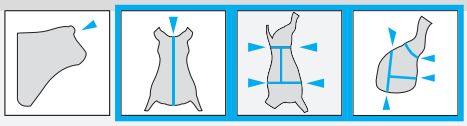
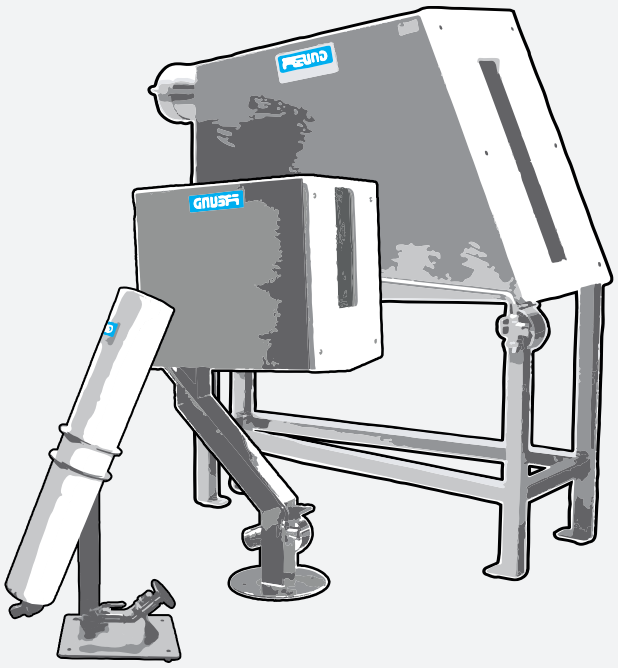
FREUND
GERMAN QUALITY SLAUGHTER-TOOLS

OPERATING MANUAL DISINFECTION CABINETS

OPERATING MANUAL

Translation of original maunal





DISINFECTION CABINET MODELS

- DES-K01
- DES-K02
- DES-K03
- DES-K04
- DES-K05
- DES-K06-ROD
- DES-K07
- DES-K08

Imprint

Home address	FREUND Maschinenfabrik GmbH & Co. KG Schulze-Delitzsch-Str. 38 33100 Paderborn, GERMANY
Fon	+49 (5251) 1659-0
Fax	+49 (5251) 1659-77
E-Mail	mail@freund.eu
Internet	www.freund-germany.com
Sales	+49 (5251) 1659-0 sales@freund.eu

© FREUND Maschinenfabrik GmbH & Co. KG, 08.2018

The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization is prohibited. Offenders will be held liable for the payment of damage. All rights reserved in the event of the grant of a patent, utility model or design.

Technical changes reserved

This operating manual was compiled with the greatest care. However if you notice incompleteness and/or mistakes, please inform us.

Contents

1 About this Manual 7
1.1 Target group 7
1.2 Liability and warranty 7
1.3 Storing the operating manual 8
1.4 Warning notes 8
1.5 Symbols and layout elements 9
1.5.1 Layout elements 9
1.5.2 Safety signs 9
1.5.3 Symbols 10

2 For your Safety 12
2.1 Site operator's responsibilities 12
2.2 Employee responsibilities 13
2.3 Personal protective equipment 14
2.4 Electrical safety in accordance with EN60204-1 14
2.5 Residual risks 14
2.6 Intended use 15

3 Technical Description 16
3.1 Rating Plate 16
3.2 Disinfection-Cabinet DES-K01 17
3.2.1 Intended use 17
3.2.2 Technical data 17
3.2.3 Rating plate 17
3.2.4 General view 18
3.2.5 Dimensions 19
3.3 Disinfection-Cabinet DES-K02 20
3.3.1 Intended use 20
3.3.2 Technical ata 20
3.3.3 Rating plate 20
3.3.4 General view 21
3.3.5 Dimensions 22
3.4 Disinfection-Cabinet DES-K03 23
3.4.1 Intended use 23
3.4.2 Technical data 23
3.4.3 Rating Plate 23
3.4.4 General View 24
3.4.5 Dimensions 25

3.5 Disinfection-Cabinet DES-K04 26
3.5.1 Intended use 26
3.5.2 Technical data 26
3.5.3 Rating plate 26
3.5.4 General view 27
3.5.5 Dimensions 28
3.6 Disinfection-Cabinet DES-K05 29
3.6.1 Intended use 29
3.6.2 Technical data 29
3.6.3 Rating plate 29
3.6.4 General view 30
3.6.5 Dimensions 31
3.7 Disinfection-Cabinet DES-K06-ROD 32
3.7.1 Intended use 32
3.8 Technical data 32
3.9 Rating plate 32
3.9.1 General overview 33
3.9.2 Dimensions 34
3.10 Disinfection-Cabinet DES-K07 35
3.10.1 Intended use 35
3.10.2 Technical data 35
3.10.3 Rating plate 35
3.10.4 General view 36
3.10.5 Dimensions 37
3.11 Disinfection-Cabinet DES-K08 38
3.11.1 Intended use 38
3.11.2 Technical data 38
3.11.3 Rating plate 38
3.11.4 General view 39
3.11.5 Dimensions 40
3.12 Self-closing valve 41

4 Transport und Storage 42

4.1 Safety information 42
4.2 Personal protective equipment 42
4.3 Transporting the machine 42
4.4 Unpacking the machine 43
4.5 Storing the machine 43

5 Installation and Commissioning 44
5.1 Safety information 44
5.2 Personal protective equipment 44
5.3 Connecting the machine 45
5.3.1 DES-K01, DES-K02, DES-K03 and DES-K05 45
5.3.2 DES-K04, DES-K07 and DES-K08 46
5.3.3 DES-K06-ROD 47

6 Operating 48
6.1 Safety information 48
6.2 protective equipment 48
6.3 Safety check before starting work 48
6.4 Operating the Disinfection-Cabinet 49

7 Cleaning and Disinfection 50
7.1 Personal protective equipment 50
7.2 Carrying out cleaning and disinfection 50

8 Maintenance and Repair Work 53
8.1 Safety information 53
8.2 Personal protective equipment 53
8.3 Setting the flow rate for the self-closing valve 54

9 Troubleshooting 55
9.1 Safety information 55
9.2 Personal protective equipment 55
9.3 Overview of possible faults 55

10 Disposal and Recycling 57
10.1 Disassembling and disposing of the machine 57
10.2 Disposing packaging material 57

1 About this Manual

The operating manual also refers to the Disinfection-Cabinet as the “machine”.

This operating manual was prepared to enable you to work quickly and safely with your machine.

The operating manual is a component of the machine and contains important recommendations, notes and information

- to install the machine safely and properly.
- to operate the machine safely.
- to rectify simple faults yourself.
- for maintenance and cleaning.

Before you start operating the machine, read this entire operating manual thoroughly and carefully. In particular, follow all written safety and warning information.

1.1 Target group

This operating manual is intended for operators of slaughtering facilities and the staff employed there, as well as for butchers and small businesses and their apprentices.

The operating manual is intended in particular for qualified personnel for assembly, installation, maintenance and repair and for the cleaning staff.

The target group must have basic technical knowledge of how to handle the machine described herein.

1.2 Liability and warranty

All information and instructions regarding the operation and maintenance of the machine contained in this manual are provided to the best of our knowledge, taking into account our experience and know-how.

We will accept no liability for claims that extend beyond the scope of the warranty agreed in the main contract.

The original version of this operating manual was written in German. The translation was created with the best care and knowledge, but we assume no liability for translation errors. In the event of inconsistency or conflict between the English and the German version, the German version shall prevail.

Exclusion of liability

We assume no liability and warranty:

- on spare parts.
- if damage occurs during slaughtering.

Furthermore, we expressly point out that we do not assume any liability for damages attributable to the following causes:

- not observing the information provided in this operating manual at all or to the necessary extent
- non-intended use
- unsuitable or improper handling
- using spare parts or parts which have not been approved by FREUND Maschinenfabrik GmbH & Co. KG
- changing functions or materials without prior approval
- operating the machine incorrectly or operation by unqualified personnel
- safety devices being removed or manipulated
- cleaning the machine incorrectly or unprofessionally
- chemical or mechanical overloads
- maintenance and repair work not being carried out according to instructions or maintenance intervals not being adhered to

Modifications and/or adjustments to the machine are possible in certain cases. In these cases, prior written approval must be obtained from FREUND Maschinenfabrik GmbH & Co. KG - subsequently referred to as FREUND Maschinenfabrik.

1.3 Storing the operating manual

This operating manual is part of the machine and must be accessible at all times to the operating, maintenance and cleaning staff during the entire service life of the machine.

Therefore, always keep the operating manual near the machine's place of use.

1.4 Warning notes

While you are using the machine, dangers may occur in certain situations or as a result of certain behaviours.

In this operating manual, warning information is given at the start of the respective chapter or life phase that involves danger of personal injury or property damage. It relates to all following actions of the chapter or life phase.

The precautions described must be observed to avoid the danger.

Structure of a warning note



Signal word!

Type and source of the imminent danger.

Possible consequences of the danger.

➢ Measures to avoid the danger.

Signal word	Meaning
DANGER	indicates an imminently hazardous situation which, if not avoided, will result in danger to life or death.
WARNING	indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.
Caution	indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
Attention	indicates a potentially hazardous situation which, if not avoided, could result in damage to machine or environment.

1.5 Symbols and layout elements

1.5.1 Layout elements

- Enumerations

➢ Individual, independent instruction step
Result arising from the instruction step

1. Step-by-step sequences in a specific order
2. The numbers indicate that the instruction steps follow each other
3. *Result arising from the instruction steps*

→ References to another chapter

Important additional information or special details regarding the use of the machine

Embedded warning note - shows type and source of the danger and the measure to avoid the danger

1.5.2 Safety signs

Warning signs



Warning of a danger point
Caution! At this point there is an increased danger to your safety.



Warning of substances harmful to health and irritants
The information on the packaging and containers must be observed. Keep separate from food.



Warning of suspended load
Danger to the body from falling loads or machines.



Warning of hot water or steam
Danger to the hands and fingers from hot water or steam suddenly escaping.

Mandatory signs



Wear protective gloves

protect the hands against friction, abrasions, and cuts:

- during the changing of sharp or cutting tools,
- during cleaning,
- while touching hot surfaces.



Wear safety spectacles

protect the eyes against flying parts, fragments and squirting liquids:

- during operation,
- while the machine is cleaned.



Wear hearing protection

protect hearing during operation of the machine.



Wear safety shoes or rubber boots

protect the feet against crushing, falling objects and guarantee secure support:

- during operation,
- while the machine is cleaned.



Wear a hair net or use a blade guard

protect long hair against entanglement in the machine.



Wear a protective apron

protects the body against humidity, blood and other fluids.



Wear head protection

protect the head against injuries from contact with oscillating objects and machines and during work beneath suspended loads.



Pull out the power plug

disconnect the machine from the mains power supply before all servicing, maintenance and cleaning work.

1.5.3 Symbols



Comply with the operating manual

Be sure to observe the information and notes in the operating manual.



Separate spare **parts list available**

There is a separate spare parts list for this spare part.



Assembly manual available There is an extra assembly manual for this spare part. In the assembly manual, work steps and required tools are shown.

