



ZEMMLER® MULTI SCREEN® MS 5200

Operating manual

Table of contents

ZEMMLER® MULTI SCREEN® MS 5200.....	1
Operating manual	1
1 General information.....	5
1.1 Field of application	5
1.2 Information about the machine	6
1.3 Scope of delivery.....	6
2 Documentation	7
2.1 Operating manual.....	7
2.1.1 Target audiences	7
2.1.2 Use of operating manual.....	8
2.1.3 Symbols and warning notices within the operating manual.....	8
2.2 Identification of documentation	10
2.3 Guarantee of commitment and warranty.....	10
2.3.1 Warranty	11
3 Safety advices.....	12
3.1 Preface to safety	12
3.2 Operational safety	13
3.3 Conventional usage.....	13
3.4 Danger signs on the double trommel	13
3.5 General safety advices about the technical condition of the machine	14
3.6 General safety advices for operator.....	15
3.7 General safety advices for operating personnel.....	15
3.8 Behavior in case of danger and accidents	16
3.9 Safety advices for maintenance.....	16
3.10 Location of safety installations.....	17
3.11 Safety advices for work position on the double trommel	18
3.12 Safety advices for emissions	19
3.12.1 In general.....	19
3.12.2 Noise emission	19
4 General description	20
4.1 General description of the mobile double trommel.....	20
4.2 Brief description of the screening process	20
4.3 Assembly overview.....	21
4.4 Assembly.....	22

4.4.1	Feeder and stone grille (optional)	22
4.4.2	Double trommel	22
4.4.3	Conveyor belt for fine fraction.....	22
4.4.4	Conveyor belt for middle fraction.....	22
4.4.5	Conveyor belt for coarse fraction.....	22
4.4.6	Engine.....	22
4.5	Control unit.....	23
4.5.1	Control panel and status display	24
4.5.2	Panel / Control	25
4.6	10-Channel Remote Control.....	26
5	Transportation	28
5.1	Preparations of the machine for transportation	28
6	Putting into operation	29
6.1	Initial operation.....	29
6.2	Putting into operation after maintenance or breakdown	29
6.3	Putting into operation after longer idleness.....	29
6.4	Putting into operation after transportation	30
7	Readiness for operation	31
7.1	Installing the machine.....	31
7.1.1	Transportation safety device of fine fraction.....	34
7.1.2	Transportation safety device of extended middle fraction (optional).....	34
7.1.3	Transportation safety device of extended coarse fraction.....	35
8	Operation	37
8.1	Starting the diesel engine	37
8.2	Folding out the conveyor belt of fine fraction	38
8.3	Folding out the conveyor belt of extended middle fraction and extended coarse fraction	39
8.4	Close the feeding hopper door	41
8.5	Starting the screening process	42
8.6	Readjustment the speed of feeder conveyor belt.....	42
8.7	Emergency Stop function	43
3.	Press the "Malfunction/Reset" button to reset the safety relay and the light turns off.	43
9	Shutdown	44
9.1	Preparation for transportation of the machine.....	44
9.2	Folding in the conveyor belts of extended middle and coarse fraction	45
9.3	Folding in the conveyor belt of fine fraction.....	45
9.4	Shutdown engine.....	46

9.5	Storage	46
10	Troubleshooting	47
11	Service and maintenance.....	49
11.1	General service and maintenance	49
11.2	Safeguard at service and maintenance	49
11.3	Emptying / cleaning of the machine	50
11.4	Securing the machine.....	51
11.5	Maintenance after initial operation	51
11.6	Maintenance schedule.....	52
11.6.1	Maintenance A – daily	53
11.6.2	Maintenance B – monthly	54
11.6.3	Maintenance after 100 h	55
11.6.4	Maintenance after 250 h	56
11.6.5	Maintenance after 500 h	57
11.6.6	Maintenance after 1000 h	58
11.6.7	Maintenance after 1500 h	59
11.6.8	Maintenance after 2000 h	60
11.7	Maintenance Interval Schedule	61
11.8	Exchange screens.....	63
11.9	Grease points.....	66
11.9.1	Exact position of grease points.....	67
11.10	Change of brush elements	68
11.11	Check of air filter /TopSpin PreCleaner	69
11.12	Operating fluids	70
11.13	Safety device of the machine after service	70
11.14	PVG valve / control block	71
12	Technical information	72
12.1	Side view of machine	72
12.2	Rearview of machine.....	72
12.3	Performance data.....	73
12.4	General data	73
12.5	Diesel engine	73
12.6	Type plate	73
13	Final disposal	74
14	Index	75

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:

June 2018

1.1 Field of application

The double trommel ZEMMLER® MULTI SCREEN® MS 5200 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 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 101
Year of manufacturing	08/2020
Manufacturer / Distributor	Zemmler Siebanlagen GmbH Nobelstraße 11 03238 Massen-Niederlausitz Germany  +49 3531 7906 0  +49 3531 7906 11  info@zemmler.de  www.zemmler.de

1.3 Scope of delivery



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

Operating and service manual of machine (1x)
Operating and service manual of engine manufacturer (1x)
EU declaration of conformity (1)
Operating manual (1x)
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 checkups 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 – Putting into operation* and *chapter 8 – operation*.

Are the operation personnel responsible for maintenance of the double trommel, *chapter 11 – maintenance and service* 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 high quality production.

Most important information for the operators are written in *chapter 3 – Safety advices* and *chapter 6 – Putting into operation*. These described demands should be taken in account by planning 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 serial number and year of manufacturing.

The complete identification: MS 5200.047.16 (Stand .05.2016)

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 expense 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 advises 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 - Risk of hand injuries!



