ZEMMLER®
SIEBANLAGEN

Operating manual

ZEMMLER® MULTI SCREEN® MS-R-DH 5200

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1 General information

Notice!

Please read the operating manual carefully before bringing the machine into service, to assure a maximum utilization. You will be better informed about the mode of operation and functionality of the machine.

Please read the manual and keep it safe.

Please observe and follow all safety instructions.

Notice!

All contemplated technical data and instructions refer to series-production status of the double trommel ZEMMLER® MULTI SCREEN® MS 5200 dated:

December 2012

1.1 Field of application

The double trommel ZEMMLER® MULTI SCREEN® MS 5200-R-DH is a mobile double trommel. This machine classifies bulk material in 3 fractions at one working stage with high volumetric flow.

The optional pre classification by a stone grid mounted on the feeder, increases the fractions to 4 at one working stage.

The ZEMMLER® MULTI SCREEN® MS 5200-R-DH has been designed to screen various materials like compost, soil, sand, cinder, gravel, ballast, wood chips, waste, stones as well as mineralic waste down to 2 mm grain size.

The maximum grain size, being handled without a stone grid, is ≤ 250 mm.

1.2 Information about the machine

Description	ZEMMLER® MULTI SCREEN® MS 5200
Machine no.	MS5200 054
Year of manufacturing	05/2016
Version	2016
Manufacturer / Distributor	Zemmler Siebanlagen GmbH
	Woschkower Weg 25
	D-01983 Grossraeschen
	+49 35753 6900 0
	+49 35753 6900 11
	info@zemmler.de
	www.zemmler.de

1.3 Scope of delivery

The ZEMMLER® MULTI SCREEN® MS 5200-R-DH is standard equipped with the following accessories:

Operating and service manual of machine (2x)

Operating and service manual of engine manufacturer (1x)

Certificate of guarantee of engine manufacturer (1x)

EU declaration of conformity (2x)

Operating manual (2x)

Draw bar eye (40mm / 50mm / VBG / or other)

Padlock (8x)

Appending key (2x)

Ignition key (2x)

Ladder (1x)

Brake shoe (2x)

Hook for feeder hatch (1x)

The following accessories can be supplied:

- Remote control
- Wire screens

2 Documentation

The documentation about the double trommel consists of the following parts:

Operating manual

1. The operating manual (abbreviated „OM“) informs about function, assembling, bringing into service, transportation, handling, service, maintenance and removal from service of the machine.
   The operating manual is no text book but a reference book.

2. The operating manuals of modification parts and –machines are added at this operating manual’s addendum.

3. The spare part list consists of component groups, flow charts and electro documentation. They contain circuit diagrams. These documentations provide the technical staff of the operator assistance by ordering expendable and spare parts..

Notice!

At correspondence with staff of Zemmler Siebanlagen GmbH, please use machine parameter according to *chapter 1.2 – information about machine*

2.1 Operating manual

This operating manual is an essential part of the machine and mandatory for a successful and save service of the machine.

The operating manual includes important advices to work the double trommel save, appropriate and efficient. Paying attention to the operation manual helps avoiding danger, reduces repair costs and down time and increases reliability and durability.

The operating manual must be available at the operator of the machine and has to be read and applied by any staff member working with or by the machine:

- operation, troubleshooting at working process, disposal of utilities and additive,
- attendance (service, care, maintenance), quality assurance and/or transportation

e.g.

2.1.1 Target audiences

The operation manual is a reference book for informing service personnel and operator. If necessary for expert staff working for maintenance, troubleshooting and quality assurance on the double trommel. This operating manual is to disburden a save and professional operating of the machine.

2.1.2 Use of operating manual

Notice!

This operation manual contains basic or continuative information about a discussed subject. Cross references link to the related chapter.

e.g.: "Realization, see *chapter 6.3 - title*“

Explanation: The instruction is in chapter 6, article 6.3.

Premise for working at/ with the double trommel is an understanding for the functions of the double trommel.

Attention should be paid to safety aspects, relevant for operating the double trommel as well as check ups and maintenance. Therefore, begin studying *chapter 3 – safety advices* of the operation manual.

Further emphases for operating personnel about operating are chapter *4 – General description*, *chapter 6 – Bringing into service* and *chapter 8 – operating*.

Are the operation personnel responsible for maintenance of the double trommel, *chapter 11 – maintenance and servicing* gives instructions for realization.

This operating manual is also a help for operators of this double trommel, to make organizational measures to assure a secure operation of the machine and to generate an efficient and top quality production.

Most important information for the operator are written in *chapter* 3 – *Safety advices* and *chapter 6 –Bringing to service*. These described demands should be taken in account by conception the working area and defining the work process.

2.1.3 Symbols and warning notices within the operating manual

The accident prevention regulations and common safety advices have to be complied during service of the double trommel. Important advices like safety related advices are marked by equivalent symbols.

The symbols and structural elements of the operating manual have the following appearance and meanings:

Caution – Danger for people!

This symbol marks common work safety advices. Consequence of non observance will cause danger for life and living.

Pay close attention to the work safety advices and behave very careful in these cases.

Warning – Danger due to electric voltage!

This symbol marks common work safety advices. Consequence of non observance will cause danger for life and living by electric voltage.

Pay close attention to the work safety advices and behave very careful in these cases.

Warning – Danger due to crushing of body or body parts!

This symbol marks common work safety advices. Consequence of non observance will cause danger for life and living by crushing due to conveyor belts.

Pay close attention to the work safety advices and behave very careful in these cases.

Warning – Danger by retracting body or body parts!

This symbol marks common work safety advices. Consequence of non observance will cause danger for life and living by retracting at the drum or carrier idlers.

Pay close attention to the work safety advices and behave very careful in these cases.

Attention – Damage to double trommel!

This symbol marks all safety advices linking to regulations, instructions or sequence of operation which have to be strictly followed. Consequence of non observance will cause in damaging or destroying the double trommel and/or other machine parts as well as false production.

This symbol emphasizes examples of use and other useful information of this operating manual.

Duty of instruction!

This symbol marks all advices referring to certain instructions, which have to be strictly followed. Consequence of non observance will cause in damaging or destroying the double trommel and/or other machine parts as well as false production.

2.2 Identification of documentation

This submitted operating manual refers to the double trommel according to identification sheet (chapter *1.2*). For a clear allocation, each page's footer of the operating manual is labeled with the number of version. The complete identification includes the following information:

Herstell-Nr.	MS 5200.047.16 (Stand .05.2016)
Versionsindex	2016

2.3 Guarantee of commitment and warranty

The machine documentation including all of its parts is copyrighted. Each and every application outside the restrictions of the law of copyright without our permission is forbidden and chargeable. This in particular reckons for duplication and editing.

An abandonment of the operating manual to a third party is forbidden and obligates to pay damage.

All information and advices for the service and maintenance of the machine considering our current experiences and knowledge in all conscience. We reserve the right to all technical changes due to the improvement of this particular machine. Only these spare parts, approved by us and listed in the spare part book, are being allowed to use.

We are liable for possible mistakes or default, under exclusion further demands, within the liability of guarantee of the main agreement. Claims for damages exist likewise in extend arranged duties of compensation of the main agreement.

Translations are done at best knowledge. We cannot take liability for mistranslation.

The delivered German version of this documentation remains authoritative.

The textual and graphical descriptions do not necessary match the scope of delivery respectively a spare part order. The drawings, graphics and photomontage do not accord the scale 1:1.

2.3.1 Warranty

Warranty:

Beyond legal warranties for defects of the distributor, we as manufacturer guarantee under the following premises an acceptable durability of proper use Zemmler Siebanlagen GmbH products.

The warranty expanse to the function of Zemmler Siebanlagen GmbH products and covers all defects, detectable to fabrication or material failures.

We do not take liability for secondary damages!

We do not take liability for damage to property or persons caused by faulty operating or ignoring of all safety advices. In such cases any claim of warranty expires.

Condition of warranty:

Our warranty consists exclusively in a free repair of our product and or in a free spare part delivery to the first – end customer within our chosen time of warranty.

The costs, expenses, postage and suchlike of the warranty recipient will not be substituted. A claim of warranty is only accepted at sight of the default component. The exchange of a default component will be exclusive by Zemmler Siebanlagen GmbH or by a service company, authorized by us.

A claim of warranty expires once repairs are done by not authorized service companies and/or use of not original spare parts.

Time of warranty:

The time of warranty is 12 month or 1000 working hours, depending on what case occurs first. It starts with the day of delivery to the first - end customer. In case of complains or warranty, please contact the distributor or manufacturer

Zemmler Siebanlagen GmbH.

Limitation of liability:

All exchangeable parts, like screws, connection pins and so on are excluded of this warranty Further more we take no liability for damage caused by:

- improper and inappropriate use
- wear parts (belts, rubber straps, stripper, screens, brush elements)
- faulty and sloppily use
- No observance of maintenance advices, operating advices, changes, inspection and self repair chemical and physical as well as damage on the machine surface due to improper use, like damage by sharp objects.

3 Safety advices

3.1 Preface to safety

The chapter *Safety advices* gives an overview about all safety relevant aspects for operating the double trommel.

General safety advices bear on to safety-related condition of the double trommel. This is postulate for operation and maintenance as well as handling operating materials and auxiliary materials.

Beyond general advices, in each individual chapter of the operating manual are explanations given of procedure or instruction on how to act, if necessary, are labeled with concrete safety advices.

Primary attention to all safety advices (in general and concrete) enables an efficient protection of personnel as well as environmental danger and a safe and undisturbed service of the double trommel.

Zemmler Siebanlagen GmbH advices operator, by the means of given operating manual, to adjust work flows of the service according to set up a safety concept or to adjust a current safety concept. Essential adjustments or advices for realization of this concept should be configured in written form within the operating manual for individual areas of operation.

The double trommel meets the highest presently valid norms of technology and is generally safe to operate. We construct and produce our machines according to machine guidelines 2006/42/EG.

It may be danger potential of the machine if it is operated by uneducated personnel, improper or non intended use.

Thus each person operating or maintaining the machine must have read and understood the operating manual before fulfilling its tasks. This also applies to person who have on such or similar machine or had been educated by Zemmler Siebanlagen GmbH.

It is recommended to the owner, to receive a written conformation of the personnel of having noticed the content of the operating manual. Notice of the content of the operating manual is a premise to protect persons of danger as well as avoiding other faults.

The operating manual has to be accessible at any time to operating and maintenance personnel!

Finally accountable for an accident free service is the owner or of the owner authorized personnel which have to operate the machine according to the owner’s assignment.

Information about operational safety refers to presently valid ordinance of the European Union. Adequate laws and country ordinances have to be observed and complied in other countries. The current stand of laws has to be assessed by the owner for both at European Union and other countries.

Beside the safety advices of the operating manual all general valid safety and accident prevention instructions must be observed and followed.

All specifications of the operating manual are boundless to obey!

3.2 Operational safety

By following all advices for operational safety, danger to persons, environment and or the double trommel can be avoided.

Ignoring these advices can cause under certain circumstances the following:

- Danger to persons due to mechanical, electrical or chemical reaction
- Endangering environment
- Breakdown of the double trommel and or other machine components

Ignoring the safety regulations can lead to loss of any kind of claim of damages!

3.3 Conventional usage

The operating safety of the double trommel is only ensured by correct usage according to the information of the operating manual.

The double trommel is a system build specifically for screening bulk goods into 3 fractions. At this, attention has to be paid for its maximum and minimum grain size as well as the maximum humidity of the bulk good. Please look at *chapter 0 –Technical information*

Every other or exceeding usage will not be conventional! Here from resulting damage will be the liability of the owner. This is also applies for unauthorized changes on the machine.

Part of conventional usage is adherence of starting-, operating- and maintenance regulations, prescribed by Zemmler Siebanlagen GmbH. Also the authorized bulk goods as well as listed operating materials and auxiliary materials.

Furthermore, only original spare parts are allowed to be disposed. Wrong or faulty spare parts can lead to damage of the machine.

Maintaining the manufacturer's guidelines for operation, maintenance and cleaning are essential for conventional usage. By unauthorized usage and non appropriate appliance will result in exclusion of liability.

Notice!

Our specialist will kindly answer your questions concerning bulk goods and the according screens to assure an efficient utilization of the machine.

3.4 Danger signs on the double trommel

Signs attached directly on the machine or associated secondary installations like danger signs, direction of rotation arrows, operation signs e.g. must be absolutely observed. It is forbidden to remove this signs and they have to be kept readable.

The symbols of the danger signs have the following appearance and meaning:

Warning – Danger by retracting body or body parts

Warning - hot surface

Warning – Danger due to crushing of body or body parts

Wearing ear protection and helmet

3.5 General safety advices about the technical condition of the machine

The machines construction and manufacturing meats current state and regulations of technology.
To avoid danger and ensure efficient capacity it is forbidden to make changes or remodeling on the machine which are not explicit authorized by Zemmler Siebanlagen GmbH. This also applies for program editing of the programmable system control.

Arbitrary changes or remodeling especially those endangering personnel, environment or the machine are generally forbidden

In these operating manual stated set points respectively its ranges must not be exceeded.

To be used spare parts must meet technical demands defined by Zemmler Siebanlagen GmbH. This is warranted by original spare parts

The owner is beholden to keep the machine in an acceptable and operating safe condition. In particular all safety installations and interlocks must be easy to access and constantly checked for unobjectionable operation.

3.6 General safety advices for operator

The operating manual is an essential part of the machine. The operator provides correspondence for the operating personnel to have noticed the guidelines.

The operating manual has to be updated be the operator according to national regulations about accident prevention and environment protection. Including information about obligatory supervision and notification requirement regarding operating characteristics like work organization, work flow and personnel.

Beside effective and binding regulations (accident prevention and safety at work) of the country of operator as well as sight of usage all authorized regulations for safe and proper operation have to be paid attention to.

The operator has to commit the operating personnel to wear personal riot gear as far local regulations envisage so.

First aid equipment has to be placed within reach! The places of fire extinguishing devices have to be announced!
Fire detectors and fire fighting possibilities shall be provided.