EN



Available as a set

The symbol indicates an article in a set. In a set, multiple related spare parts are available together. A plate clarifies which parts are included.



Part of a spare parts kit

This spare part is part of a spare parts kit, in which parts identified through experience as requiring replacement or being subject to wear are combined.



Tool set available

To install this spare part, a special tool is required which can be ordered from us.

2 **The order of the work steps is marked with numbers in the grey field.**



Lubrication

Information about the amount and properties of the lubricant can be found in the operating manual.



Glue

Parts must be glued; information about the type and properties of the glue can be found in the operating manual.



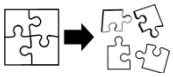
Cleaning

Instruction for an additional cleaning step.

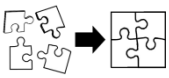


Power plug

symbolises the connection of the machine to the power network.



Disassembly of the machine or component



Assembly of the machine or component

symbolises the assembly of the machine after prior disassembly, carry out work steps in the reverse order.

2 For your Safety

This chapter describes the safety measures and safety devices. It serves for your orientation regarding safety questions about the use of the machine.

Safety instructions are intended to provide occupational safety and prevent accidents. Observe all the safety instructions provided here and at the beginning of each chapter.

Be sure to read the following chapter on safety and the safety instructions contained within carefully before commissioning and using the machine.

2.1 Site operator's responsibilities

In accordance with the rules and regulations of the German DGUV Regel 110-008, the site operator may only allow insured persons who are over 18 years old and are familiar with the equipment and the handling of the equipment to operate slaughter equipment.

Young people over 16 years may be employed only if this is required as part of their vocational training and if they have read and understood the safety information. Their safety must be ensured by a supervisor.

Operating staff

The site operator, as a higher level legal person, is responsible that the machine is used in accordance with its intended use and is responsible for training and for assigning authorized and qualified operating, maintenance and cleaning staff.

The site operator is obliged to ensure that each employee is properly trained in the operation of the machine.

Staff undergoing training may only work at the machine under the supervision of properly qualified staff.

Competent personnel

Only persons possessing the necessary knowledge and skills (expertise) may look after, restrain, stun, slaughter or kill animals.

The site operator ensures that the activities within the framework of slaughtering are only carried out by persons possessing a relevant certificate of expertise.

Instruction of staff

The operator is obliged to instruct employees regularly and in light of certain events (e.g. if an accident has occurred) in safe work procedures and occupational safety and health. We recommend that the instruction and the content covered should be documented by the employee's signature.

Risk assessment

The site operator must inform operators of possible dangers, symptoms and preventative measures. Relevant occupational safety conditions have to be complied with.

Ensure eye and ear protection is worn at all times when operating the machine.

Back-up equipment
The site operator shall ensure that during stunning operations appropriate back-up equipment is immediately available on the slaughtering point and is used in the case of failure of the stunning equipment initially used. The back-up method may differ from that first used.

Workplace
The workplace must comply with the national and regional hygiene and workplace regulations.

Escape routes
The operator must ensure that sufficient escape routes are available for the staff and that these are clearly marked. The operator must ensure that escape routes are not obstructed and that their function is not impaired (e.g. that doors open towards the escape route).

Cleaning
The operator must ensure that machine and working equipment can be cleaned easily and without any risk. The operator must provide suitable detergents and define suitable cleaning procedures.

Safety of the machine
The site operator must ensure that the machine is only operated and used in perfect and functional condition.

The site operator must ensure that safety devices are regularly serviced and checked for proper function.

2.2 Employee responsibilities

Operating staff
The operating staff must be properly instructed and trained by the operator. Staff who have read and understood the safety information and have been properly familiarised themselves with the operation of the machine can be regarded as instructed.

Operating staff must be familiar with the operating manual and the applicable OHS and accident prevention regulations.

Qualified personnel
A technical expert is a person who, due to technical training and experience, possesses sufficient skills and knowledge.

The technical expert must be familiar with the operating manual and the applicable OHS and accident prevention regulations, as well as the applicable animal welfare laws.

Competent personnel
Competent personnel are such persons who, due to technical training and experience, possess sufficient skills and knowledge.

The technical expert must be familiar with the operating manual and the applicable OHS and accident prevention regulations as well as with the latest regulations of the protection of animals.

Safety at the workplace
Maintain a stable upright position and keep your balance. Avoid awkward postures.

Keep your workplace clean and tidy. Untidy workplaces can cause accidents.

Always wear the personal protective equipment provided.

Keep children, young persons and untrained staff away from the machine.

Emergency procedures
In the case of an accident, administer first aid and call a doctor and emergency medical services.

Notify the operator or his authorised representative of every accident.

Machine safety

Before starting any work, carefully check the machine for proper function in accordance with the intended use.

Do not set the machine into operation if it does not work correctly.

Switch off the machine immediately if it no longer works correctly and have it checked.

Have defective safety devices, switches or other defective machine parts repaired.

Notify the operator or his authorised representative of any changes to the machine which may affect your safety.

2.3 Personal protective equipment

The staff must carry the customary personal protective equipment. The personal protective equipment is dependent on the respective field of work.

The personal protective equipment must be provided by the operator. For hygienic reasons, each employee gets his/her own personal protective equipment.

2.4 Electrical safety in accordance with EN60204-1

All our electrical machinery and equipment is tested for electrical safety prior to commissioning and following modification or repair in our factory by an electrically skilled person in accordance with the electrical engineering rules as per DIN VDE 0701-0702 / EN60204-1. The inspection interval for machinery and equipment that is used in slaughtering and cutting plants is every six months.

2.5 Residual risks

The machine has been built according to the scientific and technological state of the art and complies with the basic occupational health and safety requirements of the European Union.

The machine is operationally safe, assuming compliance with the operating manual, the company-specific instructions and the accident prevention regulations.

However, there are still dangers involved which cannot be eliminated by design measures. These include:

- danger of scalding because of hot water with temperatures higher than 65°C.
- danger of burning on hot surfaces
- risk of injury from negligent handling of personal safety equipment while operating the machine, during maintenance and repair work and during cleaning and disinfection

It should also be noted that, despite all precautionary measures, residual risks may remain which are not evident.

You can minimise these residual risks by observing the safety instructions given at the beginning of the individual chapters and observing the instructions in the entire operating manual.

2.6 Intended use

The Disinfection-Cabinets DES-K01 - DES-K08 are used for the outside cleaning and disinfection of saws and shears during cutting operations in slaughtering and cutting businesses.

The approved machine for each Disinfection-Cabinet is provided in → chapter *Technical Description* on page 16.

Operating the machine within the limits of its intended use also involves:

- observing the safety instructions
- proper execution of repair and maintenance work
- regular cleaning of the machine

Any other use is considered as contrary to the intended use and poses risks to the safety of operating staff.

FREUND Maschinenfabrik does not accept liability for any damage resulting from improper use of the machine.

3 Technical Description

The Disinfection-Cabinets

- are used for the outside cleaning and disinfection of saws and shears during cutting operations in slaughtering and cutting businesses.
- have been designed in accordance with the latest state of the art and are in conformity with the general safety and health requirements applicable in the European Union and FDA-H1 regulations.
- are operationally safe if the operating manual and the regulations imposed in the plant as well as the pertinent accident prevention regulations are observed.

Features

- Housing made of stainless steel
- Low weight
- Ease of installation
- No electrical connections
- Adjustable spray quantity

3.1 Rating Plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:

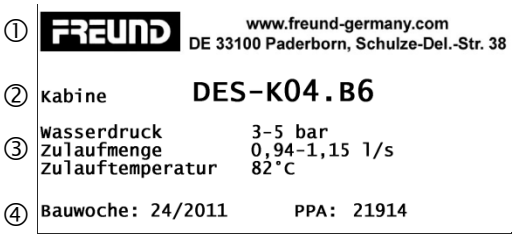


Fig. 3-1

Element	Explanation
1	Company address
2	Machine type and designation
3	Water pressure [bar] Supply [l/sec] Inlet temperature [°C]
4	Year of manufacture of the machine Production order number

3.2 Disinfection-Cabinet DES-K01

3.2.1 Intended use

The Disinfection-Cabinet DES-K01 is only intended for the outside cleaning and disinfection of the following machines:

- BBH30-03
- BBST30-13
- K18-13
- HDS15
- FNS9P
- FNS9
- FS5

3.2.2 Technical data

Weight	ca. 25 kg / 55 lbs
Dimensions (L x W x H)	416 x 250 x 995 mm / 16 x 10 x 39 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3 – 5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0.63 l/s 5 bar: 0.77 l/s

3.2.3 Rating plate

The rating plate is attached to the machine and shows the machine rating data. The diagram below is an example of the rating plate:



Fig. 3-2

3.2.4 General view

The following illustration shows the standard version of the Disinfection-Cabinet DES-K01.

