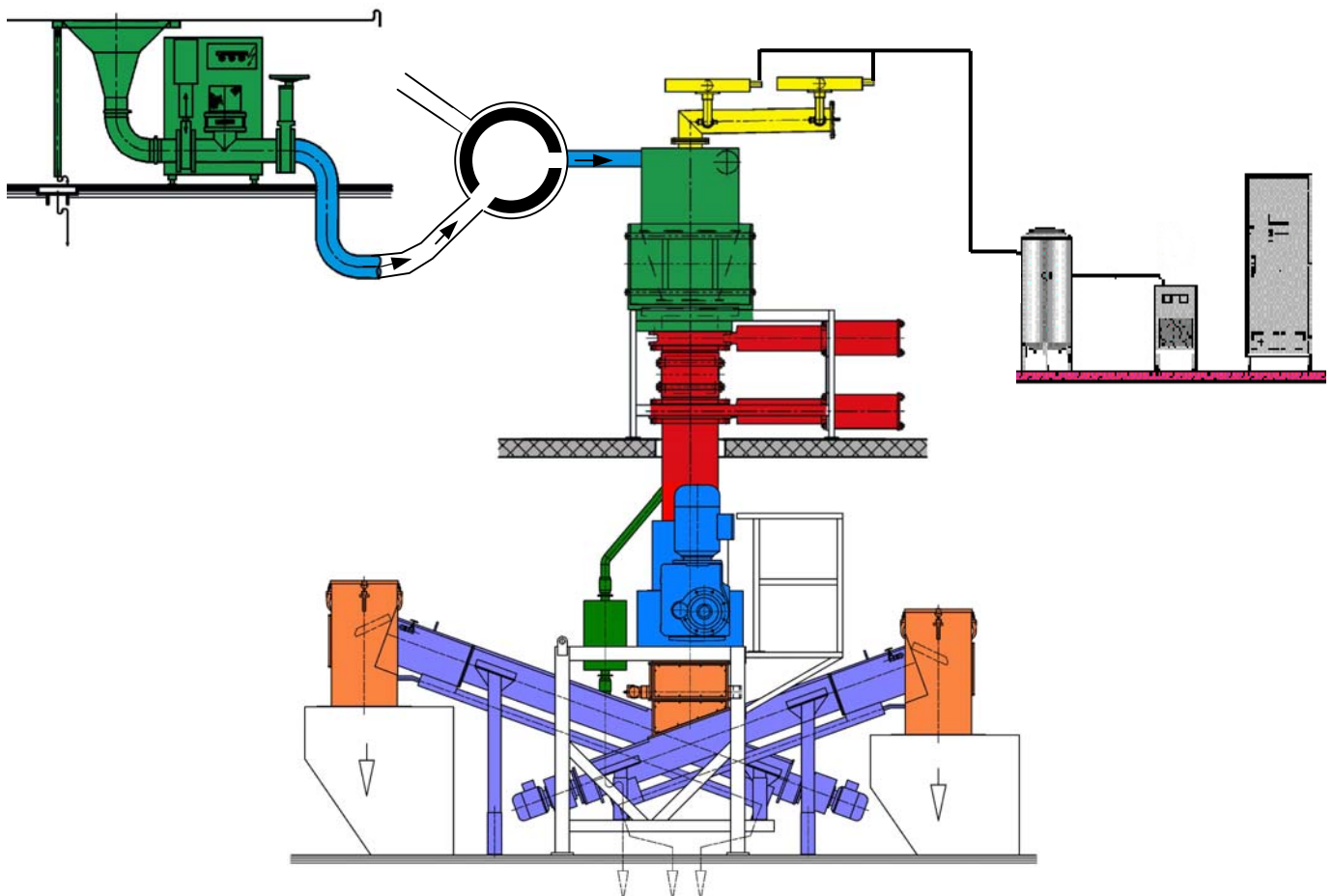


Operating Instructions

for the MEIKO – waste disposal system for organic kitchen waste

Model: WasteStar



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1 Introduction and general information

Dear Client,
We are delighted about your confidence in our products.