Warning - hot surface



Warning – Danger due to crushing of body or body parts



Wearing ear protection and helmet



Wearing gloves

3.5 General safety advices about the technical condition of the machine

The machines construction and manufacturing meets 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 by 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 accidents 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 ZEMMLER® MULTI SCREEN® MS 5200 is equipped with six emergency stops.

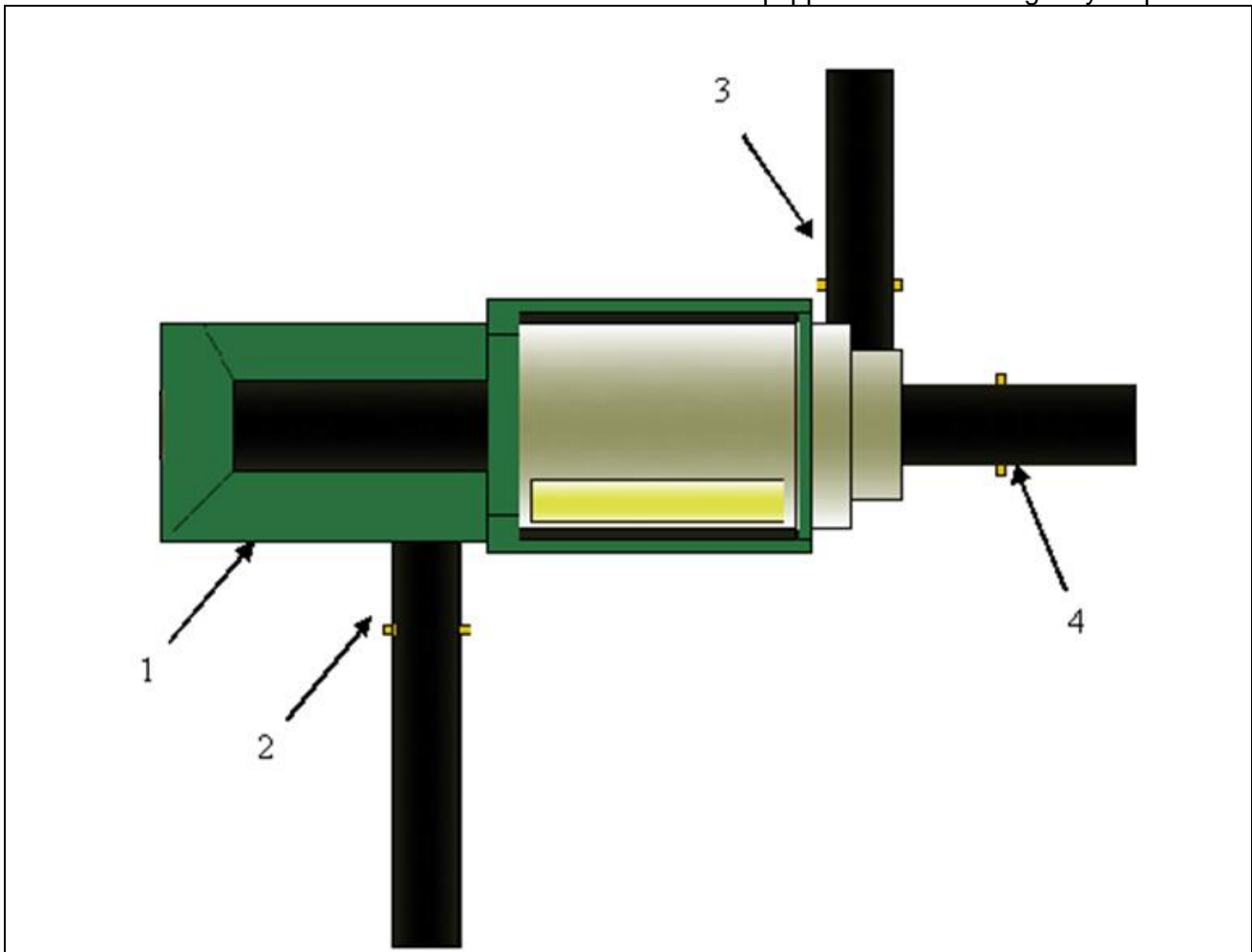


fig. 3-1: location of safety installations