Only appoint trained and instructed personnel. Competences of personnel for operating, mounting, maintaining and servicing have to be clearly structured.

A machine operator has to be chosen to take responsibility for the entire machine and personnel. Educating, instructing or schooling personnel in general is only allowed to operate the machine under permanent supervision of experienced specialists.

3.7 General safety advices for operating personnel

Only authorized, educated and instructed personnel are allowed to operate and maintain the machine. The personnel have to be instructed about possible danger.

Instructed personnel is, who is informed about the assigned task and possible danger at incorrect behavior and if necessary semi-skilled as well as taught about needful protection and precaution.

Specialist is who is, based on job training, knowledge and experiences as well as knowledge of relevant stipulation, able to judge the assigned duties and detects possible danger.

If the personnel not educated as necessary, it has to be accordingly taught. This can be by Zemmler Siebanlagen GmbH by order of the owner.

Competency for operation and maintenance must be clearly defined and adhere in order to avoid inexplicit competences in the aspect of safety.

The machine must be operated and maintained by persons who are expected to do a reliable duty. To be of no consequence every method of operation has to be banned which endangers persons, environment or the machine. Persons under the influence of drugs, alcohol or pharmaceuticals affecting the ability to response are not allowed to operate the machine at all.

Employee selection must consider minimum age, protection of minors of respective country and if applicable thereupon founded specific to profession regulations.

The operator has to make sure that no unauthorized persons operate the machine.

Unauthorized persons like visitors must not get in touch with the machine. They must keep an adequate safety clearance.

To avoid person damage work wear of operating and maintaining personnel must meet accident prevention regulations and suggestions of Employer's Liability Insurance Association (no wide sleeves, low breaking strength et cetera).

According to implemented workings personnel body protection gear has to be worn like eye protection, ear protection, protective clothing.

3.8 Behavior in case of danger and accidents

In case of danger or accidents the machine can be shut down by emergency-stop switch (see fig. 3-1).

The emergency-stop function causes an immediately stop of the machine irrespective the present position of machine parts.

Activate safety devices only in case of emergency. Do not use them to normally stop the machine.

Always be prepared for accidents and fire!

Keep first-aid supplies (first-aid box, eye rinse bottle et cetera) and fire extinguisher in reach.

Personnel must be familiar with handling and location of safety devices, accident enunciator, first-aid facilities and rescue facilities. Hereby the best possible assistance at accidences and defense of danger can be assured.

3.9 Safety advices for maintenance

Accomplish maintenance duties only at stand still of machine.

For all maintenance duties, pay attention to shut down procedure and essential safeguards as describes in this operating manual.

At all operating disruption assures that all safeguards work properly.

Maintenance cycle and repeating check of engine, hydraulic system and technical equipment have to be planed and arranged respectively commissioned be the owner.

At breakdown of the machine, operation has to be immediately suspended; the machine has to be run empty and turned off. The affected parts have to be repaired or exchanged.

After installation work and maintenance all safety devices have to be checked if installed correctly and work properly.

Safety devices must not be bypassed or set out of function.

Certain maintenance duties can only be done by specialists. This applies especially for hydraulic and electric components.

3.10 Location of safety installations

The ZEMLLER® MULTI SCREEN® MS 5200 is equipped with six emergency stops.

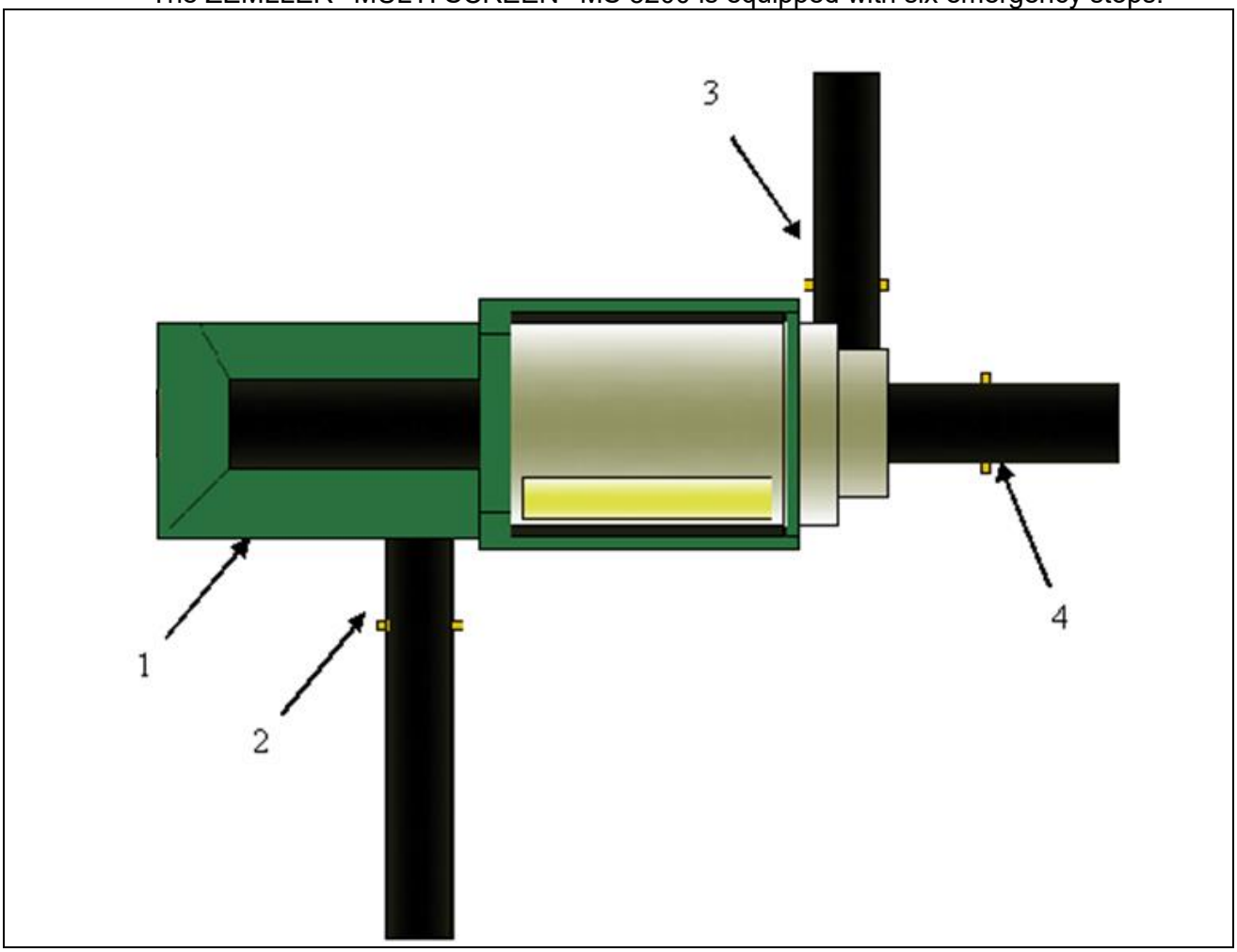

fig. 3-1: location of safety installations

1 Main switch on control unit (ignition switch)

2 Emergency stop on conveyor belt fine fraction (right and left on supporting frame)

3 Emergency stop on conveyor belt middle fraction (right and left on supporting frame)

4 Emergency stop on conveyor belt coarse fraction (right and left on supporting frame)

5 Remote control (optional)

Notice!

All screwed on coverings must only be demounted for service and maintenance. All coverings and slides (optional) must be mounted for operation.

3.11 Safety advices for work position on the double trommel

The only objects within the working position are the ones needed for the particular working stage.

The operator must always be within spitting distance of the machine and supervise the operation. The machine must not run without supervision.

Upon completion of operation, the machine must be run empty and turned off.

Secure machine against unintended restart.

fig. 3-2 displays alignment of working position, operating position and feeding position for operation personnel.

Top view of machine with marks of work positions

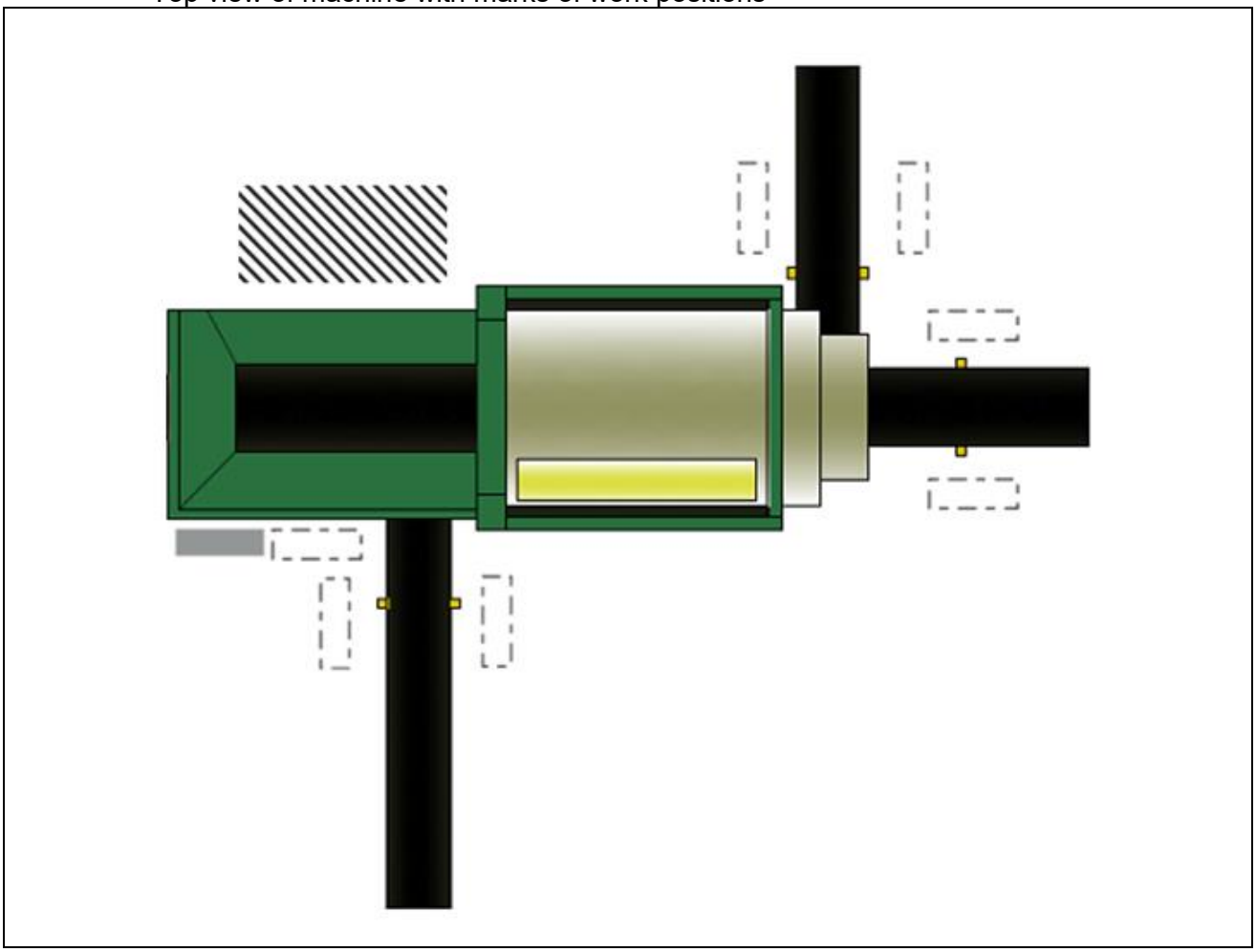

fig. 3-2: Alignment of work positions

Work position for operation of machine.

Work position for rigging, accomplish visual inspection and monitoring check instruments during operation, service, maintenance, cleaning as well as troubleshooting.

Feeding area of machine

3.12 Safety advices for emissions

3.12.1 In general

Caution!

Operating the machine can cause emission. Under certain operating conditions these emissions can endanger the health of the personnel.

The operator has to take care of abiding the permitted maximum emission values.

3.12.2 Noise emission

Caution!

Operating the machine causes noise emission. These emissions are over mandatory threshold.

These emissions can endanger the health of personnel. The operator has to assure that its employees wear adequate ear protection.