It is very important to us that you obtain a great deal of pleasure and usefulness from MEIKO products and that they make your work easier.

If you follow the instructions in this document carefully, your WasteStar will always give you total satisfaction and will have a long service life.

The WasteStar has been assembled by us at the plant and has undergone a close inspection. This gives us the certainty and you the guarantee that you will receive a product that has been fully prepared for use.

We would therefore like to ask you to read these operating instructions carefully before using the installation.

These operating instructions inform users of this installation about

- operating methods
- use
- safety instructions, and
- servicing.

The information will help you to get to know the installation fully and to use it properly. It will also enable you to avoid of repairs and the resulting loss of productive work.

In case of damage due to the non-observation of the operating instructions, guarantee claims become invalid. We accept no liability for any additional damage caused as a result.

MEIKO is constantly working on the further development of all models.

We would therefore ask you to understand that because of this, we must reserve the right to make modifications at any time to items covered by the contract in terms of shape, fittings and technical characteristics.

No claims may therefore be derived from the details, the images, or the descriptions contained in these operating instructions.

Should you require further information, or in case particular problems not dealt with in great detail in the operating instructions arise, you may contact the relevant MEIKO branch to obtain the information you require.

We would also like to inform you that the contents of the instructions do not form part of or amend any earlier or existing agreement, statement, or legal position.

All MEIKO's liabilities result from the present purchase contract, which contains the entire and solely valid guarantee rules.

These contractual guarantee rules shall be neither extended nor limited as a result of explanations given in the instructions.

You will receive all this technical documentation free of charge.
Further copies may be made available against the payment of a fee.

The MEIKO Company very much hopes that you will enjoy our product and use it successfully.



1.1 Storage

Always store the operating instructions close to the installation!
The instructions for use must always be kept within easy reach!

1.2 Name and address of the manufacturer

Please address any queries, technical problems etc. directly to:

MEIKO Maschinenbau GmbH & Co.

p. o. 2040
D - 77652 OFFENBURG
Germany
Phone + 49 781 / 203-0
Fax + 49 781 / 203-1174

or:

Name and address of the MEIKO branch, manufacturer's agency or dealer.

(Insert company stamp or address)

1.3 Installation model description

Please give the following information in all cases of queries and/or spare parts orders:

Installation model: Food Waste Vacuum Transportsystem
WasteStar

Contract no.: _____

Installation construction year: _____

2 Explanation of the safety symbols used

The following safety symbols will appear throughout these operating instructions. The purpose of these symbols is to draw the reader's attention to the text of the adjacent safety information.



ATTENTION!

This symbol warns that there is danger to the life and to the health of persons.



DANGER!

This symbol warns that there is danger to the installation, to material, or to the environment.



This symbol denotes information that helps you to understand the performance of the installation.



Warning of dangerous electrical current!



Items which must not be disposed of in the wet waste installation!

3 Delivery, shipping, installation and assembly

3.1 Delivery

Check that the delivery is complete immediately after receiving it by comparing it to the MEIKO contract confirmation and/or to the delivery note.

If necessary, claim missing parts immediately from the delivering shipping company and notify the MEIKO Company.

Check the entire installation for any damage that may have occurred during shipping.

In case of any suspicion of damage during shipping, you should inform:

- the shipping company,
- the MEIKO Company

in writing, and you should also send a photo of the damaged parts to the MEIKO company.



3.2 Shipping

In order to avoid life-threatening injuries during the shipping of the installation, the following points must be observed:



- Shipping work may only be carried out by qualified persons who observe the safety instructions.
- In order to ensure safe shipping, the installation parts are standing on a special four-edged wooden frame.
- Please also read the chapter on "General safety instructions".

3.3 Installation and assembly

In accordance with your wishes and suggestions, MEIKO has drawn up an assembly diagram, see appendix no. 5.

The installation and assembly of the installation should be carried out in accordance with this assembly diagram.

The WasteStar installation may only be installed by suitably qualified personnel in the place foreseen in the assembly diagram.