- 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

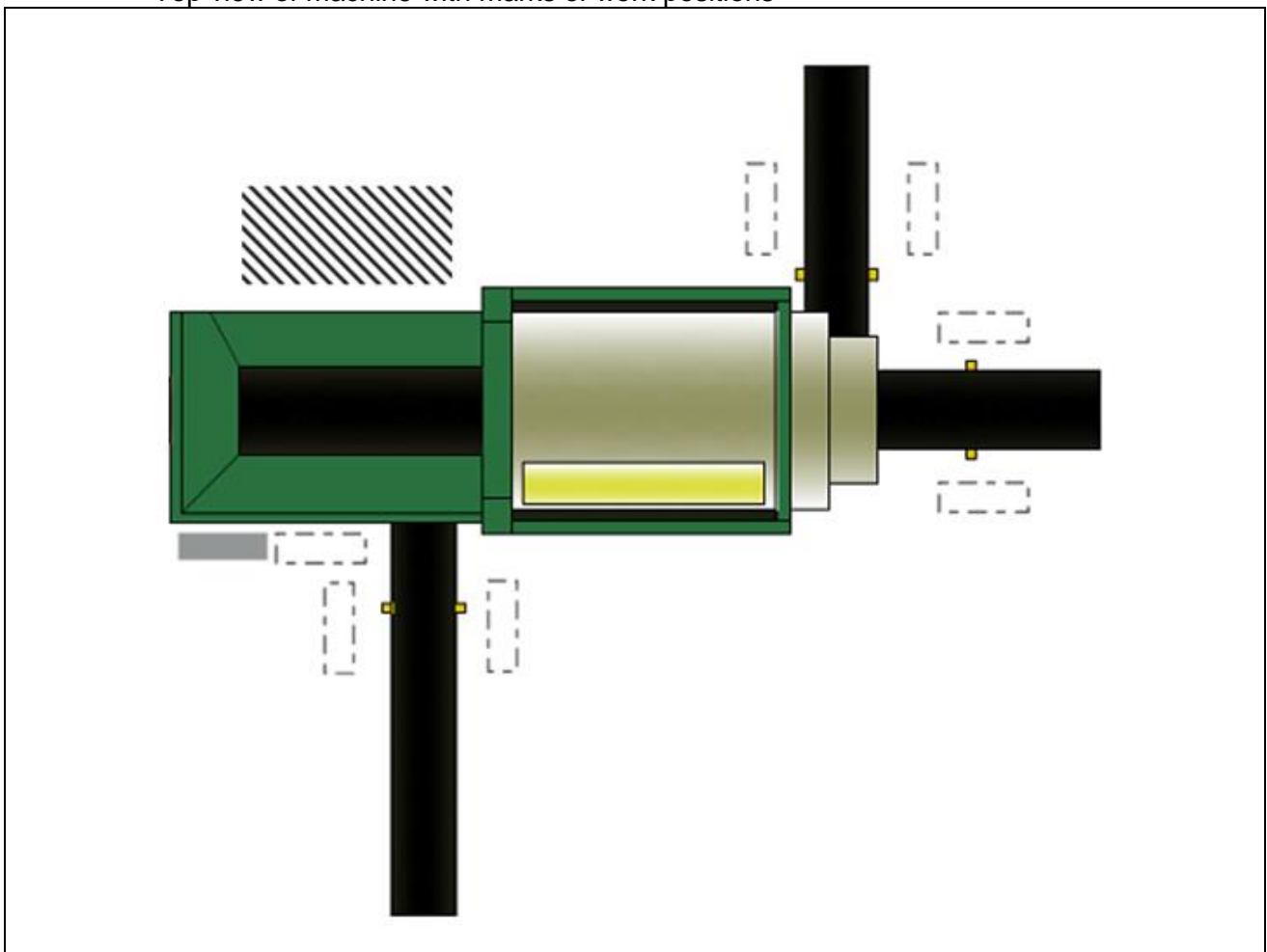

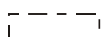



fig. 3-2: Alignment of work positions

-  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.

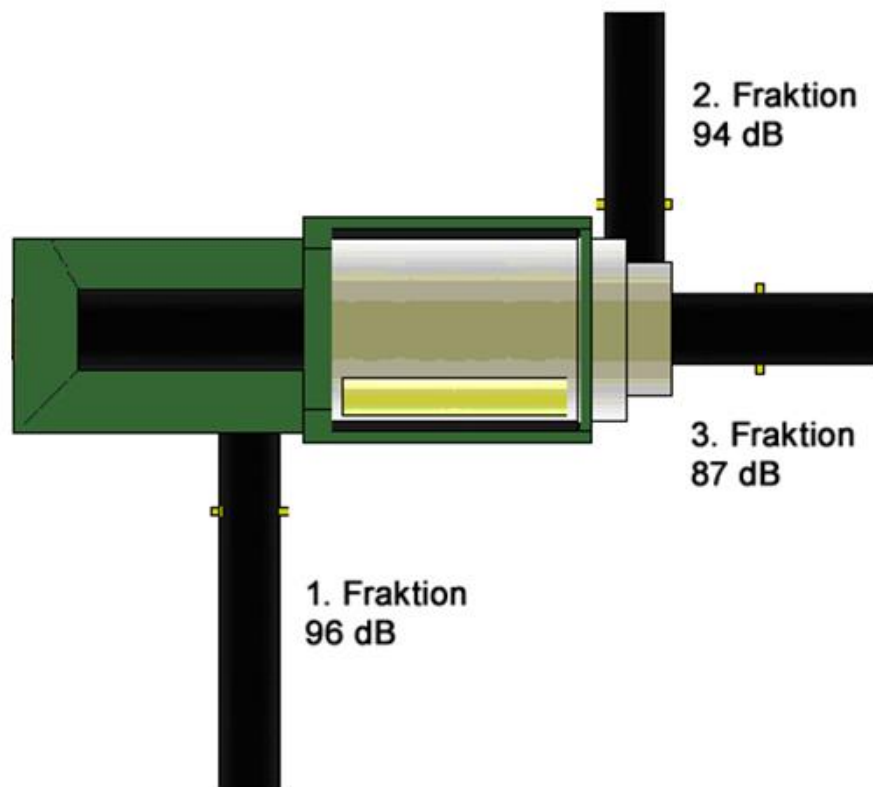


fig. 3-3: emission values of the machine

**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 is a mobile screening machine. It classifies bulk load into three fractions 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 fractions 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

