its final operating location.

7. USE

7.1. OPERATION

7.1.1. DEVICE CONTROL

The device is controlled and powered through the built-in **ZE-UES-UNI** electrical switchgear. The electrical unit is located in a plastic enclosure inside the device. The electrical unit can be accessed after removing the side cover on the right-hand side of the device. Access to the electrical unit is permitted only to suitably qualified electricians, after the device has been disconnected from the power supply and secured against accidental reconnection.

The control panel is mounted on the right-hand side of the device and provides control and monitoring functions – see section 7.1.2.

The control system includes:

- an extraction fan driven by a **1.5 kW** three-phase electric motor supplied with **3×400 VAC, 50 Hz**,
- contactor **1K1** for switching the main circuit of the fan motor,
- motor circuit breaker **1Q1** for protecting the fan motor,
- residual current device (RCD) **Q2** (25 A / 30 mA) providing protection against leakage currents,
- red indicator lamp **1H1** indicating that motor circuit breaker **1Q1** has tripped,
- differential pressure switch **1DP1**, set to **1000 Pa**, for detecting limit contamination of the filters,
- acoustic signalling device **1B1** indicating limit contamination of the filters,
- workstation lighting switch **1S3**,
- workstation lighting lamp **1H2**,
- accessory socket **1X1**,
- EMC filter **1U1** for limiting electromagnetic interference conducted into the power supply network,
- switch-mode power supply **1V1** supplying the control circuit with **24 V DC**.

! CAUTION



Before connecting the device to the power supply network, **CHECK** that the voltage, frequency, supply system, installation protective devices and power cable comply with the device rating data.

The device must be powered from a **3×400 V AC, 50 Hz** supply system with the **L1, L2, L3, N, PE** conductor configuration. The power supply must be provided via a five-core cable selected according to the rated current of the device, cable installation method, cable run length, permissible voltage drops and environmental conditions. The minimum cross-section of the power cable current-carrying conductor must be at least **2.5 mm²**.

To prepare the device for operation, proceed as follows:

PROCEDURE



1. Check that fan switch **1S1** is in the “**OFF**” position.
2. Check that lighting switch **1S3** is in the “**OFF**” position.
3. Connect the power cable to the **XP1** power inlet located on the rear wall of the device.
4. Connect the other end of the cable to the 3×400 V AC, 50 Hz power supply network.

The fan can operate only when motor circuit breaker **1Q1** is switched on. Circuit breaker **1Q1** protects the fan motor against overload, short circuit, locked-rotor start and phase-loss operation.

Tripping of motor circuit breaker **1Q1** is indicated by the red indicator lamp **1H1** lighting up. If this indication occurs, switch off the device, disconnect it from the power supply and determine the cause of the protective device tripping. The device may be switched on again only after the cause of the fault has been eliminated.

The fan is switched on by moving switch **1S1** from the “**OFF**” position to the “**ON**” position. Switch **1S1** sends a control signal to the coil of contactor **1K1**, which switches on the fan motor main circuit.

The fan is switched off by moving switch **1S1** from the “**ON**” position to the “**OFF**” position. After switching off, the fan stops with a slow run-down.

! WARNING



After switching off the fan, **WAIT UNTIL** it has come to a complete stop.

DO NOT OPEN the covers, **CLEAN** the device, **REPLACE** filters or carry out maintenance work until the fan has come to a complete stop and the device has been disconnected from the power supply.

The workstation lighting is switched off by moving switch **1S3** from the “**ON**” position to the “**OFF**” position.

Workstation lighting lamp **1H2** is supplied with **230 V AC**. The workstation lamp circuit is protected by **C16** overcurrent circuit breaker **1F2**.

Limit contamination of the filters is detected by differential pressure switch **1DP1**. When the preset limit value of 1000 Pa is reached, acoustic signalling device **1B1** is activated.

! CAUTION



When the limit filter contamination signal is activated, stop work at the nearest safe opportunity and check the condition of the filters. Continued operation with excessively contaminated filters reduces extraction performance, worsens working conditions and may overload the fan.

The device is equipped with accessory socket **1X1** for supplying single-phase loads. Socket **1X1** is supplied with **1×230 VAC, 50 Hz** and protected by a **C16** overcurrent circuit breaker **1F2**. The permissible rated current of the load connected to the socket must not exceed **16 A**.

!WARNING

Only serviceable loads suitable for **230 V AC** supply and with a rated current not exceeding **16 A** may be connected to socket **1X1**.

Overloading the socket, using damaged cables, makeshift splitters or loads without the required protection against electric shock is **PROHIBITED**.

The control circuit is supplied with **24 V DC** from switch-mode power supply **1V1**. The power supply circuit is protected by **C2** overcurrent circuit breaker **1F1**.

Basic protection against electric shock is provided by enclosing live parts and insulating them. Fault protection is provided by **PE** protective connections and automatic disconnection of the power supply by overcurrent protective devices in the device and in the power supply installation.

! DANGER

Work on the electrical equipment of the device may be carried out **ONLY** by persons with appropriate electrical qualifications.

Before opening the electrical unit for inspection, repair or measurements, **DISCONNECT** the device from the power supply and **SECURE** it against accidental reconnection.

The electrical unit is supplied with factory settings and does not require any adjustment by the user. The settings of electrical apparatus may be changed only by the manufacturer, service personnel or a person authorised by the manufacturer.

! WARNING

The electrical unit is supplied with factory settings.

The user **MUST NOT**:

- **CHANGE APPARATUS SETTINGS,**
- **BYPASS PROTECTIVE DEVICES,**
- **OMIT PE PROTECTIVE CONNECTIONS.**

7.1.2. CONTROL PANEL

The control panel – see Figure 7-1 Appearance of the control panel below and section 6.3.2 – ELECTRICAL DIAGRAM – consists of signalling elements, a power socket and switches such as:

- A. Two-position switch **1S1** for switching the fan power supply on and off,
- B. Buzzer / acoustic signalling device **1B1**, red, “**FILTER ALARM**”, indicating limit contamination of the cartridge filters,
- C. Indicator lamp **1H1**, red, “**MOTOR ALARM**”, indicating that motor circuit breaker **1Q1** has tripped,
- D. Two-position switch **1S3** for switching the workstation lighting on and off,
- E. 230 V power socket **1X1**.

FAN
OFF / ON



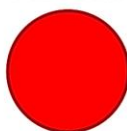
1S1

FILTER
ALARM



1B1

MOTOR
ALARM

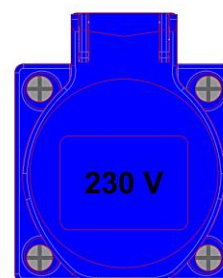


1H1

LIGHTING
OFF / ON



1S3



1X1

Figure 7-1 Appearance of the control panel

1S1 – fan switch; **1S3** – workstation lighting switch; **1B1** – buzzer controlled by pressure switch **1DP1**;
1H1 – motor alarm indicator lamp; **1X1** – 230 V socket outlet.

7.1.3. SWITCHING ON THE POWER SUPPLY

! CAUTION



Before switching on the power supply, **CHECK** that the device is complete, positioned securely, and that all covers, filters, working grates and the dust container are correctly installed.

Before connecting the device to the power supply network, ensure that:

- the power supply parameters comply with the device rating data: **3×400 V AC, 50 Hz**,
- the power supply installation includes **L1, L2, L3, N** and **PE** conductors,
- the power cable and **XP1** power inlet are not damaged,
- fan switch **1S1** is in the “**OFF**” position,
- workstation lighting switch **1S3** is in the “**OFF**” position.



To switch on the device power supply, proceed as follows:

PROCEDURE



1. Connect the power cable to the XP1 power inlet located on the rear wall of the device.
2. Connect the other end of the cable to the 3×400 V AC, 50 Hz power supply network.
3. Check that the red indicator lamp 1H1, indicating tripping of motor circuit breaker 1Q1, is not illuminated.
4. Check that the device does not emit unusual sounds, a burning smell or any other signs of damage to the electrical equipment.

! WARNING



If lamp 1H1 lights up after the power supply is connected, this indicates that **motor circuit breaker 1Q1** has tripped. **In this case, do not start the fan.** Disconnect the device from the power supply and determine the cause of the protective device tripping.

! DANGER



DO NOT operate the device if the power cable, socket or power plug is damaged, if the PE protective conductor is faulty, or if a protective device has tripped and the cause of the fault has not been determined.



7.1.4. SWITCHING ON THE FAN

! CAUTION



The fan may be started only after **the device has been correctly connected to the power supply, the motor circuit breaker 1Q1 is switched on, and the device is confirmed to be ready for operation.**

Before starting the fan, check that:

- the filters are correctly installed,
- the dust container is inserted and closed,
- the working grates are correctly positioned,
- there are no loose objects in the work area that could be drawn in by the air flow,
- indicator lamp **1H1** is not illuminated,
- acoustic signalling device **1B1** is not indicating limit filter contamination.