Should you wish to install the installation yourself, we would ask you to request extensive and detailed installation instructions.



The connection of the installation may o n l y be carried out by suitably qualified personnel.

We accept no liability for connections carried out by unqualified personnel.

3.4 Instructions for the removal of packaging material

- The four-edged wooden frame consisting of untreated, raw pine / spruce wood can be used as firewood or by D.I.Y. enthusiasts as building wood.
- The plastic sheeting (PE sheeting) may be recycled.
- The cardboard packaging material used to protect the edges can also be recycled.
- The steel tightening strap made of steel hoop may be recycled with steel scrap.

4 Use in accordance with regulations



This WasteStar installation is only intended to be used for the disposal of organic kitchen waste in crushed form, and no other use is permitted.

Should the WasteStar installation not be used in accordance with this regulation, the safe operation of the installation is not guaranteed!



The operator of the installation, and not the manufacturer, is responsible for liabilities arising from the use of the WasteStar installation in any manner that is not in accordance with the regulations!

Inadmissible components in the wet waste disposal plant

The following articles have not to be disposed in the wet waste disposal



Wood, glass, china, cutlery synthetic materials, cloths, textiles, dry waste, anorganic waste, paper, cardboard packaging, aluminium, metal parts, beer mats, strings, wires, stones, flower decoration, serviettes, disposable crockery, vegetables packed in foil, big bones, max. length 80 mm, big scraps of wet waste, max. 80 x 80 x 80 mm

Accumulation of similar waste

such as orange skins, banana skins and lemon skins, pineapples, coffee grounds, bones, crustacea, eggshells, etc..

5 General safety instructions

5.1 Operator's duty of care

The WasteStar installation has been constructed and built in accordance with carefully selected applicable harmonized standards as well as with further technical specifications. It therefore corresponds to the latest technology and is guaranteed to provide maximum safety.

This safety can only be achieved in practice, however, if all the necessary measures are taken. The operator of the installation has a duty of care to ensure that these measures are scheduled, and also to check that they are correctly executed.

After the WasteStar has been installed, put into service and handed over to the customer/operator, no modifications (electrical or the installation location, for example) may be made. Modifications to the WasteStar installation, in particular technical modifications carried out without the manufacturer's written authorization, or any modifications carried out by unauthorized persons, will lead to the complete loss of guarantee claims and will invalidate any liability for the product.

The operator must in particular ensure that....

... the WasteStar installation is only used in accordance with the regulations. Should it be used in any other way, damage or danger may occur for which we accept no liability (see the chapter on "Use in accordance with regulations").

... in order to preserve the operational and safety guarantees, should the need for them arise, only original parts supplied by the manufacturer are used.

The user will lose the right to any possible claims if the appliance is modified using any parts other than original parts.

... only suitably qualified and authorized personnel use, maintain, and repair the installation.



**ATTENTION!**

... this personnel is regularly trained in all questions relating to safety at work and environmental protection, and in particular that they are familiar with the operating instructions as well as with the safety information given in them.

**ATTENTION!**

... the installation is only operated in a perfect, operationally efficient state, and in particular that safety devices are regularly checked for operational efficiency.

**ATTENTION!**

Main switch !

If the main switch is in the OFF position, the operation of the switch must be blocked !

**ATTENTION!**

...the required personal protective equipment is made available to maintenance and repair personnel, and is worn by them.

**ATTENTION!**

...the operating instructions are always kept in a legible and complete state at the place where the installation is installed, and are always available.

**ATTENTION!**

...all safety, warning and operating instructions provided are not removed and are legible.

**ATTENTION!**

... technical documentation annexed relating to integrated products from other manufacturers (operating instructions, maintenance instructions etc.) is always observed.

5.2 Basic safety measures

5.2.1 Basic safety measures during normal operation

The installation may only be operated by trained and authorized persons who are familiar with the operating instructions and who are able to work in accordance with them!