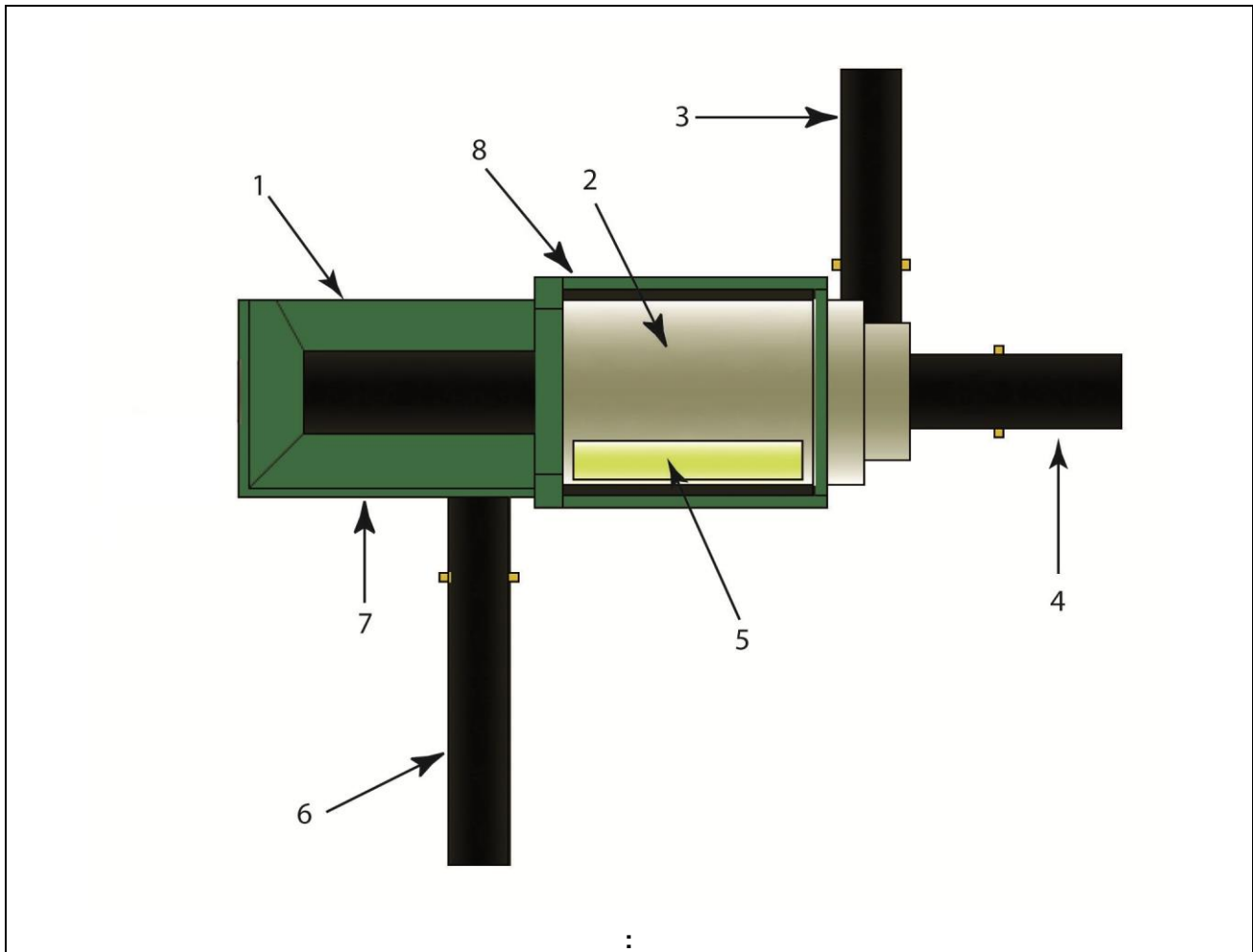


fig. 4-1: Assembly overview (top view)

- 1 Feeding hopper and stone grille (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 Chassis – Track drive

4.4 Assembly

4.4.1 Feeder and stone grille (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 trommel are hydraulic driven.

4.5 Control unit



Notice!