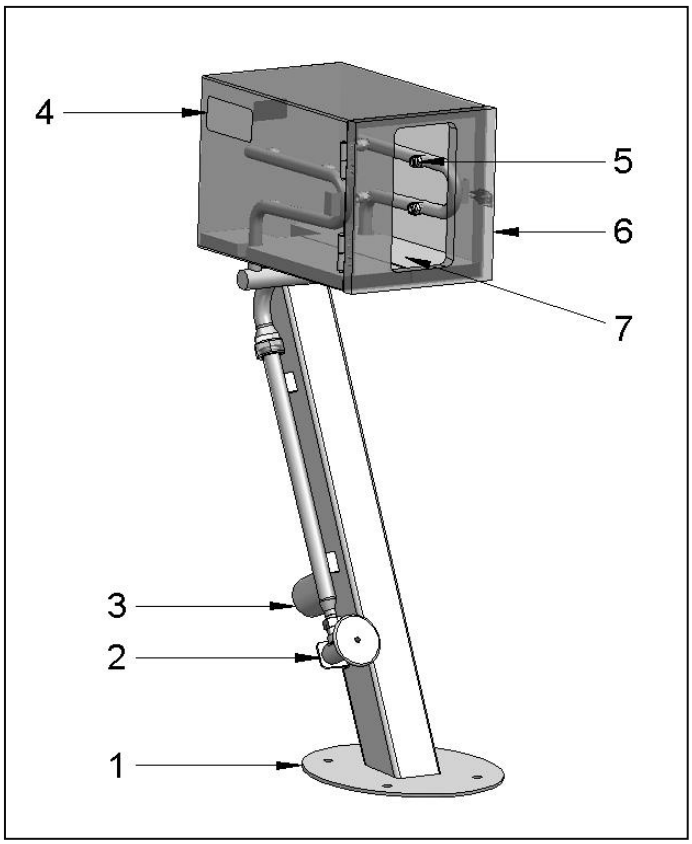


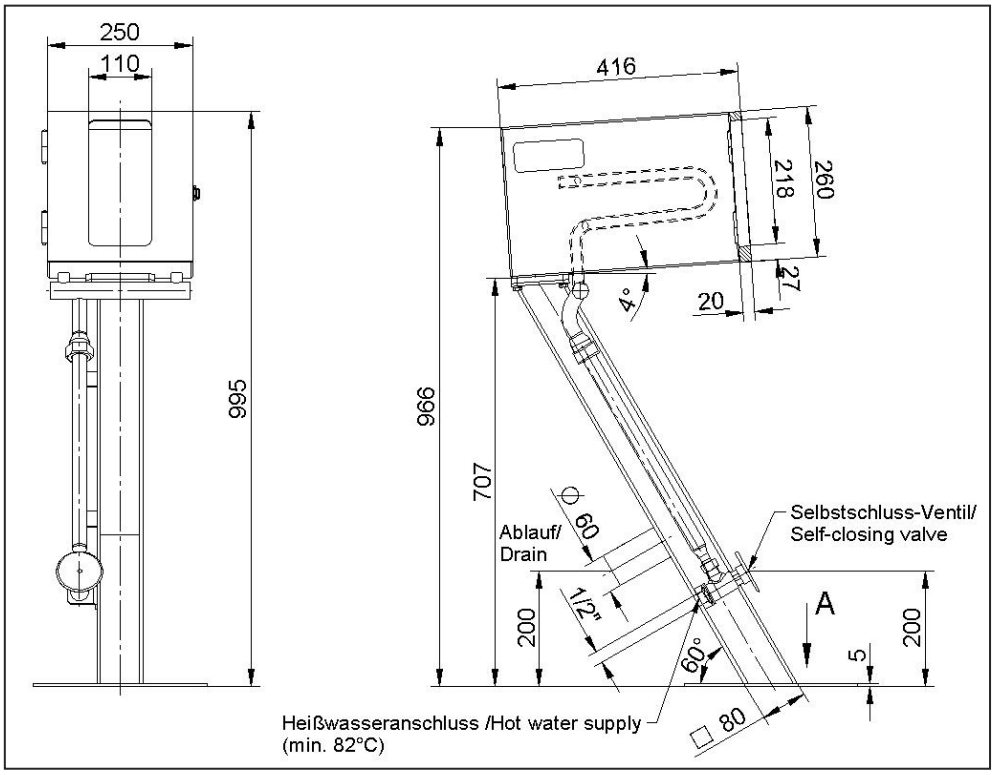
Fig. 3-3

Element	Designation
1	Foot plate
2	Water connection
3	Water outlet
4	Rating plate
5	Water tube with 8 spray nozzles
6	Hinged front plate
7	Removable bottom plate
8	Self-closing valve

3.2.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K01.

All dimensions in mm.



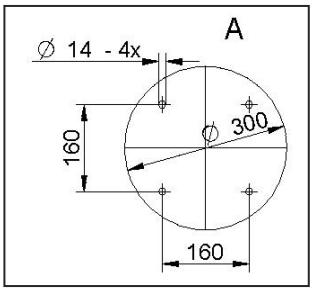


Fig. 3-4

3.3 Disinfection-Cabinet DES-K02

3.3.1 Intended use

The Disinfection-Cabinet DES-K02 is only intended for the outside cleaning and disinfection of the following machines:

- K23-03
- K23-03L
- BBK23-03
- PFK23-03
- K28-03
- K28-03L
- BBKM25-03
- SK28-03L
- K28-06
- K23-06
- BBK28-06D
- HBK28-06
- K32-06
- SK32-06L
- HLS12
- LS15
- HZ10
- HZ7

3.3.2 Technical ata

Weight	ca. 45 kg / 100 lbs.
Dimensions (L x W x H)	835 x 420 x 1270 mm / 33 x 17 x 50 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3 – 5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0.94 l/s 5 bar: 1.15 l/s

3.3.3 Rating plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:



Fig. 3-5

3.3.4 General view

The following illustration shows the standard version of the Disinfection-Cabinet DES-K02.

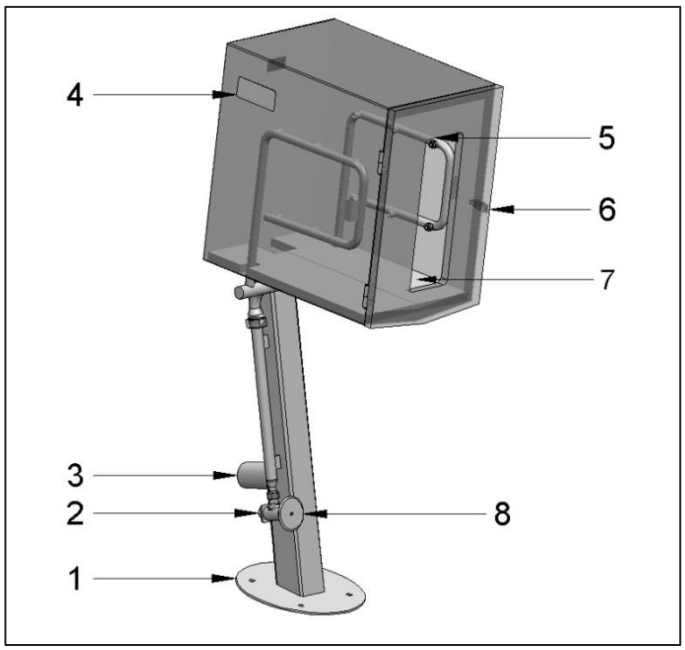


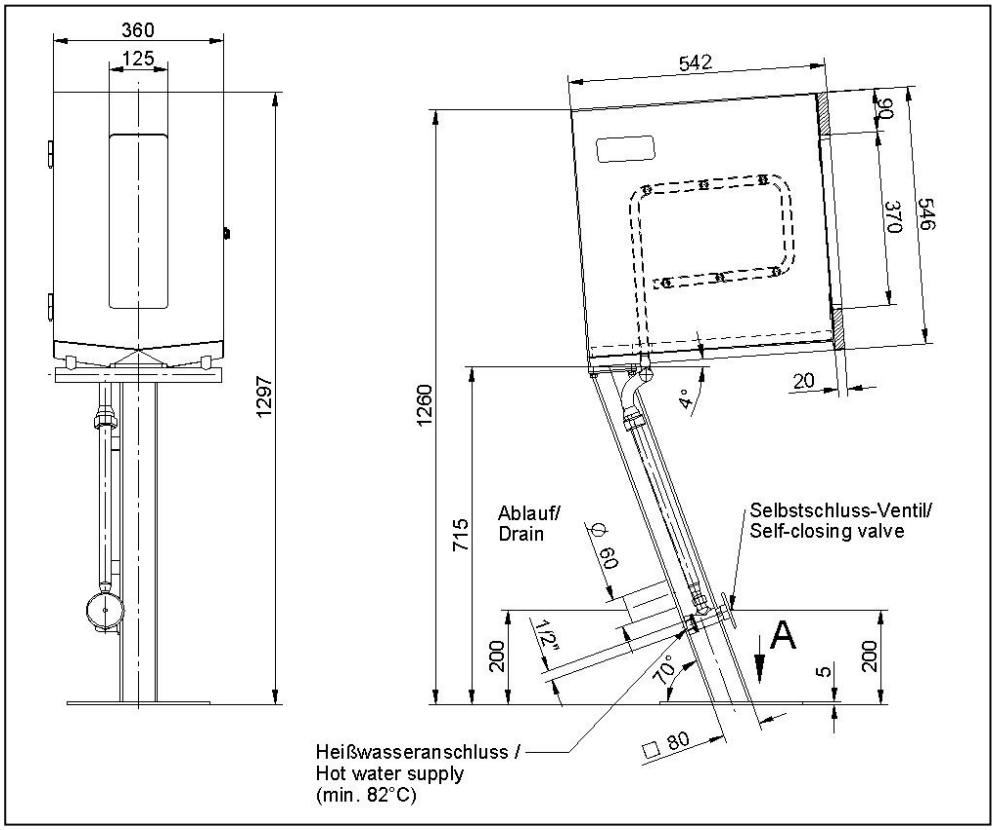
Fig. 3-6

Element	Designation
1	Foot plate
2	Water connection
3	Water outlet
4	Rating plate
5	Water tube with 12 spray nozzles
6	Hinged front plate
7	Removable bottom plates
8	Self-closing valve

3.3.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K02.

All dimensions in mm.



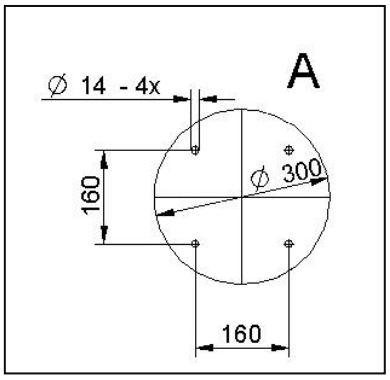


Fig. 3-7

3.4 Disinfection-Cabinet DES-K03

3.4.1 Intended use

The Disinfection-Cabinet DES-K03 is only intended for the outside cleaning and disinfection of the following machines:

- SH60-03
- SST50-13
- ST40-13

3.4.2 Technical data

Weight	ca. 40 kg / 88 lbs.
Dimensions (L x W x H)	730 x 250 x 1050 mm / 28 x 9 x 41 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3 – 5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0.94 l/sec 5 bar: 1.15 l/sec

3.4.3 Rating Plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:



Fig. 3-8

3.4.4 General View

The following illustration shows the standard version of the Disinfection-Cabinet DES-K03.