Before switching the installation on, check and ensure that

- only authorized persons are present in the installation work area

**ATTENTION!**

Before putting into operation each time

- check the installation for visible damage and ensure that it will only be operated in a perfect state!
report any shortcomings to the superior immediately!
- remove any materials or objects not required for the operation of the installation from the installation work area!
- check and ensure that all safety equipment is functioning perfectly!

5.2.2 Basic safety measures during maintenance and servicing

Observe the maintenance periods prescribed in the operating instructions!

Observe the maintenance instructions given in these operating instructions for individual components:

Before carrying out maintenance or repair work, prohibit access to the work area to unauthorized persons! Provide or display a sign drawing attention to the maintenance or repair work!

Before carrying out maintenance and repair work, switch off the electrical power at the main electrical power switch.

Before carrying out maintenance and repair work, ensure that all parts of the machine that may be touched have cooled down to room temperature!

Carefully remove any lubricating, cooling or cleaning products that could harm the environment!



The following warning signs must be strictly observed :

Compressed air - manual - stop valve !

The manual stop valve must be closed during servicing of the valves on the infeed unit.

Important: Return the valve to the ON position for operation!

Manual repair stop valve !

The manual stop valve must be completely closed during servicing of the valves on the infeed unit.

Important: After completion of servicing the manual valve must be re-opened completely!

Inspection cover !

If the inspection cover is removed the main switch must be in the "OFF" position!

Infeed unit = without electric power !

5.2.3 Working on electrical equipment



Repair work and repairs to the power supply on the installation's electrical equipment may only be carried out by a qualified electrical technician in accordance with VDE 0106, paragraph 3.2.1!

Check electrical equipment regularly!

Tighten up any loose connections!

Replace any damaged leads/cables immediately!

Always keep the switch cupboards closed! Access is only allowed to qualified persons with key/tool!

Electrical parts, switch cupboards and other electrical equipment housings may not be sprayed using a water hose or high-pressure cleaner.
(EN 60 335 and Accident Prevention Regulations-APR)

5.2.4 Before putting into operation following maintenance or repair work



ATTENTION!

Before putting into operation following maintenance or repair work,

- check the tightness of any screws that have been loosened!
- ensure that any protective screens or accident prevention fittings have been re-installed!

Following the completion of maintenance or repair work and before the WasteStar installation is put back into service, ensure that

- all materials, tools and other equipment necessary for carrying out maintenance and repair work have been removed from the work area.
- any fluids that may have escaped have been removed.
- all the installation's safety devices are functioning perfectly!

5.2.5 Observe environmental protection regulations

Legal obligations relating to the avoidance of waste materials and to their use/removal in accordance with applicable regulations must be observed!

In particular, during installation, repair and maintenance work, materials that could pollute water such as:

- Grease and oils
- Hydraulic oils
- Coolants
- Cleaning fluids containing solvents

must not pollute the ground or run into the sewerage system! These materials must be stored, shipped, collected and disposed of in suitable containers!

6 Particular types of danger

6.1 Accident prevention at the feeding station - WTSA

The feeding station is constructed in such a way that the sliding valve is at a distance of more than an arm's length from the feeding aperture, thus meaning that no danger is present. When the programme starts, a suction action is produced on the funnel.

The user should therefore not reach into the suction pipe at this time, since waste being sucked in could cause minor injuries.



7 Product description

7.1 Assembling



**ATTENTION!**

7.2 Checking the functioning of safety devices

- before the first time the installation is put into operation,
- before the installation is put into operation following a long period out of use,
- as well as daily – before the beginning of each working period

all safety devices must be checked one after the other to ensure that they are operating perfectly!

**ATTENTION!**

7.3 Putting into operation

In order to avoid damage to the installation and the injury and death of persons when putting the installation into service, the following points must be observed without fail:

- The putting into service of the installation may only be carried out by suitably qualified persons observing the safety instructions.
- Before the first start, check that all tools and parts not belonging to the installation have been removed.
- Activate all safety devices and emergency stop switches before putting the installation into service.
- Please also read the “General safety instructions” chapter.

Instruction and putting into service will be carried out by the fitters who install the installation. The operator may only use the installation after instruction has been given.

