

voran[®]

machinery

Translation
Operating manual

Cleaning and sorting table





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1 Basic safety principles


1.1 Key to the symbols

Listing of the symbols used and their significance


BEFORE FIRST START INSTRUCTIONS READ

 	<p>Not observing this requirement can lead to serious injury or to death!</p>
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WARNING AGAINST GENERAL DANGERS

	<p>The instructions for these signs must be used without fail! Not observing this requirement can lead to serious injury or to death!</p>
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WARNING OF DANGEROUS LIVE ELECTRICAL POWER SUPPLY

	<p>Before any servicing or checking work is undertaken, all parts or supply lines on the machine that are marked with this sign must be switched free from live current. Not observing this requirement can lead to serious injury or to death!</p>
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WARNING AGAINST BEING DRAWN IN

	<p>The removal of safety components and the non-observation of safety regulations during operation is forbidden! Maintain safety distance to revolving parts! Loose parts of clothing, arm or neck chain jewellery can become caught in moving machine parts during servicing or repair work. If hair is worn long a hairnet must be used to prevent hair from becoming caught or pulled in. Not observing this requirement can lead to serious injury or to death!</p>
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BEFORE OPENING UNPLUG!

	<p>Interrupting your work on the machine power supply and secure against accidental before reconnecting it and turning. Non compliance can mean severe personal injury.</p>
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INFORMATION!

	Helps you to make optimal use of the functionality of your machine.
---	---

NOTE!


	Technical requirements for simplifying the operation of the machine!
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PROTECTIVE GLOVES and WEAR EYE PROTECTION!


 	<p>Always wear protective gloves and goggles when using cleaning agents.</p> <p>Failure to comply may result in severe burns!</p>
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1.2 General safety regulations


NOTE!

	Ensure that the machine/line is only operated under perfect technical operational conditions and giving full account to the proper use.
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WARNING AGAINST GENERAL DANGERS


	Ensure that all possible faulty functions and risk situations are eliminated immediately and without delay before starting up! Faulty functions and risk situations are e.g.: uncontrolled lifting/sinking and turning/swivelling movements loose parts on the machine/line
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INFORMATION!

	Not following the instructions in this Operating Manual can lead to the loss of your warranty! Apart from the instructions and standards such the accident prevention regulations of the industrial organisations and other regulations, e.g. VDE, IEC must be observed.
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1.3 Selection, qualification and responsibility of operating staff

NOTE!


	<p>Please note each operator of the unit must be trained, instructed and older than 15 years.</p> <p>Please observe your national law and regulations for industrial safety. Operating staff who are in training or under instruction may only work under the constant observation of an experienced person who is thoroughly familiar with this machine/line!</p> <p>All work on the electrical systems for this machine/line may only be carried out by a qualified electrician / electrical engineer. All work of this kind may only be carried out under the direction of a qualified electrician / electrical engineer taking full account of the relevant electro-technical guidelines.</p> <p>The operating personnel must ensure that no other people are in the working area.</p> <p>Before you leave the unit, you have to stop it and to ensure that no unauthorized person (especially children) is able to restart it. Therefore lock the main switch in position <0> with a padlock and / or disconnect the main plug!</p>
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1.4 Organisational measures


NOTE!

	<p>Before starting up the machine/line the operating personnel must without fail be familiar with the Operating Manual, in particular with the safety regulations and notes.</p> <p>It is too late to make a start on familiarisation with these procedures when work is already being done on the machine/line.</p> <p>This applies in particular to persons who work constantly on the machine/line.</p> <p>Ensure that a copy of the Operating Manual is kept constantly at the machine/line!</p> <p>The Operating Manual must be read by every person whose task is operation or maintenance (servicing, inspection and maintenance).</p> <p>Only line-specific trained personnel who are thoroughly familiar with it may be employed on the machine/line.</p> <p>If the machine/line must be transported only trained staff who are permitted to do so may operate the lifting gear (crane, stacker).</p> <p>Training and instruction must be recorded and entered in this documentation machine/line Operating Manual (instructor, content, participant and date).</p> <p>Safety and danger notes and all notices must be maintained in a perfect and legible state. In the event of warning and notice signs on the machine being illegible the manufacturer must be informed at once!</p>
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NOTE!


	<p>Use protective equipment if necessary, but without fail if this is required by the protection regulations! (gloves, masks, ear muffs, protective helmets etc.)</p> <p>Observe all the safety requirements and notices that are place on the machine/line !</p> <p>In the event of damage to a part or a component group that may a detrimental effect on operating personnel on the line, the line must be shut down immediately and the responsible person or the Customer Service Department must be informed!</p> <p>All changes, additions or subsequent constructions to the machine/line that may have a negative effect on its safety and functionality, may only be made when these are tested, agreed to and released in writing by the machine/line suppliers!</p> <p>This also applies to the installation and setting of the safety devices and safety equipment This also includes the welded constructions of the bearing and support structures .</p> <p>All spare parts must comply with the technical requirements of the machine/line supplier. This is also the case where original spare parts are used .</p>
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NOTE!

	<p>Ensure that the fixed intervals, or the inspection intervals specified in the Operating Manual are adhered to! (see the chapter "Servicing and Repairs")</p> <p>Ensure that the tools and equipment required for each kind of servicing work is available as required!</p> <p>Ensure that both fire-fighting equipment and instructions for the fire alarms and for fire fighting are available.</p> <p>Observe the instructions given for the fire alarms and for fire fighting.</p>
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1.5 Safety requirements for the operating state

WARNING AGAINST GENERAL DANGERS


	<p>The machine/line may only be operated after all statutory safety requirements have been fulfilled.</p>
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1.5.1 Servicing/repair operation


WARNING AGAINST GENERAL DANGERS

	<p>Servicing and repair work may only be carried out when the machine/line is switched off and secured against being switched on again (e.g. by pulling out the device mains plugs, locking the mains switches; the key must be in the safe keeping of the maintenance staff!)</p>
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WARNING AGAINST GENERAL DANGERS


	<p>The machine may only be operated when the safety covers are assembled!</p> <p>The machine/line area that is to be serviced must be switched off and locked before the start of the work. It must be assured that the machine/line is not switched on again by appropriate measures or the posting of a second person.</p> <p>When carrying out work in an unsecured area it must be possible for the second person must be outside of the danger area and must be able to take appropriate rescue measures in the event of an emergency.</p> <p>Servicing, repair and maintenance work may only be carried out from a safe working position.</p> <p>Before starting up again and renewing normal operation a functional test of all functional groups and safety equipment must be made without fail.</p>
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WARNING OF DANGEROUS LIVE ELECTRICAL POWER SUPPLY


	<p>Before servicing and maintenance work on electrical components (e.g. clamping box) it must be assured that no parts are live and they must be secured against the power being switched on again!</p> <p>Before loosening the electrical connections the clamps must be tested with a voltage tester to ensure that they are not live.</p>
---	--

1.5.2 Normal Operation

NOTE!

	<p>Avoid working methods that are not clear from a safety aspect!</p> <p>Make all required settings to the machine/line so that can work under reliable and safe operating conditions!</p> <p>The machine/line may only be operated when all safety devices and safety equipment is available and functional, such as e.g.:</p> <ul style="list-style-type: none">- emergency stop button- two hand operation (dead man's switch)- protective covers- safety switches- personal safety equipment
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WARNING AGAINST GENERAL DANGERS

	<p>Check the machine/line before each start up for externally visible damage or defects! All changes (including any changes made to the Operator's Manual) must be reported without delay to the responsible person or the Customer Service Dept..</p> <p>The machine/line is to be stopped immediately and secured against being started up again!</p> <p>In the event of malfunctions the line/machine must be shut down immediately and locked!</p> <p>Ensure that immediate and professional trouble shooting of the malfunctions is carried out!</p> <p>Observe the switching on and off procedures and compare the controls indicators with the data provided in the documentation/Operating Manual!</p> <p>Observe the notices on the machine/line!</p> <p>Before starting up the machine/line it must be ensured that no person will be endangered!</p> <p>Do not remove any safety covers while the machine/line is in operation!</p> <p>Moving mechanical parts must never be touched!</p> <p>Use no fuses that do not comply with the required fuse protection! In the event of a fault in the power supply machine/line must be switched off immediately!</p> <p>In order to assure an operation free from interruptions the machine/line and the area around it must be kept clean and tidy and adequate lighting must be provided.</p> <p>Before starting normal operation a safety test of all functional groups and safety equipment must be carried out!</p>
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WARNING AGAINST BEING DRAWN IN



Do not reach with the hand into the pressing area!

WARNING AGAINST GENERAL DANGERS



Watch out for any foreign bodies and objects during work with the machine. Do not fill stones, glass, iron parts, bones, plastic etc.!

Cleaning and sorting table BRM

1.6 Safety devices

The machine/line may only be used either in the course of normal operation or in servicing/repair operation when all required safety devices are used and are effective.

the following safety regulations have been introduced in order to reduce the remnant risk from the machine/line to an absolute minimum:


- The Operating Manual describes the sources of risk and the orderly behaviour of the operating, servicing and repair personnel.
- Notices on the machine/line marking sources of risk!

e.g.:




Picture 1.6-1) Caution live voltage!

NOTE!

	<p>The safety devices must not be left aside nor made in effectual.</p> <p>Where this is not assured no liability can be accepted.</p> <p>safety devices must be checked monthly.</p> <p>Notices must be easy to recognise.</p>
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Electrical safety devices

WARNING AGAINST GENERAL DANGERS

	<p>All electrical safety devices must be connected and functional at all times. they must not be electrically bridged!</p> <p>Before quitting any activated safety devices it must be ensured that no persons are in the danger areas.</p>
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The electrical safety devices include for example:

- main switch
- emergency stop-switch and button
- energy supply cables
- any operator controls and control stands if these are provided

Mechanical safety devices

WARNING AGAINST GENERAL DANGERS



All safety devices must be firmly fixed!
It must only be possible to remove them with the use of tools!
The possibility of loosening them manually is not permitted!

Protective devices may only be removed for the period of maintenance and servicing! The machine/line must be secured against a starting up in unsecured condition!