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



fig. 4-2: control unit

- 1 Control and status display
- 2 Control panel
- 3 Main Switch

4.5.1 Control panel and status display

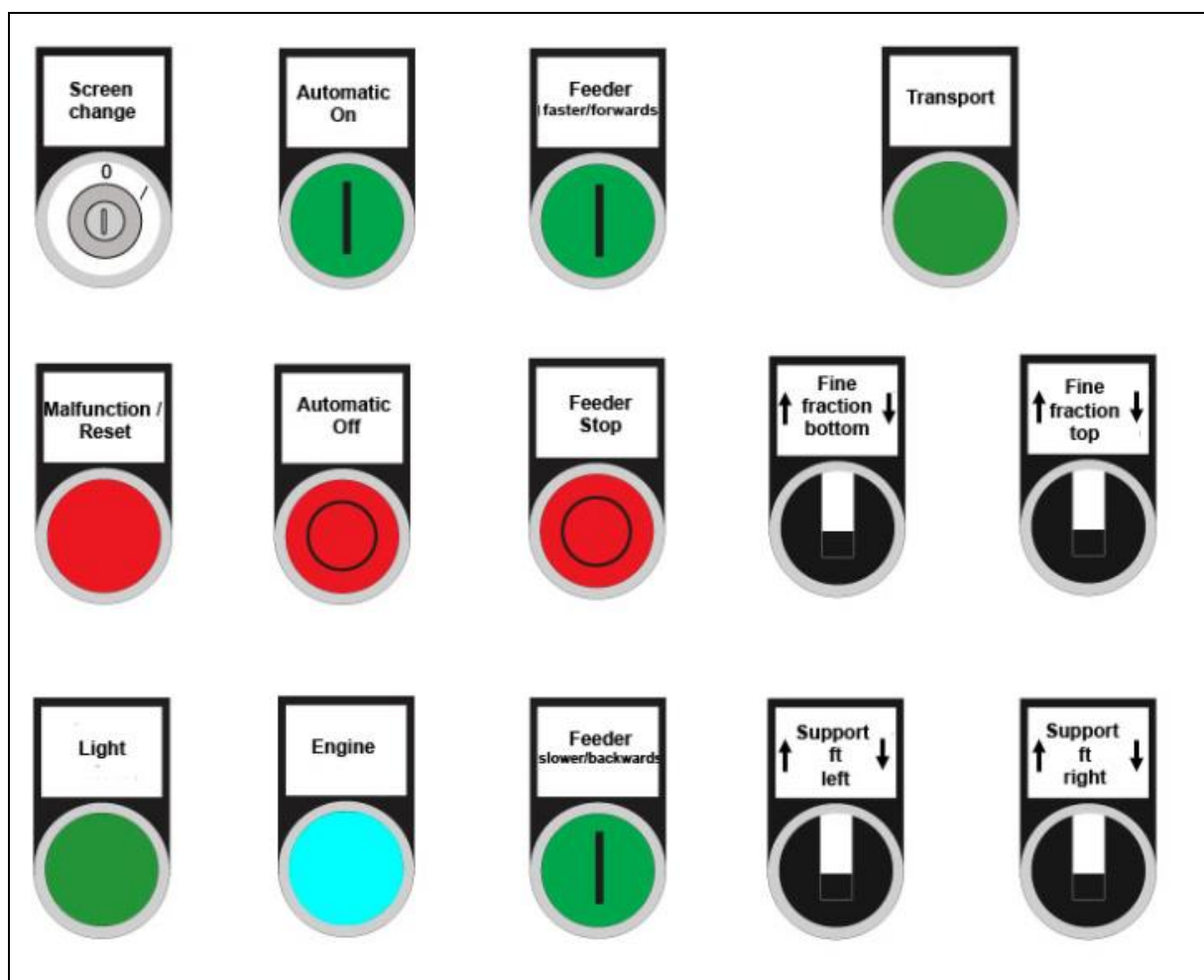


fig. 4-3: Control panel and status display

Screen Change	Key switch for activating the screen change function
Automatic On	Machine starts up till ready to use, diesel engine turns into working speed
Feeder Faster/forwards	Feeder conveyor belt moves forwards (belt speed increases)
Malfunction Reset	control lamp glows red, an error exists, e.g. Emergency Stop is pressed. Enabling of the machine/emergency stop loop/reset troubleshooting
Automatic OFF	Machine shuts down, diesel engine turns into idle speed
Feeder Stop	Feeder conveyor belt stops
Light	All four lights turn on or off placed on the machine
Engine	Push-button function: push button, engine start/stop, light function: white (ready for operation), yellow or red (error), green (motor running)

**Feeder
slower/backwards**

Feeder conveyor belt reverses (belt speed lowers)

Transport

Before folding out the conveyors, lift support feet or using track drive, press Transport. Having finished, "Transport" need to be pushed again on "OFF".

4.5.2 Panel / Control



Note!

For visualisation and functional description, please refer to the separate instructions in this manual!



fig. 4 – 4: Touch display

4.6 10-Channel Remote Control

To activate the remote control, press button S5 on the remote control.
The EMERGENCY STOP switch is located at the top.

Carry out the following steps within 5 seconds, to connect the remote control to the machine:

1. Pull the STOP switch. "Enter Start-Sequence" is shown in the display.
2. Shortly press the S5 button and then release. The display shows an open lock as symbol.
3. Press the S5 button again until the start screen appears. Wait until the connection to the machine is ready.



Note:

The transmitter switches off if

- the S5 start button is pressed for longer than half a second during step 2 of the start sequence.

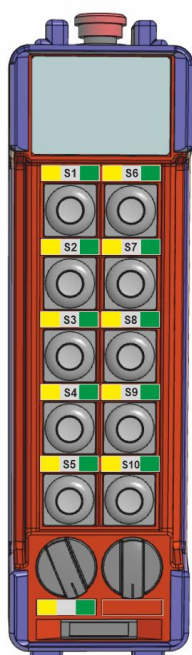
is pressed for longer than half a second.

- the start sequence is not completed within 5 seconds.

- another button is pressed during the start sequence.

In such cases, press the Stop switch and repeat the complete start sequence.

Working Mode switch to the demanded colour, pictogram sideways

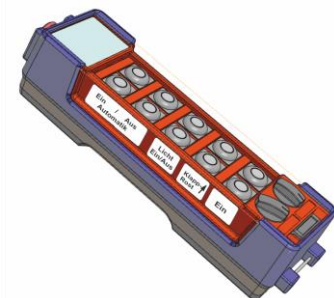


Working Mode (Switch yellow)			
S1	Automatic on	S6	Feeder faster/forwards
S2	Automatic off	S7	Feeder Stop
S3	Light	S8	Feeder slower/backwards
S4		S9	
S5	Remote Control on	S10	Engine On/Off
Mode (Switch grey)			
S1		S6	
S2		S7	
S3		S8	
S4		S9	
S5	Transport On	S10	

Transport Mode switch to the demanded colour

Transport Mode has to be activated (switch grey and S5).

Before moving in transport mode the horn sounds.



Conveyor belts (Switch yellow)			
S1	Fra. 1 top fold out	S6	Fra. 1 top fold in
S2	Fra. 1 bottom fold out	S7	Fra. 1 bottom fold in
S3	Fra. 2 top fold out	S8	Fra. 2 top fold in
S4	Fra. 2 bottom fold out	S9	Fra. 2 bottom fold in
S5	Fra. 3 fold out	S10	Fra. 3 fold in
Support feet (Switch grey)			
S1	fl up	S6	fr up
S2	fl down	S7	fr down
S3	rl up	S8	rr up
S4	rl down	S9	rr down
S5	Transport off	S10	
Track drive (Switch green)			
S1	left forwards	S6	right forwards
S2	left backwards	S7	right backwards
S3	faster	S8	slower
S4		S9	
S5		S10	

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 to be fulfilled:

- Any material has to be removed from 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



fig. 5-1: Example for 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 working position with the traction engine after transportation.
The further procedure will be explained in *chapter Readiness for operation*.