7.4 Operation / performance of functions

The collected organic kitchen waste must be put into the feeding funnel designed for this purpose up to a maximum of 2/3 of the height of the feeding funnel. Clean away any waste and clean the crosspiece.

Press the “Start Suction” button on the feeding station control panel, and the suction process will begin if this feeding station is “ready for suction”, otherwise this feeding station will be on standby.

- Ejectors will switch on and produce the pre-set vacuum.
- Sliding valve on the feeding station opens for 5 seconds.
- After 4 seconds, the conveyor ventilation sliding valve opens.
- Waste is extracted through the duct and the three-way valve into the separator and separated from water there.
- 1st sliding valve opens and lets waste into the intermediate reservoir
- 1st sliding valve closes
- the next suction process can now begin, for example on the next stations, which are on standby.
- After the 1st sliding valve has closed, the second 2nd sliding valve opens and the waste falls into the shredder where it is shredded, and then falls into the spiral conveyor.
- The waste is extracted into a second press via the spiral conveyor.
- The presses compress the waste, separate water once again and extract the waste into silos for further incineration.
- When the 1st sliding valve opens the 1st ball valve on the water sluice also becomes active, water goes into the intermediate reservoir ⇒ the first valve closes ⇒ the 2nd valve opens, and the water can then drain away.

7.5 Switching the WasteStar installation on

Via the Norsk Inova switch cupboard

7.6 Short operating instruction

1. As soon as the pilot lamp
"READY FOR OPERATION" is on!



2. Press the white start button
"REQUEST FOR SUCTION"!



HAND STATION



!!!Attention!!!

Inadmissible components in the wet waste disposal plant

The following articles have not to be disposed in the wet waste disposal

- wood
- glass
- china
- cutlery
- synthetic materials
- cloths
- textiles
- dry waste
- anorganic waste
- paper
- cardboard packaging
- aluminium
- metal parts
- beer mats
- strings
- wires
- stones
- flower decoration
- serviettes
- disposable crockery
- vegetables packed in foil
- big bones,
max. length 80 mm
- big scraps of wet waste
max. 80 x 80 x 80 mm

Accumulation of similar waste

- such as orange skins
- banana skins
- and lemon skins
- pineapples
- coffee grounds
- bones
- crustacea
- eggshells
- etc..



Do not throw into Feeding Station:



Glass



Porcelain



Dishes



Cutleries



Cans



Raw / Large Bones



One Way Cups



Gauntlets / Gloves



Plastic Cups



Cleaning Rags



Plastic bags



Chemicals



7.7 Isolating the WasteStar installation

Via the Norsk Inova switch cupboard

8 Cleaning

In order to ensure that the WasteStar installation will have a long service life, it is important to carry out thorough cleaning daily on the feeding station WTS-A, particularly in the feeding funnel area.

The strainer in the separator must be cleaned daily, and the strainer in front of the vacuum tube must also be checked.

It is possible to fill some feeding funnels with water before cleaning work and to start a suction process.

Cleaning of the incorporated strainer and cyclone should also be activated before manual cleaning.

During these daily cleaning operations, the intermediate reservoir and press inspection apertures may be opened for checking.

You should ensure that the main switch of the switch cupboard is activated during cleaning, inspection and maintenance operations.
















Covers relevant to safety that must be removed in order to carry out this work must be returned to their original condition when the work has been completed.

The switch cupboard of the installation may **not** be cleaned using a high-pressure cleaner.

The spraying of electrical switches and devices such as circuit-breaker, sliding valve etc. must not be carried out.

9 Staff training

Only trained and instructed staff are allowed to work on the WasteStar installation. The skills required by staff for operation, maintain and repair must be clearly determined. Staff undergoing training are only allowed to work on the WasteStar installation under the supervision of an experienced person.

Persons Activity	trained persons	persons with technical training	employee qualified in electrics	superior with corresponding skills
Installation and assembly				
Putting into service				
Operation				
Checking safety devices				
Operating				
Fault finding				
Troubleshooting, mechanical				
Troubleshooting, electrical				
Servicing				
Cleaning				
Repairs				
Maintenance				

Only instructed staff are allowed to operate the controls.
Instruction should be confirmed in writing.