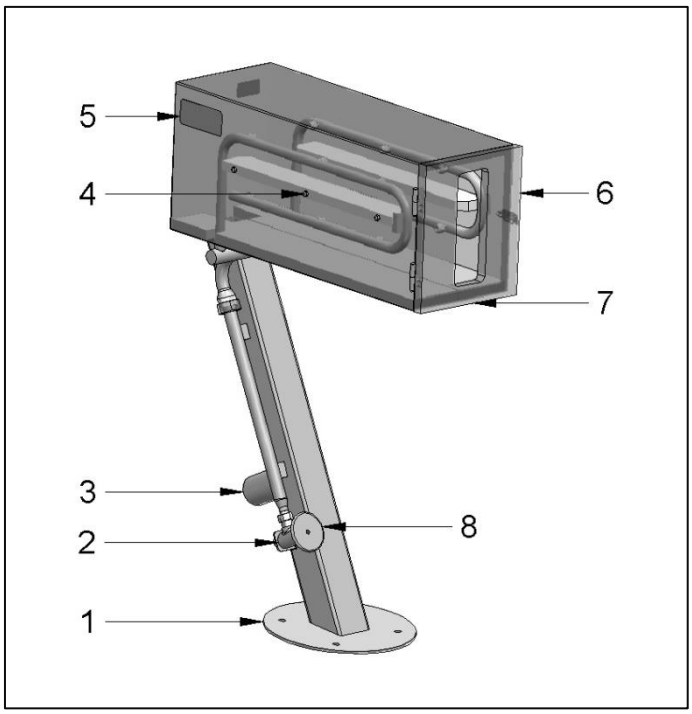


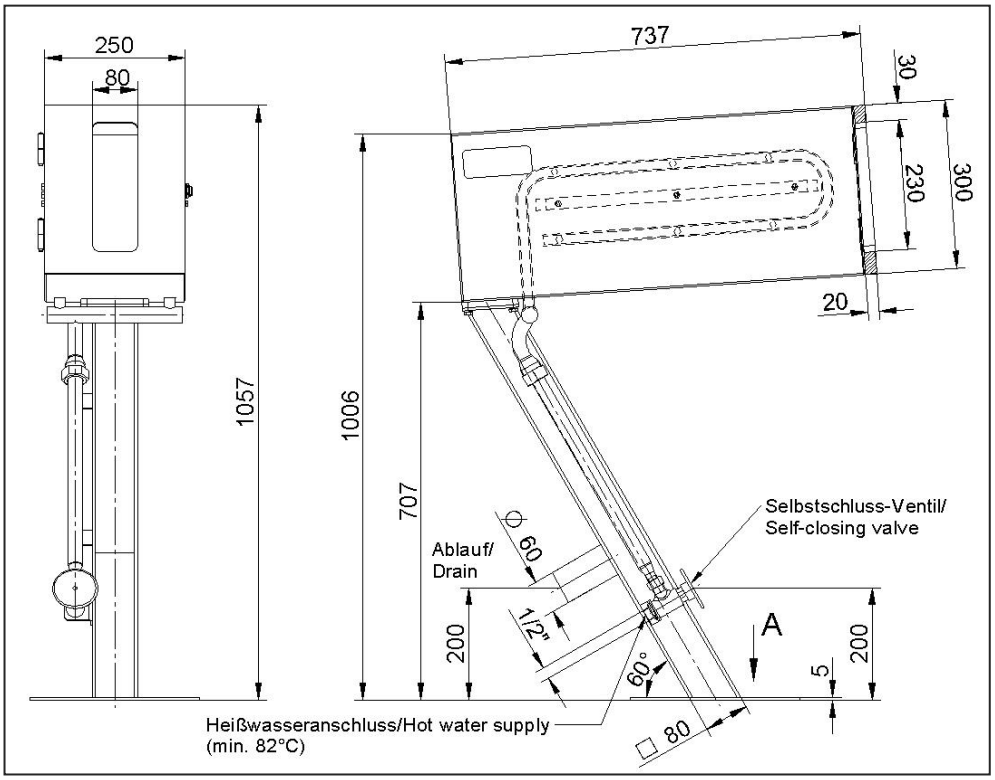
Fig. 3-9

Element	Designation
1	Foot plate
2	Water connection
3	Water outlet
4	Water tube with 12 spray nozzles
5	Rating plate
6	Hinged front plate
7	Removable bottom plates
8	Self-closing valve

3.4.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K03.

All dimensions in mm.



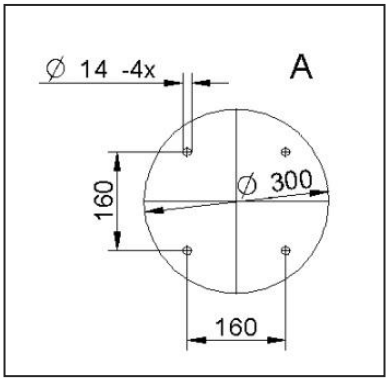


Fig. 3-10

3.5 Disinfection-Cabinet DES-K04

3.5.1 Intended use

The Disinfection-Cabinet DES-K04 is intended only for the outside cleaning and disinfection of the following band saw machines:

- SB46-08
- SB50-08
- SB49-08

3.5.2 Technical data

Weight	ca. 69 kg / 152 lbs.
Dimensions (L x W x H)	1340 x 400 x 1360 mm / 53 x 16 x 54 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3 – 5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0.93 l/sec 5 bar: 1.15 l/sec

3.5.3 Rating plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:

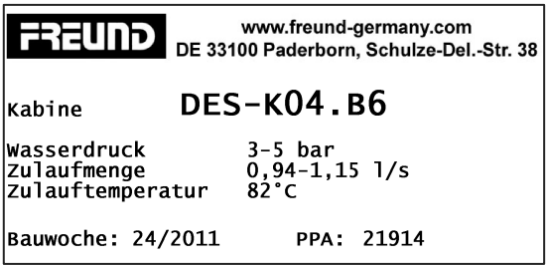


Fig. 3-11

3.5.4 General view

The following illustration shows the standard version of the Disinfection-Cabinet DES-K04.

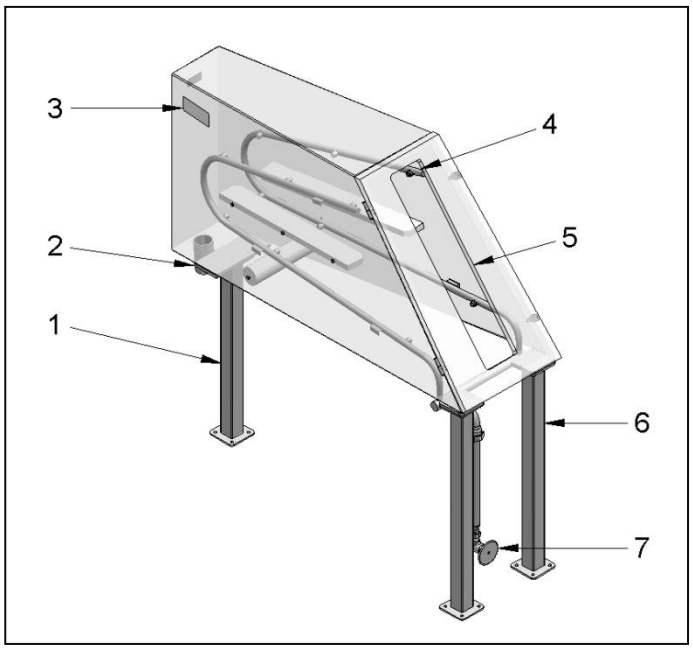


Fig. 3-12

Element	Designation
1	Rear leg (shorter) with foot plate
2	Water outlet
3	Rating plate
4	Water tube with 12 spray nozzles
5	Hinged front plate
6	Front legs (longer) with foot plate
7	Self-closing valve

3.5.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K04.

All dimensions in mm.

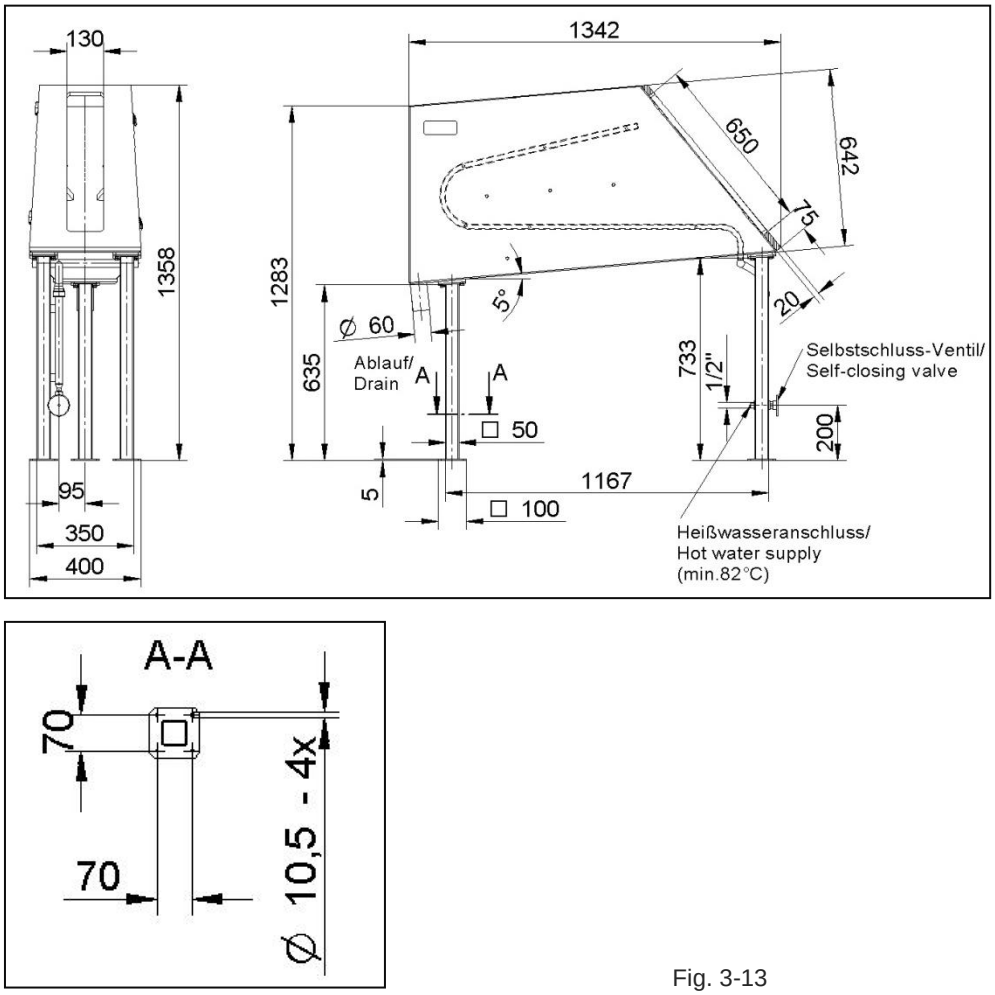


Fig. 3-13

3.6 Disinfection-Cabinet DES-K05

3.6.1 Intended use

The Disinfection-Cabinet DES-K05 is only intended for the outside cleaning and disinfection of FREUND shears for horizontal operation:

- NS21
- NS26
- LS15
- AS28

3.6.2 Technical data

Weight	ca. 35 kg / 77 lbs
Dimensions (L x W x H)	500 x 440 x 1070 mm / 20 x 17 x 42 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3 – 5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0.93 l/sec 5 bar: 1.15 l/sec

3.6.3 Rating plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:

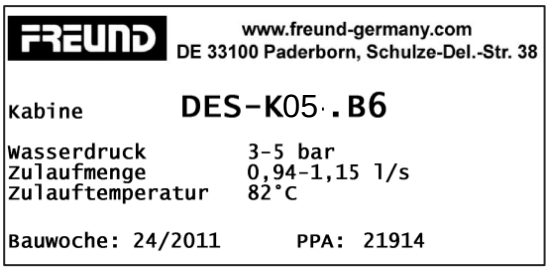


Fig. 3-14

3.6.4 General view

The following illustration shows the standard version of the Disinfection-Cabinet DES-K05.

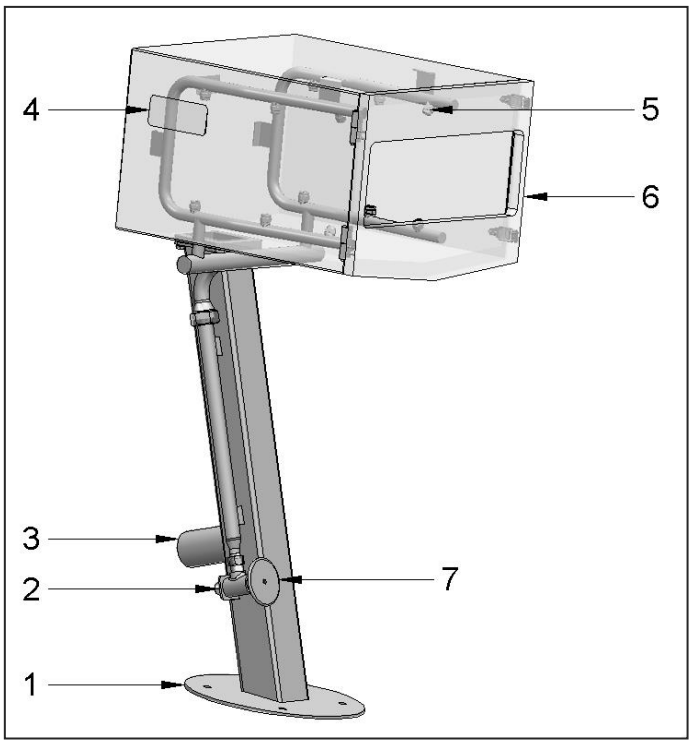


Fig. 3-15

Element	Designation
1	Foot plate
2	Water connection
3	Water outlet
4	Rating plate
5	Water tube with 12 spray nozzles
6	Hinged front plate
7	Self-closing valve

3.6.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K05.