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. Set the hydraulic landing gear which are located on the rear and front end of the machine with the switches.

The hydraulic support feet are operated via switches on the control unit (front support feet) and on the control box (rear support feet).

The transport mode must be started beforehand.



fig. 7-1: Landing gear



7-2: Switch box for rear hydraulic support feet



Attention!

Landing gear serves as additional stability, touch smoothly pressed to the ground.



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.

3. Lever the machine using the cross water level (fig. 7-2) located in the engine compartment etc. to arrange a secure stand.



fig. 7-2: Cross water level



Caution!

Danger of lateral twisting of the machine. Disruption can occur, as trommel runs against interior panel or belt of the conveyor runs out of line.

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 extended middle fraction (optional)



fig. 7-4: 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.

7.1.3 Transportation safety device of extended coarse fraction



fig. 7-5: 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 dismantled.

8.1 Starting the diesel engine

1. Check that all doors are closed. 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. Turn the main switch from 0 to 1, Figure 8-1.
3. Control unit starts up. Wait until the start screen is completely shown on the display.
4. If "engine" button lights up white (Illustration 8-1), engine can be started by pressing the button on the control box or on the remote control. The button lights up green.
5. If the button flashes yellow or red, there is an engine error.

8.2 Folding out the conveyor belt of fine fraction

1. Lose conveyor belt out of its transportation security devices.
2. **After starting the machine, push button “Transport” at the control panel.**



fig. 8-2: Operating unit by open door

3. Fold out the upper part of the fine fraction with the switch
4. Now fold fully out the lower part with the switch.
5. Afterwards the upper part can be folded out completely.



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.

8.3 Folding out the conveyor belt of extended middle fraction and extended 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 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.

Fold out the middle and coarse fractions (2nd and 3rd fraction).

1. Remove the transportation security devices of the coarse fraction.
2. After the engine has started, press the "Transport" button.
3. Fold out the upper part of the middle fraction. Attention on transportation security device.
4. Now fold out the lower part of the middle fraction completely.
5. The upper part can now also be fully folded out.
6. Finally fold out the coarse fraction completely with the 3rd fraction switch.



fig. 8-4: Switches of extended fractions



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.

- 7. After folding out all conveyor belts, push button “Transport”. The display turns into working mode. Otherwise the machine will not start.**

8.4 Close the feeding 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.

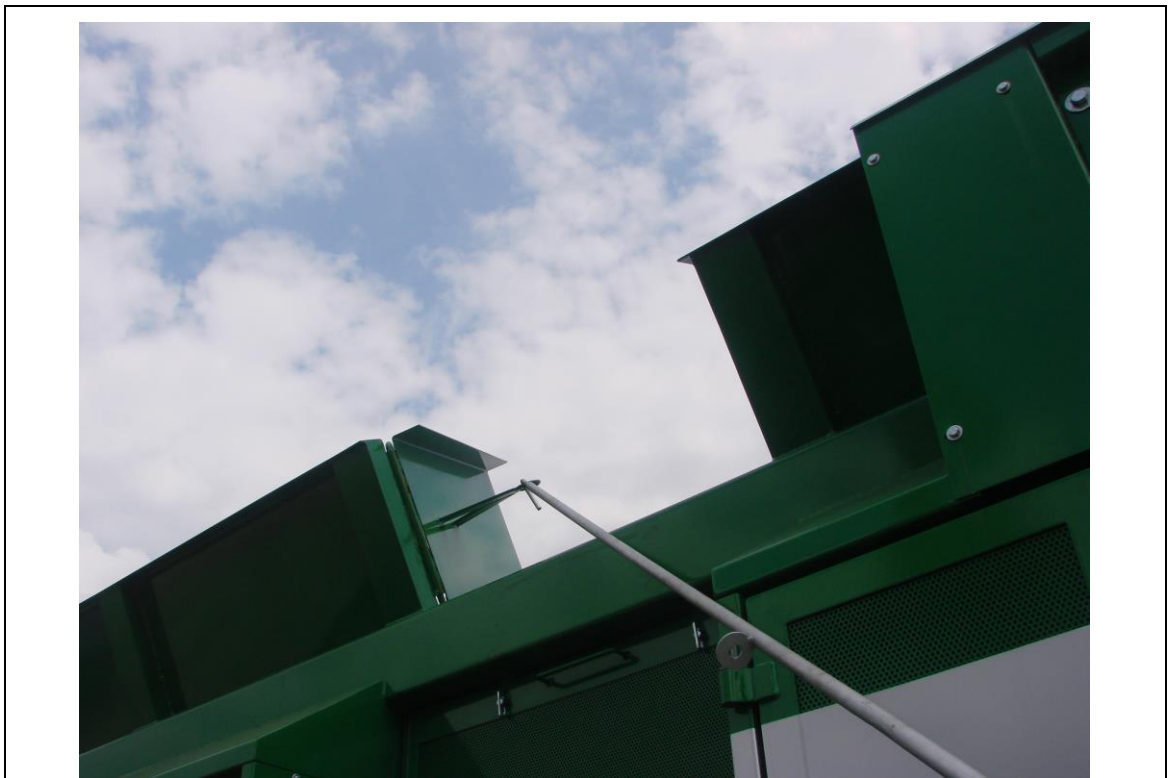


fig. 8-5: Hook rod and eye of the service door

8.5 Starting the screening process

1. After folding out all conveyor belts, push "Transport", if not having done.

If there are no faults and the engine is running, the machine can be put into operation.