To start the fan, proceed as follows:

PROCEDURE



1. Make sure that the device is connected to the power supply.

2. Move switch **1S1** from the “OFF” position to the “ON” position.

CAUTION: After switch **1S1** is moved to the “ON” position, a control signal is sent to the coil of contactor **1K1**, which switches on the main circuit of the fan motor. The fan starts operating.

! CAUTION



If buzzer **1B1** sounds during fan start-up, **1B1** –see **section 7.1.10 – CLEANING / MANUAL FILTER REGENERATION.**

After the fan has started, check that:

- the fan is operating smoothly,
- there is no unusual vibration, noise, rubbing or burning smell,
- the extraction is effective at the working surface,
- indicator lamp **1H1** is not illuminated.

! WARNING

If **unusual noise, vibration, a burning smell**, reduced extraction performance or indication **1H1** occurs during fan start-up or operation, **switch off the fan immediately, disconnect the device from the power supply** and determine the cause of the abnormality.

7.1.5. SWITCHING OFF THE FAN

To switch off the fan, proceed as follows:

PROCEDURE

1. Complete the work process being carried out on the table.
2. Allow the fan to continue operating for a short time to extract any remaining dust, fumes or aerosols from the work area.
3. Move switch **1S1** from the “**ON**” position to the “**OFF**” position.
4. Wait until the fan has come to a complete stop.

NOTE: After switching off, the fan stops with a slow run-down. The stopping time depends on the operating conditions and the technical condition of the device.

! WARNING

DO NOT OPEN the covers, **REMOVE** filters, **EMPTY** the dust container or **CARRY OUT** maintenance work until the fan has come to a complete stop and the device has been secured against accidental reconnection.

7.1.6. SWITCHING OFF THE POWER SUPPLY

! CAUTION



Switch off the device power supply only after the fan has been switched off and has come to a complete stop.

To switch off the device power supply, proceed as follows:

PROCEDURE



1. Switch off the fan using switch **1S1** by moving it to the “**OFF**” position.
2. Wait until the fan has stopped completely.
3. Switch off the workstation lighting by moving switch **1S3** to the “**OFF**” position.
4. Disconnect the power cable from the power supply network.
5. Disconnect the power cable from the **XP1** inlet located on the rear wall of the device if the device is to be prepared for cleaning, maintenance, transport or prolonged standstill.

! DANGER



Before cleaning, maintenance, replacing filters, emptying the dust container, opening covers or carrying out work on electrical equipment, **DISCONNECT** the device from the power supply and **SECURE IT** against accidental reconnection.

After finishing work, check that:

- the fan has stopped,
- the workstation lighting is switched off,
- the device shows no signs of damage,
- the work area is clean and tidy,
- the accumulated dust does not create a risk of secondary dust emission, fire or difficulty during the next start-up — empty the dust container.



7.1.7. RESETTING THE MOTOR CIRCUIT BREAKER

Wyłącznik silnikowy **1Q1** zabezpiecza silnik wentylatora przed skutkami przeciążenia, zwarcia, zablokowanego rozruchu oraz pracy niepełnofazowej. Wyzwolenie wyłącznika silnikowego **1Q1** jest sygnalizowane świeceniem czerwonej lampki **1H1** na panelu sterowania.

Motor circuit breaker **1Q1** may be reset only after the cause of tripping has been identified and eliminated.

! DANGER



DO NOT switch motor circuit breaker **1Q1** on again until the cause of its tripping has been determined.

Restarting the device with an unidentified fault may result in electric shock, fire, damage to the motor or fan, or injury to the operator.

Work on electrical equipment, opening of the electrical unit, measurements and repairs may be carried out only by suitably qualified electricians.

To reset motor circuit breaker **1Q1**, proceed as follows:

PROCEDURE



1. Move fan switch **1S1** to the “OFF” position.
2. Wait until the fan has come to a complete stop.
3. Switch off the workstation lighting using switch **1S3**, if it is switched on.
4. Disconnect the device from the power supply network.
5. Secure the device against accidental reconnection to the power supply.
6. Check that the fan is not mechanically blocked.
7. Check that there are no foreign bodies in the airflow path.
8. Check that the filters are not excessively contaminated, damp, greasy or deformed.
9. Check that the dust container is not overfilled and is correctly inserted.
10. Check that the air inlets and outlets are not blocked.



11. Check that the power cable, plug and **XP1** power inlet are not damaged.
12. If no mechanical damage or airflow restriction has been found and the cause of **1Q1** tripping has been eliminated, switch motor circuit breaker **1Q1** on again.

PROCEDURE

13. Connect the device to the power supply.
14. Check that red indicator lamp **1H1** is not illuminated.
15. Start the fan using switch **1S1** and observe the device operation for several minutes.
16. Check that the fan operates smoothly, without excessive vibration, unusual noise, rubbing, burning smell or motor overheating.

! WARNING

If, after motor circuit breaker **1Q1** has been switched on again, lamp **1H1** lights up again, the fan does not start, the fan stops again, or the device operates abnormally, switch off the device immediately, disconnect it from the power supply and have it checked by a suitably qualified electrician or service personnel.

DO NOT repeatedly reset motor circuit breaker **1Q1** without eliminating the cause of its tripping.

! CAUTION

The most common causes of motor circuit breaker **1Q1** tripping include:

- fan motor overload,
- blocked impeller or a foreign body in the fan,
- excessively contaminated filters,
- restricted airflow caused by blocked grilles, separators, inlets or outlets,
- overfilled dust container,
- incorrect power supply,
- phase-loss operation,
- short circuit or damage to the motor, cables or power supply circuit components.

If the cause of tripping cannot be clearly identified, the device must not be restarted.

7.1.8. CONNECTING THE WELDING MACHINE RETURN CABLE

Before welding, connect the clamp of the welding return cable to the connection point marked with **symbol Y** in **Figure 7-2**.

Point Y is intended for connecting the welding return cable, commonly referred to as the “earth” or “ground” cable. The clamp must be firmly attached, without looseness, to a clean contact surface that ensures proper conduction of the welding current — remove paint before first start-up.

! CAUTION



Before attaching the clamp, ensure that the contact surface is clean, dry and free from paint, rust, dust, oil and any other contaminants that could reduce conductivity.

! WARNING



The welding machine return cable **MUST NOT** be connected to the grates, guards, covers, hinges, control panel, PE protective conductor, electrical equipment components or random parts of the housing.

Incorrect connection may cause overheating of components, damage to the device, interference with the operation of electrical equipment or a risk of electric shock.

After completing work, **DISCONNECT** the clamp of the welding machine return cable and **SECURE** the welding cable against damage.

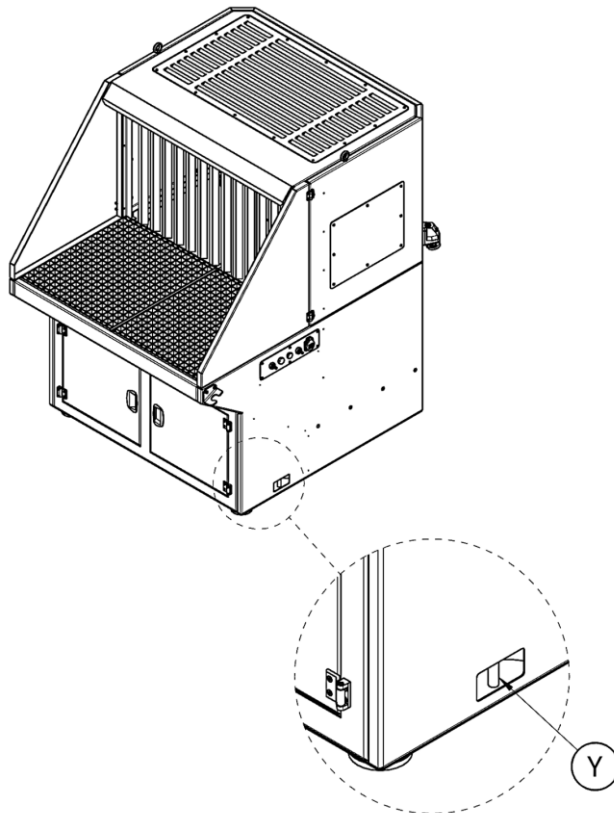


Figure 7-2 Welding machine return cable connection point

7.1.9. FILTER REPLACEMENT

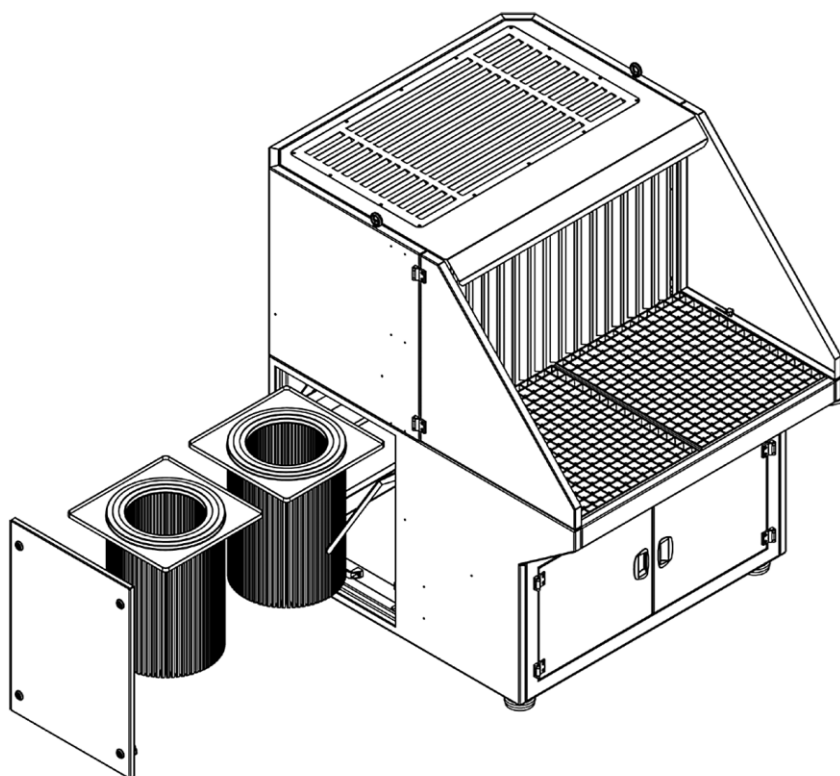


Figure 7-3

The **UES-UNI** device is equipped with cartridge filters. Filter removal, inspection and replacement are performed from outside the device through the filter service cover.