All dimensions in mm.

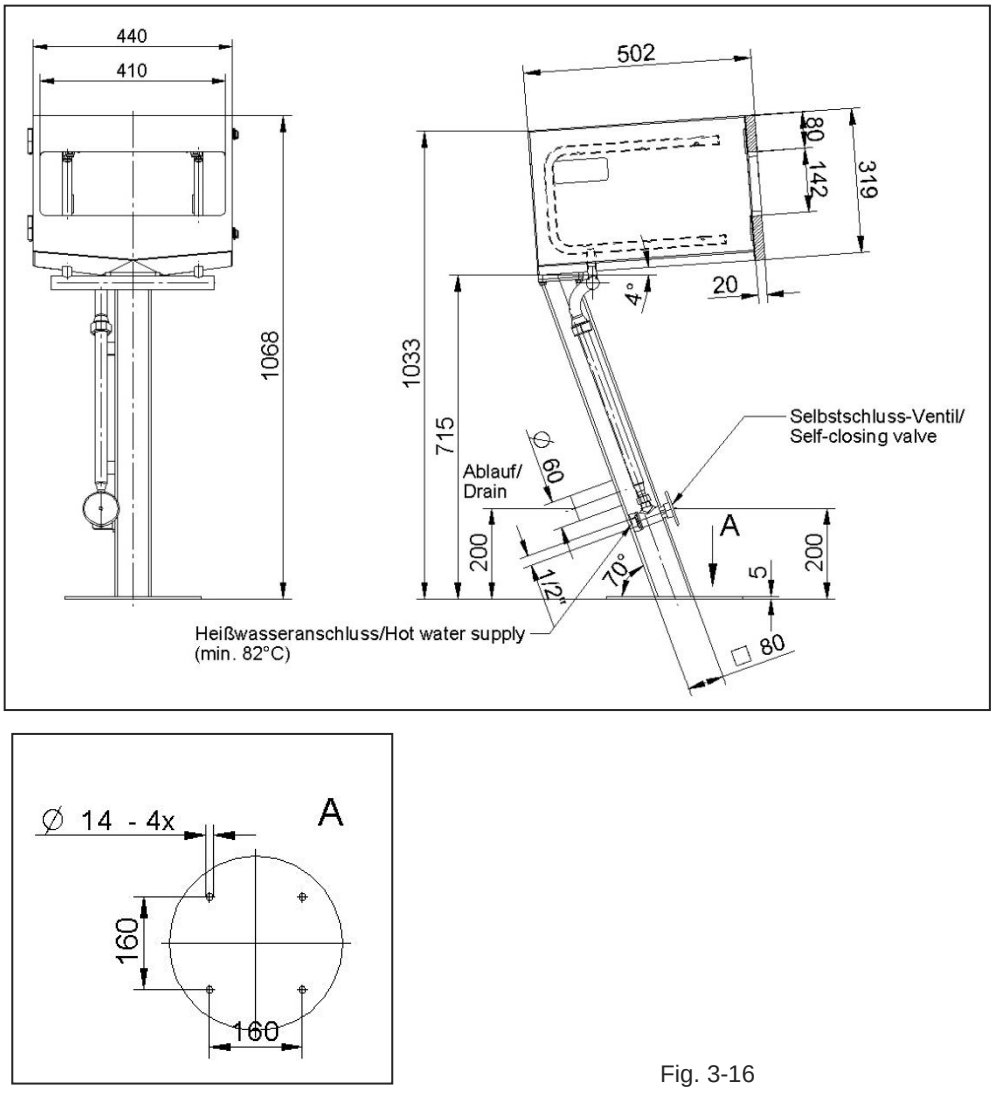


Fig. 3-16

3.7 Disinfection-Cabinet DES-K06-ROD

3.7.1 Intended use

The Disinfection-Cabinet DES-K06-ROD is intended for the outside cleaning and disinfection of rodding tools.

3.8 Technical data

Weight	16kg
Height	365 x 229 x 884 mm
Hot water inlet	R ½ "
Drain connector	2 "
Water pressure	4 - 7 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	0,2 – 0,3 l/s

3.9 Rating plate

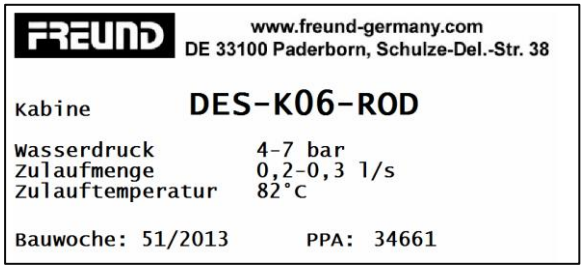


Fig. 3-17

3.9.1 General overview

The following illustration shows the standard version of the Disinfection-Cabinet DES-K06-ROD.

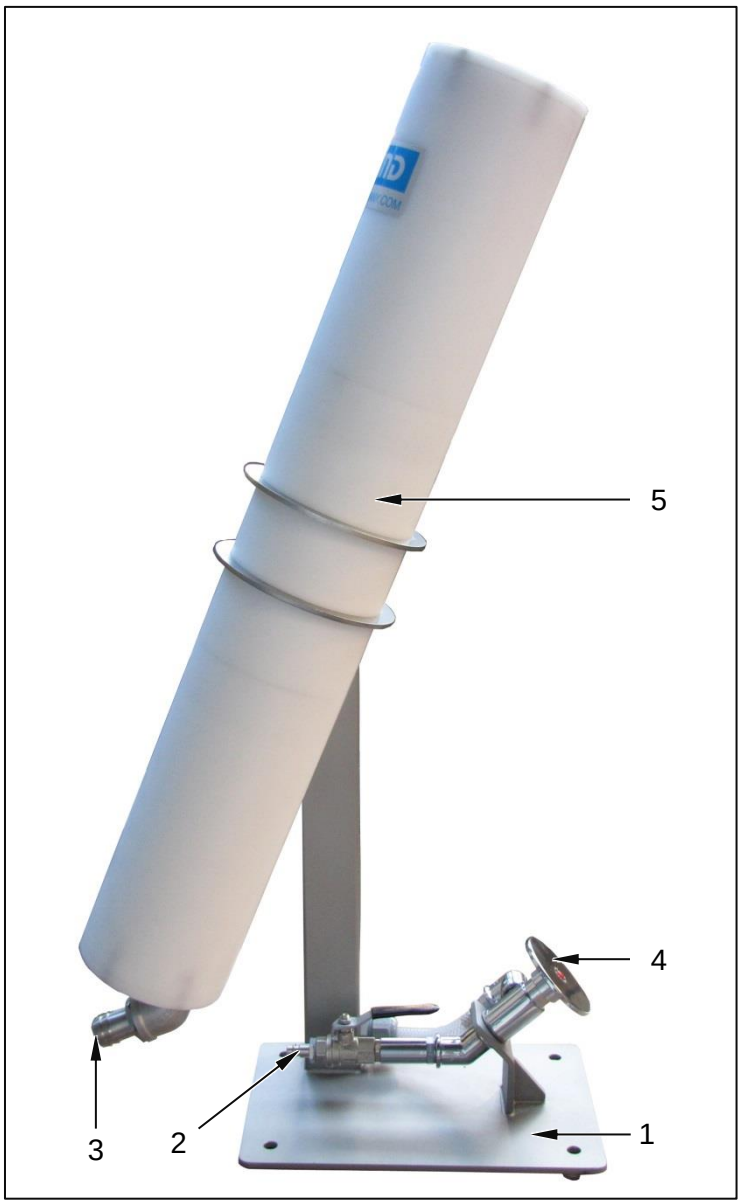


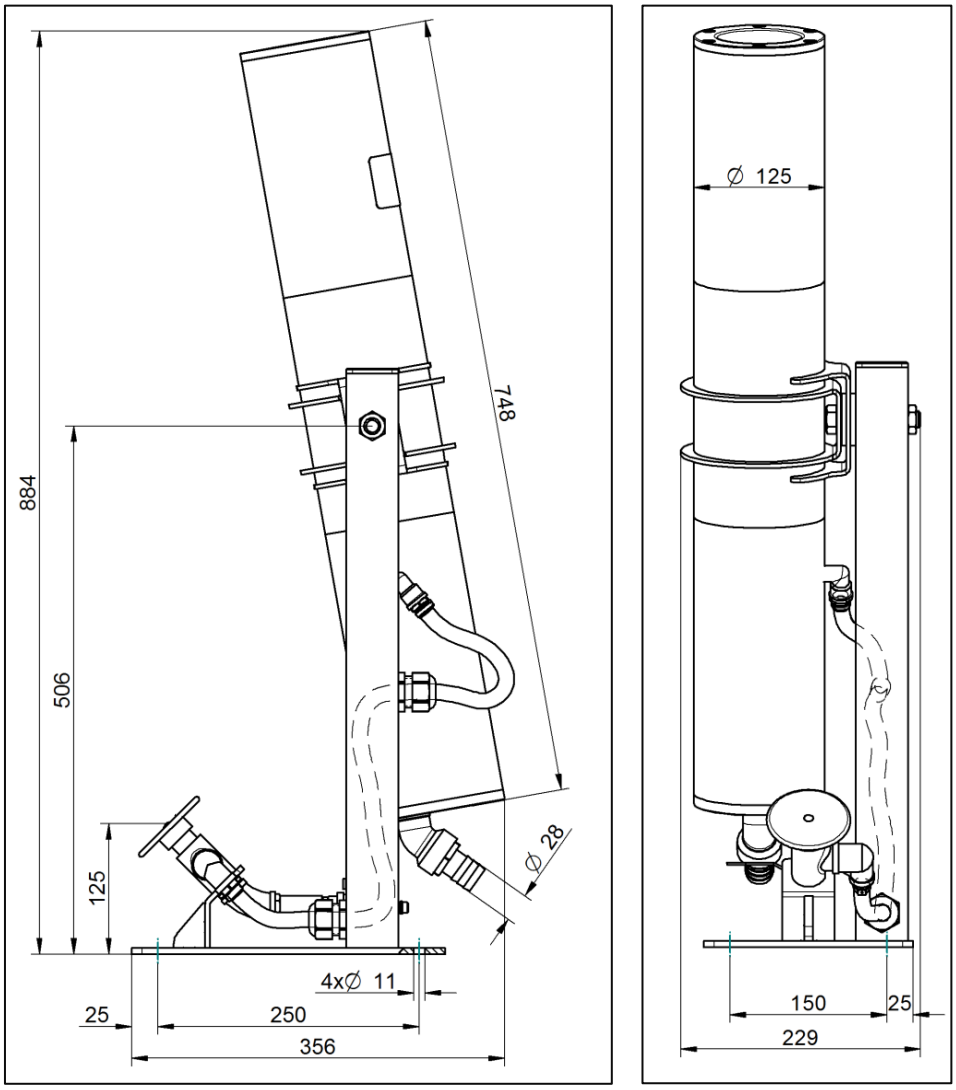
Fig. 3-1

Element	Designation
1	Baseplate
2	Water connection
3	Outflow
4	Self-closing valve
5	Outside tube

3.9.2 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K06-ROD.