10 Disposal of the installation

At the time of the disposal of the installation (dismantling/scraping), the parts and their corresponding materials should preferably be re-used. Here is a list of the materials that most frequently arise when dismantling:

- Chrome-nickel-steel
- Aluminium
- Copper
- Brass
- Electrical and electronic parts
- PP and other synthetic material

11 Maintenance

Maintenance work may only be carried out when the WasteStar installation is shut down. In addition, the main WasteStar installation main power switch must be in the off position and must be occluded.

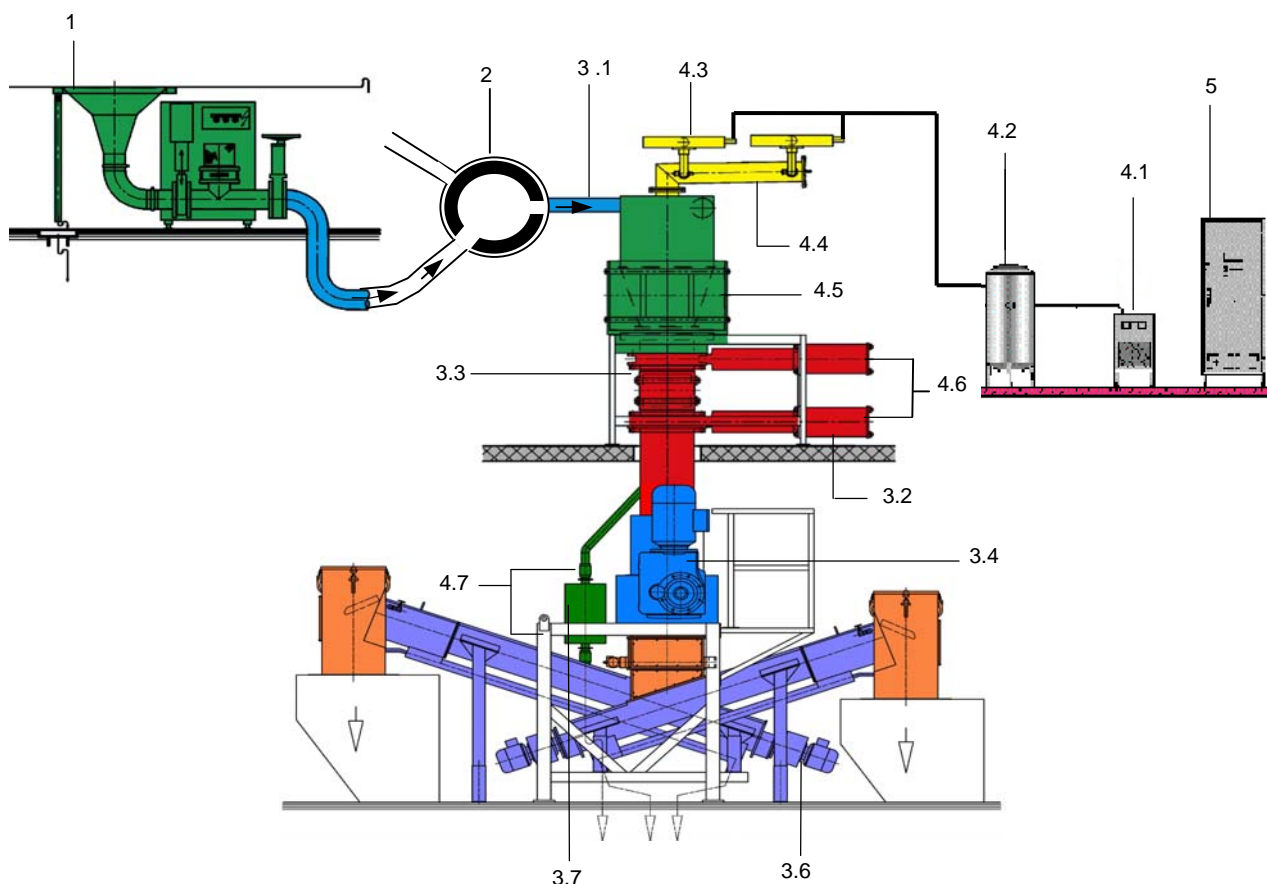
Available safety devices may not be removed!