The mechanical safety devices include for example:

- safety clothing
- railings and barriers
- protective grids
- covers on moving parts


1.7 Remnant risks

Reasonably foreseeable, incorrect use/risk	Remnant risk	Measures
Not maintaining of the safety regulations, as described in the documentation or the Operating Manual	Any failure of safety devices, all forms of risk possible	Additional note on the machine/line about the observation of specified safety regulations
Servicing and maintenance work on the machine/line, while it is not in a safe condition, e.g. the mains electricity has not been switched off, etc.	All forms of risk possible!	For operator training see Operating Manual
Not observing the safety measures in setting up the machine/line	All forms of risk possible, e.g. loose mechanical parts	For operator training see Operating Manual
Catching of clothing in moving mechanical parts during servicing or repair work	All forms of risk possible!	Starting up of the machine/line only with assembled safety covers; Regulation clothing, operator training
Standing beneath hanging loads	The endangering of the ground personnel is possible from falling loads	Wear safety helmets; observe safety notes for servicing and repair work; staff training
Neglect of personal protection equipment in normal operation and servicing and maintenance work	All forms of danger to staff are possible!	For operator training see Operating Manual; use personal protection equipment if required, but without fail if this is required by the protection regulations! (gloves, facial protection and earmuffs, protective helmet etc.)
Straining the body through incorrect manual lifting	Permanent damage to the spine and joints of the hand	Use of suitable permitted lifts

Risk areas

Risk areas must be constantly marked by means of warning plates, coloured markings or other clear indicators.


WARNING AGAINST GENERAL DANGERS

	<ul style="list-style-type: none"> - The presence of persons during operation in risk areas is prohibited! - A functional test of all safety devices must be carried out before re-starting of line! - It must be assured before switching the main switch and the control power, that there are no persons in the risk areas.
---	---

1.8 Correct use

This machine/line is intended and constructed for the following use in full compliance with the contractual terms:

INFORMATION!

	The machine may only be used for the cleaning and sorting of fruit and vegetables.
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Any other use of this machine/line represents an improper use of the machine/line. The correct use of this machine/plant to terms of the contract requires further that the documentation/Operating Manual as also the specified inspection and servicing intervals are strictly adhered to.


Although this machine/plant has been constructed to the highest technical standards and the recognised standards of safety and has been accepted by the client, danger of injury or of loss of life may none-the-less arise for the user or third persons as a result of its use, or the machine/line may itself be damaged.

The machine/line may only be operated when in a technically perfect condition, in a professional manner and when the operator is fully aware of the safety and danger aspects.

Recognised weaknesses or faults that may reduce the safety of operation, must be dealt with in a professional manner immediately or must be reported to customer service in a manner that can be proven!


Changes must not be made to the machine/line settings values.

WARNING AGAINST GENERAL DANGERS

	This machine/line was constructed to the current standards of engineering and the currently applicable Safety of Machinery Directive (MSV) . Non-observation of the safety regulations contained in the Operating Manual during operation of the line/machine can endanger the operating staff or third persons or have a detrimental effect on the line/machine or its properties.
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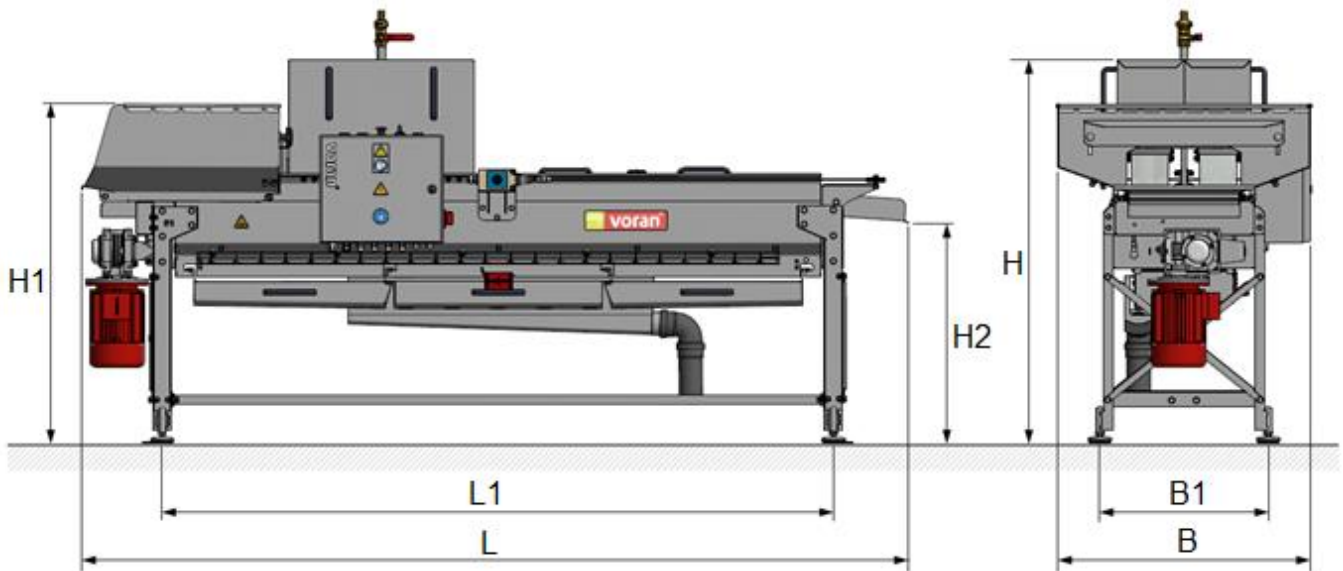
1.9 Inappropriate use

WARNING AGAINST GENERAL DANGERS

	Any use of this machine/line other than that as defined in the chapter "Correct Use", represents an inappropriate use of the machine/line and can result in serious injuries of the operating staff or third persons or to the damage or destruction of the line/machine. The manufacturer/supplier cannot be held liable for any damage resulting from an inappropriate use of the machine/line. In such cases the user assumes full liability.
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2 Technical data

2.1 Technical data - overall machine/line



Picture 2.1-1) Full view of the inclined elevator SA with centrifugal crusher RM 2.2

length (L)	2685 mm
length (L1)	2179 mm
width (B)	819 mm
width (B1)	547 mm
height (H)	1246mm
height (H1)	1101 mm
height (H2)	714 mm
weight	326 kg
Sound power level according to EN ISO 3746 and EN ISO 11201	LWA < 80 dB

Electricity supply

Single-phase current 230V (1 phase + zero conductor + earthing)
Fuse protection 16 A neutral

Worm gear motor MVF63UP7P90


Voltage/fuse protection:	230/400 V 50 Hz
Capacity:	1,5 kW
Rotary speed:	1400 r.p.m.
Transmission rotary speed:	200 r.p.m.

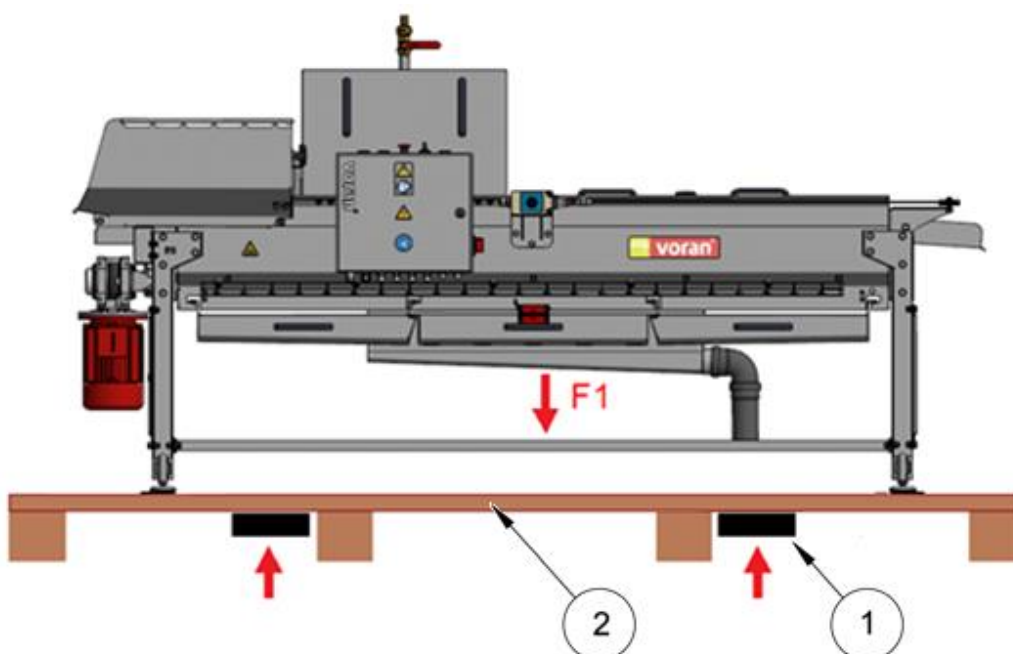
Cleaning and sorting table BRM

3 Transportation and setting up of the machine/line

3.1 Notes on transportation

NOTE!


	<ul style="list-style-type: none"> - Before transporting the machine/line the motor is to be switched off and the mains connector plug must be pulled out! - The machine/line must not be tipped! - In order to avoid transportation damage assemble any available transport securing devices. - Secure the machine/line in an orderly manner on the means of transport! - Observe the statutory requirements (StVO) for legally specified dimensions or mark the load!
---	--



Picture 3.1-1) Transport Cleaning sorting conveyor VVB


F1 load on the means of attachment	3260 N/m or 326 kg
1	Reception point on the forklift
2	Pallet

WARNING AGAINST GENERAL DANGERS


	<p>A crane or forklift stacker with a lifting capacity in compliance with the table given below is required for the unloading of the machine. Means of attachment (rope, chain, belt) should be fixed only to the lifting points provided! The lifting accessories used must be adequate for dealing with the load as given (See table above and nameplate on notice)!</p> <p>The machine must be secured during transportation by belts around the wash basin.</p>
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3.2 Notes on assembly


WARNING OF DANGEROUS LIVE ELECTRICAL POWER SUPPLY

	<p>The Power connection must not come into contact with water! Not observing this requirement can lead to serious injury or to death!</p>
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NOTE!

	<ul style="list-style-type: none">- A level positioning of the machine/line must be observed!- The supply connection lines must be kept away from the machine/line!
---	--

NOTE!

	<p>There's no separate light mounted on the unit. The licensee is responsible for adequate light based on national requirements for workplace layout!</p>
---	---


NOTE!

	<ul style="list-style-type: none">- Only use connection pipes of at least 3 x 1,5 mm² (3 x 2.5 mm²).- The Machine must be connected with a earth leakage circuit breaker (FI).- Machines with frequency converter must be connected to a frequency acceptable earth leakage circuit breaker (FI).- If this is not possible, the machine must be separately earthing.
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4 Starting up / re-starting of the machine/line

4.1 General


NOTE!

	<ul style="list-style-type: none">- Before starting up and before each restart, the complete unit and all devices must be efficient cleaned.- For cleaning just use the specified and preferred agents (chapter 9.4.1)- If you should use other cleaning agents the responsibility, suitability and right usage of them belongs to the licensee.- With clear water rinse!
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NOTE!