2. Press "Automatic ON". The engine speed will turn to working speed and the acoustic warning start sounds. All single drives start deferred with 5 secs distance in the following order. (Flashing on the display)

1st fraction, TAB, 2nd fraction, 3rd fraction, Feeding belt

Machine is in automatic mode when all drives light up green.

The machine is ready to use.

8.6 Readjustment the speed of feeder conveyor belt

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

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

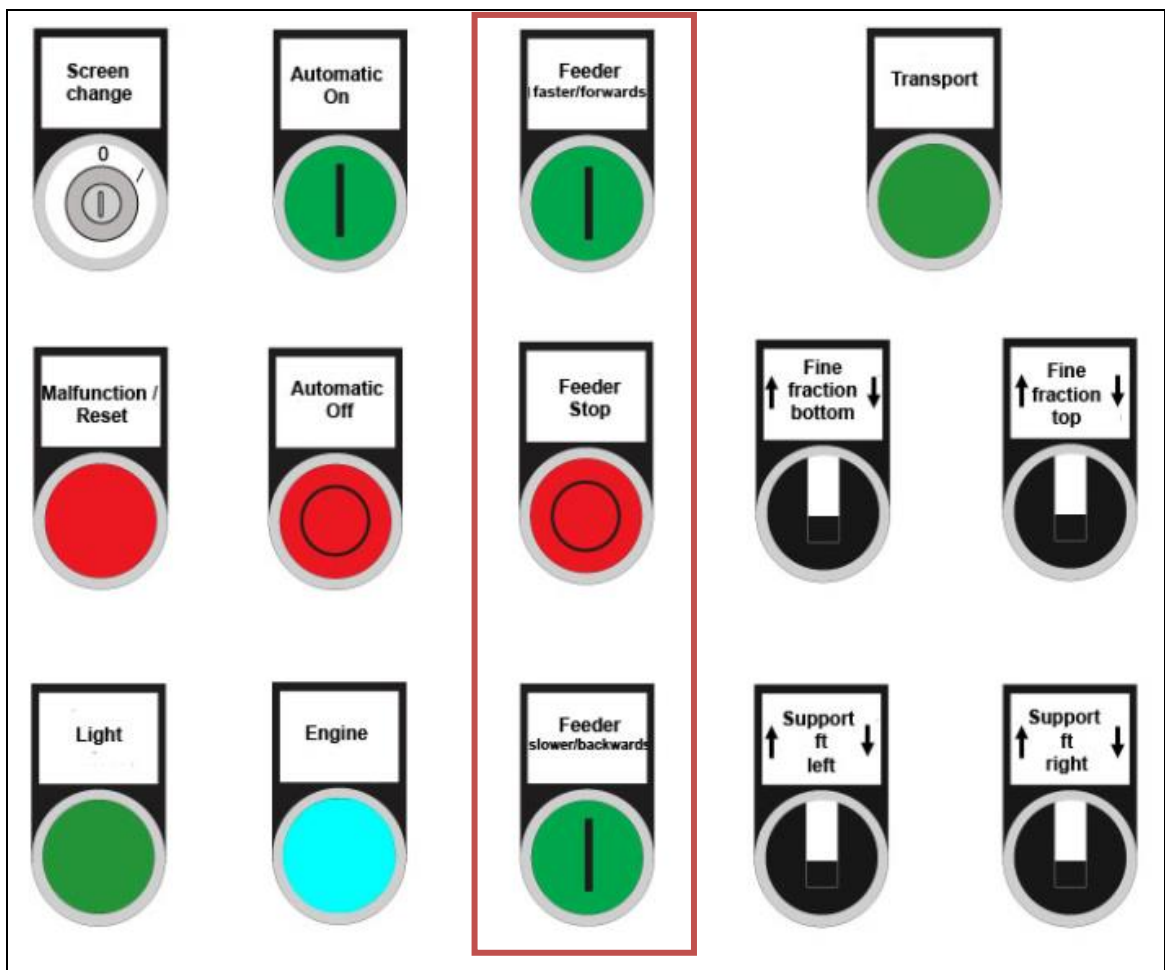


fig. 8-: Control panel

The speed of the feeder conveyor belt can be increased with the bottom "Feeder faster/forward".

The speed of the feeder conveyor belt can be lowered with button "Feeder slower/backward".

The feeder 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 saved.

8.7 Emergency Stop function

1. After pressing an emergency stop button or opening one of the trommel doors or engine compartment doors, the malfunction/reset button on the control unit lights up and the display shows Emergency stop/trommel door.
2. After the check, unlock the emergency stop button that was pressed or close the trommel door.
3. Press the "Malfunction/Reset" button to reset the safety relay and the light turns off.

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. The single drivers flashes green in the display. Drivers stop deferred in the following order.

Feeding belt, 3rd fraction, 2nd fraction, TAB, 1st fraction

2. Press button "Engine", diesel engine turns off. Main switch set to "0".



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 setting main switch from 0 to 1.
2. Control panel starts up. Wait until display is ready.
3. If "engine" button lights up white (Figure 8-1), the motor can be started by pressing this button on the control box or on the remote control. The button lights up green.
4. Open the hopper door with hook bar.
5. Press "Transport".
6. Folding in all conveyor belts as described in chapter 9.2, 9.3 and 9.4.