The filters must be inspected periodically and whenever a decrease in extraction performance is observed, or the limit filter contamination signal is activated – **buzzer 1B1** – see section **7.1.2 – CONTROL PANEL**.

The filters must be replaced if:

- a filter is mechanically damaged, torn, deformed or leaking,
- the filter gasket is damaged, deformed or does not provide proper sealing,
- filter cleaning does not restore the required extraction performance,
- the limit filter contamination signal returns shortly after cleaning,
- traces of dust are visible on the clean side of the filtration system,
- the filter has been exposed to moisture, sticky, oily or corrosive substances, or other contaminants not permitted for use with the device.

! WARNING

Hazardous dust may be released or contacted when removing the filters. During filter replacement, use appropriate personal protective equipment, in particular:



When replacing the filters, use personal protective equipment:

- cut-resistant protective gloves,
- safety goggles,
- respiratory protection suitable for the type of dust,
- protective clothing,
- safety footwear.

! DANGER

Before replacing the filters, **SWITCH OFF** the fan, **WAIT** until the impeller has come to a complete stop, **DISCONNECT** the device from the power supply and **SECURE** it against accidental reconnection.

DO NOT operate the device without filters installed, or with damaged, incorrectly selected or incorrectly seated filters.

7.1.9.1. FILTER REMOVAL

To remove the filters, proceed as follows:

PROCEDURE

1. Finish the work process being carried out on the table.
2. Finish the work process being carried out on the table. Allow the fan to continue operating for a short time to extract any remaining dust, fumes or aerosols from the work area.
3. Switch off the fan using switch **1S1** by moving it to the “**OFF**” position.
4. Wait until the fan has come to a complete stop.
5. Switch off the workstation lighting using switch **1S3** if it is switched on.
6. Switch off the workstation lighting using switch **1S3**, if it is switched on. Disconnect the device from the power supply network and secure it against accidental reconnection.
7. Open the filter service cover using the key supplied with the device.
8. Carefully remove the filter service cover and place it in a safe location.

! CAUTION



The filter service cover is not fitted with hinges. When removing and putting down the cover, exercise particular caution to prevent it from falling, damaging the device housing or injuring the operator.

9. Pull back the locking pins to release the mechanism of the filter clamping handles. The device has two locking pins — one at each handle.
10. Pull both handles towards you at the same time to release the cartridge filter clamping mechanism.

! CAUTION



The clamping handles must be pulled simultaneously. Releasing only one handle or pulling the handles unevenly may cause the clamping mechanism to jam.



PROCEDURE

11. Carefully slide the cartridge filters out of the filter chamber.
12. Place each used or contaminated filter in the designated protective bag.
13. Seal the bag containing the filter tightly and place it in the designated safe location.
14. Check the filter chamber, sealing surfaces, condition of the clamping mechanism, inside of the service cover and the presence of dust deposits.
15. If there are loose contaminants in the filter chamber, remove them in a way that limits secondary dust emission, e.g. using a suitable industrial vacuum cleaner.

! WARNING

DO NOT shake the filters, **DO NOT** blow them with compressed air outside the designated area, and do not place unsecured filters in the work area.

Dust accumulated in the filters may be harmful to health and should be treated as waste from the technological process.

7.1.9.2. FILTER INSTALLATION

To install the filters, proceed as follows:

PROCEDURE



1. Check that the device is disconnected from the power supply and secured against accidental reconnection.
2. Check that the filter chamber is clean and free from loose contaminants.
3. Check the condition of the sealing surfaces and the filter clamping mechanism.
4. Check the condition of the sealing surfaces and the filter clamping mechanism. Check that the new filters are of the correct type, dry, clean, undamaged and compliant with the technical documentation of the device.
5. Carefully slide the cartridge filters into the chamber until they come into contact with the rear wall of the device.
6. Move the filter clamping handles to the operating position and lock the handle mechanism using the locking pins.
7. Check that the filters are firmly pressed against the sealing surfaces.
8. Install the filter service cover and lock it using the key.
9. Check that the cover is tightly closed and that there are no visible gaps.
10. Connect the device to the power supply.
11. Perform a test start-up of the fan and check that the device operates correctly.

! CAUTION



The filters must be fully seated and pressed firmly against the gaskets. **Incorrect filter seating may cause dust to pass to the clean side of the filtration system, dust emission into the surrounding area, reduced extraction performance or fan damage.**

! WARNING



DO NOT start the device if the filter service cover is not installed and locked, the filters are not fully inserted, the clamping mechanism is not locked, or if a leak in the filtration system is suspected.



7.1.10. CLEANING / MANUAL REGENERATION OF FILTERS

The device is not equipped with an automatic filter regeneration system. The cartridge filters of the **UES-UNI** device may be cleaned manually, provided that all safety rules related to contact with process dust are observed – see **section 8.2.1 – FILTER MAINTENANCE – CLEANING PROCEDURE** – Cleaning is performed through the rear inspection opening of the device – see item (G) in **Błąd! Nie można odnaleźć źródła odwołania..**

Filter cleaning must be performed if:

- extraction performance decreases,
- the limit filter contamination signal is activated,
- a layer of dust restricting air flow is visible on the filter surface,
- the device has been operated under increased dust load,
- the maintenance schedule requires periodic inspection and cleaning of the filters.

! WARNING



Cleaning the filters involves contact with process dust. During this work, use respiratory protection, safety goggles, protective gloves and protective clothing.

! CAUTION



DO NOT clean the filters by striking them against hard surfaces.

DO NOT scrape, crush, pierce or deform the filter material.

A damaged filter does not provide effective filtration and must be replaced.

Waste **MUST BE DISPOSED** of in accordance with the safety data sheets for the materials used, the workstation risk assessment and the applicable waste management regulations.

7.1.11. REMOVING AND EMPTYING THE DUST CONTAINER

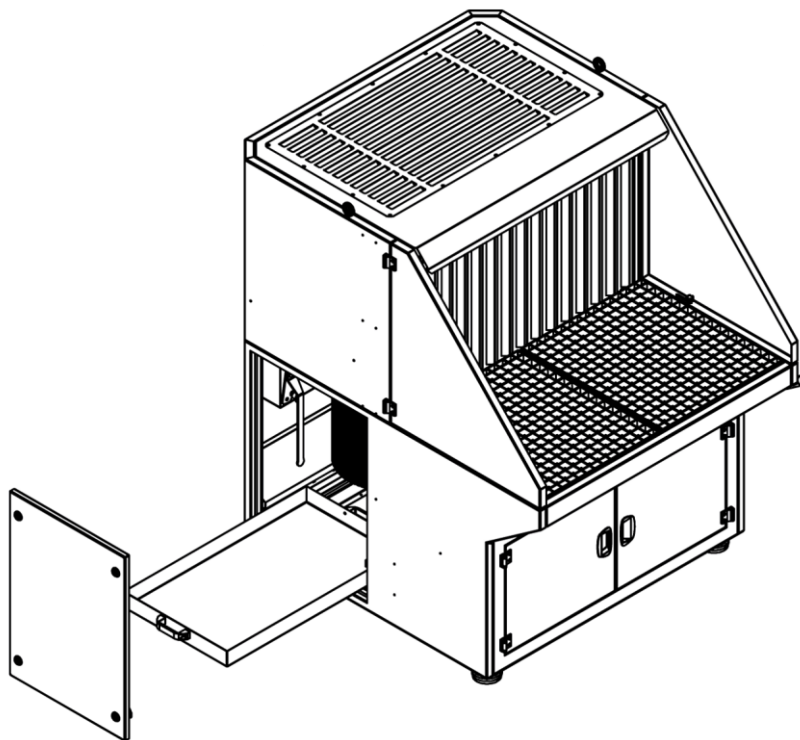


Figure 7-4

The dust container is used to collect contaminants separated during device operation. The container must be emptied periodically, with the frequency depending on the intensity of device operation, the type of process and the amount of contaminants generated.