ATTENTION!

We recommend you to take out a maintenance contract with our manufacturer's agency in order to ensure a long service life.

Technical documentation annexed relating to integrated products from other manufacturers (operating instructions, maintenance instructions etc.) must always be observed!



<u>Maintenance</u>	After operating hours:					test results/ execution note
	cleaning daily	400 h, max. 600 h but at least ONCE monthly	1,250 h, max. 1900 h but at least ONCE quarterly	2,500 h, max. 3800 h but at least TWICE annually	5,000 h, max. 7600 h but at least ONCE annually	

1. Feeding station WTS-A

1.1 Interlocking bar DN 125						
Check gland sealing leakage integrity			◆			
Check stop switch			◆			
1.2 Conveyor air valve						
Check conveyor air valve			◆			

<u>Maintenance</u>	After operating hours:					test results/ execution note
	cleaning daily	400 h, max. 600 h but at least ONCE monthly	1,250 h, max. 1900 h but at least ONCE quarterly	2,500 h, max. 3800 h but at least TWICE annually	5,000 h, max. 7600 h but at least ONCE annually	

1.3 Electrical components						
Check functioning of electrical components			◆			
1.4 Compressed air component						
Check functioning of shut off valve for compressed air		◆				

2. Three-way valve

According to PCC documentation register no. 14						
Check stop switch		◆				
Visual check		◆				
Sealing check		◆				

3. Central unit

3.1 Separator						
Check filter vacuum tube filter	◆					
Check separation filter	◆					
Check nozzles	◆					
Check rinse valves			◆			
Check analogue unit ■						
Check leakage integrity of connections, feed lines and inspection aperture		◆				
Check safety switch on inspection aperture			◆			
Check electrical connections			◆			
3.2 Interlocking bar						
According to PCC documentation register no. 10						
Check gland sealing leakage integrity			◆			
Check stop switch functioning			◆			
Visual check		◆				
Check leakage integrity			◆			
Cleaning or, if necessary, removal of foreign matter	◆					

<u>Maintenance</u>	After operating hours:					test results/ execution note
	cleaning daily	400 h, max. 600 h but at least ONCE monthly	1,250 h, max. 1900 h but at least ONCE quarterly	2,500 h, max. 3800 h but at least TWICE annually	5,000 h, max. 7600 h but at least ONCE annually	
3.3 Sluice						
Check leakage integrity			◆			
Cleaning or, if necessary, removal of foreign matter	◆					
Check safety switch on inspection aperture			◆			
3.4 Shredder						
According Bomatic documentation register no. 11						
3.6 Press						
According to Noggerath documentation register no. 13						
Check inspection aperture safety switch			◆			
3.7 Intermediate water reservoir						
Check leakage integrity			◆			

4. Pneumatic components

4.1 Compressor						
According to Kaeser documentation register no. 16						
4.2 Compressed air reservoir						
According to Kaeser documentation register no. 15						
Check drainage valve functioning and leakage integrity		◆				
Check pressure transmitter functioning (analogue) ■						4.5 – 7.0 bar
Check pressure reducer (outlet) functioning		◆				5 bar
Check ejector compressed air lines for functioning, leakage integrity and cleanliness			◆			
4.3 Ejectors						
According to PIAB documentation register no. 9						
Check		◆				-0.3 bar

<u>Maintenance</u>	After operating hours:					test results/ execution note
	cleaning daily	400 h, max. 600 h but at least ONCE monthly	1,250 h, max. 1900 h but at least ONCE quarterly	2,500 h, max. 3800 h but at least TWICE annually	5,000 h, max. 7600 h but at least ONCE annually	