	The machine/line and all machine/line components must be checked by a specialist before starting up and before re-starting after significant changes.
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NOTE!

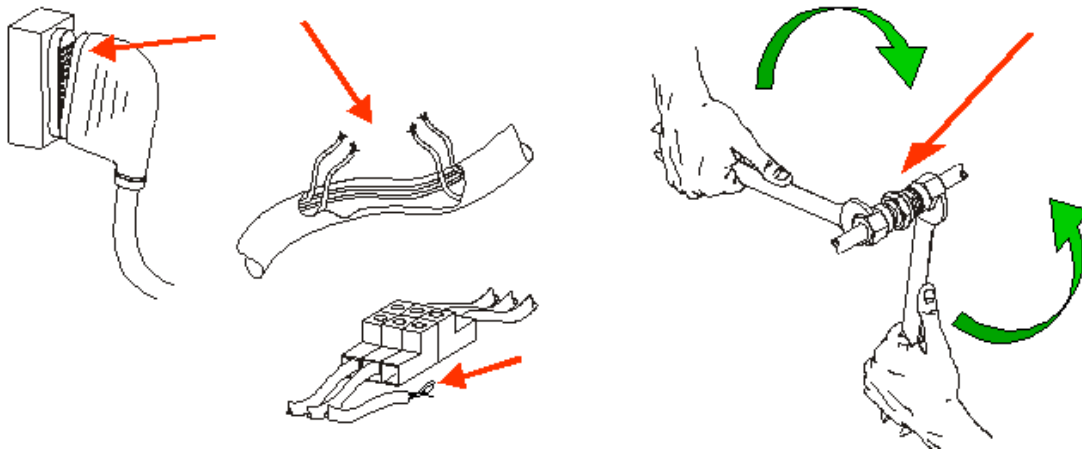
	Check before starting work the safe seating of the roller brush and the collection trays, otherwise the machine will not start.
---	---

4.2 Controls and settings work before first starting up/re-starting of line

Check the machine/line for loose parts (e.g. forgotten tool)!
Check all cable connections (clamp and plug connections) as also all pneumatic pipelines of the machine/line. Pay particular attention to damaged and loose cable and connections (see illustration)
Check that the required safety devices have been placed in an orderly manner and are intact!
(see the chapter "Safety devices")

WARNING AGAINST GENERAL DANGERS

	Before cleaning the device or checking the connection cable, to see if this has been twisted or damaged, switch the machine off without fail and pull out the mains connector plug!
--	---



Picture 4.2-1) Symbol image, control cable and connector point

Changes in comparison with normal operation such as

- higher capacity feeding
- higher noise development
- higher acceleration or delay, higher vibration amplitudes
- unusual noises or unusual smells
- response of the safety devices without a motivational cause


are grounds for recognising that the function of the line/machine is impaired.
Detrimental effects such as this or similar are to be immediately reported by the operator to the person responsible.

Cleaning and sorting table BRM

4.3 Lubricants Overview

Machine part	Aral	Castrol	Lubricant type
Guides	standard commercial, foodstuff compatible grease		Grease
Bearings	standard commercial, foodstuff compatible grease		Grease

INFORMATION!

	You can basically use any standard commercial, foodstuff compatible grease. Voran recommends " LF10 (H1) ".
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5 Functional description


5.1 Functional description – Cleaning sorting conveyor VVB

The fruit to be processed is poured into the funnel. By rotating disk brushes and the two additional brushes, the fruit is purified and moves concurrently rearwards to the discharge chute. During this process, bad fruit can be sorted out. When the unit is very dirty, it is possible to prewash via the water connection over the brushes in addition.


6 Operation

6.1 General

WARNING AGAINST GENERAL DANGERS

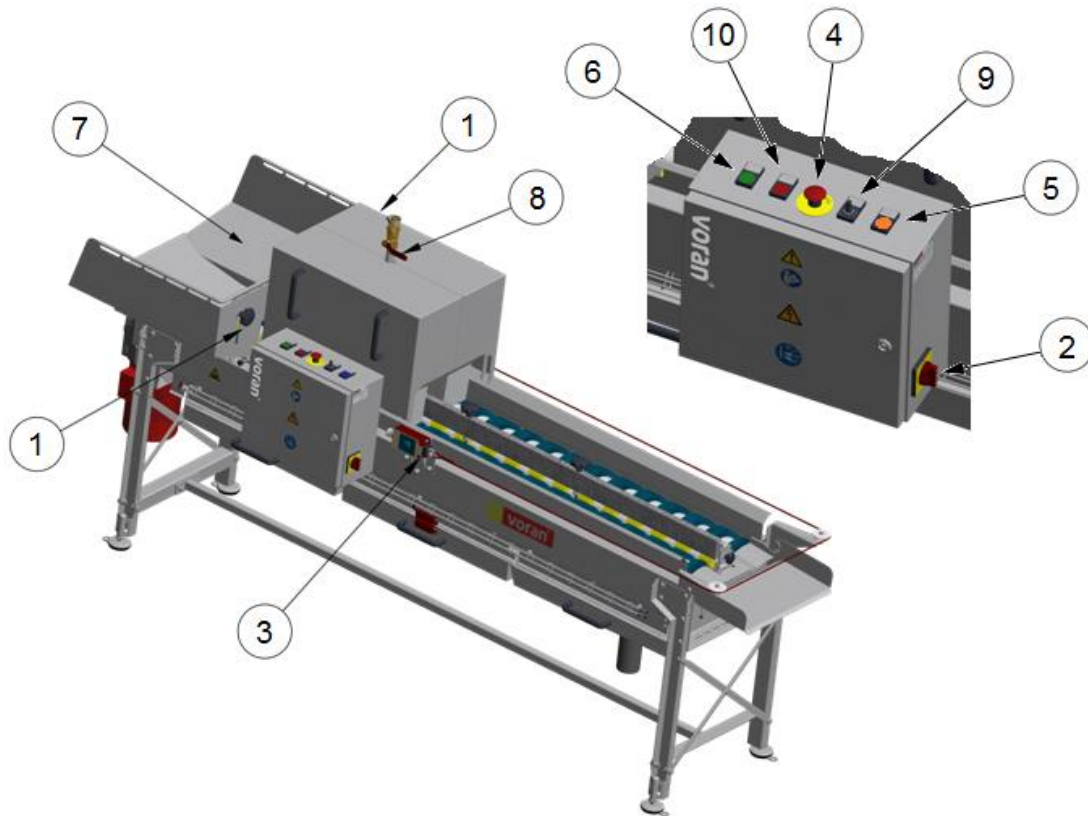
	<p>Before leaving the machine/line the motor must be switched off and the mains connector plug must be disconnected! Machines that are not under observation must be secured against being started up!</p>
---	--

WARNING AGAINST BEING DRAWN IN

	<p>It must not be grasped in the hopper!</p>
---	--

6.2 Operation - machine/line components

Cleaning sorting conveyor BRM



Picture 6.2-1) Operation of Cleaning sorting conveyor BRM

- 1.) Switch on main switch (fig. pos. 2).
- 2.) Unlock the rope pull switch (fig. pos. 3) and the emergency switch (fig. pos. 4).
- 3.) Press the reset button (fig. pos. 5).
- 4.) Fill the hopper (fig. pos. 7) with fruit (and the help of e.g. bulk bin hopper).
- 5.) Set the slide in the tunnel depending on the size of the fruit with the screws (fig. pos. 1).
- 6.) Switch on round brushes with button "ON" (fig. pos. 6).
- 7.) The speed of the round brushes can be continuously adjustable with the potentiometer (fig. pos. 9), if required.
- 8.) If the machine is cleaned with water, the water hose over the brushes (fig. pos. 8) has to be connected and the ball valve has to be open, as required.
- 9.) The round brushes can be switched off with the button "OFF" (fig. pos. 10).

NOTE!



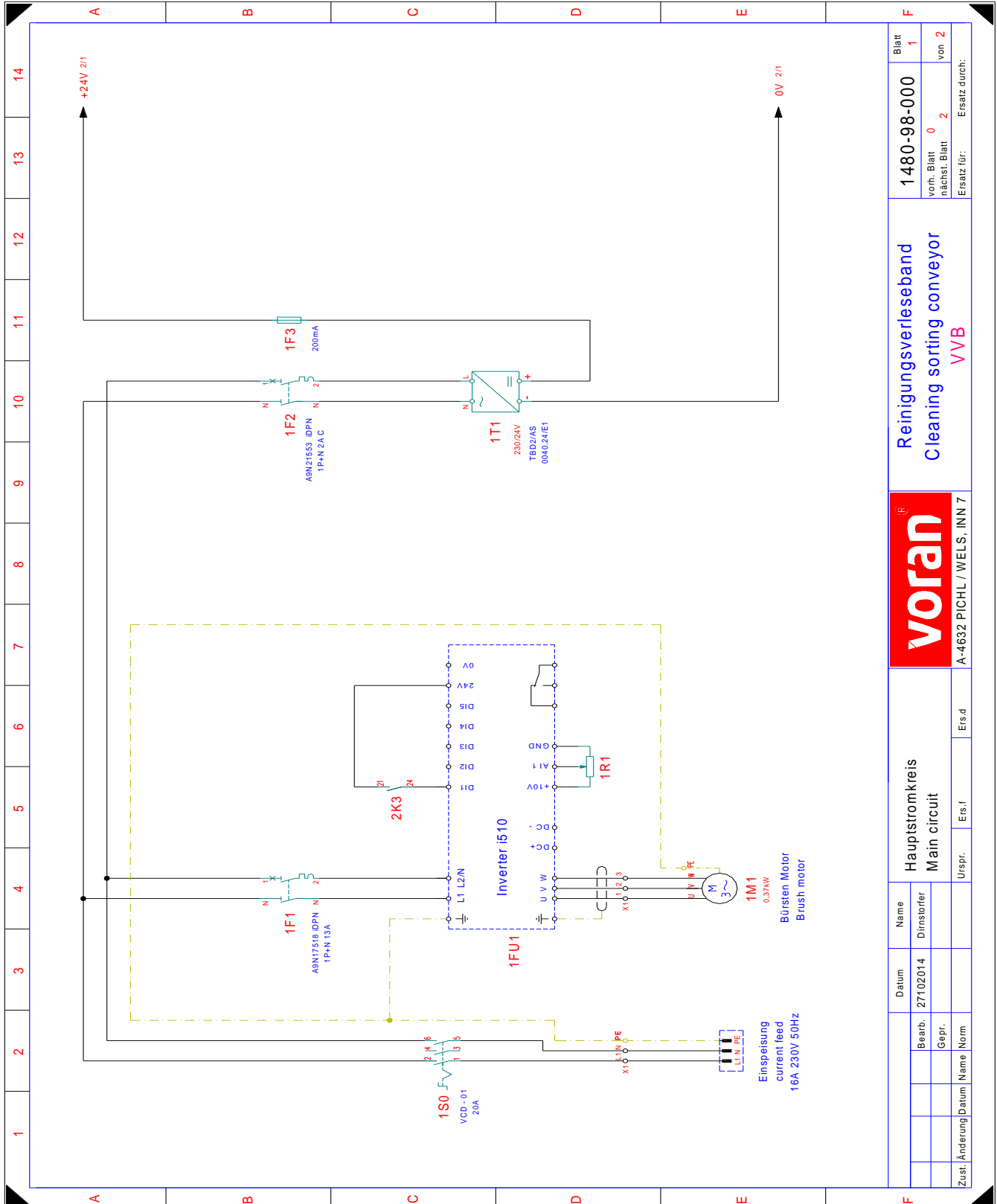
Before leaving the machine/line the machine must be switched off (fig. pos. 2).