All dimensions in mm.



Base plate

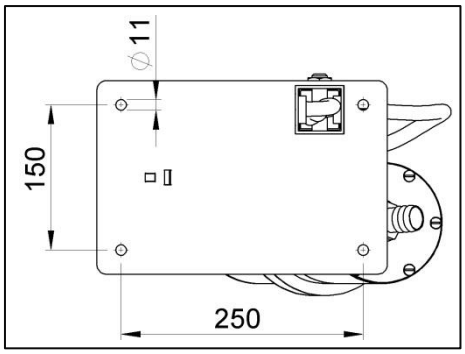


Fig. 3-2

3.10 Disinfection-Cabinet DES-K07

3.10.1 Intended use

The Disinfection-Cabinet DES-K07 is only intended for the outside cleaning and disinfection of the following machines:

- HBK33-08
- SK40-08L
- SK52-08L

3.10.2 Technical data

Dimensions (L x W x H)	800 x 215 x 1380 mm / 31 x 9 x 54 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3 – 5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0.93 l/sec 5 bar: 1.15 l/sec

3.10.3 Rating plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:

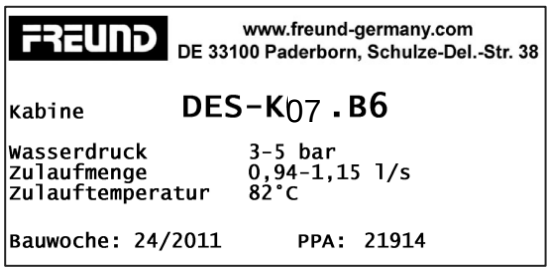


Fig. 3-18

3.10.4 General view

The following illustration shows the standard version of the Disinfection-Cabinet DES-K07.

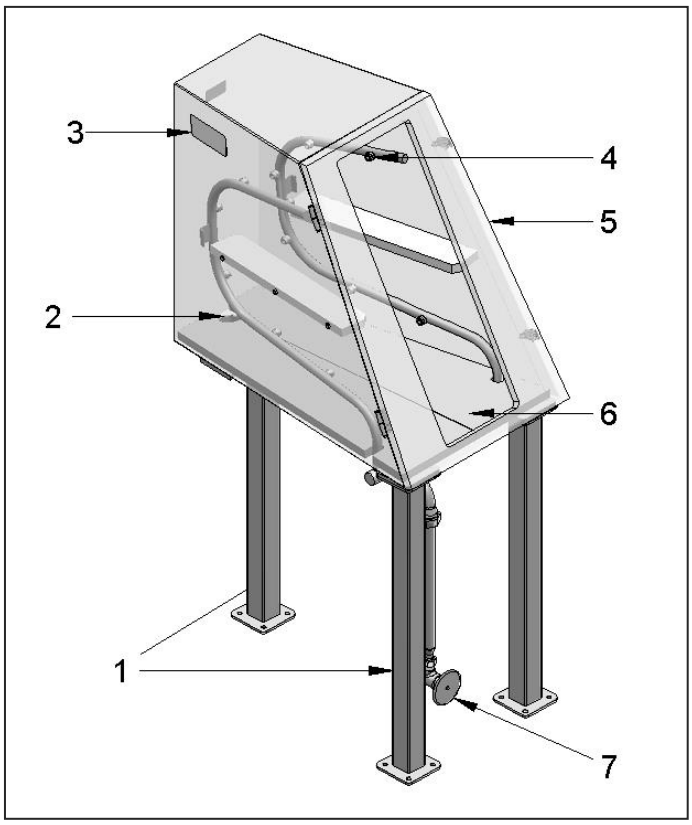


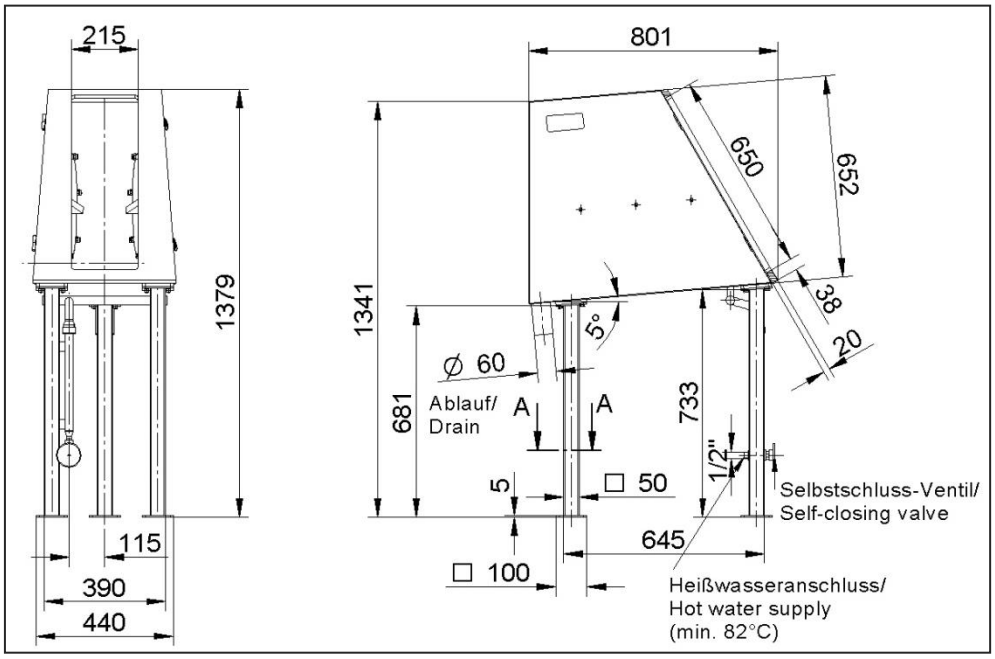
Fig. 3-

Element	Designation
1	Legs with foot plate
2	Water outlet
3	Rating plate
4	Water tube with 12 spray nozzles
5	Hinged front plate
6	Removable bottom plates
7	Self-closing valve and water connection

3.10.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K07.

All dimensions in mm.



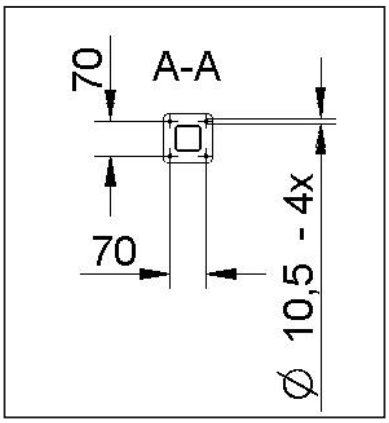


Fig. 3-19

3.11 Disinfection-Cabinet DES-K08

3.11.1 Intended use

The Disinfection-Cabinet DES-K08 is only intended for the outside cleaning and disinfection of the FREUND-Horn-Guillotine HG12.

3.11.2 Technical data

Weight	ca. 35 kg / 77 lbs.
Dimensions (L x W x H)	660 x 360 x 1170 mm / 26 x 14 x 41 inch
Hot water inlet	R ½ "
Drain connector D	2 "
Water pressure	3–5 bar
Water supply	82 °C
Water consumption (depending on the supply pipe pressure)	3 bar: 0,18 l/sec 5 bar: 0,22 l/sec

3.11.3 Rating plate

The rating plate is attached to the Disinfection-Cabinet and shows the machine rating data.

The diagram below is an example of the rating plate:

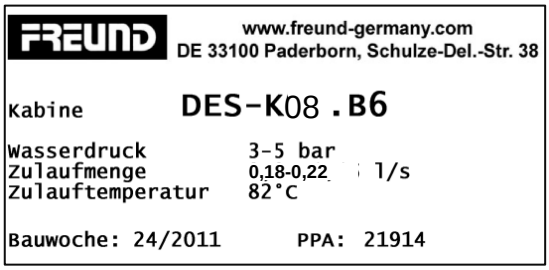


Fig. 3-20

3.11.4 General view

The following illustration shows the standard version of the Disinfection-Cabinet DES-K08.