The dust container must be emptied in particular:

- after the end of a work shift, if dust or process waste has accumulated in the container,
- after operation in high-dust conditions,
- before a prolonged device standstill,
- before transporting the device,
- after cleaning the filters,
- when the amount of dust may restrict air flow or cause secondary dust emission,
- when the properties of the dust may create a risk of fire, chemical reaction or corrosion.



! WARNING



Removing and emptying the dust container may involve contact with process dust. Use personal protective equipment suitable for the type of contaminants, in particular:

- respiratory protection,
- safety goggles,
- protective gloves,
- protective clothing,
- safety footwear.

Dust accumulated in the container must be treated as process waste. Waste **MUST BE DISPOSED** of in accordance with the safety data sheets for the materials used, the workstation risk assessment and the applicable waste management regulations.

! DANGER



DO NOT empty the dust container while the fan is operating or while the device is connected to the power supply. Before starting the work, **SWITCH OFF** the fan, **WAIT** until the impeller has come to a complete stop, **DISCONNECT** the device from the power supply and **SECURE** it against accidental reconnection.

To remove and empty the dust container, proceed as follows:

PROCEDURE



1. Finish the work process being carried out on the table.
2. Allow the fan to continue operating for a short time to extract any remaining dust, fumes or aerosols from the work area.
3. Switch off the fan using switch **1S1** by moving it to the “**OFF**” position.
4. Wait until the fan has come to a complete stop.
5. Switch off the workstation lighting using switch **1S3** if it is switched on.
6. Disconnect the device from the power supply network.
7. Secure the device against accidental reconnection to the power supply.
8. Prepare a bag, transport container or other packaging suitable for the type of contaminants.
9. Open the dust container service cover.

PROCEDURE



10. Hold the dust container securely with both hands and slide it out slowly to avoid spilling the accumulated dust.
11. Do not shake the container or make sudden movements.
12. Carry the container to the emptying area, avoiding secondary dust emission.
13. Empty the container into the prepared packaging or waste container.
14. If necessary, clean the container of any remaining dust in a way that limits dust dispersion, e.g. using a suitable industrial vacuum cleaner.
15. Check the condition of the container, guides, gaskets, service cover and inside of the container chamber.
16. Remove loose contaminants from the dust container chamber.
17. Slide the empty container back into the device and check that it is fully inserted and correctly positioned.
18. Slide the empty container back into the device and check that it is fully inserted and correctly positioned. Close and secure the dust container service cover.
19. Remove the waste packaging from the work area.
20. Before restarting the device, check that all covers are closed.

! CAUTION



Do not start the device without the dust container installed, with the container overfilled or incorrectly inserted, or with the service cover open.

This may cause secondary dust emission, reduce extraction performance, contaminate the inside of the device or damage components of the filtration system.

! WARNING



DO NOT allow excessive dust accumulation inside the device.

The frequency of emptying the dust container must be adjusted to the actual dust level generated by the process. Accumulated deposits may reduce extraction performance and increase the operator's inhalation exposure.

**! WARNING**

DO NOT use compressed air to blow out the dust container or the container chamber if this may cause dust to be released into the surrounding area. Do not sweep dry dust in a way that causes secondary dust emission.



After emptying the dust container, check that:

- the container is empty and undamaged,
- the container is correctly inserted,
- the service cover is closed,
- no loose tools, cleaning cloths or waste remain in the container chamber,
- the waste has been secured against spilling and secondary dust emission,
- the work area is clean and tidy.



7.1.12. ALARM SIGNALS

! WARNING



REACT immediately to alarm signals transmitted by the control unit and take immediate CORRECTIVE ACTION!

Continuing operation after an alarm has occurred may result in reduced extraction performance, damage to the device or a hazard to the operator.

The device indicates the following alarm conditions (see section 7.1.2):

SIGNAL	SIGNALLING ELEMENT	POSSIBLE CAUSE	REQUIRED ACTION
Fan motor alarm	Red indicator lamp 1H1	Tripping of motor circuit breaker 1Q1	Switch off the device, disconnect the power supply and determine the cause of the protective device tripping.
Limit filter contamination	Acoustic signalling device/buzzer 1B1	Limit differential pressure value detected by pressure switch 1DP1 has been reached.	Stop work at the nearest safe opportunity and check the condition of the filters.

! CAUTION



After an alarm signal occurs, **DO NOT** reset or bypass protective devices until the cause of the alarm has been identified and eliminated.



7.1.12.1. MOTOR FAILURE

The fan motor is protected by motor circuit breaker **1Q1**. This circuit breaker protects the motor against overload, short circuit, locked-rotor start and phase-loss operation.

Tripping of motor circuit breaker **1Q1** is indicated by the red indicator lamp **1H1** lighting up.

If indicator lamp **1H1** lights up, proceed as follows:

PROCEDURE



1. Set fan switch **1S1** to the “**OFF**” position.
2. Wait until the fan has come to a complete stop.
3. Switch off the workstation lighting using switch **1S3**, if it is switched on.
4. Disconnect the device from the power supply network.
5. Check that the fan is not mechanically blocked.
6. Check that the supply of fresh air through the fan cooling the electric motor is not blocked.
7. Check that the air inlets and outlets are not blocked.
8. Check that the power cable and power plug are not damaged.
9. If electrical damage is suspected, have the device checked by a suitably qualified electrician.

! DANGER



DO NOT restart the device after motor circuit breaker **1Q1** has tripped until the cause of tripping has been determined.

Restarting a damaged device may result in electric shock, fire, motor damage or injury to the operator.

After the cause of the fault has been eliminated and the device has been checked, **motor circuit breaker 1Q1** may be switched on again. If **lamp 1H1** lights up again after restarting or the fan operates abnormally, switch off the device and contact service personnel.



7.1.12.2. LIMIT FILTER CONTAMINATION

Limit contamination of the filters is detected by differential pressure switch **1DP1**. When the preset limit value of 1000 Pa is reached, acoustic signalling device **1B1** is activated.

If signalling device **1B1** is activated, the following actions must be taken:

PROCEDURE



1. Stop the process being carried out at the nearest safe opportunity.
2. Allow the fan to continue operating for a short time to extract any remaining contaminants from the work area.
3. Switch off the fan using switch **1S1** by moving it to the “**OFF**” position.
4. Wait until the fan has come to a complete stop.
5. Disconnect the device from the power supply.
6. Check the condition of the filters.
7. Clean or replace the filters – see section 7.1.10.
8. Check that the dust container is not overfilled.
9. Check that the air flow channels are not obstructed.

! WARNING



Continued operation with excessively contaminated filters reduces extraction performance, worsens working conditions, increases fan load and may cause motor overload.

7.1.13. STOPPING THE DEVICE IN AN EMERGENCY

! CAUTION



The device is not equipped with a separate emergency stop feature.

Stopping must be performed in particular in the event of:

- smoke, a burning smell or signs of overheating,
- unusual noise, vibration, rubbing or impacts in the fan area,
- damage to the power cable or plug,
- a foreign body being drawn into the extraction area,
- suspected filter damage or dust escaping outside the filtration system,
- the need to disconnect the load connected to socket 1X1 and switch off the welding machine,
- fire, sparking or any other situation posing a hazard to the operator.

To stop the device:

PROCEDURE



1. Set fan switch **1S1** to the “**OFF**” position.
2. If it is safe to do so, disconnect the device from the power supply network and secure it against accidental reconnection.

! DANGER



In the event of fire, sparking, electric shock or a life-threatening situation, first ensure the safety of people.

DO NOT touch the device or electrical cables if there is a risk of electric shock. Follow the facility safety user manual and fire emergency procedure.



7.1.14. PROCEDURE IN THE EVENT OF A FIRE HAZARD OR FILTER IGNITION

During operation of the UES-UNI device, sparks, hot particles, filings, glowing material fragments, process dust and deposits may be generated and retained in the separator, filter chamber, filters and dust container. Under certain conditions, these may ignite dust, deposits or filter elements.

The risk of fire may increase in particular in the following cases:

- processes generating intense sparking,
- hot particles or embers being drawn into the device,
- dust accumulation in the separator, filter chamber or dust container,
- operation with excessively contaminated filters,
- operation with combustible dusts or mixtures whose fire risk has not been assessed,
- use of the device contrary to its intended purpose,
- failure to clean the device periodically,
- damage to the fan, motor, electrical equipment or filters.

! DANGER

Risk of fire, filter ignition, smoke generation, electric shock or serious injury.



DO NOT use the device to extract combustible dusts, gases, vapours, mists or mixtures that may form an explosive atmosphere unless the process has been separately assessed and approved by the person responsible for process safety.

DO NOT continue operation if smoke, a burning smell, embers, flame, unusual noise, a sudden decrease in extraction performance, housing overheating, sparking of electrical equipment or suspected ignition inside the device is observed.