Machines that are not under observation must be secured against being started up!

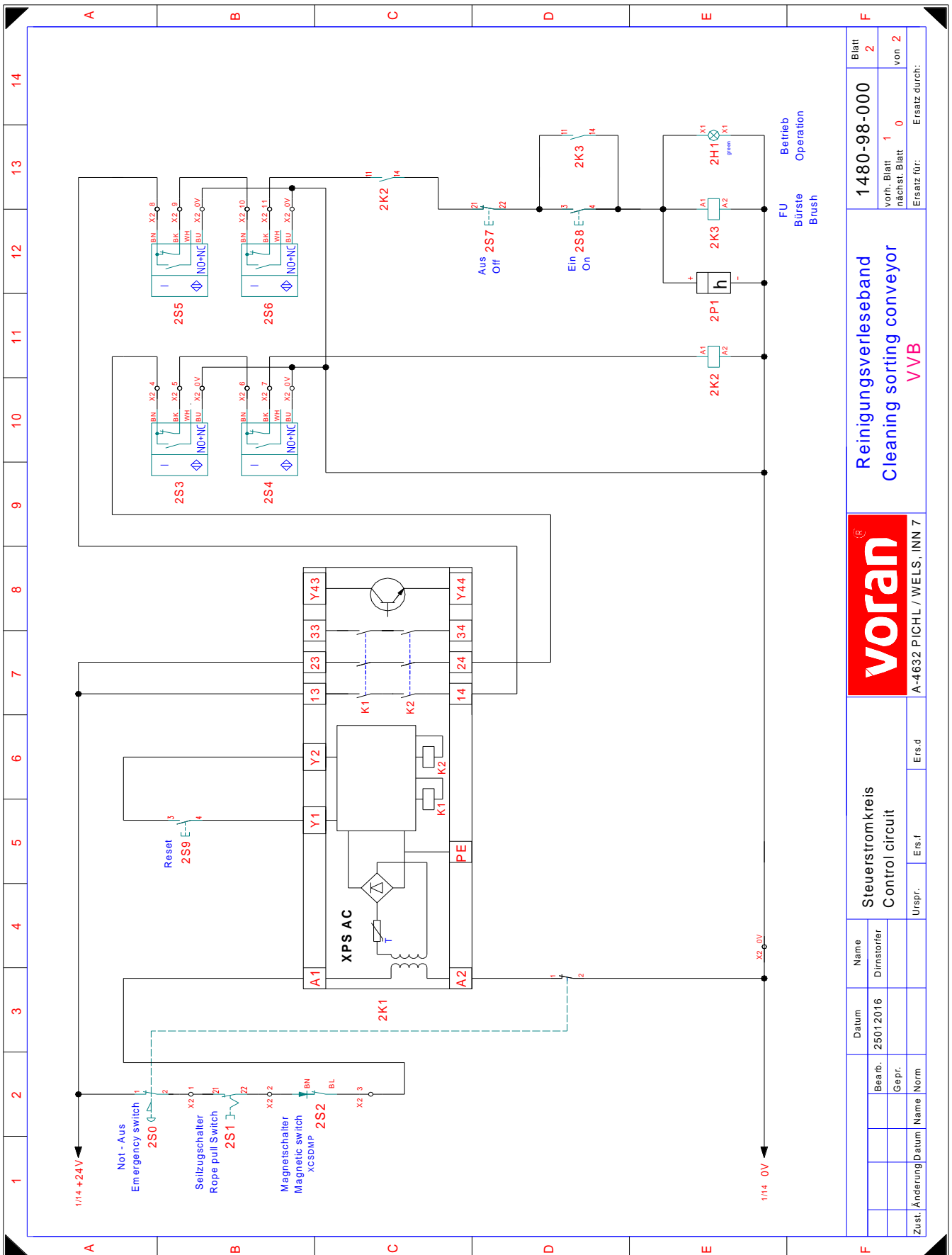
Cleaning and sorting table BRM

7 Electricals

7.1 Electrical circuit diagram – Cleaning and sorting table



Picture 7.1-1) Circuit diagram - Cleaning sorting conveyor VVB



Picture 7.1-2) Circuit diagram - Cleaning sorting conveyor VVB

Voran A-4632 PICHL / WELS, INN 7		Reinigungsverleiband Cleaning sorting conveyor VVB		1480-98-000 Blatt 2 von 2	
Steuerstromkreis Control circuit		Urspr. Ers.f. Ers.d.		vorh. Blatt 1 nächst. Blatt 0 Ersatz durch:	
Zust.	Änderung/Datum	Name	Datum		
		Dimstorfer	25012016		


7.2 Material list – Cleaning sorting conveyor VVB

Material list Cleaning sorting conveyor VVB					
Piece	Name	item-Nr.	Referencnu.	Producer/supplier	external- itemNr
1	VCD01 Not-Aus Hauptschalter 20A	120600000	-1S0	Groupe Schneider	VCD01
1	A9N17518 Schmalb. iDPN 1P+N 13A, B, 6kA	160300083	-1F1	Groupe Schneider	A9N17518
1	Frequenzumrichter i510-C1.5/230-1	160200090	-1FU1	Lenze	i510
1	Diagnosemodul I5MADK0000000S	160200091			I5MADK0000000S
1	Worm gear motor MVF63UP7P90 400V 50Hz	110202200	-1M1	Moll Motor Stockerau	
1	ZB4BD912 Potentiometer	160700179	-1R1	Groupe Schneider	ZB4BD912
1	Dreh-Poti 0-10kOhm mit 6mm Metallachse	161100700			
1	A9N21553 Clario iDPN 1P+N 2A C 6kA 1TE	160300032	-1F2		A9N21553
1	Transformator 230 VAC / 24 VDC 0,5 A	121100314	-1T1		
1	G-Sicherung 200mA träge	160300200	-1F3		
1	ZB4BS844 Pilztaster (Not-Aus) rt 40mm	160700005	-2S0	Groupe Schneider	ZB4BS844
1	ZB4BZ102 Unterteil 1Ö Anbau m.Klemmpl.	160700016			ZB4BZ102
1	XPSAC5121 Safety Mod 24VAC Not-Aus	160500080	-2K1		
2	Koppelrelais 2-Wechslerkont. 24V DC	160302000	-2K2, -2K3	Finder	
1	XY2CH13250 Seilzugnotschalter	121500202	-2S1		XY2CH13250
1	XCSDMP50110 Magnetschalter	121000525	-2S2		XCSDMP50110
4	XS2M08PC410D Ind. Näherungsschalter	160800029	-2S3, -2S4, -2S5, -2S6	Groupe Schneider	XS2M08PC410D
4	XZCP1241L5 Verbindungskabel M12	160800033			XZCP1241L5
1	ZB4BA4 Taster rt Fronteinbau bündig	160700003	-2S7	Groupe Schneider	ZB4BA4
1	ZB4BZ102 Unterteil 1Ö Anbau m.Klemmpl.	160700016			ZB4BZ102
1	ZB4BW333 Leuchtdrucktaster grün	160700150	-2S8	Groupe Schneider	ZB4BW333
1	ZB4BW0B31 Hilfsschalterblock mit LED gr	160700154			ZB4BW0B31
1	ZB4BA5 Taster ge Fronteinbau bündig	160700086	-2S9	Groupe Schneider	ZB4BA5
1	ZB4BZ101 Unterteil 1S Anbau m.Klemmpl.	160700015			ZB4BZ101
1	Betriebsstundenzähler Aufbau 5 - 35VDC	121400500	-2P1	Schäcke - Elektro	


8 Fault and error analysis

8.1 General

WARNING AGAINST GENERAL DANGERS

	<p>In faults trouble shooting the safety instructions described in the chapter "Basic safety principles" must be followed without fail!</p>
---	---

INFORMATION!

	<p>When faults tables on the separate machine/line parts are not otherwise given, you can find further information on the precise settings in the chapter "Controls and settings work before first starting up/re-starting of line". The precise replacement work is described in the chapter "Servicing and Repairs".</p>
---	--

8.2 Fault and error analysis - machine/line components

Error/malfunction	Possible causes	Trouble shooting
drive motor is not running	The electrical system is defective.	checking electrical connections, connections, switch, drives and hedges (see chapter "Checkups before starting up/restart")
	Safety switch of the collection tank in the middle has triggered.	Check if collection tank is completely inserted, if switch is defective, it has to be changed.
	One of the inductive proximity switches of the round brushes has triggered.	Check the correct settings of the round brushes, if a switch is defective, it has to be changed.
	Frequency converter set incorrectly	Make setting frequency properly
bad receive or no receive of fruit	The slide in the tunnel is incorrectly set.	Set (open) the slide.

9 Servicing and Repairs

9.1 General

The mechanical and electrical equipment requires regular servicing if it is to fulfil its tasks satisfactorily at all times.

The general safety notes the documentation/Operating Manual must be adhered to without fail.

The component-specific notes listed below must be observed!

Before taking the machine/line apart into its components the Operating Manual including all drawings, must be carefully studied!

The machine/line is constructed so as to require very little servicing. The servicing work required is concentrated on the few activities listed in the Operating Manual at the intervals as given.

The machine/line is to be checked regularly in compliance with operational experience. Parts that are recognisably damaged are to be replaced at an early date to avoid subsequent damage and downtime.

BEFORE OPENING UNPLUG!



Interrupting your work on the machine power supply and secure against accidental before reconnecting it and turning.
Non compliance can mean severe personal injury.