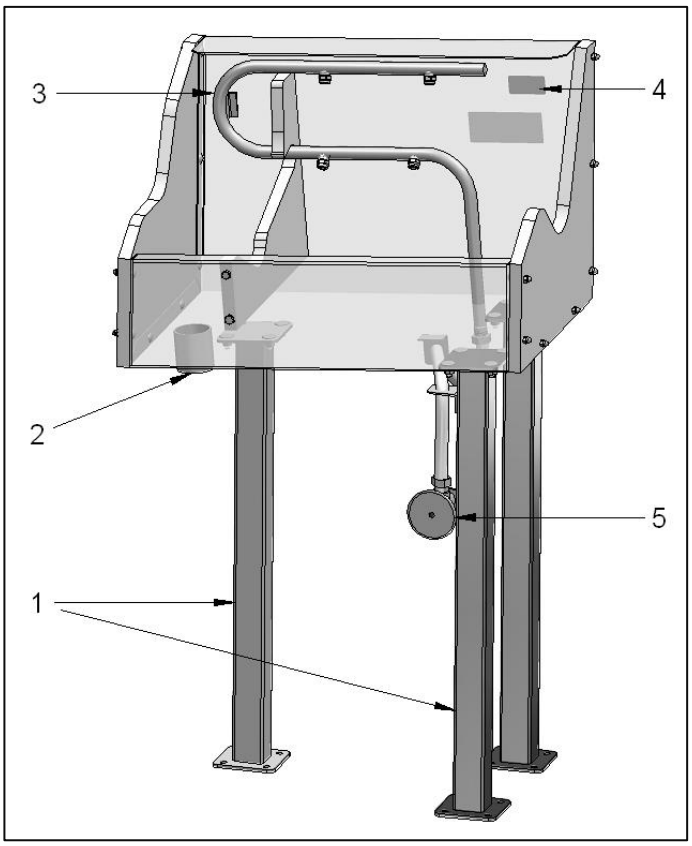


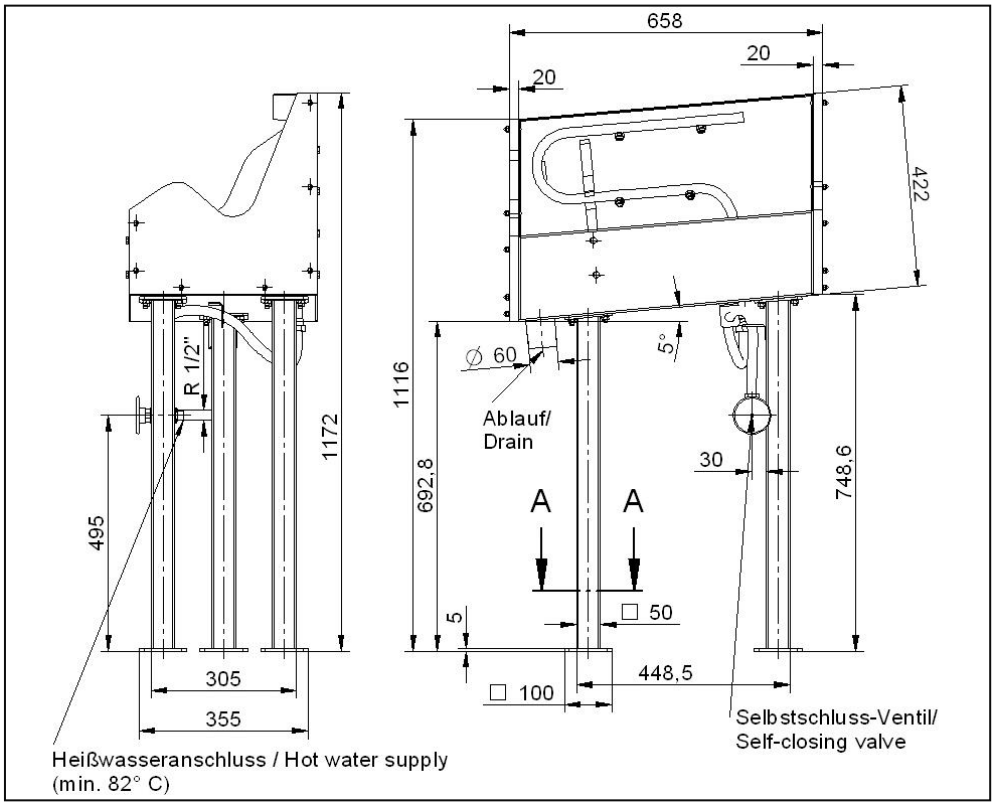
Fig. 21

Element	Designation
1	Rear leg
2	Water outlet
3	Water tube with 12 spray nozzles
4	Rating plate
5	Self-closing valve

3.11.5 Dimensions

The following diagrams provide an overview of the dimensions of the Disinfection-Cabinet DES-K08.

All dimensions in mm.



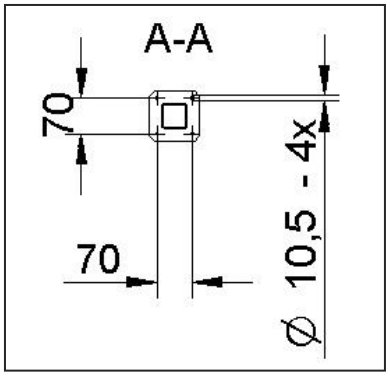


Fig. 22

3.12 Self-closing valve

All FREUND-disinfection cabinets are equipped with self-closing valves.

The valve is operated with the foot or knee. After the pre-flow rate, the valve closes automatically and recoil-free.

Technical data	
Minimum flow pressure	3 bar
Pressure difference TW / TWW ΔP	< 1 bar
Recommended pressure	3 – 7 bar
Max. temperature TWW	82 °C
Tap hole	21 – 34 mm

4 Transport und Storage

FREUND-machines are intended for shipment via motor truck, train, aircraft, or ship. The secure shipment will be separately or in multiple packages.

Trial run at manufacturer

The machine has been thoroughly checked before shipping and has already undergone a trial run in the factory. This check ensures that the machine corresponds to the data specified and works correctly.

Despite all the care taken the machine can be damaged in transit.

4.1 Safety information



WARNING!

Danger due to falling or toppling load.

Death or very serious injuries are possible.

- Only use approved lifting gear and accessories appropriate for the total weight of the machine.
- Never stand under a suspended load.
- Secure the danger zone against unauthorized access.
- Wear a hard hat, protective footwear and gloves.

4.2 Personal protective equipment



4.3 Transporting the machine

All FREUND-machines can be transported using a fork-lift truck or lift truck. The length of the fork must at least correspond to the depth of the machine.

- Only use lifting equipment and gear that has been approved for the weight of the machine. This includes transporting using a crane, fork-lift truck or lift truck.

  For the weight of the machine refer to → chapter *Technical data* on page 17.

- Secure the machine during transport to prevent it from tilting and slipping.

- Only use ropes and lifting appliances which ensure sufficient safety and load bearing capacity.

4.4 Unpacking the machine

After unpacking, the machine is ready for use.

Recycling and disposal

The original packaging of the machine is made of recyclable material and can be given to the system for collecting recyclables.

For details about recycling and disposal of the package refer to the → chapter *Disposal and Recycling* on page 57.

- Remove all packing materials and dispose of it properly and in an environmentally sound manner.
- Remove any accumulated condensate.
- Check the machine for transport damage.
- Watch the machine during the first hours of operation to check whether any malfunctions occur.

4.5 Storing the machine

To store the machine safely, be sure to observe the following notes:

- Only store the machine in dry and frost-free rooms.
- When storing the machine for a longer period, make sure it is dry.
- Store the machine so that damage to the machine is excluded.
- Protect the machine against corrosion.

5 Installation and Commissioning

The installation and connection of the machine is made by the operator.

For damages, which result from this, the manufacturer FREUND Maschinenfabrik, is not liable.

5.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- ➢ The machine may only be installed and commissioned by instructed and authorized personnel.



Caution!

Hot water with temperatures higher than 65 °C.

Scalding hazard.

- ➢ Never reach into the machine during the sanitation process.
- ➢ Before starting any work or cleaning disconnect the machine from the hot water supply.
- ➢ Always wear your personal protective equipment.

5.2 Personal protective equipment



5.3 Connecting the machine

5.3.1 DES-K01, DES-K02, DES-K03 and DES-K05

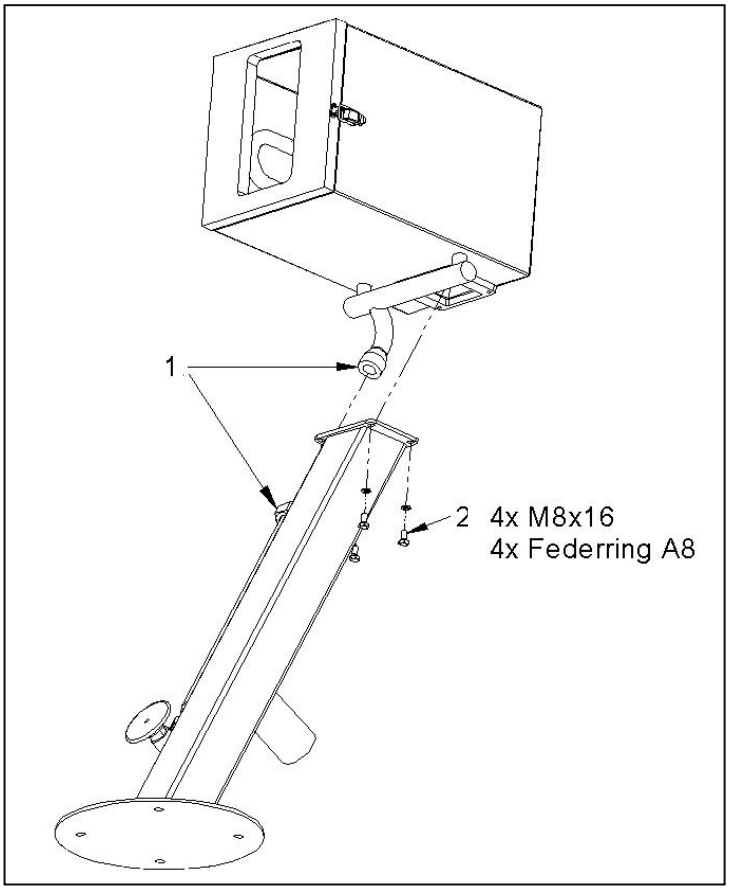


Fig. 5-1

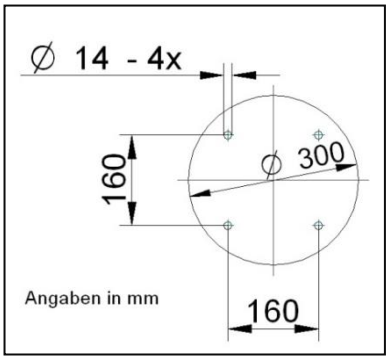


Fig. 5-2

1. Firmly screw the water tube (1) together (Fig. 5-1).
2. Screw the bottom part of the machine to the top part of the machine using the 4 screws (2) supplied (Fig. 5-1).
3. Screw the foot plate of the machine firmly to the ground.
   The foot plate has four holes for this purpose (Fig. 5-2).
4. Connect the machine to the hot water supply.
   The hot water connection must ensure a temperature of 82 °C in the machine.

5. Check the water pressure.
   The water pressure must not exceed 6 bar.
6. Carry out a test run.

5.3.2 DES-K04, DES-K07 and DES-K08

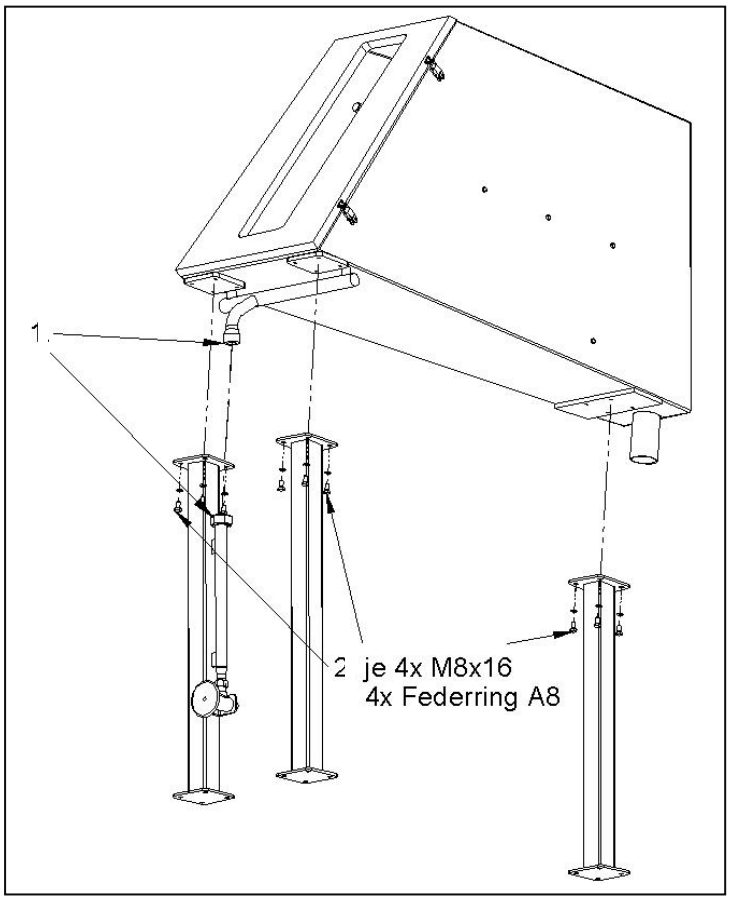


Fig. 5-3

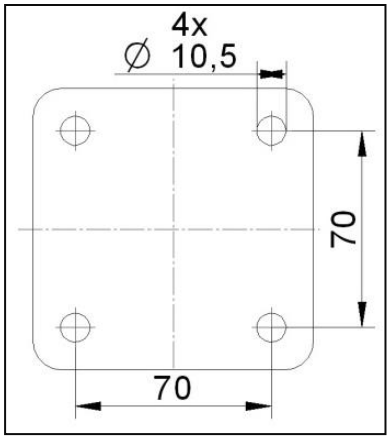


Fig. 5-4

1. Firmly screw the water tube (1) together (Fig. 5-3).
2. Screw the three legs to the top part of the machine using the screws (2) supplied (Fig. 5-3).
   Note that the legs have different lengths.