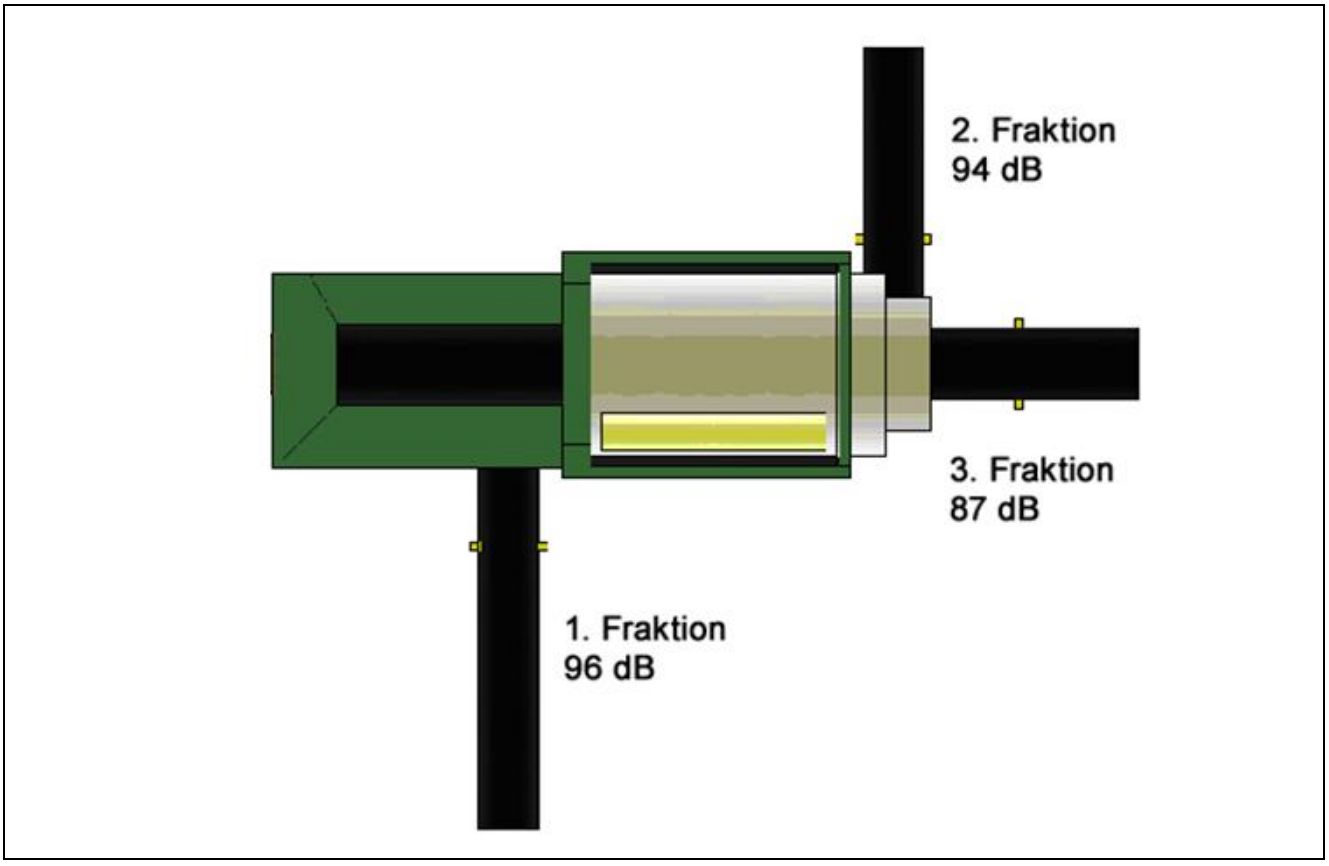

fig. 3-3: emission values of the machine

Notice!

The values listed above may vary depending on operating conditions (screening of debris e.g.).

4 General description

4.1 General description of the mobile double trommel

The double trommel ZEMMLER® MULTI SCREEN® MS 5200-R-DH is a mobile screening machine. It classifies bulk load into three factions within one working stage with a high capacity.

The optional pre-classification with a stone grid mounted on the silo increases the fractions to four.

The ZEMMLER® MULTI SCREEN® MS 2001 has been designed to screen various materials like compost, soil, sand, cinder, grit, gravel, wood chips, waste, stones, mineralic waste et cetera or golf sand down to 2 mm grain size.

The maximum grain size being handled without the stone grid is ≤ 250 mm.

4.2 Brief description of the screening process

The bulk load is dumped into the silo. The feeding belt carries the material into the double drum. Due to rotation of the double trommel and the adequate screens, the material is classified while it is yielding to the end of the double drum. The rotation of the double drum leads to an extended dwell time of the material within the machine. This enables a classification of larger volume flow rate at compact construction. The resulting three factions are dumped on three different sides of the machine. All three conveyor belts direct the screened material on three angle of repose.

Coarse bulk loads can be pre-classified by an optional stone grid. This stone grid is hydraulic powered to remove the coarse material over a chute after feeding

The double trommel can be operated with a remote control which is controlled by the operating personnel. This increases the efficiency and minimizes staff assignment.

4.3 Assembly overview

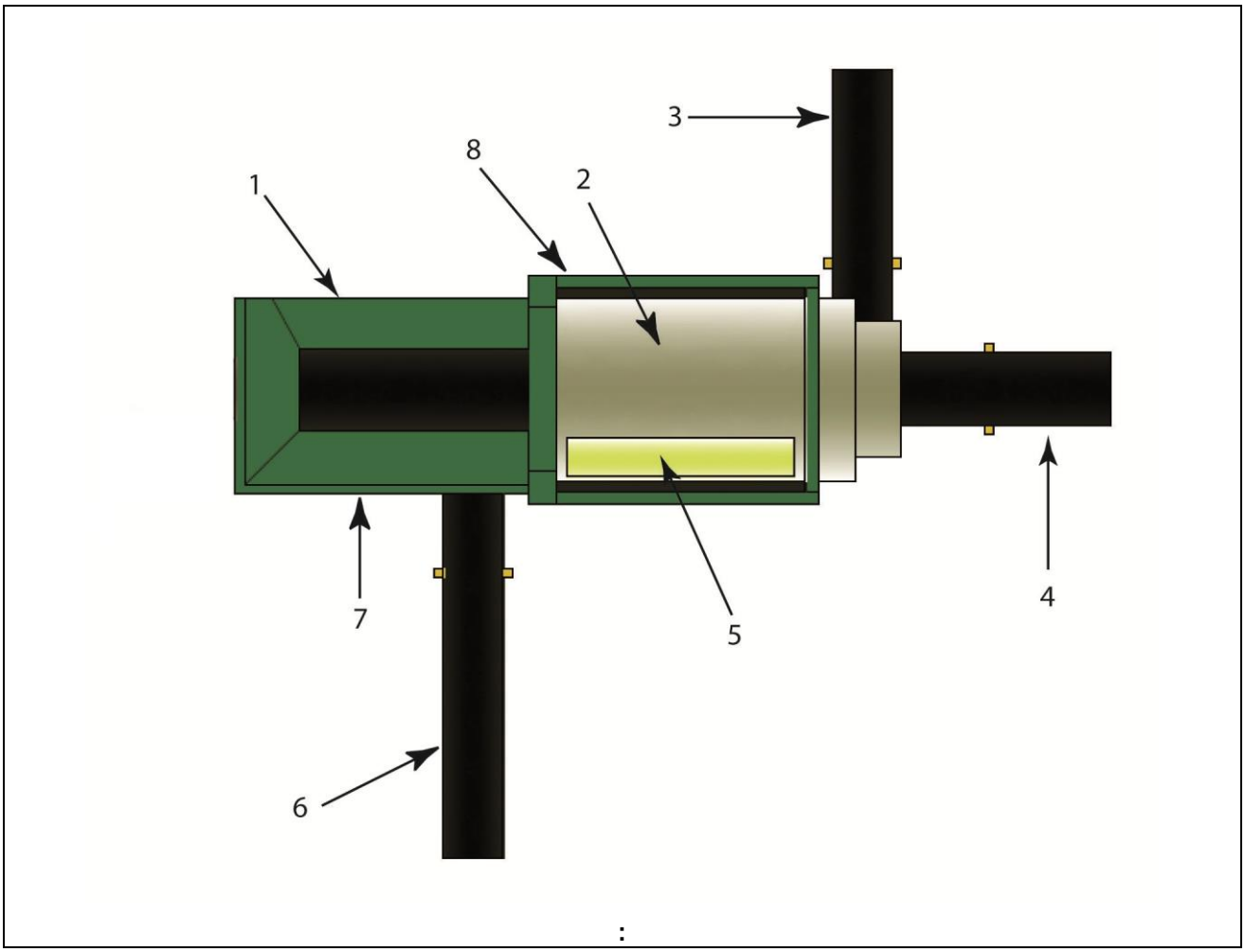

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fig. 4-1: Assembly overview (top view)

1 Feeding hopper and stone gride (optional)
2 Double trommel
3 Conveyor belt of middle fraction
4 Conveyor belt of coarse fraction
5 Cleaning brush
6 Conveyor belt of fine fraction
7 Engine and operation panel
8 Track drive

4.4 Assembly

4.4.1 Feeder and stone gride (optional)

The Feeder consists of the feeding hopper and a conveyor belt, which moves the screening material into the double trommel.

Cubage:	5.5 cbm
Belt width:	1,000 mm

4.4.2 Double trommel

The sorting trommel consists of two tightly joined drums. The mesh size of the screens can be changed by choosing different sizes of wire screens.

Outside diameter:	2,005 mm
Inside diameter:	1,500 mm
Outside screening surface:	22.1 sqm
Inside screening surface:	24.5 sqm

4.4.3 Conveyor belt for fine fraction

The conveyor belt for the smallest classification ejects the screenings on the left hand side on dump.

Belt width:	650 mm
Belt length:	6,000 mm
Belt type:	wave edge belt, XE 200/2 2+2

4.4.4 Conveyor belt for middle fraction

The conveyor belt for the middle classification ejects the screenings on the right hand side on dump.

Belt width:	650 mm
Belt length:	5,300 mm (optional 7,350 mm)
Belt type:	wave edge belt, XE 200/2 2+2

4.4.5 Conveyor belt for coarse fraction

The conveyor belt for the biggest classification ejects the screenings on the rear side on dump.

Belt width:	800 mm
Belt length:	3,000 mm
Belt type:	Ripped belt, EP 400/3 2+1

4.4.6 Engine

The machine is equipped with an air cooled diesel engine which powers the hydraulic pumps.

All belts and the double drum are hydraulic driven.

4.5 Control unit

Notice!

The ZEMMLER® MULTI SCREEN® MS 5200-R-DH is equipped a central control unit. In case of further questions about operation, please contact Zemmler Siebanlagen GmbH and name of the control unit.

4.6 Control unit

The control unit of the double trommel is shown in fig. 4-2.

Read directions of control unit carefully to avoid errors at application.

Contrary to our expectations, please contact Zemmler Siebanlagen GmbH when unintelligibility accures.

fig. 4-2: control unit

1 Navigation of the diesel engine (OPUS)

2 Navigation of the hydraulic system

3 Control panel and status display

4 Ignition lock
5 Operating hours counter
6 Fuel display

4.7 Control panel and status display

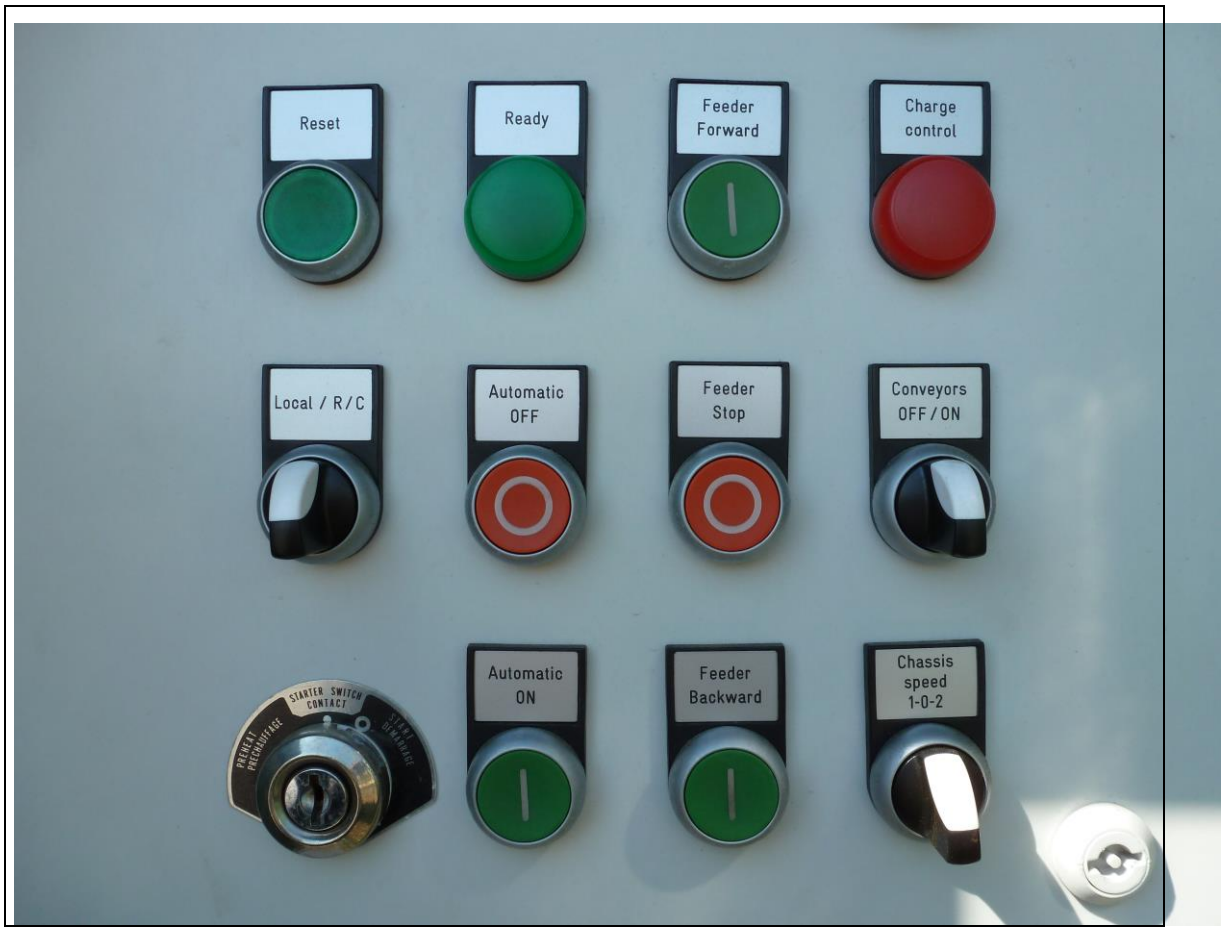
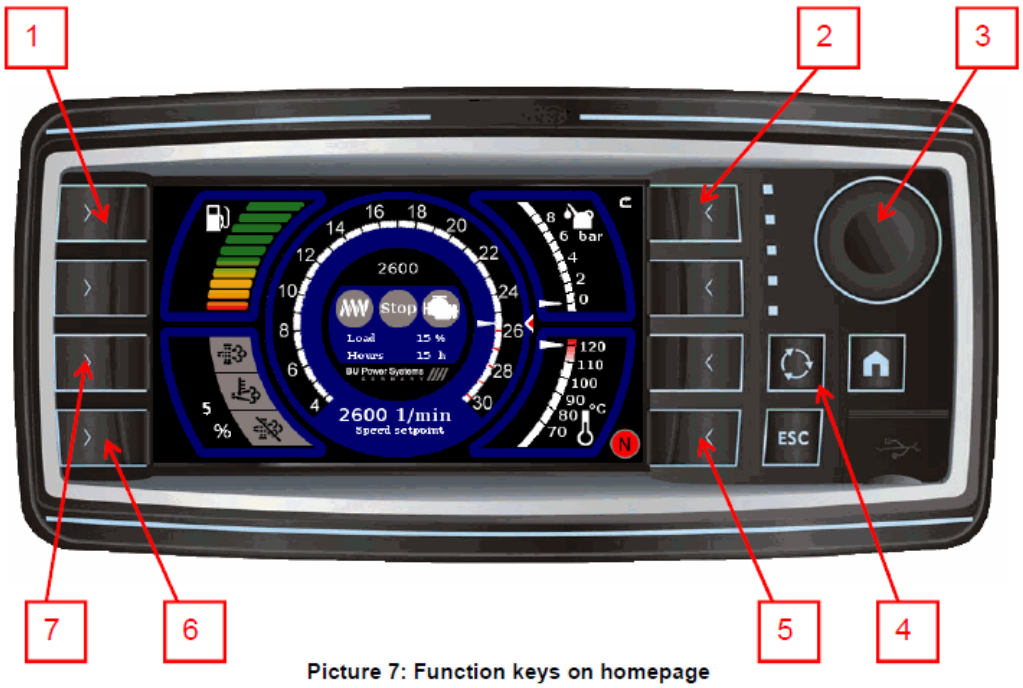