WARNING AGAINST GENERAL DANGERS



can put persons at risk, Reduce the efficiency of or damage the machine/line or of the machine/line parts.
Before assembly or dis-assembly is begun on the machine/line, the safety instructions that are described in the chapter "Safety requirements for the operating state" must be followed without fail.

WARNING AGAINST GENERAL DANGERS



Before starting work on parts of the electrical system measures must be taken to ensure that it is not live. the order of the safety rules is as follows:

- 1.) clearing by interrupting the electrical circuit
- 2.) secure against switching on by unauthorised persons
- 3.) place appropriate warning notices
- 4.) ensure that power supply is switched off
- 5.) effectively isolate any neighbouring live parts from the working area

The above mentioned measures are then ended in reverse order, when the maintenance work is completed.

Cleaning and sorting table BRM

Electrical equipment such as for example:

- switch and transmission devices such as e.g. mechanical limit switches
- energy supply cables
- any relevant operating points on location

are in principle free from maintenance. They should be checked on a monthly basis, however, and should be cleaned insofar as this is necessary. Damaged parts must be replaced at once.


Changes in comparison with normal operation such as

- higher capacity feeding
- higher noise development
- higher acceleration or delay, higher vibration amplitudes
- unusual noises or unusual smells
- response of the safety devices without a motivational cause

are grounds for recognising that the function of the line/machine is impaired.

Detrimental effects such as this or similar are to be immediately reported by the operator to the person responsible.

NOTE!

	The line/machine must in general be regularly cleaned and tidied.
---	---

Checks must be carried out at regular intervals in order to assure an operation of the machine/line without faults.

Differentiation is made here between:

- safety checks
- functional checks
- sight checks

Safety checks

the relevant statutory safety regulations must be followed (both regional and also international) must be observed.

also see the chapter "Safety requirements for the operating state".

Functional checks

The functional checks result from the tasks of the devices applied in accordance with the operational processes of the machine/line. This checking also includes testing the fixtures and clamps of devices and cables as well as checking temperatures and for noises.

Fixtures and clamps must be tightened. Should the tightening of fixtures and clamps no longer be possible, they must be replaced.


Defective devices must be replaced at once!

Electrical devices are often cooled with air. If coolers are provided their cooling effect must be tested!

Sight checks

The general state of the machine must be tested (condition of the weld and screw connections and of the electrical connections, corrosion points, tears etc.) and the degree of soiling must be assessed. The checks comprise the checking of the notices on the machine/line and the checking of the labelling of electrical devices (these must be placed in an orderly manner and they must be legible). Loose clamps must be tightened at once. Cables and clamps with signs of melting must be replaced at once. Soiled devices must be cleaned. Defective parts must be replaced.

INFORMATION!

	<p>The carrying out of servicing work must be documented for warranty claims and the following data given:</p> <ul style="list-style-type: none">- Date- machine/line area- activity carried out- name and signature of the person who performed the work <p>The documents are to be added to this Operating Manual and presented to the manufacturer on request.</p>
---	--

Spare parts

It is essential that spare parts should be stored on site to assure a high machine/line availability. The spare parts recommended by the manufacturer are listed in the chapter "Spare parts documentation" of this Operating Manual . When ordering spare parts please follow the instructions in the chapter "Spare parts documentation - general".

Customer Service

Please apply to the machine/line supplier for questions on inspection, servicing and installation or for a servicing visit (Customer Service data see the chapter "Spare parts documentation - general").

Replacement of parts that are still under warranty

When you replace parts and wish to have these exchanged by the manufacturer on the basis of the warranty, it is a basic requirement that the replaced parts are made available to the maker. A further requirement is the documentation of when, where and by whom the parts were replaced (see the chapter "Servicing and repairs reporting"). If possible, the presumed cause of the defect should be given.

Cleaning and sorting table BRM

9.2 Servicing and repairs reporting

Operator	
Street/building no.	
Zip code/city	
country	
Product name	

Date: _____

time: from _____ to _____

Fault dealt with:

.....

.....

.....

.....

Used spare parts		Further supply Yes/no
ID number	Name	

Clearly visible faults:


.....

.....

.....

.....


NOTE!

	<p>You will find notes on the ordering of spare parts and on customer service in the chapter "Spare parts documentation".</p>
---	---


9.3 Servicing intervals

Servicing interval	A	B	C
1 - shift operation	Before start of work	Monthly	Annual
2 - shift operation	Before start of work	Weekly	Monthly
3 - shift operation	--	--	--

NOTE!

	<p>The intervals given in the servicing table are standard values for normal operating conditions.</p> <p>The intervals are to be shortened appropriately under more intensive working conditions, multiple shift operation and longer working times.</p> <p>Safety devices are to be tested monthly.</p>
---	---

INFORMATION!

	<p>If not otherwise stated in the separate servicing tables, more precise information on the exact settings is to be found in the chapter "Controls and settings work before first starting up/re-starting of line".</p> <p>The precise replacement work is described in the chapter "Servicing and Repairs".</p>
---	---

Servicing intervals – Base frame

Work to be carried out	A	B	C
Check base frame for visible damage		X	
Check weld seams for visible damage (tears)		X	
Check tightness of fixture screws	X		

Servicing intervals – circular brush

Work to be carried out	A	B	C
Check round brushes for visible damage and wear; replace if necessary			X

Servicing intervals - brushes

Work to be carried out	A	B	C
Check brushes for visible damage and wear; replace if necessary		X	
Water supply for visible damage and leaks		X	


Servicing intervals - electrical

Work to be carried out	A	B	C
Check the electrical connections, switches, actuators and fuses		X	
Check mounting bolts for tightness		X	

Cleaning and sorting table BRM

9.4 Servicing and Repairs - machine/line components


WARNING OF DANGEROUS LIVE ELECTRICAL POWER SUPPLY

	<p>Live working on electrical devices must be conducted by a qualified personal!</p> <p>Not observing this requirement can lead to serious injury or to death!</p>
---	---


9.4.1 Cleaning

The machine should be cleaned each day.
 Particularly the product touched parts have to be cleaned with a disinfecting clean agent or clear water.



BEFORE OPENING UNPLUG!

	<p>Interrupting your work on the machine power supply and secure against accidental before reconnecting it and turning.</p> <p>Non compliance can mean severe personal injury.</p>
---	---


NOTE!

	<p>– Use for the daily cleaning process commercial cleaning and caring (qualified for food and disinfectant)</p>
---	---

PROTECTIVE GLOVES and WEAR EYE PROTECTION!


	<p>Always wear protective gloves and goggles when using cleaning agents.</p>
	<p>Failure to comply may result in severe burns!</p>

NOTE!

	<p>Voran prefers: BTS 3000 - DVG – listed Part Nr. 190019010 Active chloride foaming disinfectant concentrate for food industry</p> <p>Usage:</p> <table data-bbox="304 1688 1474 1760"> <tr> <td>Process</td> <td>Concentration</td> <td>Dwell time</td> <td>Temperature</td> </tr> <tr> <td>Frothing</td> <td>2 – 5 %</td> <td>20 Minutes</td> <td>Cold</td> </tr> </table>	Process	Concentration	Dwell time	Temperature	Frothing	2 – 5 %	20 Minutes	Cold
Process	Concentration	Dwell time	Temperature						
Frothing	2 – 5 %	20 Minutes	Cold						

After using the clean agent the machine has to be washed very well with clear water.

NOTE!

	<p>If you use clean agents mind the environmental details, and also the disposal instructions of them!</p>
---	--

10 Spare parts documentation

10.1 General


Use only original spare parts. The use of other spare parts can lead to the loss of your warranty claims.

Regard the recommended piece numbers as minimum piece numbers.

If the spare parts are not obtained from the manufacturer, the machine/line supplier accepts no responsibility for errors of type data or for wrong or late deliveries.

The right to introduce construction and model changes is reserved.

NOTE!

	Please observe the applicable regional requirements and legislation without fail in disposing of used or defective parts!
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Ordering of spare parts

We advise you to keep a stock of the listed spare parts without fail.

If you fail to keep a stock of the listed spare parts despite our recommendation, we are under no obligation to resort to special measures for the free provision of the required parts even during the warranty period.

Store the spare parts as close as possible to the line so as not to waste valuable time should they be needed (line/machine availability!).

Customer Service

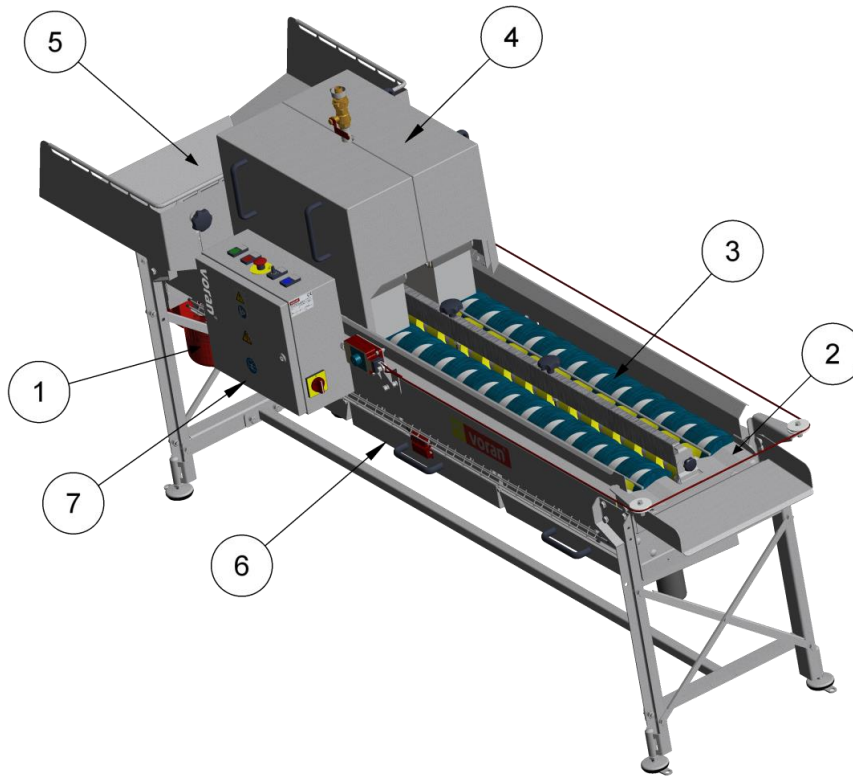
company name	Voran Maschinen GmbH
Contact partner	Service
Road	Inn 7
Zip code/city	A 4632 Pichl bei Wels
Phone/Fax	07249 444-200 / 07249 444-888
E-mail	service@voran.at

