VIR-X
BY KUNATH.GROUP

Disinfection unit
VIR-X 1800

For the disinfection
of woodwind instruments

Introduction

Foreword

We are pleased that you have chosen the VIR-X 1800.

VIR-X 1800 is made from high quality components.
This guarantees a long and trouble-free operation, if you use the device with care.
The operating manual is intended to help you with important information.

Read this manual carefully before installing, operating, or servicing the equipment.

If you have any questions about the unit that are not explained in these instructions, please contact our service telephone: +49 (0)661 968 938-0. Please have the unit data (nameplate on the unit) ready.

Online: www.vir-x.info

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General Safety Instructions

Important Symbols

Important information within these operating instructions is indicated by the following symbols. To ensure safe and reliable use of the system, these instructions must always be observed.

DANGER! Failure to correctly observe these instructions may result in serious or fatal injury and major damage to property.

Warning! Disregarding these instructions may lead to personal injury and damage to property.

Caution! Failure to correctly observe these instructions may result in damage to the equipment or other items.

Important Advice! These tips will make your work easier.

This work may only be carried out by persons expressly authorized by Kunath Instrumentenbau.

Only persons who have received the appropriate training in electrical engineering can carry out work marked in this way.

Operating Personnel

This equipment may only be operated by persons who have read and understood these operating instructions.

Intended Use

The equipment may only be used for the purposes described in the product description. The information in these operating instructions as well as all locally applicable regulations on accident prevention and occupational safety must be observed.

Hazard Warning

Electric shock risk!

Do not touch electrical components with wet hands. Disconnect the power plug before working on electrical system parts! Ensure that damaged cables and plugs are replaced immediately by a specialist.

Risk of mechanical harm!

There is a risk of crushing in parts of the system.

Transport And Storage

Caution!
Do not operate the equipment in a wet or damp environment.
Do not operate the unit next to objects that provide a strong heat source.
Transport the system carefully and avoid vibrations. Electronic and electrical components could be damaged.

Disposal

Packaging

Dispose of the packaging in accordance with local regulations and in an environmentally friendly manner.

Equipment

The symbol of the crossed-out wheelie bin indicates that the European Directive 2021/19/EU applies to the disposal of the equipment.

General Information

Operation

UV light (ultraviolet) is the spectrum of light that lies in the range of wavelengths between 100 and 380 nm. These wavelengths are below the perception of the human eye.

UV light is divided into UV-A, UV-B and UV-C. UV-C has disinfecting properties.

The absorption of UV-C radiation alters the genetic material of microorganisms so that they are no longer able to reproduce.

The system works through the combination of the disinfecting effects of **UV-C radiation** and **ozone**.

UV-C radiation with a wavelength of 250 to 270 nanometers permanently destroys the DNA of viruses, bacteria, yeasts, fungi and fungal spores. Fungi and fungal spores require the highest radiation doses.

The ozone disinfects areas that cannot be targeted by UV-C radiation. A suitable amount of ozone is generated for this purpose during the disinfection process. Fans distribute the ozone evenly throughout the instrument. This ensures that the internal surfaces such as the bore and the windway of the recorders are also targeted and disinfected.

Important Note!
After switching off the radiation source, the production of the UV-C radiation stops. The ozone remaining within the system after the radiation has been turned off will be decomposed back to oxygen.
For this reason, the unit must remain closed for a short period of time after the disinfection process.
After this period, there are no more hazardous residual substances.

The strength of the radiation depends on the age of the UV-C radiation sources. The output of the UV-C radiation sources decreases as the number of operating hours increases. To be able to guarantee the continued supply of the required irradiation dose, the radiation sources must be replaced after a specified number of operating hours. The system is equipped with an operating hours counter which informs the operators of the necessary change.

Product Description

Nameplate

The nameplate of the unit is located on the lower left side.
Our service team can process service inquiries or spare parts orders faster if you send us this data.

Enter the data from the nameplate of your unit here and keep the operating instructions in a safe place.

Model: _____

Serial number: _____

Date of manufacture: _____

Technical Data

The VIR-X 1800 disinfection system is used for the occasional disinfection of woodwind instruments.

Material

Casing	Rustproof stainless steel

Dimensions

	Outer dimensions including wheels	Outer dimensions excluding wheels	Inner dimensions
Height	191 cm	190 cm	164 cm
Width	109 cm	79 cm	60 cm
Depth	50 cm	50 cm	39 cm
	70cm incl. wheels	70 cm incl. wheels	
Weight	120 kg		

Electrical Connections

Mains connection	230 Volt/50 Hz		
Quiescent power	3 Watt		
Disinfection power	230 Watt		
Ozone decomposition power	25 Watt		

Controls

Door lock	Self-locking
Control unit	Siemens LOGO TDE

Intended Use

The VIR-X 1800 disinfection system is intended for the reduction of germs. The killing of other microorganisms - especially spores - depends on the presence of the populations.

The VIR-X 1800 disinfection system may only be operated if the system has been properly installed and connected.
Under no circumstances may safety devices be removed or otherwise rendered ineffective. Intended use also includes observing the information in these operating instructions and the safety regulations applicable at the place of use.
If the display indicates that maintenance or inspection is required, this must be carried out in a timely manner.

Included In Delivery

- VIR-X 1800
- Supply cable (attached to the device) / power plug
- Instruction manual

Installation

General Installation Instructions

The installation site must offer sufficient space and provide stable, static base.
The necessary electrical connection must be available before starting the installation work.
Dimensions and connection data are summarized in the "Technical Data" table.

Electrical Installation

A Schuko-socket is sufficient for the electrical connection.
This must comply with the specifications in the "Technical Data" table and should not be more than 2.00 m away from the VIR-X 1800 disinfection system. The socket must carry continuous voltage.