4.4 Vacuum tube						
Check compressed air unit function and leakage integrity			◆			
Check back valve minimum pressure						0.5 bar
Electrical check of minimum pressure ■						
Electrical check of vacuum limit ■						-0.2 bar
Check functioning & leakage integrity of the control valve		◆				
Electrical check of stop switch			◆			
Check pneumatic connections (visual check)			◆			
4.5 Control air supply						
Check functioning and leakage integrity of supply unit			◆			
Check functioning of drainage valve		◆				
Check of control valves (pneumatic and electrical) ■						
4.6 Intermediate reservoir with sliding valves						
Check leakage integrity of connections			◆			
Check functioning of cylinders		◆				
Check of control valves (pneumatic and electrical) ■						
4.7 Intermediate water reservoir						
Check leakage integrity of connections			◆			
Check functioning of ball valves		◆				
Electrical check of stop switch			◆			
Check of control valves (pneumatic and electrical) ■						
5. Switch cupboard control						
See Norsk Inova documentation						

■ SPS programmed

12 Proof of maintenance

Maintenance after 400 hours

Service technician:

Date: Signature:

Maintenance after 1,250 hours

Service technician:

Date: Signature:

Maintenance after 2,500 hours

Service technician:

Date: Signature:

Maintenance after 5,000 hours

Service technician:

Date: Signature:

Gruppe
Group
Groupe

Das Programm auf einen Blick

1

**Spülautomaten mit stationärem
Waschverfahren**
Geschirr- und Gläserspülautomaten;
Topf- und Behälterspülautomaten;
Salat- und Gemüsewaschautomaten

2

Spülautomaten mit Durchlaufsystem
Geschirrspülautomaten mit Bandtransport-,
Korbtransport- oder Umlaufsystem

3

Spezialspülanlagen
Vollautomatische Spülanlagen für Geschirr,
Tabletts und Besteck; Flight-Catering-
Anlagen; Industriespülautomaten; Trolley-,
Behälter- und Transportwagenspülanlagen

4

Förderanlagen
Tablett- und Geschirrtreibbänder,
Geschirrsortier- und Stapleinrichtungen

5

Speisereste-Behandlungsanlagen
Maschinen und Anlagen zur Aufbereitung
von Speiseresten für eine umweltgerechte
Entsorgung

6

Großkücheneinrichtungen
Geräte und Mobiliar für Relais- und Stations-
küchen; Transportwagen; Tablett- und Teller-
stapler; Tische, Schränke und Regale aus
Edelstahl; diverse Organisationsmittel

7

**Sanitäreinrichtungen für Krankenhäuser
und Heime**
Reinigungs- und Desinfektionsautomaten
für Steckbecken und andere Pflegegeschirre;
Pflegekombinationen; Komplettausstattung
für Unreine Arbeitsräume

Our product range

**Automatic dishwashing machines
with fixed washing system**

**Belt conveyor and rack transport
machines**
for continuous throughput operations

Special purpose warewashing solutions
such as semi and fully automatic systems,
designed for the catering industry in general

Conveying systems
for vertical and horizontal transport of trays
and dishes

Food waste treatment systems
Water conditioning appliances

Central wash-up equipment
Tables, cabinets, tray and plate stackers

**Sanitary appliances for healthcare
establishments**
Automatic cleaning and disinfection
appliances for bedpans and other care
utensils

Notre gamme de production

**Lave-vaisselle à procéder de lavage
stationnaire**
Automates de lavage

**Lave-vaisselle automatiques à passage
continu**
Lave-vaisselle automatiques à convoyeur et
à transport de paniers

Lave-vaisselle spéciaux
Installations de lavage entièrement
automatiques et semi-automatiques,
lave-vaisselle industriels

Installations de transport
pour le transport vertical et horizontal de
plateaux

**Installations de traitement de déchets
alimentaires**
ainsi que des installations de traitement
d'eau

Installations pour grandes cuisines
Tables, empileurs de plateaux et d'assiettes

**Installations sanitaires pour hôpitaux et
maisons de soins**
Automates de nettoyage et de désinfection,
combinés de soins



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