Order details

Please give us the following information in order to help us deal with your requirement as quickly as possible:

- Name of the machine/line (as on the cover of this documentation)
- Spare Parts Number (as on the spare parts list/drawing/piece list)
- Name and type of the relevant spare parts (write down the numbers if possible from the part to be replaced)
- Order quantity
- Your name/dept./Phone/Fax
- Precise despatch address with contact partner/dept. Phone/Fax

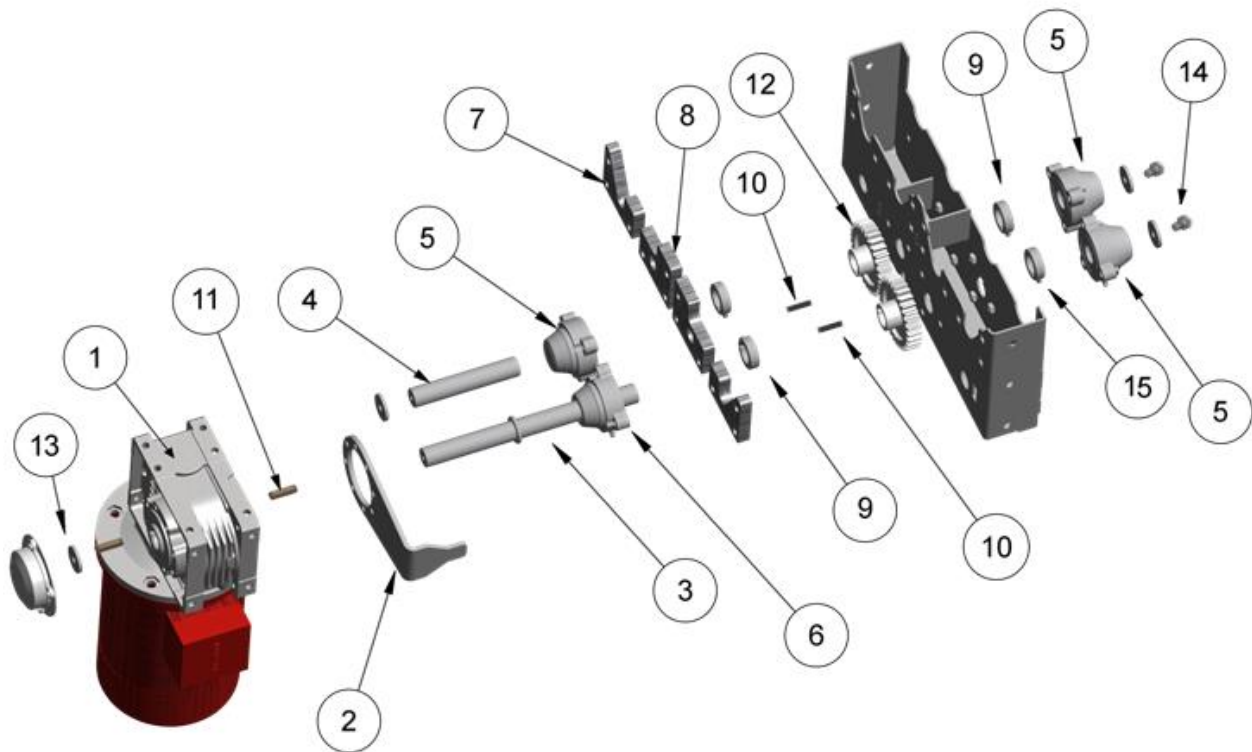
10.2 Spare parts list – Cleaning sorting conveyor BRM



Picture 10.2-1) Picture with key [Cleaning sorting conveyor BRM]

Position number	Name
1	Drive
2	Brush bearings
3	Circular brush
4	Brush
5	Base frame
6	Collecting trough
7	Electrical

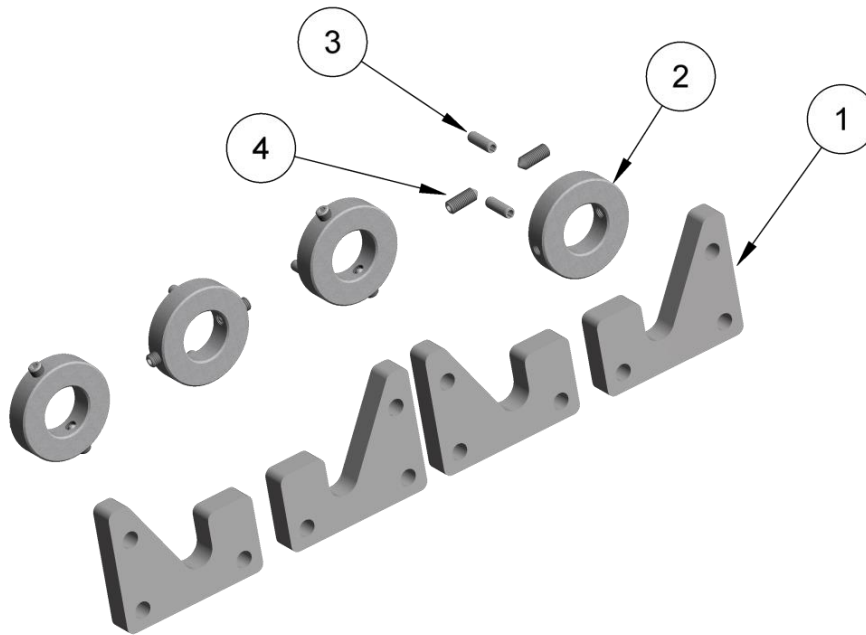
10.2.1 Spare parts list – Drive complete



Picture 10.2.1-1) Picture with key - Cleaning sorting conveyor BRM [Drive complete]

Position number	Pieces	Name	KDEtNr
1	1	Worm gear motor MVF63UP7P90 400V 50Hz	110202200
2	1	Torque arm 6x124x265	10028800
3	1	Drive shaft	10028755
4	1	Deflection axis	10026833
5	3	Bearing Serie UCFG-R205 closed	221202500
6	1	Bearing Serie UCFG-R205 open	221202501
7	2	Slide bearing plate	10026916
8	2	Slide bearing	10027449
9	4	Adjusting collar	10026834
10	2	Feather key A6 x 6 x 32 DIN6885	040100511
11	2	Feather key A8 x 7 x 36 DIN6885	040100612
12	2	Spur wheel	10026837
13	4	Disc	14652005
14	4	Hexagon screw M 8 x 20 DIN 933 V2A	300203202
15	4	Threaded pin M 6 x 12 DIN 914 4.6 V2A	304902002

10.2.2 Spare parts list – Brush bearing

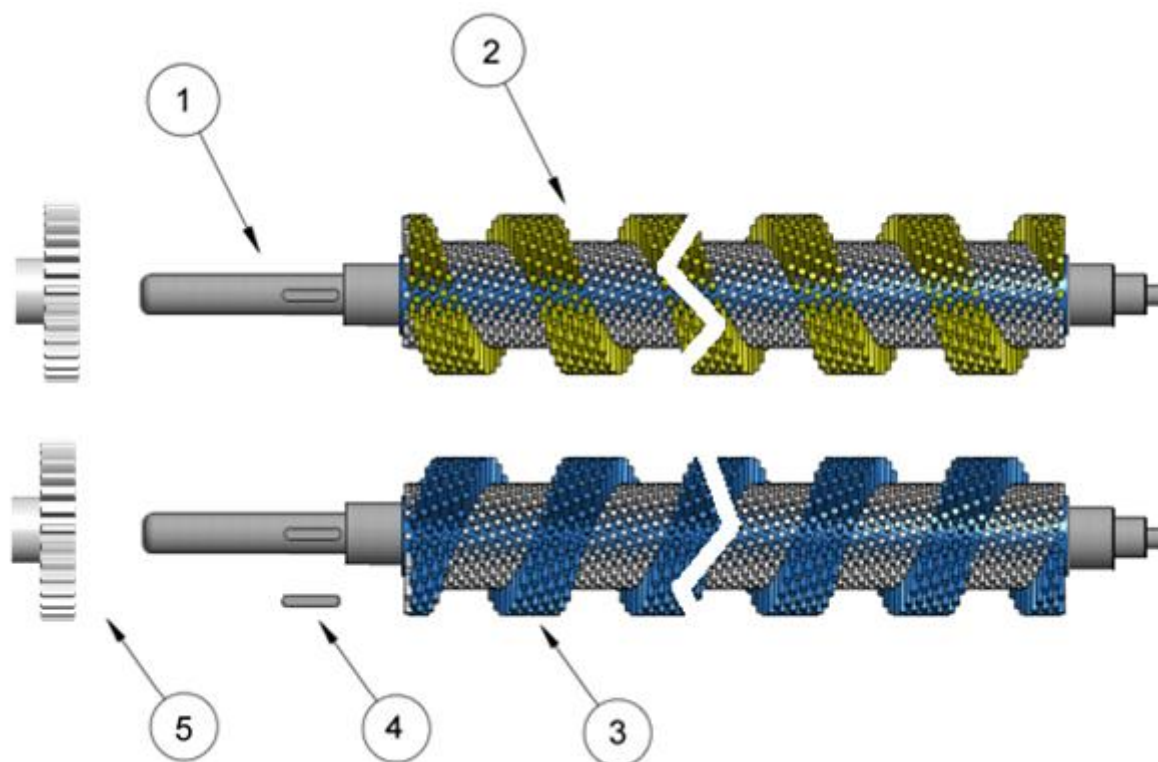


Picture 10.2.2-1) Picture with key - Cleaning sorting conveyor BRM [Brush bearing]

Position number	Pieces	Name	KDEtNr
1	4	Slide bearing plate	10026916
2	4	Brush- flanged sleeve	10026865
3	8	clamping sleeve 6 x 20 DIN 1481 V2A	350500620
4	8	Threaded pin M 8 x 20 DIN 914 V2A	304903202