7.1.14.1. SIGNS OF A FIRE HAZARD

The following in particular should be treated as signs of a fire hazard:

- a burning smell,
- smoke escaping from the device,
- visible embers or flame in the area of the grates, separator, dust container or air outlet,
- a large amount of sparks or hot particles being drawn into the device,
- an unusual increase in the temperature of the housing,
- other signs indicating damage, overheating or ignition.



7.1.14.2. PROCEDURE IN THE EVENT OF A FIRE

PROCEDURE



1. Immediately stop the work process being carried out on the table.
2. If it is safe to do so, remove the source of sparks, flame or embers from the work area.
3. Move fan switch **1S1** to the “OFF” position.
4. If it is safe to do so, move lighting switch **1S3** to the “OFF” position.
5. If it is safe to do so, disconnect the device from the power supply network.
6. Remove unauthorised persons from the hazard area.
7. Do not open the filter service cover, fan chamber or dust container.
8. Assess whether the fire is in its initial stage and whether portable fire-fighting equipment can be used safely.
9. If the fire cannot be safely extinguished in its initial stage, move away from the device, activate the facility alarm procedure and call for help in accordance with the fire safety user manual applicable at the facility.
10. After the fire has been extinguished, secure the device against restarting and do not restart it until a full technical and electrical inspection has been completed.

! WARNING



DO NOT start the fan to remove smoke from the device. Fan operation may spread embers, flame, hot particles or smoke and worsen the fire situation.

DO NOT blow the device with compressed air if embers, ignition or fire are suspected. The air stream may intensify combustion and disperse embers or dust.

7.1.14.3. RECOMMENDED FIRE-FIGHTING EQUIPMENT

Portable fire-fighting equipment must be provided near the workstation with the UES-UNI device, selected according to the type of processes carried out on the table, the type of materials being processed, the properties of the dust generated and the requirements of the facility fire safety user manual.

The following may be used as basic extinguishing media for typical workshop hazards and electrical equipment:

- **ABC** powder extinguisher,
- **CO₂** extinguisher, if permitted by the facility fire safety user manual and suitable for the specific hazard.

! CAUTION



The choice of fire extinguisher must take into account the type of material being processed and the properties of the dust. For light metal dusts, such as aluminium, magnesium, titanium or their alloys, a standard ABC powder extinguisher or CO₂ extinguisher may be insufficient or inappropriate. For such materials, use extinguishing media intended for metal fires and follow the procedures specified in the process risk assessment and the facility fire safety user manual.

! DANGER



Do not use water to extinguish the device while it is connected to the electrical power supply. Do not use water if it may react with dust, hot metal, chemicals or the workpiece material. The extinguishing medium must be selected according to the properties of the materials present in the process.

7.1.14.4. PROCEDURE AFTER A FIRE

After any case of fire, smoke emission, burning smell, embers in the dust container or suspected filter ignition, the following must be done:

1. Keep the device disconnected from the power supply.
2. Secure the device against accidental reconnection.
3. Wait until the device has cooled down completely.
4. Do not open the filter chamber or the dust container if there is a risk of reignition after air enters.
5. Check the condition of the working grates, separator, filter chamber, filters, dust container, fan, motor, cables, control panel and electrical unit.
6. Remove dust, deposits and post-fire waste in accordance with their properties and the applicable waste handling procedures.
7. Replace the filters if they have been exposed to flame, embers, high temperature, fire smoke, extinguishing agent or if they have lost tightness.
8. Check that there are no traces of dust, smoke, soot or damage on the clean side of the device.
9. Have the electrical equipment inspected by a suitably qualified electrician.
10. Determine the cause of the incident before allowing the device to be used again.

! WARNING



DO NOT restart the device after a fire, smoke emission, burning smell or suspected filter ignition until a technical inspection has been carried out. Starting the device with a damaged filter, scorched deposits, a damaged fan or damaged electrical equipment may cause another fire, release dust into the room, damage the device or create a hazard for the operator.



7.1.15. RETURN TO NORMAL OPERATION AFTER REMOVING THE PROBLEM

Ponowne uruchomienie urządzenia po zatrzymaniu awaryjnym, awarii silnika, zadziałaniu sygnalizacji filtrów lub innym zakłóceniu jest dopuszczalne wyłącznie po ustaleniu i usunięciu przyczyny problemu.

Before restarting the device, check the following:

PROCEDURE



1. Check the condition of the power cable, **XP1** power inlet and visible electrical equipment components.
2. Connect the device to the power supply network.
3. Move switch 1S1 to the “ON” position and resume work at the workstation.

INFORMATION



After completing the inspection, the device may be started in accordance with the procedure described in **section 7.1.3** and **7.1.4**.

After restarting the device, observe its operation for at least several minutes. During this time, check for:

- smooth fan operation,
- no unusual noise or vibration,
- correct extraction performance,
- no alarm signals,
- no burning smell or signs of overheating.

! WARNING



If the problem recurs after restarting, **switch off the device immediately, disconnect it from the power supply** and have it inspected by authorised technical personnel or service personnel.

7.1.16. UNPLANNED STOP AND RESTART

An unplanned shutdown of the device may occur in particular due to:

- loss of supply voltage,
- operation of a protective device in the power supply installation,
- tripping of motor circuit breaker 1Q1,
- interruption of the control circuit,
- damage to the power cable,
- fan blockage,
- damage to electrical or mechanical components.

In the event of an unplanned shutdown, proceed as follows:

PROCEDURE



1. Set fan switch **1S1** to the “**OFF**” position.
2. Set lighting switch **1S3** to the “**OFF**” position if the lighting was switched on.
3. Disconnect the device from the power supply network and secure it against accidental reconnection.
4. Wait until the fan has come to a complete stop.
5. Check the condition of the filters, dust container and airflow path.
6. Check that the power cable, fixed plug **XP1** and visible electrical components are not damaged.
7. Determine the cause of the stop.

!WARNING



After a power supply failure and restoration, the device will restart automatically if switch **1S1** is in the “**ON**” position.



8. MAINTENANCE AND REPAIR INSTRUCTIONS

8.1. GENERAL GUIDELINES

! CAUTION

Before starting any maintenance, inspection, cleaning or repair activities, the following must be done:

- switch off the fan — move switch **1S1** to the “OFF” position,
- wait until the impeller has come to a complete stop,
- switch off the workstation lighting, if it is switched on — move knob **1S3** to the “OFF” position,
- disconnect the device from the electrical power supply,
- secure the device against accidental reconnection.



The user is responsible for ongoing inspection, cleaning and maintenance of the device. Systematic maintenance is a condition for safe use, maintaining the device in good working order and preserving extraction and filtration efficiency.

Maintenance activities may be carried out only by trained persons who are familiar with these user manuals and with the hazards resulting from contact with process dust, moving parts, sharp edges and electrical equipment.

Repairs to electrical equipment, the motor, the fan and components affecting operational safety may be carried out only by persons with appropriate qualifications or by authorised service personnel.

! DANGER



DO NOT carry out maintenance work WHILE THE FAN IS OPERATING, with covers open, with the power supply connected or when the device has not been secured.

DO NOT bypass protective devices, permanently remove guards or start the device after unauthorised modifications.

! CAUTION

During maintenance, use personal protective equipment appropriate for the type of contaminants, in particular:



- respiratory protection,
- safety goggles,
- protective gloves,
- protective clothing,
- safety footwear.

! WARNING

Dust removed from the filters, dust container and interior of the device must be treated as process waste. Waste must be disposed of in accordance with the safety data sheets for the materials used, the workstation risk assessment and applicable waste management regulations.



8.2. MAINTENANCE WORK SCHEDULE

Table 8-1 Recommended inspection and maintenance intervals

INTERVAL / FREQUENCY	ACTION
Routine check before starting work	Check that the device is complete, positioned stably, and that the covers, working grates, filters and dust container are correctly installed.
Routine check during operation	Observe extraction performance, noise level, vibration, overheating smell, motor failure indication 1H1 and limit filter contamination signal 1B1 .
After work involving sparking / as required	Check that there are no glowing particles, scorch marks, smoke, burning smell or excessive dust accumulation in the separator, filter chamber, on the filters, in the dust container and in the air outlet area. If any irregularities are found, do not start the device until the cause has been determined and a technical inspection has been carried out.
After completing work / as required	Remove dust from the dust container. Clean the working surfaces and the interior of the device of loose deposits in a way that limits secondary dust emission.
After filter cleaning	Empty the dust container. Check that the filters are correctly seated and that the service cover is closed and locked.
Once a month	Check the condition of the filters, dust container, service covers, gaskets, working grates, power cable and control panel.
	Check for unusual vibration, noise, rubbing, motor overheating or reduced extraction performance.
	Check the condition of the filter chamber, sealing surfaces, filter clamping mechanism and dust container. Remove accumulated deposits.
Once every 3–6 months	Visually inspect the housing, supporting structure, bolted connections, cover closures, hinges, locks and clamping components.
Once every 6–12 months	Check the condition of the fan, motor, motor and fan mountings, impeller cleanliness and unobstructed airflow.
Once every 12 months	Check the condition of the PE protective connections, power cable, XP1 power plug, visible electrical components and protective devices. Electrical inspection may be carried out only by a person with electrical qualifications. Check the operation of the residual current device (RCD) Q2 by pressing the TEST button marked “T” on the front of the device. The test must be performed with the power supply switched on. The RCD should trip immediately. This check requires opening the electrical cabinet and must therefore be carried out only by a qualified electrician holding valid certification.