Preparatory Work

1. Unpack the equipment
2. Check that all components are correct and undamaged
3. Transport the UV-C lamp and the system to the intended location in a competent manner
4. Set up the system at the location

UV Lamp Installation

1.  **Caution!** It is essential to observe the following when mounting the lamp: Do not touch the glass of the lamp with bare hands! This will lead to a reduction in performance. Wear clean gloves, or similar protection.

2.  **Warning!** The installation of the emitters may only be carried out by trained personnel.
    1. Establish the electrical connection between the emitter and the system.
    2. Carefully clip the emitter into the holding devices.

Create The Electrical Connection

1. Check the plug and connection cable for damage
2. Insert the plug into the socket

Warning! Never look at active UV-C radiation sources. The function of the radiation sources can only be checked if protective goggles are worn.
The VIR-X 1800 disinfection system is designed so that the radiation sources only operate when the system door is closed.

Operation

Introduction

Warning! Incorrect operation and settings can lead to dangerous operating conditions that result in personal injury, damage to health or property damage.
Only perform the instructions described in this chapter!

Only Kunath Instrumentenbau or persons authorized by Kunath Instrumentenbau may make changes to the settings of the control unit.

Keypad Controls

- ENTER — Confirm input / display
- Arrow Keys — Move the cursor
- ESC — Exit menu
- F1 — **Start Disinfection**
- F2 — Cancel Disinfection
- F3 — **Door safety release**
- F4 — Service menu for technician

System Menu

Disinfection Procedure

1. Check if the device is running and look for any signs of damage.
2. Turn the door handle to the open lock position.
3. **Do not open the door yet!**
4. Press the F3 key on the control unit. The door is now unlocked and will pop open after it has checked that the UV-C lamps are switched off.
5. Sensitive people may notice a slight smell of ozone, depending on how long ago the last disinfection was. This is not a cause for concern: The ozone concentration is in the harmless range. If you are bothered by the smell, simply open a window.
6. Now place the instruments on the base plate.
    a. Start from the center of the bottom plate.
    b. Do not place the instruments too close to the radiation sources.
    (The glass tubes on the left and right inner walls of the disinfection system are the UV-C radiation generating areas).
    c. Do not allow the instruments to come into direct contact with the tubes. The tubes will heat up.
    d. Do not touch the tubes. This will reduce the lifespan of the radiation sources.
7. Close and lock the door of the unit. To do this, turn the handle counterclockwise to the closed lock position.
8. Press the F1 key on the control unit to start the disinfection program.
9. The door can only be opened after the disinfection has been completed.
10. To open the door, turn the door handle to the open lock position.
11. **Do not open the door yet!**
12. Press the F3 key on the control unit. The door is now unlocked and will pop open after it has checked that the UV-C lamps are switched off.
13. Remove the instruments and lock the door again by turning the door handle to the closed lock position.

During Disinfection

Disinfection should not be interrupted. In emergencies, disinfection can be interrupted via the F2 key. Depending on the ozone concentration, however, the door can only be opened after a certain time. The display informs you of the current status of the system.

Malfunctions

Even with a carefully designed and manufactured technical system that is operated in accordance with the regulations, malfunctions can never be completely ruled out.

The following table provides an overview of possible problems during operation of the VIR-X 1800 disinfection system, their causes, and the solutions.

Problem	**Cause**	**Solution**
No display	• No power supply	• Plug in power cable • Check power socket (Fuse switched on)
Program cannot be started	• Door not (correctly) closed	• Check if something is jammed in the door. • Move the door handle to closed position. • Start the program
Message on display „Close door“  although the door is closed.	• Safety contacts are dirty or misaligned.	• Contact the service technician and search for a solution together.

Maintenance And Care

Information

The VIR-X 1800 is equipped with a maintenance notification system.

Maintenance

To ensure proper operation of the system, maintenance is now **urgently** required! The maintenance message can only be reset after maintenance has been carried out.

Overview: Maintenance work

- Replace UV lamp
- Check radiation source plug, replace if necessary
- Clean or replace fan
- Check seals, replace if necessary
- Check the programming of the control system, install any necessary updates.
- Check function of any safety device that may be present
- Enter date of maintenance, cleaning and change of UV radiation sources under maintenance parameters in control system.
- Enter all data and work, including any repairs carried out, in the operating manual.
- Reset operating hours counter
- Hand over the system and the completed operating manual to the operator.

Replacement Parts

Replacement parts can be ordered at www.kunath.com

Online Information

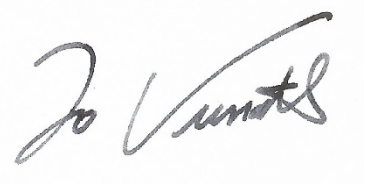
Updates to these operating instructions can be found at www.vir-x.info

EU-Konformitätserklärung

EU Declaration of Compliance

CE

Hiermit erklären wir, dass die nachstehend bezeichnete Anlage in ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den grundlegenden Sicherheits- und Gesundheitsanforderungen der zutreffenden EU-Richtlinien entspricht.

Hersteller	Kunath Instrumentenbau, Am Ried 7, 36041 Fulda
Dokumentationsbevollmächtigter	Joachim Kunath
Bezeichnung der Anlage	Desinfektionsgerät
Anlagentyp	VIR-X 1800
Serien-Nr.	siehe Typenschild
zutreffende Richtlinien	EMV (2014/30/EU) Niederspannung (2014/35/EU)
Angewandte harmonisierte Normen, insbesondere	, DIN EN 61000-6-3 VDE 0839-6-3 Berichtigung 1:2012-11
Ort, Datum und Unterschrift	 Fulda, 1.10.2021 Joachim Kunath
Funktion des Unterzeichners	Leitung Tech. Produktdesign