Cleaning and sorting table BRM

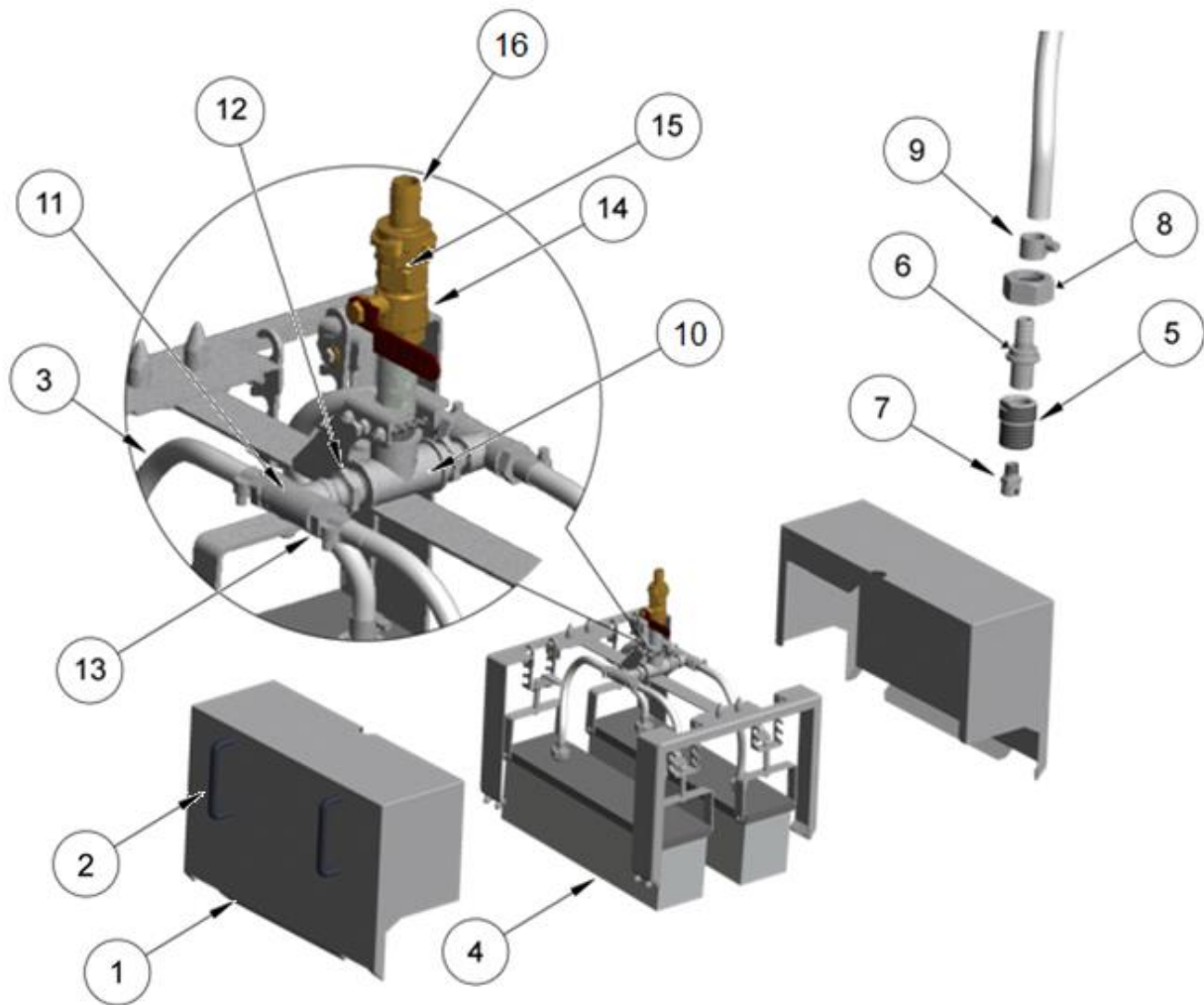
10.2.3 Spare parts list – Circular brushes



Picture 10.2.3-1) Picture with key - Cleaning sorting conveyor BRM [Circular brushes]

Position number	Pieces	Name	KDEtNr
1	4	Axis brush shaft	10028817
2	2	Round brush spiral yellow	881200220
3	2	Round brush spiral blue	881200230
4	2	Feather key A6 x 6 x 28 DIN6885	040100510
5	4	Spur wheel	10026838

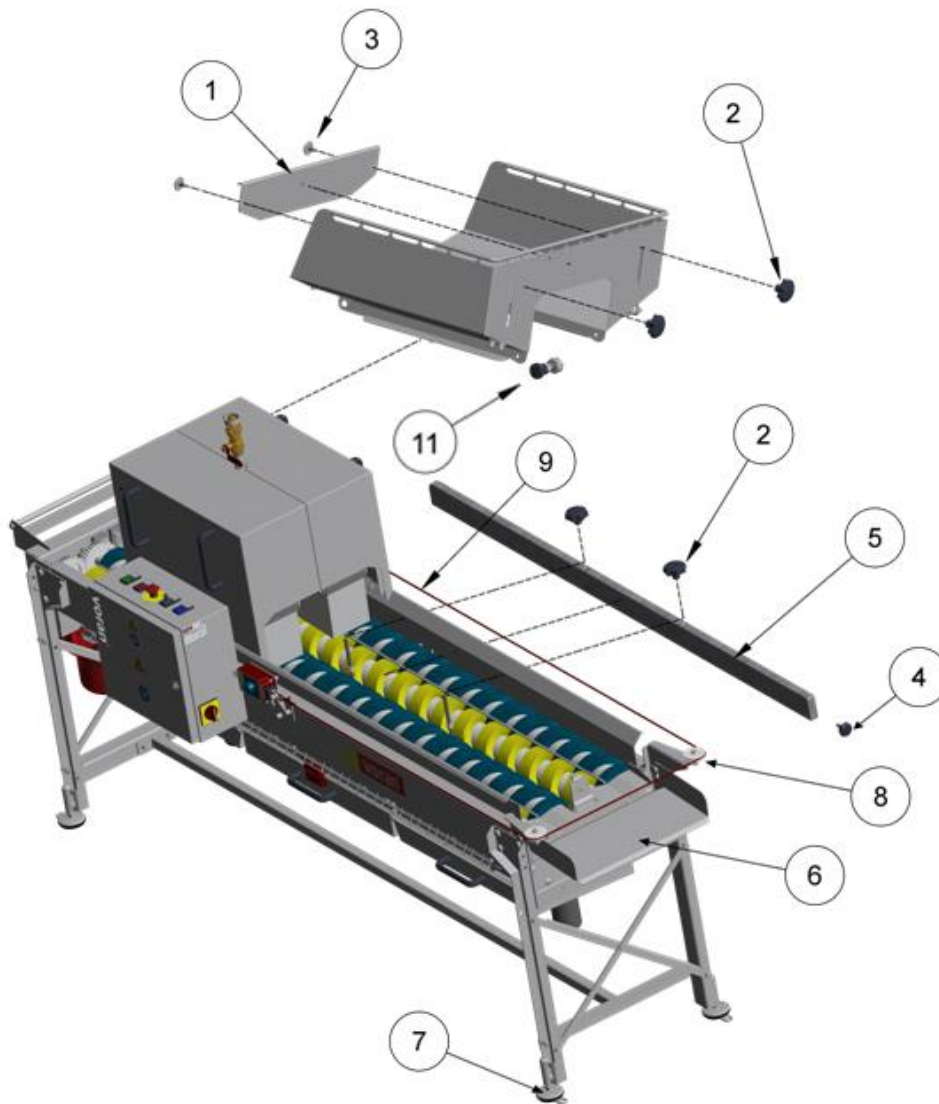
10.2.4 Spare parts list - Brushes



Picture 10.2.4-1) Picture with key - Cleaning sorting conveyor BRM [Brushes]

Position number	Pieces	Name	KDEtNr
1	2	Cover	10029952
2	4	Bow-type handle	800800100
3	1	Silicone hose 12 ID x 2 mm x 2000	811300100
4	2	Brush strip	881200150
5	4	Nozzle sleeve G3/4"-M24	10029855
6	4	Nozzle piece	10029955
7	4	HD fan nozzle	820300100
8	4	Sleeve nut 3/4"	821237401
9	4	ABA clamp 11 - 17 mm V2A	450101602
10	1	T-fitting 3/4"	820530740
11	2	T-fitting R1/2	820102000
12	2	Reducing double nipple 3/4"-1/2"	820524541
13	4	Hose nozzle 1/2"	546011700
14	1	Ball valve 3/4"	820400550
15	1	Jaw clutch 3/4"	821300141
16	1	hose Ø 20	821300142

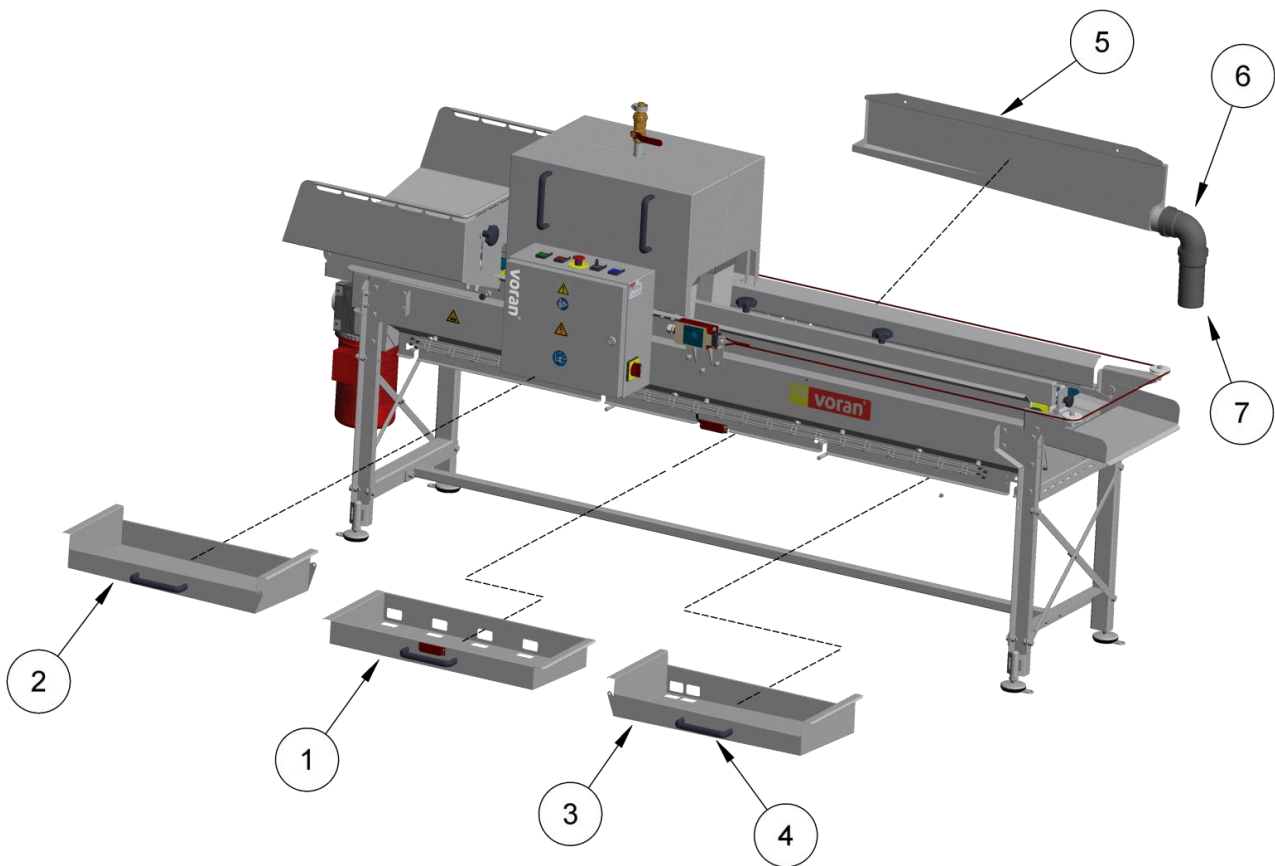
10.2.5 Spare parts list – Base frame



Picture 10.2.5-1) Picture with key - Cleaning sorting conveyor BRM [Base frame]