fig. 4-3: Control panel and status display

Reset	Enabling of the machine
Ready	Flashing: Starting the ignition Light Up: Machine is completely ready
Feeder backwards	Feeding belt reverses (belt speed lowers)
Emergency Stop	Emergency Stop switch is used and active, turns red
Local / R/C	Rotary switch to shift from control unit to remote control (optional)
Automatic OFF	Machine shuts down
Feeder Stop	Feeding belt stops
Conveyors OFF/ON	Before folding out the conveyors, turn “Conveyors” on “ON”. Having finished, “Conveyors” need to turn on “OFF”
Automatic ON	Machine starts up till ready to use
Feeder forwards	Feeding belt moves forwards (belt speed increases)
Chassis Speed	Speed of the track drive

4.7.1 Navigation of the diesel engine (OPUS)

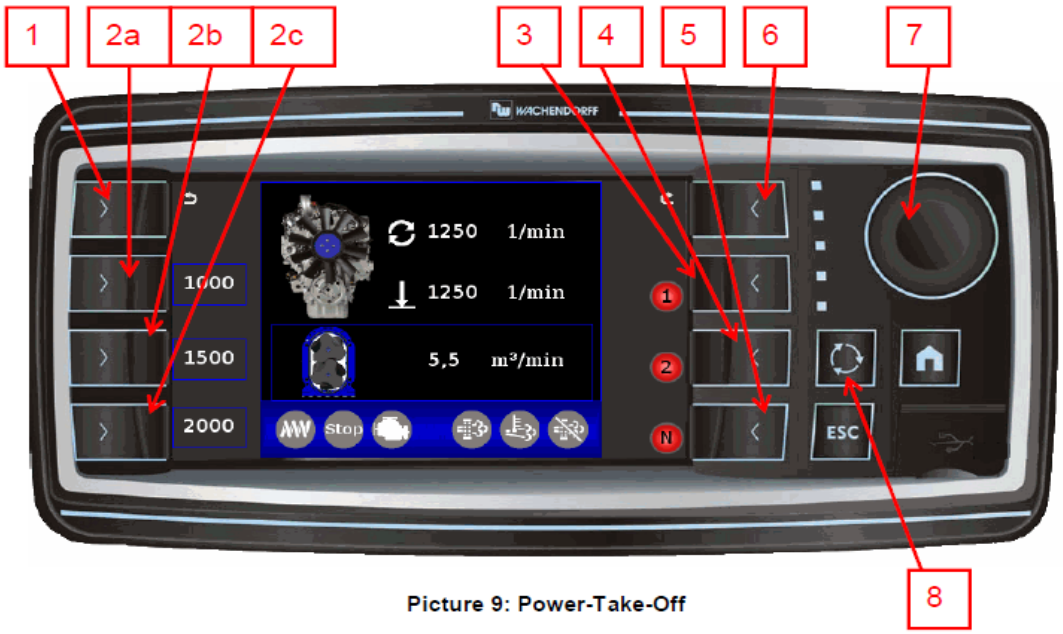
There is an additional operation manual for the OPUS made by BU Power System in the handbook.



Picture 7: Function keys on homepage

fig. 4 – 4: main menu

Skip the page by pushing 2.



Picture 9: Power-Take-Off

fig. 4 – 5: power take off

Button 2b	Engine speed runs up to 1500 rpm
Button 2c	Engine speed runs up to 1900 rpm
Button 5	Speed control on / off
Control lamp N	Control lamp for speed control state: red = „speed control off“, green = „speed control on“

4.7.2 Navigation of the hydraulic system (EATON)

fig. 4 – 6: Monitoring of the hydraulic system

1 Operating status display

(flashing green at start, turns green at motor running)

Switching steps of the PLC-automatic

The switching step of the PLC-automatic indicates the switching and operation of the individual bands and of the trommel.

Belt feeder speed

The speed is displayed in intervals of 12,5%.

Emergency stop

It has been pushed to the Multi Screen an emergency stop switch. In an emergency, see chapter *3.8 .*

Hydraulic oil is too hot

The automatic power turns off the trommel and all belts to cool down the hydraulic oil while the engine keeps running.

4.8 Remote control (optional)

4.8.1 Remote control

fig. 4-7: Remote control

Emergency Stop	
On	
Off	
Button 1	Belt feeder forward / faster
Button 2	Belt feeder stop
Button 3	Belt feeder return / slower
Button 4	Option

5 Transportation

5.1 Preparations of the machine for transportation

Attention!

The transportation of the double trommel is only allowed with an approved transport machine.

Please note valid instructions of governmental traffic regulations.

In preparation for transportation, the following criteria have be fulfilled:

- Any material has to be removed form feeding hopper, double trommel and conveyor belts.
- Clean belts and double trommel neatly to prevent loose material to fall down and affect traffic.
- Check machine for eventual damage that could affect safety of transport.
- Damage has to be reported to responsible personnel, to correct the damage before next operation.

Attention!

Check all extended fractions to be locked in transportation security and all standard fractions are secured with transportation security devices.

Before transportation, the machine has to be checked for functioning condition and road safety.

Visual inspection of entire machine has to be done before transportation

5.2 Instruction track drive

The screening machine is built with a track drive. Before relocating, it is necessary to check the ground. The chassis has two speed units and is able to go maximum increase of 5%.

The track drive is driven by a hydraulic engine. By using the remote control, the track drive will be driven (fig.5-1).

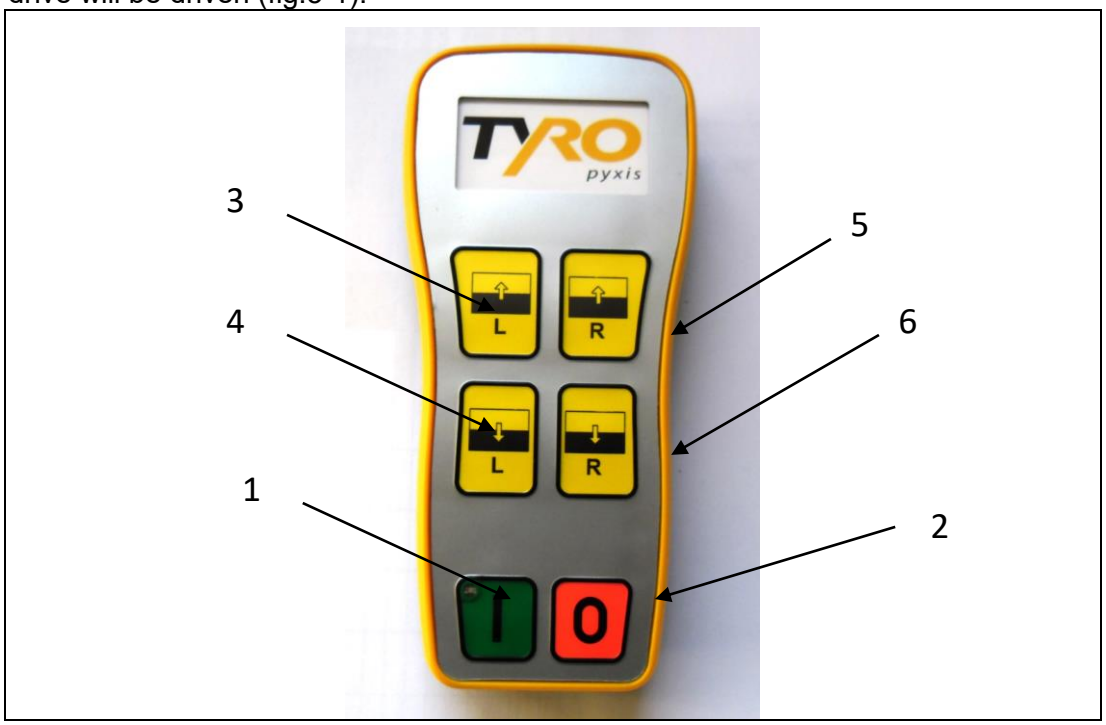


fig. 5 –1 : Remote control for track drive

Button 1	Remote control ON
Button 2	Remote control OFF
Button 3	Left track forwards
Button 4	Left track backwards
Button 5	Right track forwards
Button 6	Right track backwards

In order to enable driving, conduct the following steps:

1. Starting the diesel engine look chapter *8., p. 41*.
2. The two speed units are selectable by switch “chassis speed” (look fig. 5-2)at the control panel .
3. Turn the switch on position „1 – slow“ or position „2-fast“.
4. Turn on the remote control of the track drive by pushing the button 1/green.
5. By using the below shortcuts, the machine starts moving into requested direction.

Shortcut	Direction of movement
Button 3 + Button 5	Forwards - straight
Button 4 + Button 6	Backwards -straight
Button 3 and /or Button 6	Machine turns right
Button 4 and/or Button 5	Machine turns left

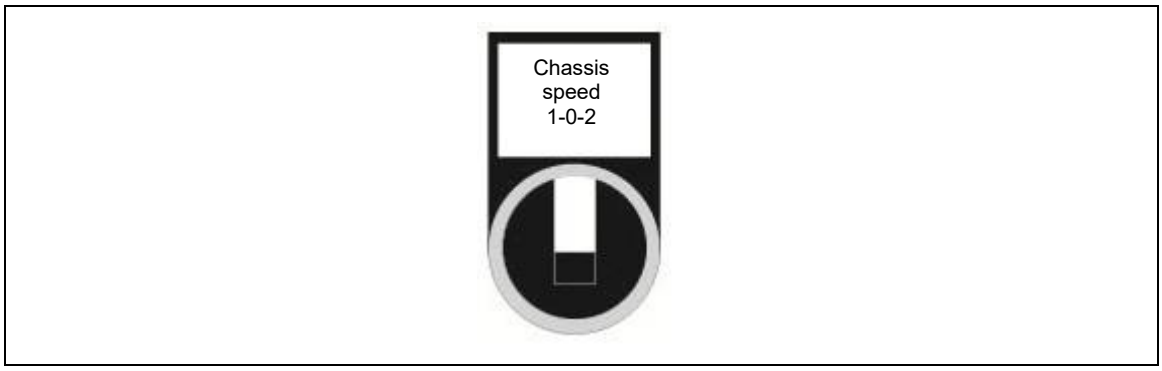


fig. 5-2: switch for chassis speed

Attention!

Check all extended fractions to be locked in transportation security and all standard fractions are secured with transportation security devices.

Before transportation, the machine has to be checked for functioning condition and road safety.

Visual inspection of entire machine has to be done before transportation.

6 Putting into operation

6.1 Initial operation

After installation, initial operation and a test run of the machine, done by Zemmler Siebanlagen GmbH the double trommel is handed out to the owner. Thereafter the machine can be operated according to the operating manual and the effective labor protection and accident prevention regulations. (chapter 3.2)

Attention!

Before operating the machine, it has to be checked for functioning condition and operating safety.

Before each service the operator has to visual inspect the entire machine and the underride guard with light bar has to be dismounted.

6.2 Putting into operation after maintenance or breakdown

After all service and maintenance procedures have been completed, the machine can be put into operation again.

Attention!

Before operating, it has to be checked for functioning condition and operating safety.

Before each service the operator has to inspect the entire machine.

Check that all tools, utilities and packages are removed.

Ensure that all secure arrangements and stabilization occur according to guidelines of putting into operation.

6.3 Putting into operation after longer idleness

In case of a longer idleness the entire machine has to be cleaned.

Before bringing the machine into service after a longer idleness, the machine has to be visually inspected again

6.4 Putting into operation after transportation

Putting the machine into foreseen working position with the traction engine after transportation

The further procedure will be explained in *chapter Readiness for operation page 37*.

fig. 6-1: Example of double trommel in working mode (front left)

fig. 6-2: Example of double trommel in working mode (back right)

7 Readiness for operation

Attention!

The operator is responsible for third party within the working area.

The first installation and initial operation should always be done by customer service of Zemmler Siebanlagen GmbH.

Unauthorized installation work is forbidden..

Caution – tilting danger of double trommel!

Installing the double trommel on soft grounds or uneven grounds may cause the machine to tilt during operating.

Assure for enough solid and even grounds.

7.1 Installing the machine

1. Set the double trommel on even and solid ground.
2. Lever the machine using the cross water level (fig. 7-1) located in the engine compartment etc. to arrange a secure stand.

fig. 7-1: Cross water level

3. Set the landing gear which are located on the rear and front end of the machine. Please see, fig. 7-2.

fig. 7-2: Landing gear

Two different speeds can be chosen:

- Low gear: For raising and lowering the laden and unladen trailer.

  Remove the crank form the parking hook. Push in until the gear engages.

- High gear: To extend and retract the landing gear quickly and to bridge ground clearance.