3. Screw the foot plate of the machine firmly to the ground.
   The foot plates of the legs have four holes each for this purpose (Fig. 5-4).
4. Connect the machine to the hot water supply.
   The hot water connection must ensure a temperature of 82 °C in the Disinfection-Cabinet.
5. Check the water pressure.
   The water pressure must not exceed 6 bar.
6. Carry out a test run.

5.3.3 DES-K06-ROD

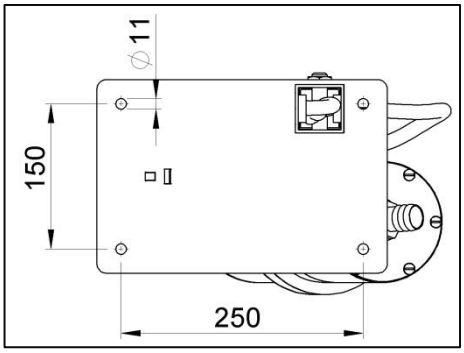


Fig. 5-5

1. Screw the foot plate firmly to the ground.
   The foot plate has four holes each for this purpose (Fig. 5-4).
2. Connect the machine to the hot water supply.
   The hot water connection must ensure a temperature of 82 °C in the machine
3. Check the water pressure.
   The water pressure must be in the range of 3 – 6 bar.
4. Carry out a test run.

6 Operating

Only clean and disinfect machines for which the Disinfection-Cabinet has been approved.

6.1 Safety information

WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained, repaired and cleaned by qualified personnel.

Caution!

Hot water with temperatures higher than 65 °C.

Scalding hazard.

- Never reach into the machine during the sanitation process.
- Before starting any work or cleaning disconnect the machine from the hot water supply.
- Always wear your personal protective equipment.

6.2 protective equipment



6.3 Safety check before starting work

- Check the Disinfection-Cabinet and the connecting pipe for outer damage.
- Check that the inside of the Disinfection-Cabinet is clean.

6.4 Operating the Disinfection-Cabinet

Clean your machine before starting any work and after finishing work as well as after every sawing operation.

1. Switch off the machine after finishing cutting work.
2. Insert the machine into the Disinfection-Cabinet from the front.
3. Press the self-closing valve.
   The hot water flows into the spray nozzles.
   The disinfection cycle starts. After the pre-set amount of water has been supplied, water supply stops automatically.
4. Remove the machine from the Disinfection-Cabinet.
   The machine has been disinfected and is ready for use again.

7 Cleaning and Disinfection

Cleaning is carried out in order to remove dirt, meat and fat particles from the machine.

For hygienic reasons, the machine must be thoroughly cleaned at least daily after each shift, and in between in case of heavy soiling. All surfaces must be visually clean after cleaning.

Always take note of the safety instructions in the product data sheets issued for the relevant detergents or disinfectants.

WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained, repaired and cleaned by qualified personnel.

WARNING!

Highly irritant or corrosive detergents and disinfectants.

Breathing difficulties and other health damage is possible.

- Always take note of the hazardous substance symbols and the safety data sheets issued for the relevant detergent or disinfectants.
- Wear the personal protective equipment specified by the manufacturer of the detergents and disinfectants.

7.1 Personal protective equipment



7.2 Carrying out cleaning and disinfection

- Only use detergents and disinfectants approved for the food industry.
- Always take note of the safety symbols and the safety and product data sheets issued for the relevant detergents or disinfectants.
- Store detergents and disinfectants separately or in a special room.

  Make absolute sure those detergents and disinfectants do not come in contact with food.

Notice!

Damage due to high water pressure.

High water pressures will cause damage to seals and machine parts.

- ➢ Do not use high-pressure cleaners.
- ➢ Only work at water pressures of less ≤ 6 bar.

- ➢ Wear the personal protective equipment specified by the manufacturer of the detergent.
- ➢ Only use cloths, brushes or other devices which are only used for cleaning.

Notice!

Damage due to high water pressure.

High water pressures will cause damage to seals and machine parts.

- ➢ Do not use high-pressure cleaners.
- ➢ Only work at water pressures of less ≤ 6 bar.

Work steps	Detergents and disinfectants	Auxiliary materials
		
Rough cleaning		
Removing product residue	Drinking water	Plastic scraper, brush
Removing small parts and assembly parts	Drinking water	Plastic scraper, brush; dishwasher if necessary
Intermediate rinsing		
	Drinking water, max. 60°C depending on fat melting temperature Low-pressure device, spray bottle	
Main cleaning		
Apply foam, allow to act for approx. 15 minutes	2 – 4% Somplex grease solvent 2 – 3% Ecolab P3-topax 19 2 – 3% Ecolab P3-topax 66 Ecolab P3-steril Powerfoam	Spray bottle, brush, tub, clean damp cleaning cloths
Rinse	Drinking water, max. 60°C	Low-pressure device, spray bottle
Check that machine is visibly clean		

Work steps	Detergents and disinfectants	Auxiliary materials
Acid cleaning*[1] (instead of main cleaning)		
Apply foam, allow to act for approx. 15 minutes	3 – 6% P3-topax 56 3 P3-riskan, Somplex foam, acidic	Spray bottle, brush for removing limescale deposits
Rinse	Drinking water at 50 – 60°C	Low-pressure device, water hose
Check that machine is visibly clean		
Intermediate rinsing		
	Drinking water, max. 60°C Low-pressure device, spray bottle	
Disinfection*[2]		
Spray, apply foam Allow to act as per product data sheet Solution temperature approx. 15°C	1 – 2% Ecolab P3-topax 99 0.5 – 2% Ecolab P3-topax 91 1% TEGOL 2000 1% TEGOL IMC 1% Somplex	Spray bottle, spray gun, clean damp cloth
Final rinsing		
	Drinking water, max. 60°C depending on fat melting temperature Low-pressure device, spray bottle	
Check		
that machine is visibly clean; repeat cleaning and/or disinfection if necessary		
Drying		
Rub dry or allow to dry in ambient air; allow disassembled parts to dry individually if possible		
Care		
Apply	Preservative oil, food grade oil	Spray bottle, clean cleaning cloth
Assembly		
Personnel must wash and disinfect hands		

* 1 For materials sensitive to acids such as POM, PMMA (acrylates) and cast materials, we recommend limiting acid cleaning to around 1x every 2 to 6 weeks.

* 2 The surfaces should, after cleaning and disinfection, simply be dried and protected from oxidation by a suitable preservative film.

8 Maintenance and Repair Work

To ensure a long service life and low wear, the machine must be regularly checked and maintained.

The work area on the workbench must be clean and free from foreign material for all maintenance or dismantling work.

Repair and maintenance must only be carried out by skilled and authorized qualified personnel.

Warranty

If faults or defects are detected on the machine during the legal warranty period, contact our sales staff. Please refer to the company information at the imprint for address and telephone numbers.

Only use original spare parts or spare parts recommended by FREUND Maschinenfabrik.

8.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

➢ The machine may only be maintained, repaired and cleaned by qualified personnel.

8.2 Personal protective equipment



8.3 Setting the flow rate for the self-closing valve

Never lubricate the self-closing valve mechanism from the inside.

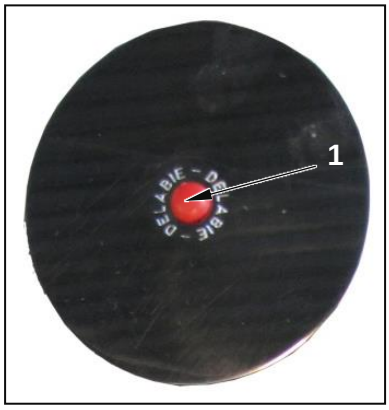


Fig. 8-1

You can set the flow for the self-closing valve between 3 and 12 litres. It is possible to change the flow rate without shutting off the water or removing the mechanism.

To change the flow rate you need a 3 mm hex. key.

1. Remove the cap (1).
2. Set the flow rate on the actuating knob using the hex key.
   - Clockwise: the flow rate increases.
   - Counterclockwise: the flow rate reduces.
3. Replace the cap (1).
4. Check the water flow.
   When the pressure cap is pressed, some drops of water can escape.

9 Troubleshooting

If malfunction or faults occur during the operation, you can look for possible causes and remedies in this chapter.

If you do not find the malfunction or fault of your machine in the following table, contact our sales staff. Please refer to the company information at the imprint for address and telephone numbers or on our website *www.freund-germany.com.*

9.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained, repaired and cleaned by qualified personnel.

9.2 Personal protective equipment



9.3 Overview of possible faults

Fault	Possible cause	remedy
No water flow.	Shut-off device is closed.	Open the shut-off device.
	Self-closing valve (valve) is defective.	Replace the self-closing valve.
	Scale build-up on the spray nozzles in the unit.	Replace the spray nozzles.
		Install a water softening system if necessary
Flow time too long and/or constant water flow.	Lip seal or O-ring in the valve soiled and/or defective.	Check and clean the lip seal and/or the O-ring in the valve.
		Replace the defective part if required.

Fault	Possible cause	remedy
Flow time too long and/or constant water flow.	Valve housing soiled.	Clean the valve housing from the inside with a dry cloth.
		Clean the calibrated groove in the valve using a non-metallic pointed object.
	Flow rate setting not correct.	Check the flow rate settings.
Water quantity too low.	O-ring in the valve is soiled and/or defective.	Clean the O-ring in the valve.
		Replace the O-ring in the valve if required.
	Supply pressure is too low.	Check the supply pressure.
	Shut-off device is not completely open.	Open the shut-off device.

10 Disposal and Recycling

The machine must be disposed of in accordance with the pertinent national regulations.

10.1 Disassembling and disposing of the machine



Old machines contain recoverable materials which you can return for recycling.

When disposing of the machine, make sure to observe local environmental regulations.

1. Disconnect the machine from the power supply and/or the compressed air supply.
2. Disconnect all electrical connections and supply lines from the machine.
3. Completely disassemble the machine.
4. On oil-lubricated machines, drain all the oil from the machine and remove filter elements, if fitted.
5. Completely degrease the machine.
6. Dispose of waste oil and components and materials soiled with oil in accordance with the applicable environmental regulations.
7. Segregate all materials.
8. Send the individual materials to the appropriate recycling or disposal facilities.
9. Send hazardous waste to a local hazardous waste site.

10.2 Disposing packaging material



All packaging materials used by FREUND Maschinenfabrik are environmentally friendly and can be recycled.

You can safely dispose of the packaging materials through your local waste collection system or return them for recycling.

More Information

For more information about our packaging materials and their disposal please contact our sales staff.

Please refer to the company information in the imprint for the address and telephone numbers.