Position number	Pieces	Name	KDEtNr
1	1	Slider	10029889
2	4	Star knob KU-63-M10	800100300
3	2	cup square bolt. M10x25 DIN 603 V2A	304204802
4	1	Star knob screw KU-40-M8x20	800100500
5	1	Guide PE-HD white	10030214
6	1	discharge slide	10028759
7	4	Hinged foot	801000116
	4	Thin nut M 16	320401602
8	2	Deviation roller for release cord	162261014
9	1	Steel wire cable 3/5 mm x 3600 PVC red sheathing	390100001
10	1	Turnbuckle M 8 x 110 DIN 1480 VZ	351100208
11	2	Locking bolt	800900502

10.2.6 Spare parts list – Collecting trough

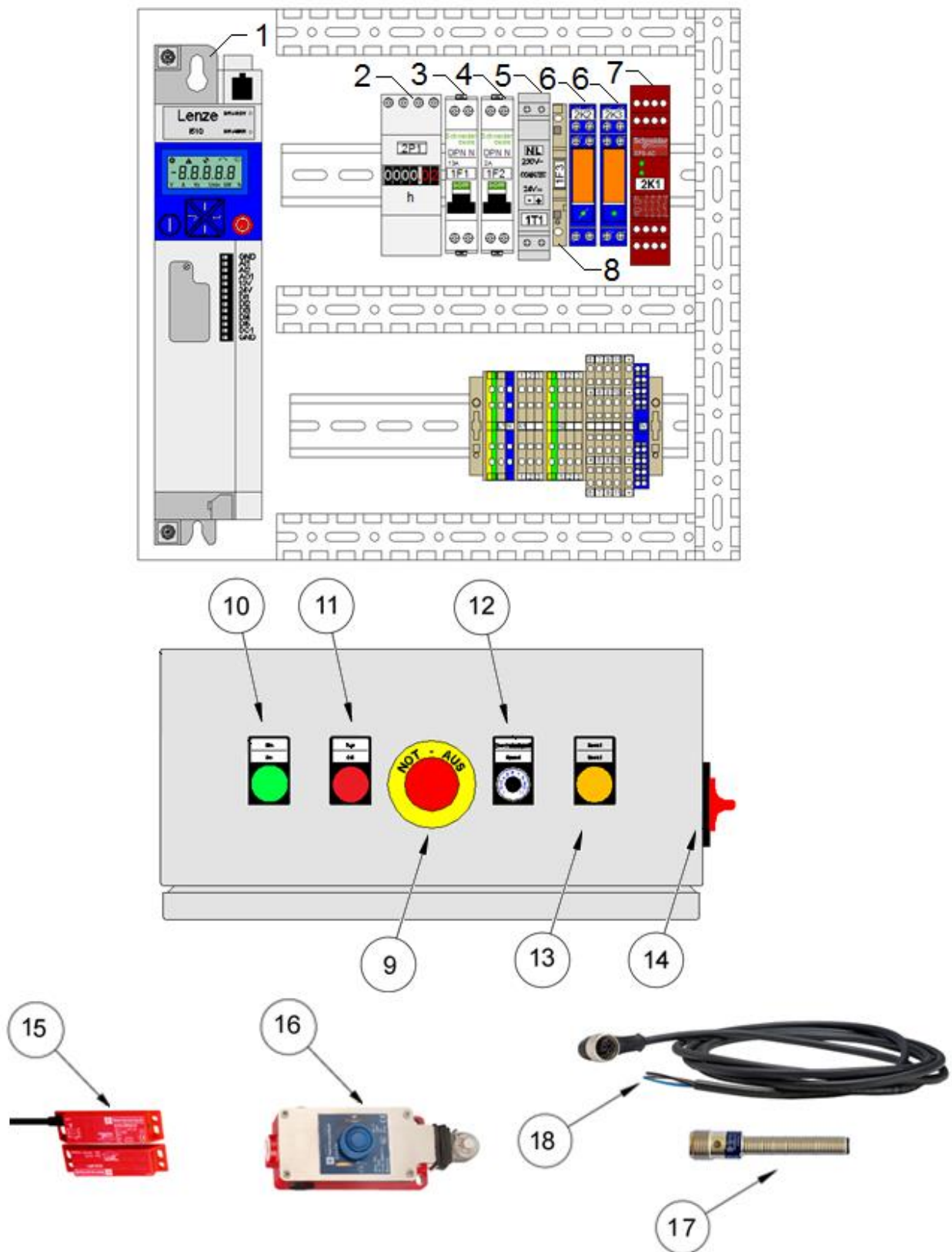


Picture 10.2.6-1) Picture with key - Cleaning sorting conveyor BRM [Collecting trough]

Position number	Pieces	Name	KDEtNr
1	1	collecting trough middle	10029931
2	1	collecting trough left	10029929
3	1	collecting trough right	10029930
4	1	Bow-type handle	800800100
5	1	collecting trough	10029935
6	1	HTB70/87 Pipe bend	431000004
7	1	HT70/250 Pipe	431000016

Cleaning and sorting table BRM

10.2.7 Spare parts list – Electrical



Picture 10.2.7-1) Picture with key - Cleaning sorting conveyor VVB [Electric]

Position number	Pieces	Name	KDEtNr
1	1	Frequenzumrichter i510-C1.5/230-1	160200090
	1	Diagnosemodul I5MADK0000000S	160200091
2	1	Betriebsstundenzähler Aufbau 5 - 35VDC	121400500
3	1	A9N17518 Schmalb. iDPN 1P+N 13A, B, 6kA	160300083
4	1	A9N21553 Clario iDPN 1P+N 2A C 6kA 1TE	160300032
5	1	Transformator 230 VAC / 24 VDC 0,5 A	121100314
6	2	Koppelrelais 2-Wechslerkont. 24V DC	160302000
7	1	XPSAC5121 Safety Mod 24VAC Not-Aus	160500080
8	1	G-Sicherung 200mA träge	160300200
9	1	ZB4BS844 Pilztaster (Not-Aus) rt 40mm	160700005
	1	ZB4BZ102 Unterteil 1Ö Anbau m.Klemmpl.	160700016
10	1	ZB4BW333 Leuchtdrucktaster grün	160700150
	1	ZB4BW0B31 Hilfsschalterblock mit LED gr	160700154
11	1	ZB4BA5 Taster ge Fronteinbau bündig	160700086
	1	ZB4BZ101 Unterteil 1S Anbau m.Klemmpl.	160700015
12	1	ZB4BD912 Potentiometer	160700179
	1	Dreh-Poti 0-10kOhm mit 6mm Metallachse	161100700
13	1	ZB4BA5 Taster ge Fronteinbau bündig	160700086
	1	ZB4BZ101 Unterteil 1S Anbau m.Klemmpl.	160700015
14	1	VCD01 Not-Aus Hauptschalter 20A	120600000
15	1	XCSDMP50110 Magnetschalter	121000525
16	1	XY2CH13250 Seilzugnotschalter	121500202
17	1	XS2M08PC410D Ind. Näherungsschalter	160800029
18	1	XZCP1241L5 Verbindungskabel M12	160800033

10.2.8 Pictogram

Position number	Pieces	name	KDEtNr
	2	Voran data plate-adhesive silver	889000001
	1	Decal "Warning: Electrical voltage"	889000052
	3	Decal "Vorán Logo"	889000008
	1	Decal "Warning: rotating tools"	889000049
	1	Decal "Refer to operating instructions"	889100001
	1	Decal "Before opening unplug"	889000064

11 CE – Declaration of Conformity

EG-Konformitätserklärung

entsprechend der EG-Richtlinie 2006/42/EG, Anhang II A



Der Hersteller und Bevollmächtigte für die technische Dokumentation:

VORAN Maschinen GmbH

A-4632 Pichl bei Wels, Inn7

erklärt ausdrücklich, dass das die nachstehend bezeichnete Maschine:

Produkt: Bürstenreinigungsmodul

Typ: BRM

Funktion: Reinigen und Fördern von Obst und Gemüse

auf das sich diese Erklärung bezieht, den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Richtlinien:

- 2006/42/EG** Maschinenrichtlinie
- 1935/2004/EG** Materialien und Gegenstände mit Lebensmittelkontakt
- 2006/95/EG** Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen
- 2004/108/EG** Elektromagnetische Verträglichkeit

Zur sachgerechten Umsetzung der in den EG-Richtlinien genannten Sicherheits- und Gesundheitsanforderungen wurden folgende harmonisierten Normen entsprechend Artikel 7 Abs. 2 herangezogen:

EN ISO12100-1	Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze Teil 1: Grundsätzliche Terminologie, Methodologie
EN ISO12100-2	Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze Teil 2: Technische Leitsätze
EN ISO 12100	Sicherheit von Maschinen - Allgemeine Gestaltungsleitsätze - Risikobewertung und Risikominderung
EN 60204-1	Sicherheit von Maschinen - Elektrische Ausrüstung von Maschinen - Teil 1: Allgemeine Anforderungen
EN ISO 13850	Sicherheit von Maschinen - Not-Halt – Gestaltungsleitsätze
EN 1037	Sicherheit von Maschinen - Vermeidung von unerwartetem Anlauf
EN 1672-2	Nahrungsmittelmaschinen - Allgemeine Gestaltungsleitsätze - Teil 2: Hygieneanforderungen
EN 61310-1	Sicherheit von Maschinen – Anzeigen, Kennzeichen und Bedienen

Pichl bei Wels, 02. März 2016



Robert Schachinger
Technische Dokumentation

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Franz Lugmair
Geschäftsführung

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Cleaning and sorting table BRM

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voran GmbH business sectors

machinery

manufacturing

plant construction

facades

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