  Remove the crank from the parking hook. Pull out until the gear engages.

Warning – crushing hazard

By lowering the stabilizer in high gear the risk of bruise may be the operating personal in the field of the feet's. When you have finished turning the crank handle, slowly relieve the strain on the crank. There is the risk of recoil by the crank.

Maintain a safe distance to the plates stabilizer.

4. Engage high or low gear and wind down the landing gear. Change over from high gear to low gear before the foot makes contact with the ground.
5. Hook the crank into crank holder.

7.1.1 Transportation safety device of fine fraction

fig. 7-3: Transportation safety device of fine fraction

Notice!

All fraction belts have transport safety devices which have to be removed by hand or by use of the hydraulic cylinder.

7.1.2 Transportation safety device of middle fraction

fig. 7-4: Transportation safety device of middle fraction

7.1.3 Transportation safety device of extended middle fraction (optional)

fig. 7-5: Transportation safety device of extended middle fraction

Notice!

All fraction belts have transport safety devices which have to be removed by hand or by use of the hydraulic cylinder.

7.1.4 Transportation safety device of coarse fraction

fig. 7-6: Transportation safety device of coarse fraction

7.1.5 Transportation safety device of extended coarse fraction (optional)

fig. 7-7: Transportation safety device of extended coarse fraction

8 Operation

Attention!

Before operating the machine, it has to be checked for functioning condition and operating safety.

Before each service the operator has to visual inspect the entire machine and the light bar has to be dismounted.

8.1 Starting the diesel engine

1. Open the side door (fig.8-1)

fig. 8-1 Side door open

Warning – Risk of crushing bodies or body parts!

No safety of the door by using the rod leads to a crushing hazard between the door and the frame of the machine.

Safety the doors always with the looking rod.

2. Insert ignition key into ignition lock (*fig.4-3)*.

3. Turn the key to the right. Ignition on.
4. Push Reset.
5. Turn the key further to the right.
6. Engine starts.
7. Press speed control “button 5” at the OPUS display. Control lamp “N” turns green.
8. Choose with “button 2b” the engine speed 1500 rpm.

   Look at OPUS operation manual, chapter 3.4.1., p. 14 or here chapter 4.7.1
9. Folding out all conveyor belts as described in chapter 8.2,8.3 and 8.4.
10. After folding out all conveyor belts, turn “Conveyors” on “OFF”
11. Choose with “button 2c” the engine speed 1900 rpm at the Opus display.
12. Press “Automatic ON” – the machine starts. Control lamp “Ready” turns on.
13. Adjust with “Feeder Forward” the speed of the feeder.

8.2 Folding out the conveyor belt of fine fraction

Open the side door and secure it with the one, fixed to the door inside rod.

fig. 8-2: Operating unit by open door

Attention!

Pay heed to the fact that there will be no persons within the working area during fold out of conveyor belt!

This can cause injuries.

Caution – damaging the double trommel!

Pay heed to the fact that there will be no tall objects underneath the conveyor belt.

This can cause damage on the machine.

Fig. 8-3 shows control lever of fine fraction

- The left lever controls the top segment of conveyor belt.
- The right lever controls the bottom segment of conveyor belt.

Folding out of fine fraction (1st fraction):

1. Turn switch “conveyors” at the control panel on “ON”.
2. Lose conveyor belt out of its transportation security devices.
3. Folding out the bottom segment of the conveyor belt completely by using the right lever.
4. The top segment can now also be fully folded out.

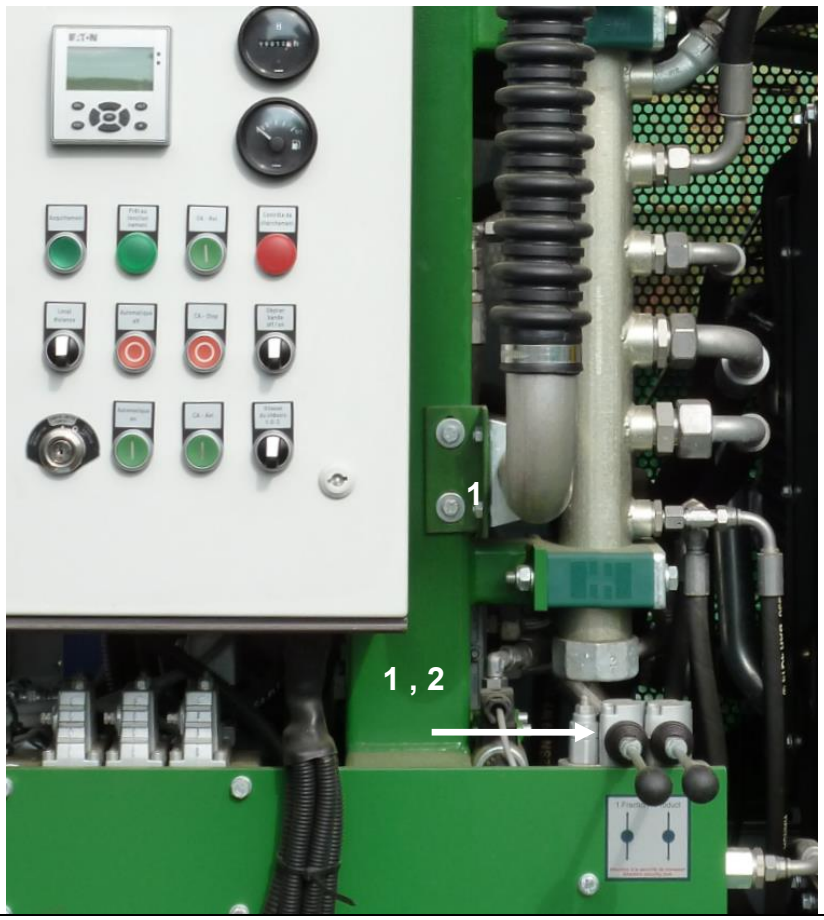


fig. 8-3: Control lever of fine fraction

8.3 Folding out conveyor belts of middle and coarse fraction

Attention!

Pay heed to the fact that there will be no persons within the working area during fold out of conveyor belt!

This can cause injuries

Caution – damaging the double trommel!

Pay heed to the fact that there will be no tall objects underneath the conveyor belt.

This can cause damage on the machine.

Fig.8-4 shows control lever of middle and coarse fraction

- The left lever controls the coarse fraction (3rd fraction).
- The right lever controls the middle fraction (2nd fraction).

Folding out of middle and coarse fraction (2nd and 3rd fraction):

1. Remove transportation security device of middle and coarse fraction.
2. Use the right lever to completely fold out the conveyor belt of the middle fraction.
3. Use the left lever to completely fold out the conveyor belt of the coarse fraction.

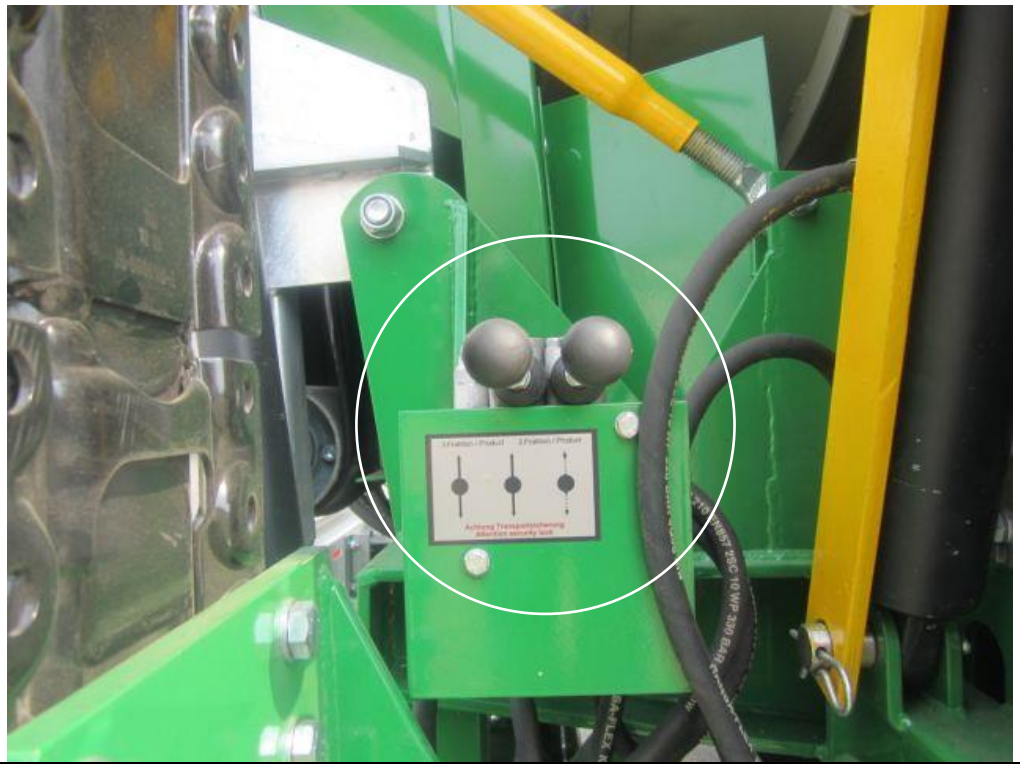


fig 8-4: Control lever of middle and coarse fraction

Notice!

The conveyor belt of the middle fraction can optionally be ordered as extended version. In this case, please see *chapter 8.5*.

8.4 Folding out the conveyor belt of extended middle fraction and extended coarse fraction (optional)

Attention!

Pay heed to the fact that there will be no persons within the working area during fold out of conveyor belt!

This can cause severe injuries.

Caution – damaging the double trommel!

Pay heed to the fact that there will be no tall objects underneath the conveyor belt.

This can cause damage on the machine.

Control lever of extended middle fraction and coarse fraction(optional):

- The left lever controls the coarse fraction (3rd fraction).
- The center lever controls the bottom segment of the middle fraction. (2nd fraction)
- The right lever controls the top segment of the middle fraction (2nd fraction).

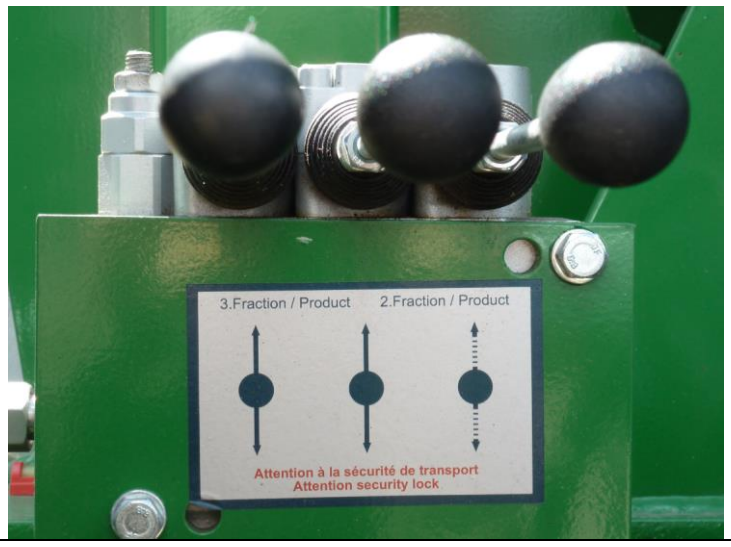


fig. 8-5: Control lever of extend middle fraction

Folding out of extended middle and coarse fraction (2nd and 3rd fraction):

1. Remove transportation security device of coarse fraction.
2. Use the left lever to completely fold out the conveyor belt of the coarse fraction.
3. Lift up the top segment of conveyor belt for about 1/3 by using the right control lever.
4. Afterwards fold out the bottom segment of the conveyor belt completely by using the center lever.
5. The top segment of the middle fraction can now also be fully folded out.

Caution - Risk for operating personal!

Please make sure that the surface can be slippery under certain requirements (weather situation and screening).

This can cause injuries of personal.

6. **After folding out all conveyor belts, turn the switch “Conveyors” on “OFF” otherwise the machine will not start.**

8.5 Adjustment of conveyor belts

Caution – damaging the double trommel!

Check the belt conveyor of misaligning from time to time.

The belts of the conveyors can be damaged by misalignment.

Notice!

The conveyor belts have to be checked for belt misalignment.

Fig.8-6 shows the position of adjusting screws for the conveyor belt.

1. Remove all material from belt.
2. Let's look at the unladen belt and check the misalignment.
3. Turn off the belt and secure the machine against restarting.
4. Set up the adjusting screws as shown in the picture.

Warning – Risk of entry of bodies and body parties!

In the test run of the coarse fraction belt there is a risk of the entry to the carrying roller.

Note the information on operational safety and behave carefully in these cases.

fig. 8-6: Adjusting screws for middle fraction

8.6 Close the charging hopper door

Attention!

Please make sure that the machine is during the closing of the charging hopper door out of service and they cannot be turned on.

This can cause injuries.

Caution – damaging the double trommel!

Please make sure that there are no objects in the field when closing the charging hopper door.

This can cause damage on the machine.

Close the charging hopper door:

1. Take the hook rod, which is fixed to the frame machine or to the left trommel door.
2. Close the charging hopper door by means of the hook rod and the loop on the charging hopper door.
3. Place the hook rod back to the designated place to get them out of the hazard area of the machine.