INTERVAL / FREQUENCY	ACTION
Once every 12 months or after any irregularities are noticed	Check fan vibration, especially after transport, relocation, filter replacement, cleaning of the device interior or occurrence of unusual noise.
According to technical condition	Replace the cartridge filters with new ones if they are damaged, damp, greasy, deformed or leaking, or if cleaning does not restore the required extraction performance.
After each repair	Check correct assembly, tightness, stability and protective connections, and perform a test start-up of the device.

INFORMATION



The intervals specified are recommended intervals. The maintenance frequency must be increased if the device is operated intensively, in high-dust conditions, with fine dusts, during variable technological processes or under conditions that cause rapid contamination of the filters and the device interior.

8.2.1. FILTER MAINTENANCE

Cartridge filters must be inspected regularly and whenever a decrease in extraction performance is observed, or the limit filter contamination signal is activated.

Filter inspection shall include:

- A. Checking that the filters are correctly seated.
- B. Checking the condition of the filtration surface.
- C. Checking the degree of filter contamination.
- D. Checking that the filter is not damaged, punctured, cracked, deformed, damp or greasy.
- E. Checking the condition of the filter gaskets.
- F. Checking the sealing surfaces in the filter chamber.
- G. Checking the filter clamping mechanism.
- H. Checking that there are no traces of dust on the clean side of the device.

The cartridge filters may be cleaned manually through the rear inspection opening of the device. The rear inspection opening provides access to the clean side of the filters. Cleaning must be performed using dry, clean and oil-free compressed air at a pressure not exceeding 6 bar. The air stream must be directed from the inside of the filter outwards, so that dust is removed from the filter material towards the contaminated side. Do not bring the nozzle close to the filter material in a way that could damage the filter medium.

During cleaning, use respiratory protection appropriate for the type of dust, safety goggles, protective gloves and protective clothing. Unauthorised persons must not be present in the cleaning area. Dust removed from the filters



must be collected and disposed of in accordance with the safety data sheets for the materials used, the workstation risk assessment and applicable waste management regulations.



FILTER CLEANING PROCEDURE

1. Switch off the fan — move switch 1S1 to the “OFF” position.
2. Switch off the workstation lighting — move switch 1S3 to the “OFF” position.
3. Disconnect the device from the power supply network and secure it against accidental reconnection.
4. Wait until the fan has come to a complete stop.
5. Put on personal protective equipment suitable for the type of dust collected, in particular respiratory protection, eye protection, protective gloves and protective clothing.
6. Check that the device shows no signs of fire, embers, smoke, excessive heating or mechanical damage.
7. Open the inspection opening located at the rear of the device.
8. Visually check the condition of the accessible filter surfaces, gaskets and fixing components. Do not clean filters that are damaged, damp, greasy, deformed or leaking — such filters must be replaced.
9. Connect the compressed air hose fitted with a nozzle allowing controlled application of the air stream.
10. Set the compressed air pressure to a value not exceeding 6 bar.
11. Clean the filters from the clean, inner side accessible through the rear inspection opening.
12. Direct the compressed air stream from the clean side of the filter towards the contaminated side, so as to remove dust from the filtration surface and direct it into the filter chamber and dust container.
13. DO NOT place the nozzle directly against the filter material and DO NOT direct the compressed air stream at one point for a prolonged period.
14. Do not exceed the permissible compressed air pressure.
15. After cleaning, check that the filters are not damaged, deformed or leaking.
16. Close the rear inspection opening.
17. Open the filter chamber inspection opening.
18. Carefully slide out the dust container, avoiding dust being dispersed into the surrounding area.





19. Empty the dust container in accordance with the type of contaminants and the waste management rules applicable at the user's facility.
20. Check the condition of the dust container, guides and locating elements.
21. Slide the dust container into the device.
22. Close and secure the filter chamber inspection opening.
23. Check that the rear inspection opening and the filter chamber inspection opening are correctly closed, seated and secured.
24. Connect the device to the power supply network.
25. Start the fan and check that the device operates correctly, without unusual sounds, excessive vibration or limit filter contamination indication.

! WARNING



Contact with process dust may occur during cleaning and filter replacement.

USE respiratory protection, protective gloves, safety goggles and protective clothing.

DO NOT clean the filters while the fan is operating or while the device is connected to the power supply.

The filter must be replaced with a new one if:

- A. it is mechanically damaged,
- B. it is damp, greasy or contaminated with sticky substances,
- C. the filter gasket is damaged,
- D. it is deformed and does not provide a tight seal,
- E. extraction performance remains reduced after cleaning,
- F. the limit filter contamination signal returns shortly after cleaning,
- G. traces of dust are visible on the clean side of the device.

! CAUTION

Insufficient or uneven clamping of the filter may allow dust to pass to the clean side of the device. The filters must be seated evenly, securely and without deformation.

DO NOT clean the filters by striking them against hard surfaces.

DO NOT scrape, crush, pierce or deform the filter material.

Replace any damaged filter.

8.2.2. DUST CONTAINER MAINTENANCE

The dust container is exposed to the accumulation of dust, filings, hard particles and other contaminants generated during operation of the device. Its condition must be checked systematically. The dust container must be emptied at intervals depending on the intensity of operation, the type of process and the amount of contaminants generated. Excessive dust accumulation must not be allowed.

Dust container maintenance includes:

- A. regular emptying of the container,
- B. removing deposits from internal surfaces,
- C. checking that the container is not deformed, cracked or corroded,
- D. checking the condition of the handles, guides and locating elements,
- E. checking the condition of the container gasket,
- F. checking that the container is fully inserted and correctly seated,
- G. checking that the service cover is closed and secured.

! WARNING



DO NOT empty the dust container while the fan is operating or while the device is connected to the power supply. Before removing the container, SWITCH OFF the fan, WAIT until it has come to a complete stop, DISCONNECT the device from the power supply and SECURE it against accidental reconnection.

DO NOT use compressed air to blow out the container or the container chamber if this may cause secondary dust emission.

It is recommended to remove deposits using an industrial vacuum cleaner suitable for the type of dust, or by another method that limits dust emission into the surrounding area.

A damaged, leaking, deformed or corroded container must be replaced. The device MUST NOT be operated without the dust container or with the container incorrectly inserted.



8.2.3. FAN MAINTENANCE

The fan and fan motor must be maintained in a condition that ensures safe, smooth and quiet device operation.

Fan maintenance includes:

- A. checking that mechanical connections are correctly tightened,
- B. checking the condition of the motor and fan mountings,
- C. checking that the fan operates without excessive vibration, rubbing, knocking or unusual noise,
- D. checking that the motor does not overheat during operation,
- E. checking the condition of the impeller,
- F. removing accumulated contaminants and foreign bodies from the air flow area,
- G. checking that the air inlet and outlet are unobstructed.

! DANGER



Before inspecting the fan, **SWITCH OFF** the device, **WAIT** until the impeller has come to a complete stop, **DISCONNECT** the device from the power supply and **SECURE** it against accidental reconnection.

The impeller may continue to rotate for some time after the fan has been switched off.

DO NOT insert hands, tools or any other objects into the fan area before the impeller has come to a complete stop.



If vibration, unusual noise, rubbing, a burning smell, motor overheating or tripping of motor protection device 1Q1 occurs, carry out the following steps:

PROCEDURE



1. Switch off the fan using switch **1S1** and disconnect the device from the power supply.
2. Wait until the fan has come to a complete stop.
3. Secure the device against accidental reconnection.
4. Check that there are no foreign bodies in the fan.
5. Check that there are no foreign bodies in the motor cooling impeller.
6. If the cause cannot be clearly identified, have the device inspected by authorised technical personnel or service personnel.

! WARNING



It is **PROHIBITED** to operate the device with a damaged motor, damaged impeller, excessive vibration, unusual noise, rubbing or signs of overheating.

Continued operation may lead to damage to the device, fire, ejection of rotating parts or a hazard to the operator.



8.2.4. ELECTRICAL EQUIPMENT MAINTENANCE

The electrical equipment of the device must be inspected periodically and whenever the device has been transported, relocated, repaired or has shown any operating irregularities.

Inspection of electrical equipment includes:

- A. checking the condition of the power cable,
- B. checking the condition of the **XP1** power inlet,
- C. checking the condition of the control panel,
- D. checking the operation of fan switch **1S1**,
- E. checking the operation of lighting switch **1S3**,
- F. checking the operation of indicator lamp **1H1**,
- G. checking the operation of acoustic signalling device **1B1**,
- H. checking the condition of workstation light **1H2**,
- I. checking the condition of accessory socket **1X1**,
- J. checking the condition of **PE** protective connections.

! DANGER



Work on electrical equipment, measurements, repairs, replacement of electrical apparatus and opening of the electrical unit may be carried out only by persons with appropriate electrical qualifications.