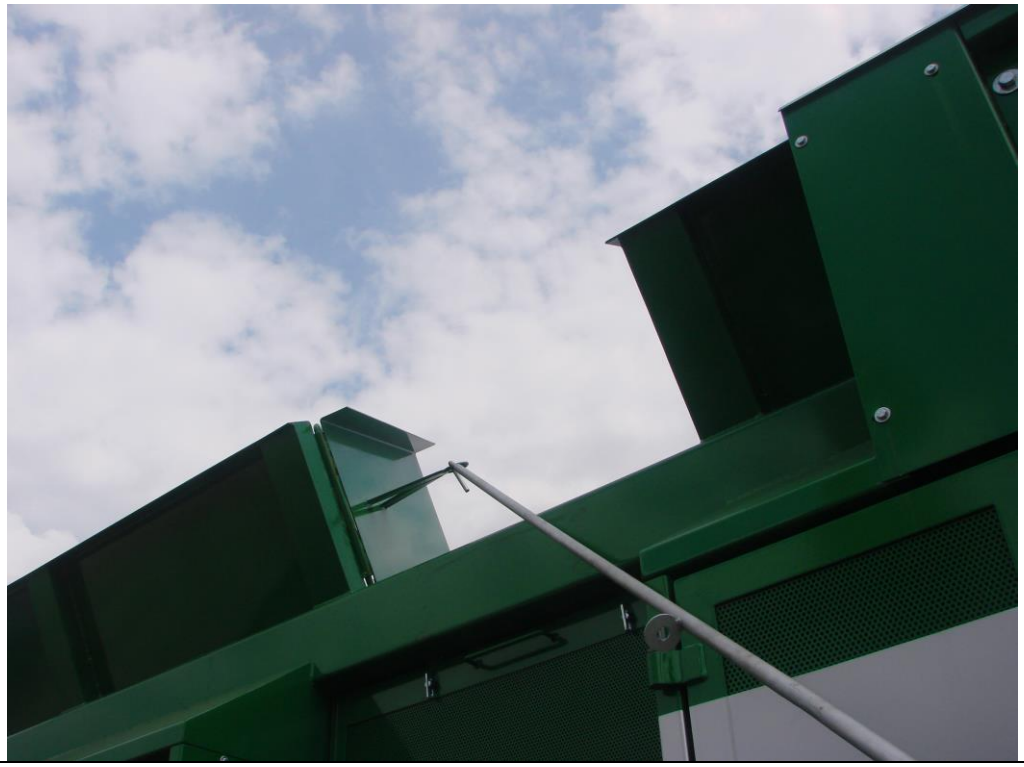


fig. 8-7: Hook rod and eye of the service door

8.7 Readjustment the speed of feeding belt

To avoid a covering of the silo and double trommel and to achieve an optimal screening result, the speed of the feeding belt must be adjusted.

The speed adjustment must only be done by instructed personnel or specialists.

fig. 8-8: Control panel

The speed of the feeding belt can be increased with the bottom “Feeder Forward”. The EATON display signifies the acceleration.

The speed of the feeding belt can be lowered with button “Feeder Backward”.

The feeding belt can be stopped with the button “Feeder Stop”.

Pushing afterwards the button „Feeder Backward“ to run backwards, the button need to be hold.

Notice!

The last setting is not saved. The speed is entered at each restart.

8.8 Readjustment the speed of double trommel and of conveyor belts

To achieve an optimal screening result, the speed of the trommel and conveyor belts must be adjusted.

The speed adjustment must only be done by instructed personnel or specialists.

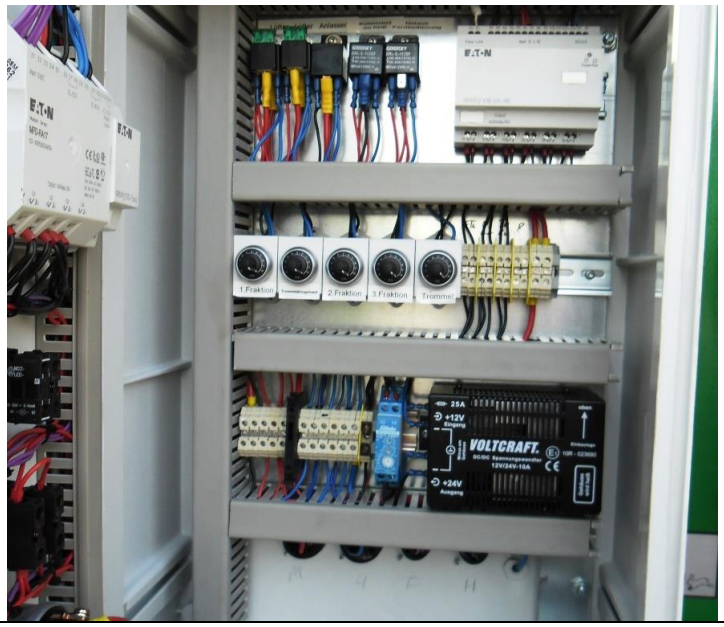


fig. 8-9: Control unit in the control cabinet

Set using the appropriate potentiometer optimal speeds one. After decommissioning, the potentiometer must be reset to the factory setting.

Caution – damaging the double trommel!

The adjustment of the speed must be instructed personnel or service personnel.

An incorrect setting can cause damage to the machine and a loss of power.

9 Shutdown

While shutting down, the machine has to completely be drained. That means no further feeding and all three fraction need to empty.

1. Press “Automatic OFF”. The machine stops. Control lamp “Ready” turns off.
2. Press speed control “button 5”at the OPUS display. Control lamp “N” turns red, the engine speed turns into idle mode.
3. Turn off diesel engine, turn ignition key to the left.

Notice!

The machine has to be visually checked.

9.1 Preparation for transportation of the machine

While shutting down, the machine has to completely be drained. That means no further feeding and all three fraction need to empty.

1. Restart the machine by inserting ignition key into ignition lock.
2. Turn the key to the right. Ignition on.
3. Push Reset.
4. Turn the key further to the right.
5. Engine starts.
6. Press speed control “button 5” at the OPUS display. Control lamp “N” turns green.
7. Choose with “button 2b” the engine speed 1500 rpm.

   Look at OPUS operation manual, chapter 3.4.1., p. 14 or here chapter 4.7.1
8. Turn “Conveyors” on “ON”.
9. Open the hopper door with hook bar.
10. Folding in all conveyor belts as you see in chapter 9.2, 9.3 and 9.4.
11. Then press speed control “button 5” at the OPUS display, control lamp “N” turns red, the engine speed turns into idle mode.
12. Turn off the diesel engine. Turn ignition key to the left.
13. Completely retract the landing gear.

9.2 Folding in the conveyor belts of middle and coarse fraction

Attention!

Pay heed to the fact that there will be no persons within the working area during fold in of conveyor belt!

This can cause injuries.

Caution – damaging the double trommel!

Pay heed to the fact that there will be no tall objects around the conveyor belt.

This can cause damage on the machine.

Control levers of middle and coarse fraction

- The left lever controls the coarse fraction (3rd fraction).
- The right lever controls the middle fraction (2nd fraction).

Folding in of middle and coarse fraction (2nd and 3rd fraction):

1. Use the left lever to completely fold in the conveyor belt of the coarse fraction.
2. Use the right lever to completely fold in the conveyor belt of the middle fraction.
3. Fix transportation security device of middle and coarse fraction.

Notice!

The conveyor belt of the middle fraction can optionally be ordered as extended version. In this case, please see *chapter 9.2*.

9.3 Folding in the conveyor belt of extended middle fraction and extended coarse fraction (optional)

Attention!

Pay heed to the fact that there will be no persons within the working area during fold in of conveyor belt!

This can cause injuries.

Caution – damaging the double trommel!

Pay heed to the fact that there will be no tall objects around the conveyor belt.

This can cause damage on the machine.

Control lever of extended middle fraction and coarse fraction(optional):

- The left lever controls the coarse fraction (3rd fraction).
- The center lever controls the bottom segment of the middle fraction. (2nd fraction)
- The right lever controls the top segment of the middle fraction (2nd fraction).

Folding out of extended middle fraction and coarse fraction (2nd and 3rd fraction):

1. Fold in the top segment of the middle fraction using the right control lever about a third.
2. After this, fold in the bottom segment of the middle fraction completely by using the center lever. Pay attention to the transportation safety device for the middle fraction. If necessary, fold out the top segment until it fits the transport safety device.
3. Fold in the bottom segment in the transport safety.
4. Use the left lever to completely fold in the conveyor belt of the coarse fraction.
5. Fix transportation security device of coarse fraction.

9.4 Folding in the conveyor belt of fine fraction

Attention!

Pay heed to the fact that there will be no persons within the working area during fold in of conveyor belt!

This can cause injuries.

Caution – damaging the double trommel!

Pay heed to the fact that there will be no tall objects around the conveyor belt.

This can cause damage on the machine.

Control lever of fine fraction

- The left lever controls the top segment of conveyor belt.
- The right lever controls the bottom segment of conveyor belt.

Fold in of fine fraction (1st fraction):

1. Folding in the bottom segment of the fine fraction completely by using the right lever.
2. Now folding completely in the top segment.
3. Fix transportation security device of fine fraction.

10 Troubleshooting

Failure	Cause	Repair
Engine does not start	Battery Starter Control unit Lighting dynamo Emergency switch	Charge battery Please contact Zemmler Siebanlagen GmbH Pull out all Emergency switch of machine
Engine stops	Cyclone air filter defiled	Cleaning the cyclone air filters according to the engine operating instructions
Fine fraction can not be folded out	Hydraulic Control unit	Please contact Zemmler Siebanlagen GmbH
Middle fraction can not be folded out	Hydraulic Control unit Transportation security device	Please contact Zemmler Siebanlagen GmbH Remove transportation safety device
Coarse fraction can not be folded out	Hydraulic Control unit Transportation security device	Please contact Zemmler Siebanlagen GmbH Remove transportation safety device
Conveyor belts do not start	Hydraulic Control unit	Please contact Zemmler Siebanlagen GmbH
Double trommel does not start	Overload protection clutch defect Whelmed double drum Chain Hydraulic	Change of overload protection clutch (Only order original spare parts) Clean out drum and afterwards restart Please contact Zemmler Siebanlagen GmbH
Whelmed silo	Feeding belt to slow	Adjust speed of feeding belt *see chapter 8.8*
Whelmed double trommel	Feeding belt to fast	Adjust speed of feeding belt *see chapter 8.7*

11 Service and maintenance

11.1 General service and maintenance

The consequent procedure of maintenance and abidance of all time intervals are an important premise for a reliable functionality of the machine.

This chapter defines working which have does be done by operating personnel or qualified specialists.

After each operation of the double trommel all parts have to be checked for abrasive wear and damage. Replace defect parts immediately or let it be changed by specialists to avoid damage of other parts. If separating protectors have to be removed, they have to be remounted after contact.

An abstract and an overview of the work are listed in the maintenance schedule.

The daily and weekly service can be accomplished by an authorized machine operator. The hourly service must be accomplished be an authorized mechanic. All further maintenance tasks and troubleshooting, not listed in this operating manual or not being done by itself, have to be accomplished by Zemmler Siebanlagen GmbH-Service.

Notice!

To order spare parts, please indicate type of machine and data of type plate.

Notice!

Please read service and maintenance instructions of engine producer. These are part of maintenance procedure and are **not** listed in this manual.

11.2 Safeguard at service and maintenance

At all workings every listed safeguard and, if recommended shutdown procedures must be observed and followed

At workings for which safeguards (like cladding panels) have to be removed, one emergency switch has to be pressed.

For operations on certain attachments are additional safeguards required.

11.3 Emptying the machine

For realization of maintenance required during operation of machine it must be completely empty. This means no further bulk must be feeder to machine and all belt conveyors of all three fractions must run empty.

11.4 Securing the machine

1. Turn of engine.
2. Press emergency switch.
3. Pull out ignition key of control unit.
4. The control unit has to be secured with a pad lock for accidental restart.

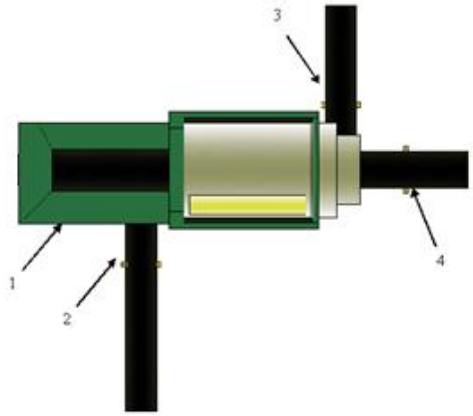


Abb. 11-1: safeguard devices

11.5 Maintenance after initial operation

The first maintenance after initial operation occurs exclusively by specialists of Zemmler Siebanlagen GmbH. Subsequent maintenances can be seen from maintenance schedule.

11.6 Maintenance schedule

Attention – damaging the double trommel!

Before every start of production all safety devices must be checked for correct function. The scheduled checks must be done by trained personnel.

Notice!

Subsequent maintenances are important for perpetuation of function and guarantee claims.

interval		pos. no.	component / description	page
in phases	A daily (10h)	A1	Visual check of entire machine	
		A2	Visual check of all fluids of machine	
		A3	Sound check	
		A4	Visual check of all wear parts and belt scraper	
		A5	Cleaning – Removing sticking material from all belts	
		A6	Visual check of cyclone air filter	
	B weekly (50h)	B1	Grease all grease nipples of support roller	69
		B2	Check cleaning brush of double drum	71
		B3	Check hydraulic system - leakage	72
		B4	Visual check of belt conveyor	70
	C 100 h	C1	Maintenance by an authorized mechanic	62
	D 250 h	D1	Maintenance by an authorized mechanic	63
	E 500 h	E1	Maintenance by an authorized mechanic	64
	F 1000 h	F1	Maintenance by an authorized mechanic	65
	G 1500 h	G1	Maintenance by an authorized mechanic	66
	H 2000 h	H1	Maintenance by an authorized mechanic	67

Tab. 11-1: Overview of maintenance schedule

11.6.1 Maintenance A – daily

A1 Make daily visual checks of entire machine.

Shut down the machine if leakage, suspect sounds, visible and hidden damages (like cracks) occur and secure the machine.

Change all defect machine parts considering all aspects of safety. Use conforming to standards tools and spare parts.

If necessary contact customer service of Zemmler Siebanlagen GmbH.

A2 Make daily visual checks of all fuel levels of machine.

Pay special attention to all pressurized machine parts.

In case the diesel tank had run empty, follow the service and maintenance instructions of the engine producer.

Repair leakage considering all aspects of safety. Use conforming to standards tools and spare parts.

If necessary contact customer service of Zemmler Siebanlagen GmbH.

A3 Make daily sound checks of entire machine.

Pay special attention to wear parts.

Shut down and secure machine if suspect sound occur. Change all defect machine parts considering all aspects of safety. Use conforming to standards tools and spare parts.

If necessary contact customer service of Zemmler Siebanlagen GmbH.

A4 Make daily visual checks of all wear parts.

Shut down the machine if leakage, suspect sounds, visible and hidden damages (like cracks) occur and secure the machine.

Change defect machine parts considering all aspects of safety. Use conforming to standards tools and spare parts.

If necessary contact customer service of Zemmler Siebanlagen GmbH.

A5 Clean belt conveyors neatly from sticky material if needed.

A6 Make weekly visual checks of cyclone air filter.

The mechanic blockage indicator signalizes blockage with red indication.

11.6.2 Maintenance B – monthly

Caution – Risk of injury!

Always wear protection clothes, protection gloves and safety goggles when maintaining the machine.

B1 Grease the entire machine weekly. See grease schedule *chapter 11.7.2 on page 64*

B2 Make weekly check of cleaning brush. The cleaning brush must always engage the meshes of the drum to realize a high cleaning efficiency.

If broken brush elements are detected, secure the machine and change the defect brush elements considering all aspects of safety. Use conforming to standards tools and spare parts.

B3 Make weekly checks of entire hydraulic system as well as tanks for leakage.

Shut down the machine if leakage, suspect sounds, visible and hidden damages (like cracks) occur and secure the machine.

Change defect machine parts considering all aspects of safety. Use conforming to standards tools and spare parts.

If necessary contact customer service of Zemmler Siebanlagen GmbH.

B4 Make weekly visual checks of all belt conveyors.

If cracks or other damages exist, change defect machine parts considering all aspects of safety. Use conforming to standards tools and spare parts.

If necessary contact customer service of Zemmler Siebanlagen GmbH.

11.6.3 Maintenance after 100 h

		Check	Adjustment	Change
Check bearing for wear		☐		☐
Pulleys		☐		☐
Hydraulic filter				☐
Hydraulic temperature		☐		
Impermeability of hydraulic system		☐		
Impermeability of pneumatic system		☐		
Belt conveyor				
Coarse fraction	skew run	☐	☐	
	wear out	☐		☐
Middle fraction	skew run	☐	☐	
	wear out	☐		☐
Fine fraction	skew run	☐	☐	
	wear out	☐		☐
Drum haul-off belt	skew run	☐	☐	
	wear out	☐		☐
Feeding belt	skew run	☐	☐	
	wear out	☐		☐

Machine no.

Date: Mechanic:

Operating hours: h

Remarks:

Realized by:

Signature

11.6.4 Maintenance after 250 h

		Check	Adjustment	Change
Check bearing for wear		☐		☐
Pulleys		☐		☐
Hydraulic filter				☐
Hydraulic temperature		☐		
Impermeability of hydraulic system		☐		
Impermeability of pneumatic system		☐		
Belt conveyor				
Coarse fraction	skew run	☐	☐	
	wear out	☐		☐
Middle fraction	skew run	☐	☐	
	wear out	☐		☐
Fine fraction	skew run	☐	☐	
	wear out	☐		☐
Drum haul-off belt	skew run	☐	☐	
	wear out	☐		☐
Feeding belt	skew run	☐	☐	
	wear out	☐		☐

Machine no.

Date: Mechanic:

Operating hours: h

Remarks:

Realized by:

Signature

11.6.5 Maintenance after 500 h

		Check	Adjustment	Change
Check bearing for wear		☐		☐
Pulleys		☐		☐
Hydraulic filter				☐
Breather filter of hydraulic tank				☐
Hydraulic temperature		☐		
Impermeability of hydraulic system		☐		
Impermeability of pneumatic system		☐		
Belt conveyor				
Coarse fraction	skew run	☐	☐	
	wear out	☐		☐
Middle fraction	skew run	☐	☐	
	wear out	☐		☐
Fine fraction	skew run	☐	☐	
	wear out	☐		☐
Drum haul-off belt	skew run	☐	☐	
	wear out	☐		☐
Feeding belt	skew run	☐	☐	
	wear out	☐		☐

Machine no.

Date: Mechanic:

Operating hours: h

Remarks:

Realized by:

Signature

11.6.6 Maintenance after 1000 h

		Check	Adjustment	Change
Check bearing for wear		☐		☐
Pulleys		☐		☐
Hydraulic filter				☐
Breather filter of hydraulic tank				☐
Hydraulic temperature		☐		
Impermeability of hydraulic system		☐		
Impermeability of pneumatic system		☐		
Belt conveyor				
Coarse fraction	skew run	☐	☐	
	wear out	☐		☐
Middle fraction	skew run	☐	☐	
	wear out	☐		☐
Fine fraction	skew run	☐	☐	
	wear out	☐		☐
Drum haul-off belt	skew run	☐	☐	
	wear out	☐		☐
Feeding belt	skew run	☐	☐	
	wear out	☐		☐

Machine no.

Date: Mechanic:

Operating hours: h

Remarks:

Realized by:

Signature

11.6.7 Maintenance after 1500 h

		Check	Adjustment	Change
Check bearing for wear		☐		☐
Pulleys		☐		☐
Hydraulic filter				☐
Breather filter of hydraulic tank				☐
Hydraulic temperature		☐		
Impermeability of hydraulic system		☐		
Impermeability of pneumatic system		☐		
Belt conveyor				
Coarse fraction	skew run	☐	☐	
	wear out	☐		☐
Middle fraction	skew run	☐	☐	
	wear out	☐		☐
Fine fraction	skew run	☐	☐	
	wear out	☐		☐
Drum haul-off belt	skew run	☐	☐	
	wear out	☐		☐
Feeding belt	skew run	☐	☐	
	wear out	☐		☐

Machine no.

Date: Mechanic:

Operating hours: h

Remarks:

Realized by:

Signature

11.6.8 Maintenance after 2000 h

		Check	Adjustment	Change
Check bearing for wear		☐		☐
Pulleys		☐		☐
Hydraulic filter				☐
Breather filter of hydraulic tank				☐
Hydraulic temperature		☐		
Impermeability of hydraulic system		☐		
Impermeability of pneumatic system		☐		
Belt conveyor				
Coarse fraction	skew run	☐	☐	
	wear out	☐		☐
Middle fraction	skew run	☐	☐	
	wear out	☐		☐
Fine fraction	skew run	☐	☐	
	wear out	☐		☐
Drum haul-off belt	skew run	☐	☐	
	wear out	☐		☐
Feeding belt	skew run	☐	☐	
	wear out	☐		☐

Machine no.

Date: Mechanic:

Operating hours: h

Remarks:

Realized by:

Signature

11.7 Exchange of wear parts

11.7.1 Screens

Insert wire screen pad in clamping device.

Turn the double trommel by hand. The screen pad wraps around the double trommel.

Insert the other end of the screen pad in clamping device. Tighten the screen pad on the trommel with the screws.

Warning – of the entry of bodies and body parts!

Upon rotation of the trommel can lead to the entry of body parts.

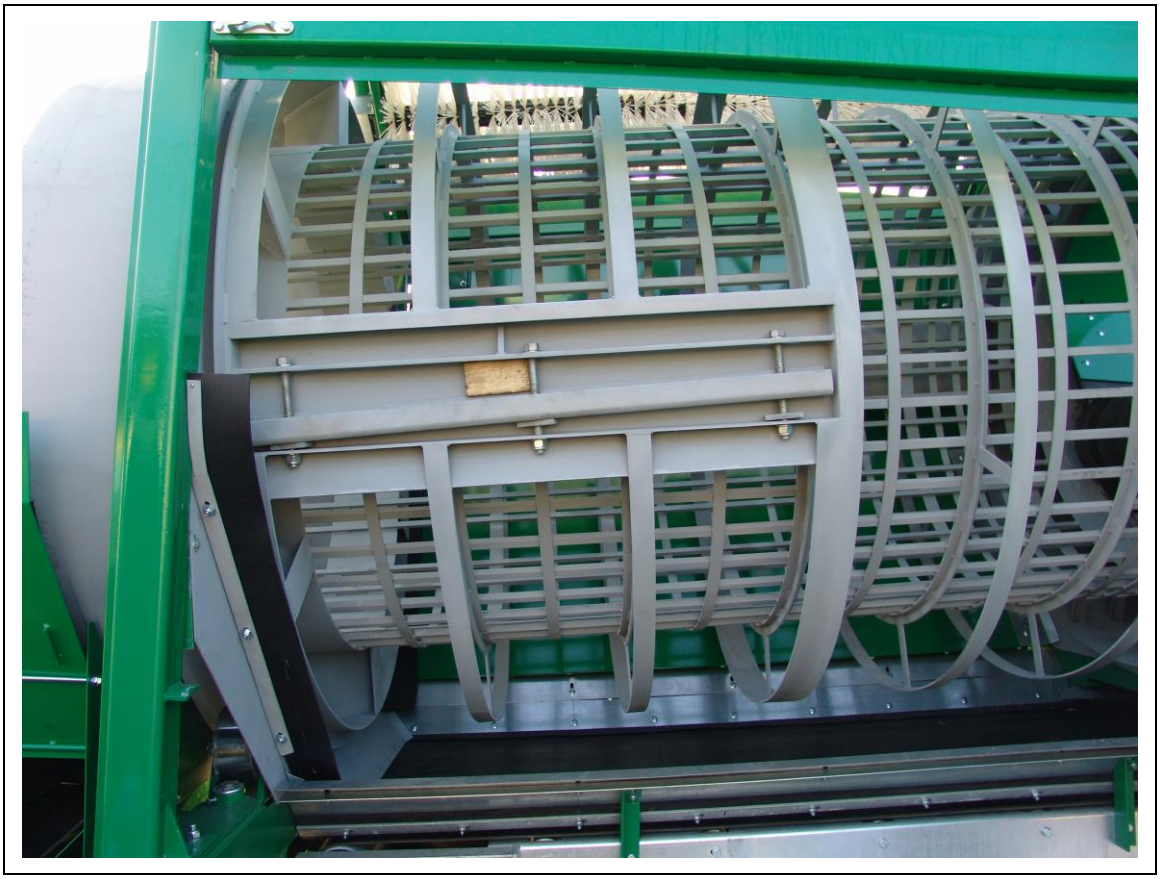


fig. 11-2: Clamping and fastening devices for wire screen pads

Notice!

The machine hast to be turned “off” and secured by mounting the wire screen pads. Also, the machine must be empty.

11.7.2 Grease points

Notice!

Lubricate grease points according to maintenance schedule.

The machine is equipped with 4 grease points. These are labeled as such, see as an example fig. 11-3.

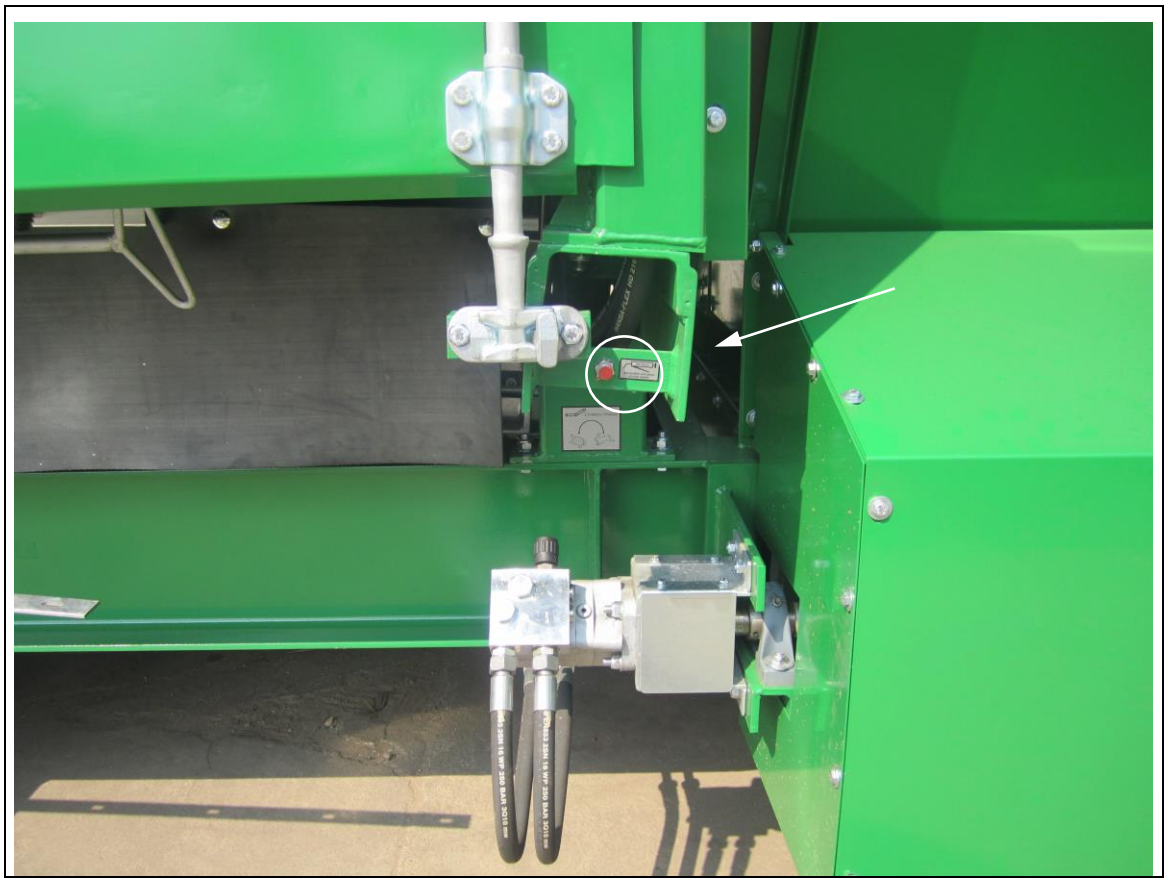


fig. 11-3: Position of grease points

11.8 Cleaning the machine

Notice!