DO NOT operate the device with a damaged power cable, damaged socket, damaged power plug, defective PE protective conductor, damaged control panel, or with signs of overheating, sparking or moisture in the electrical equipment.

8.3. SERVICE AND REPAIRS

Repairs to the device must be carried out only after the cause of the fault has been identified, and the device has been disconnected from the power supply. The scope of repairs should be appropriate to the type of damage and the effect of the affected part on operational safety.

The user is permitted to perform only the activities specified in this manual, such as:

- cleaning the device,
- emptying the dust container,
- inspecting and cleaning the filters,
- replacing the filters,
- visual inspection of the housing, covers, grates and connections,
- checking for symptoms of abnormal operation.

Activities requiring technical or electrical qualifications, including in particular repairs to the motor, fan, electrical equipment, control system, protective devices and structural components, may be carried out only by authorised and appropriately qualified persons.

! CAUTION



Use only spare parts and consumables that comply with the technical documentation of the device. The use of incorrect parts may reduce filtration efficiency, impair operational safety, increase noise or vibration, and lead to damage to the device.

! WARNING



After each repair, CHECK that the device is complete, that guards and covers are correctly installed, that protective connections are in proper condition, and that the control elements operate correctly, and PERFORM a test start-up without process load.

DO NOT restart the device if the cause of the fault has not been eliminated, the device is incomplete, alarm signals are present, or there is a suspected fault in the electrical system, fan, filters or housing.



8.4. REPLACEABLE PARTS

If wear of any device component is found, contact **KLIMAWENT S.A.** All enquiries concerning technical information, replaceable parts or repair work should be sent to:

KLIMAWENT S.A.
ul. Chwaszczyńska 194
81-571 Gdynia, Polska
Tel.: +48 58 629 64 80
Fax: +48 58 629 64 19
e-mail: klimawent@klimawent.com.pl

Table 8-2 Cartridge filter

	Type	Part No	Weight including mounting plate
	PNB205038PS450/450	400F30	8,5 kg/pc



9. OPERATING FAULTS, CAUSES AND REMEDIAL MEASURES

In the event of operating faults in the device, the safety of the operator and persons in the vicinity must be ensured first. If the faults may create a hazard, switch off the fan using switch **1S1**, wait until the impeller has come to a complete stop, disconnect the device from the power supply and secure it against accidental reconnection.

! WARNING



DO NOT continue operating the device if any of the following occur: unusual noise, excessive vibration, a burning smell, motor overheating, visible damage to the power cable, ineffective extraction, dust escaping outside the filtration system, or an alarm signal whose cause has not been identified.

Work on electrical equipment may be carried out **ONLY** by persons with appropriate electrical qualifications.

Table 9-1 List of typical faults and problems

No.	PROBLEM	POSSIBLE CAUSES	REMEDIAL MEASURES
1	The fan does not start	No power supply to the device.	Check that the power cable is connected to power inlet XP1 and to the mains supply. Check for the presence of the supply voltage: 3×400 V AC, 50 Hz .
2	The fan does not start	Switch 1S1 is in the “OFF” position.	Set 1S1 to the “ON” position after ensuring that the device is ready for operation.
3	The fan does not start	Motor protection circuit breaker 1Q1 has tripped. Red indicator lamp 1H1 is illuminated.	Switch off the device, disconnect the power supply and determine why 1Q1 has tripped. Check whether the motor or fan is overloaded, blocked or damaged. Switch on again only after the cause has been eliminated.
4	The fan does not start	Fault in contactor 1K1 , the control circuit or power supply unit 1V1 .	Have the device checked by a qualified electrician. Check the 24 V DC control circuit and control components in accordance with the electrical diagram.
5	The fan does not start	Fault in the fan motor or motor wiring.	Disconnect the device from the power supply. The motor, wiring and terminals must only be checked by a qualified electrician.



No.	PROBLEM	POSSIBLE CAUSES	REMEDIAL MEASURES
6	The fan stops during operation	Motor protection circuit breaker 1Q1 has tripped due to overload, a short circuit, operation with a missing phase or a blocked rotor during start-up.	Set 1S1 to the “OFF” position, disconnect the power supply and determine why the protective device has tripped.
7	The fan stops during operation	Loss of supply voltage or a break in the electrical supply circuit.	Set 1S1 to the “OFF” position. After power has been restored, restart the device only in a controlled manner, in accordance with the start-up procedure.
8	The fan operates, but suction is very weak	The cartridge filters are heavily contaminated.	Clean the filters in accordance with the manual. If cleaning does not restore extraction performance, replace the filters with new ones.
9	The fan operates, but suction is very weak	The filters are wet, greasy, clogged with sticky dust or deformed.	Replace the filters. Eliminate the cause of moisture, oil, sticky substances or prohibited contaminants entering the intake air.
10	The fan operates, but suction is very weak	The grates, separators, airflow passages or suction openings are blocked.	Clean the grates, separators and accessible airflow passages. Remove foreign objects and accumulated deposits.
11	The fan operates, but suction is very weak	The service covers, filter chamber or dust container are not fully closed or are leaking.	Check that the covers are closed, the filters are correctly seated and properly clamped, and the dust container is correctly inserted.
12	The fan operates, but suction is very weak	Incorrect direction of impeller rotation after connection to the three-phase power supply.	Switch off the device immediately. Only a qualified electrician may correct the phase sequence.
13	Audible alarm 1B1 sounds	Differential pressure switch 1DP1 has detected that the filter contamination limit has been reached.	Stop work as soon as it is safe to do so. Clean the filters or replace them with new ones. Check the dust container and make sure the airflow path is unobstructed.
14	Audible alarm 1B1 sounds shortly after the filters have been cleaned	The filters are worn, damaged, damp or do not regain their permeability after cleaning.	Replace the filters with new ones. Check whether the process is causing prohibited types of dust to be drawn into the device.



No.	PROBLEM	POSSIBLE CAUSES	REMEDIAL MEASURES
15	Audible alarm 1B1 does not sound despite a noticeable drop in suction	Fault in differential pressure switch 1DP1 , audible alarm 1B1 or the control wiring.	Do not continue operation without checking the filters. The signalling circuit must only be checked by an authorised person.
16	Red indicator lamp 1H1 is illuminated	Motor protection circuit breaker 1Q1 has tripped.	Switch off the device, disconnect the power supply and determine why the protective device has tripped. Do not reset 1Q1 until the cause has been eliminated.
17	Indicator lamp 1H1 does not indicate that 1Q1 has tripped	Fault in the lamp, wiring or signalling circuit.	Have the device checked by a qualified electrician. Until the check has been completed, do not rely on 1H1 as the sole status indicator.
18	Dust enters the clean-air side or escapes into the surrounding area	The filters are damaged, punctured, deformed or incorrectly seated.	Switch off the device. Check the filters, seals and clamping force. Replace damaged filters. Do not start the device unless the filters are correctly seated.
19	Dust enters the clean-air side or escapes into the surrounding area	Insufficient filter clamping force or leakage at the sealing surfaces.	Check the filter clamping mechanism, contact surfaces and service cover. Clamp the filters in accordance with the procedure.
20	Dust enters the clean-air side or escapes into the surrounding area	An incorrect filter type has been installed.	Install filters that comply with the technical documentation of the device.
21	Dust enters the clean-air side or escapes into the surrounding area	The extracted dust is unsuitable for the device, or the permissible dust load has been exceeded.	Stop work. Review the process, the type of dust and the conditions of use of the device. Do not use the device to extract wet, sticky, corrosive, combustible, explosive, carcinogenic, radioactive or biologically hazardous dust.
22	Excessive dust emission when emptying the container	The container is overfilled or emptied too infrequently.	Empty the container more frequently. Dispose of waste in a manner that limits secondary dust emissions. Wear respiratory protection and safety goggles.
23	Excessive dust emission when emptying the container	Compressed air or dry sweeping has been used, causing dust to become airborne.	Do not blow out the container with compressed air. Use a suitable industrial vacuum cleaner or a method that limits dust emissions.



No.	PROBLEM	POSSIBLE CAUSES	REMEDIAL MEASURES
24	Unusual noise during operation	A contaminated or damaged fan, a foreign object in the airflow, or loose housing components or grates.	Switch off the fan, disconnect the power supply and check the condition of the grates, filters, dust container, fan chamber and mountings. Remove foreign objects.
25	Unusual noise during operation	Worn or damaged motor or fan bearings.	Do not continue operation. Have the device inspected by service personnel or authorised technical personnel.
26	Excessive vibration	The device is not level, its positioning is unstable, or mechanical connections are loose.	Switch off the device, disconnect the power supply and check the positioning, levelling and bolted connections.
27	Excessive vibration	A contaminated, damaged or unbalanced fan impeller.	Do not restart the device until the fan has been inspected. Inspection and repair must be carried out by authorised technical personnel or service personnel.
28	Burning smell, smoke, signs of overheating	Short circuit, overload, or damage to the insulation, motor, wiring, socket 1X1 , power inlet XP1 or electrical cabinet components.	Switch off the device immediately, disconnect the power supply and do not restart it. Check the condition of the equipment connected to socket 1X1 . Only a qualified electrician may carry out the inspection.
29	Workstation lighting 1H2 does not operate	Switch 1S3 is in the "OFF" position, the lamp is faulty, there is no power supply to the circuit, or protective device 1F2 has tripped.	Check the position of 1S3 . If the lighting still does not operate, disconnect the device from the power supply and have the circuit checked by an authorised person.
30	Accessory socket 1X1 does not operate	No power supply, tripping of protective device 1F2 or Q2 , or damage to the socket or wiring.	Unplug the connected equipment from the socket. 1X1 , 1F2 and Q2 must only be checked by a qualified electrician.
31	Protective device 1F2 has tripped	Overload of socket 1X1 , faulty connected equipment, or a short circuit in the connected equipment or lighting circuit.	Unplug the connected equipment from socket 1X1 . Do not connect equipment that draws more than 16 A . Check the equipment and the electrical installation before reuse.
32	Protective device 1F1 has tripped	Overload or a short circuit in the circuit of power supply unit 1V1 / the 24 V DC control circuit.	Do not start the device. Have the control system checked by a qualified electrician.



No.	PROBLEM	POSSIBLE CAUSES	REMEDIAL MEASURES
33	Protective device Q2 has tripped	Leakage current caused by damaged, damp or short-circuited wiring.	Do not start the device. Have the device checked by a qualified electrician.
34	Protective device Q2 has tripped	Leakage current caused by the operator touching a live conductor.	Do not touch live conductors. Report any faults in socket 1X1 or lighting 1H2 to a qualified electrician.
35	Protective device Q2 has tripped	Faulty equipment connected to socket 1X1 .	Do not connect faulty equipment to socket 1X1 .
36	Protective device Q2 has tripped	Faulty lighting 1H2 or socket 1X1 .	Do not start the device. Have the device checked by a qualified electrician.
37	The device starts on its own or behaves unexpectedly	Incorrect switch positions before power is supplied, a fault in the control system or unauthorised changes to settings.	Set 1S1 and 1S3 to the “OFF” position, disconnect the power supply and check the control system. Do not change the factory settings of electrical components.
38	Socket 1X1 or the cable of the connected equipment becomes hot	Socket overload, faulty connected equipment, a loose contact or a damaged cable.	Unplug the connected equipment immediately. Do not use the socket until it has been checked by an authorised person.
39	Electric shock, tingling sensation when touching the housing, sparking	Damage to the insulation, PE protective conductor, power cable, power inlet XP1 , socket 1X1 or protective connections.	Disconnect the device from the power supply immediately. Do not touch damaged components. The device may be used again only after the protection against electric shock has been checked.
40		Welding is in progress.	Do not touch the metal parts of the device with a bare hand or any other part of the body during welding.
41	Difficulty closing the filter service cover	The filters are incorrectly inserted, the clamping mechanism is not in the operating position, or contaminants remain in the chamber.	Do not use force. Remove and refit the filters in accordance with the procedure. Clean the contact surfaces.
42	Difficulty pulling out the dust container	The container is overfilled, deformed, fouled with deposits or blocked by a foreign object.	Do not jerk the container. Remove the blockage. Empty the container and clean both the container and the guides.



No.	PROBLEM	POSSIBLE CAUSES	REMEDIAL MEASURES
43	The working grate is unstable or incorrectly positioned	Incorrect positioning of the grates, dirty supports, deformation or foreign objects under the grate.	Switch off the device, remove the grate, clean the supports and position the grates correctly. Replace damaged grates.
44	The side guards do not close fully or do not hold their position	Dirty hinges or a damaged or deformed guard.	Clean the moving parts. If the guard is damaged, do not use it as protection against flying particles until it has been repaired.
45	Reduced extraction performance after a process change	The type or amount of dust, temperature or properties of the contaminants are incompatible with the intended use of the device.	Stop work and assess the process. Check whether UES-UNI can be used for the contaminants concerned. If in doubt, carry out a process risk assessment.
46	The device has been flooded or become damp	Operation or storage in unsuitable conditions, condensation or liquid ingress.	Do not start the device. Disconnect the power supply. Before reuse, carry out electrical and mechanical inspections and check the filters for moisture and damage.
47	The device has been damaged during transport or relocation	Impact, tilting, overload, incorrect lifting, or damage to the panel, covers or housing.	Do not start the device until it has been inspected. Check the condition of the housing, control panel, covers, filters and dust container, and make sure the device is positioned stably.

! CAUTION



After each disturbance has been eliminated, an inspection must be carried out before restarting. At a minimum, check that the covers are correctly closed, the filters are properly seated, the dust container is in place, there are no foreign bodies, no alarm signals are present, and the fan operates correctly after start-up.

! DANGER



DO NOT eliminate faults by bypassing protective devices, blocking control elements, changing the factory settings of electrical apparatus, operating without filters, operating with covers open, or using a damaged power cable. Such actions may cause electric shock, fire, damage to the device or serious injury.



10. DISASSEMBLY, DECOMMISSIONING AND SCRAPPING

10.1. DISASSEMBLY AND DECOMMISSIONING

At the end of its service life, the UES-UNI device must be decommissioned, cleaned, disassembled and transferred for recovery, recycling or disposal in accordance with applicable regulations.

During disassembly, general occupational health and safety regulations, fire protection regulations and waste handling rules must be observed. Particular attention must be paid to dust, deposits and contaminants accumulated inside the device, in the filters, dust container, filter chamber and air flow ducts.

Before starting disassembly, the following must be done:

- A. finish operation of the device,
- B. switch off the fan using switch 1S1,
- C. wait until the impeller has come to a complete stop,
- D. switch off the workstation lighting using switch 1S3,
- E. disconnect the device from the electrical power supply,
- F. secure the device against accidental reconnection to the power supply,
- G. empty the dust container,
- H. clean the inside of the device of loose deposits in a manner that limits secondary dust emission,
- I. remove the used filters and place them in bags or containers suitable for the given type of waste.

! DANGER



Work on electrical equipment, disconnection of cables, disassembly of the switchgear, sockets, protective conductors and control system components may be carried out ONLY by persons with APPROPRIATE electrical qualifications.

DO NOT start disassembly of electrical equipment before confirming the absence of voltage and securing the device against accidental reconnection.

! CAUTION



When the device is handed over for scrapping, the regulations concerning decommissioned machinery, waste electrical and electronic equipment, recycling of metals and plastics, and waste generated in the technological process must be applied.

Dust waste, used filters and contaminated device components must be classified according to the type of hazardous substance.

! WEEE

The crossed-out wheeled bin symbol means that the product and its electrical and electronic parts must not be disposed of together with unsorted municipal waste.

Electrical and electronic components forming part of the UES-UNI device must be handed over to a separate collection point or to an entity authorised to process waste electrical and electronic equipment.

Parts that may be subject to the requirements concerning waste electrical and electronic equipment include:



- all electrical components and apparatus,
- control and protective equipment,
- electrical cables,
- control panel,
- fan motor.

Such parts **MUST NOT** be disposed of in unsorted waste containers.

They must be handed over to an appropriate collection point, waste treatment plant or another authorised entity in accordance with applicable regulations.

10.2. SCRAPPING

Scrapping of the device must be carried out after it has been fully decommissioned, disconnected from the power supply, the dust container has been emptied, the filters have been removed, and the components have been cleaned of process contaminants.

Before handing the device over for scrapping, the following material groups must be separated, where possible and safe to do so:

- metal components,
- plastic components,
- electrical cables, electrical and electronic apparatus,
- fan electric motor,
- used filters,
- dust and deposits collected from inside the device.

! WARNING



Used filters, process dust and deposits must not be treated as ordinary scrap. They must be classified according to the properties of the contaminants captured by the device and handed over for disposal or recovery in accordance with applicable regulations.

! CAUTION



Metal components may be handed over for recycling only after removal of contaminants that could pose a hazard to persons performing disassembly, transport or waste processing.

Electrical and electronic components must be handed over to the waste electrical and electronic equipment collection system in accordance with **WEEE** requirements.

Scrapping should be carried out by an entity authorised to process the given type of waste.

After disassembly and scrapping have been completed, waste must be handled in accordance with local regulations concerning environmental protection, waste management, recycling and occupational safety.



11. WARRANTY TERMS

The warranty period is specified in the device **Warranty Card**.

! CAUTION



FAILURE TO COMPLY with the instructions in this manual, especially unauthorised modification of the device or use contrary to its intended purpose, will result in **LOSS OF WARRANTY!**



User Manual – title: „Grinding and welding workstation UES-UNI with extraction and recirculated-air filtration”

**KLIMAWENT**

Po prostu niezawodnie

KLIMAWENT S.A.

ul. Chwaszczyńska 194, 81-571 Gdynia

tel.: +48 58 629 64 80

fax: +48 58 629 64 19

e-mail: klimawent@klimawent.com.plstrona WWW: www.klimawent.com.plCopyright © by **KLIMAWENT S.A.**

Gdynia 2026-09-14