The machine must always be run empty.

The check results from visual inspection of all three belt conveyors and double trommel.

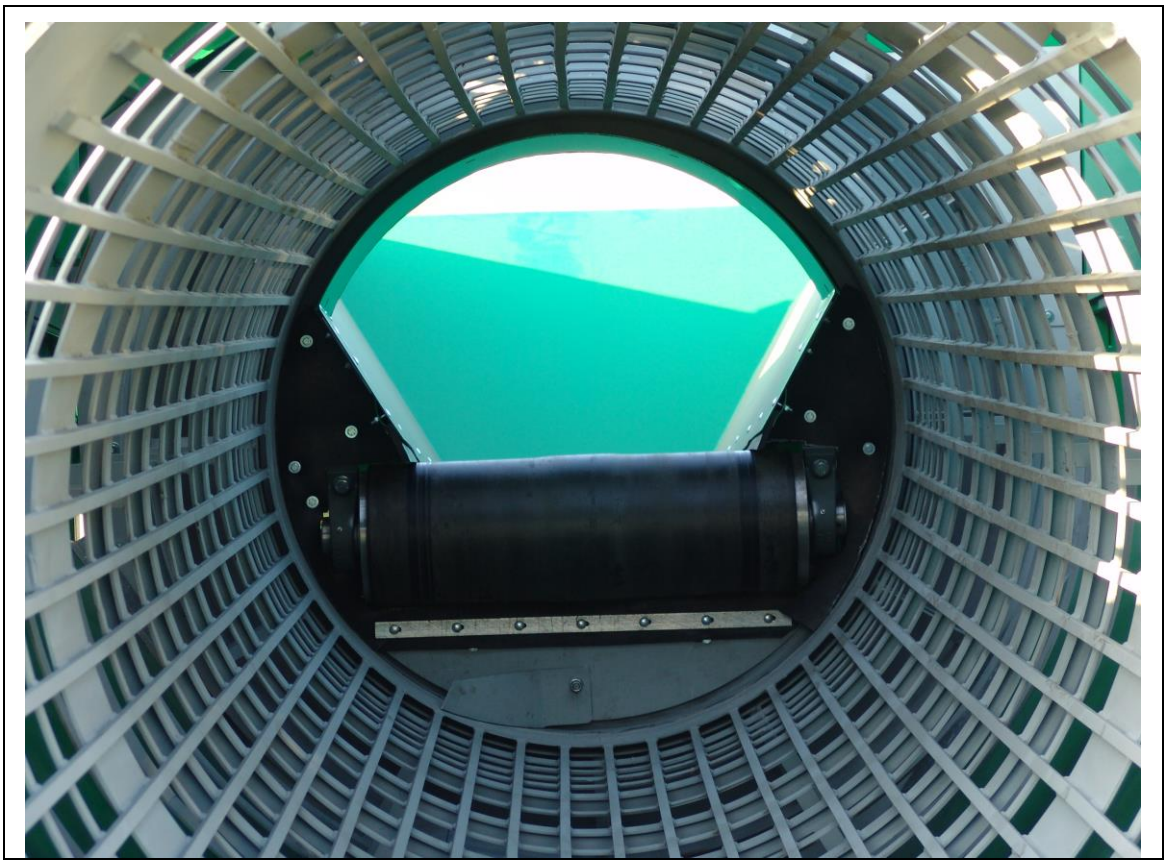


fig. 11-4: Visual check of double trommel

11.9 Change of brush elements

Caution – Risk of injury!

Always wear protection clothes, protection gloves and safety goggles when maintaining the machine.

Change of brush elements

5. Disassembling of entire brush alignment with fittings 5.
6. Lift up the alignment with a crane, pulley or other adequate tool from the machine.
7. The two brackets (8) of the brush shaft must be disassembled and removed.
8. It is now possible to take of the brush elements and spacer of the shaft.
9. The brush elements can be reassembled in opposite order.

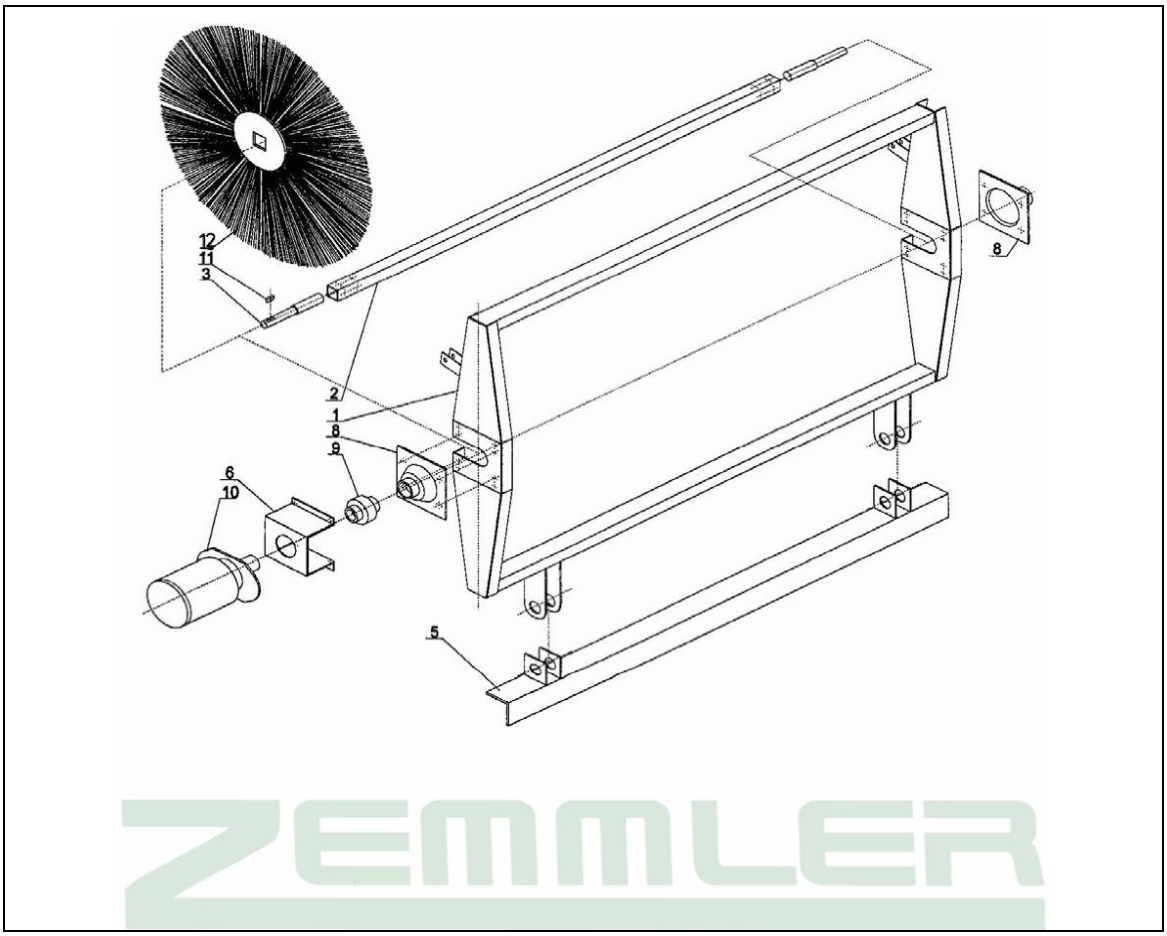


fig. 11-5: Construction and fixing of brush elements

Notice!

If you need new brush elements, please contact Zemmler Siebanlagen GmbH. Our service technician will help you with words and deeds.

11.10 Operating fluids

Attention – damaging the double trommel!

The listed operating fluids are approved for operating the ZEMMLER® MULTI SCREEN® MS5200.

Always use these operating fluids to avoid damage on the machine or components.

Operating fluid	Amount	Type	Standard
Hydraulic oil	310 liter	HLPD 46	DIN EN ISO 6743
Lubricate grease			ISO 6743
Engine oil	8.5 liter	5 W 30	ISO 4406
Engine cooling liquide	12.5 liter	G12	
Diesel	200 liter		DIN EN 590

Notice!

For questions about alternative operating fluids, please contact the customer service of Zemmler Siebanlagen GmbH.

11.11 Safety device of the machine after service

Attention – damaging the machine!

Check the complete machine by visual inspection for operational readiness.

No lounge around tools, spare parts, etc..

Caution – Risk of injury!

Close and secure all maintenance side doors according to the above visual inspection.

Secure all doors with the destined padlocks against undesired opening.

12 Technical information

12.1 Side view of machine

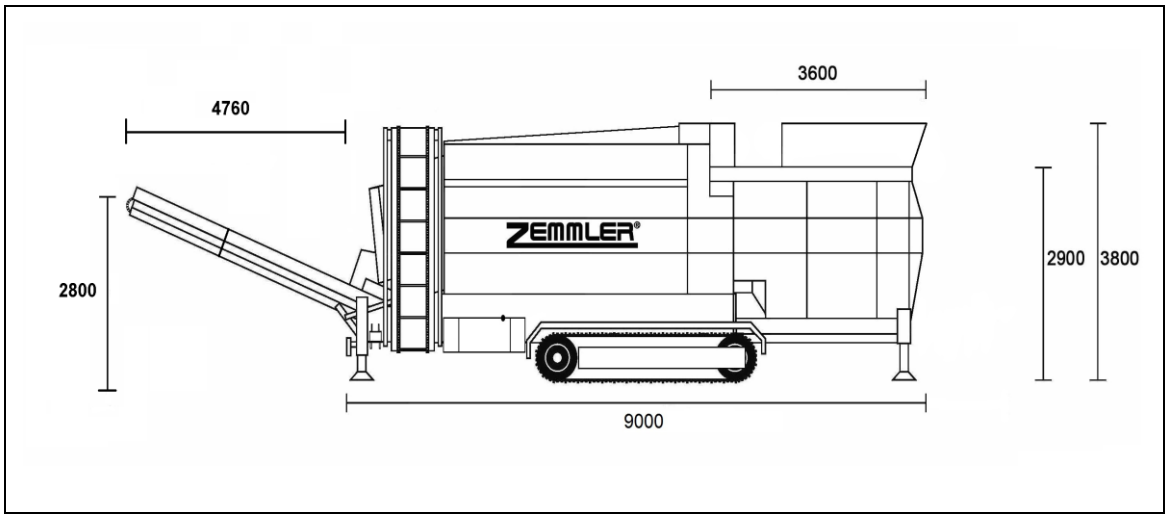


fig. 12-1: Machine

12.2 Rearview of machine

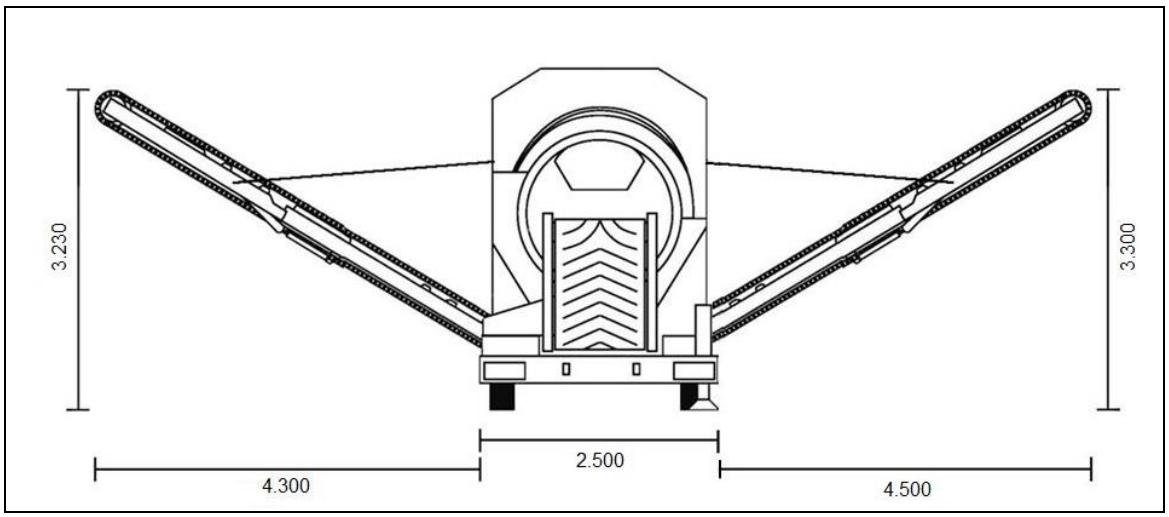


fig. 12-2: Rear view of machine with folded out belts

12.3 Performance data

Screening materials:

sand, saw dust, wood chips, stones and gravel sand, compost, soil, glass, coal and cinder, construction waste and recycling materials up to 250 mm

Operating:	1 person
Capacity of double trommel:	about 150 cbm / hour (depending on material, feeding, chosen functions and screen meshes)

12.4 General data

Mobile double trommel ZEMMLER® MULTI SCREEN® MS 5200 - transportation

Length:	10.055 mm
Width:	2.500 mm
Height:	3.900 mm
Weight:	
Machine (empty):	Approx.. 18.000 kg

Double trommel ZEMMLER® MULTI SCREEN® MS 5200-R – operation (standard belt conveyor of middle fraction)

Length:	12.600 mm
Width:	11.300 mm
Height:	3.900 mm

12.5 Diesel engine

Type:	Perkins-Dieselmotor 854E-E34TA
Power:	66 kW
Cooling:	air cooled

12.6 Type plate

The type and manufacturer plate is located on the right hand side of the chassis.

The information of the type plate, especially the serial number, has to be given by ordering spare parts. This assures a smooth spare part delivery and avoids mistakes of the order.

fig. 12-3: Type plate

fig. 12-4: Position of type plate

13 Final disposal

Machines taken completely out of service have to be disposed according to legal directives. Single components have to be separated about material and element groups and turned in at the point of acceptance.

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15 Appendum

15.1 EC Declaration of Conformity

15.2 Operating instructions

15.3 Operation manual of OPUS

15.4 Circuit diagram