9.2 Folding in the conveyor belts of extended 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.

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

1. Use the switch to completely fold in the conveyor belt of the coarse fraction.
2. Use the switches to fold in the conveyor belt of the middle fraction.
3. Fix transportation security device of coarse fraction.

9.3 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.

Fold in of fine fraction (1st fraction):

1. Folding in the bottom segment of the fine fraction completely by using the switch at the control unit.
2. Now folding completely in the top segment.
3. Fix transportation security device of fine fraction.

9.4 Shutdown engine

1. Press the "Transport" button. The display switches to working mode.
2. Press the "Engine" button to switch off the diesel engine.
3. Set the main switch to "0".
4. Carry out all precautions for transport.

9.5 Storage

This section contains information about safe storage of the machine.

This means that the machine is not used for a longer period of time (from approx. 2 weeks on) after it has been taken out of service.

Please refer to the operating instructions for the engine in the appendix.



During storage, the battery must be disconnected more than 2 minutes after the engine has been switched off.

This prevents battery discharge due to continuous transmission of the GPS signal.

A main switch has been dispensed with so that the AdBlue system lines can be vented after the engine has been switched off and no engine malfunctions occur as a result. In addition, the electronic engine control unit is active during these 2 minutes and stores data from the engine and post-processing sensors.

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 <i>see chapter 8.8</i>
Whelmed double trommel	Feeding belt to fast	Adjust speed of feeding belt <i>see chapter 8.7</i>
Hydraulic oil temperature high, cool down phase	Overload of hydraulic, hydraulic pumps, engine defect	Check fuse for hydraulic air filter in electric control box Visual checks of cooling fan at oil cooler Contact ZEMMLER® Siebanlagen
Hydraulic oil level low	Pipe damaged, oil leakage, screwing connection lose	Check machine on leak In case of leakage order pipe spare part Contact ZEMMLER® Siebanlagen

10 Troubleshooting

Failure	Cause	Repair
System voltage low	Alternator defect, cable break or battery defect	Contact ZEMMLER® Siebanlagen
Air suspended chassis	Machine does not go up	Machine is still connected Connect pressure line to machine Check compressed air vessel
	Machine does not go down	Contact ZEMMLER® Siebanlagen
Lights	No function	Check plug connection
Feeder stops	Overload of hydraulic circulation	Check belt under trommel

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 by 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 / cleaning of 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.

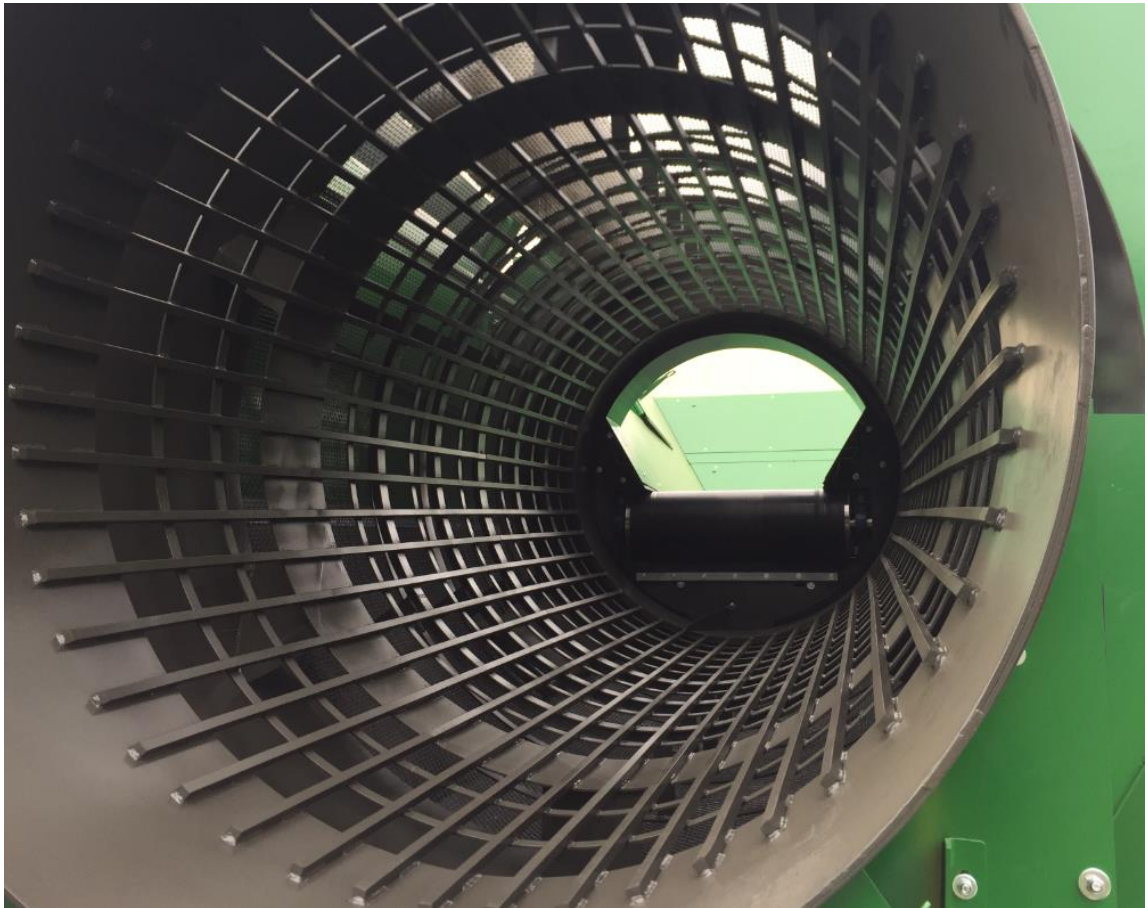
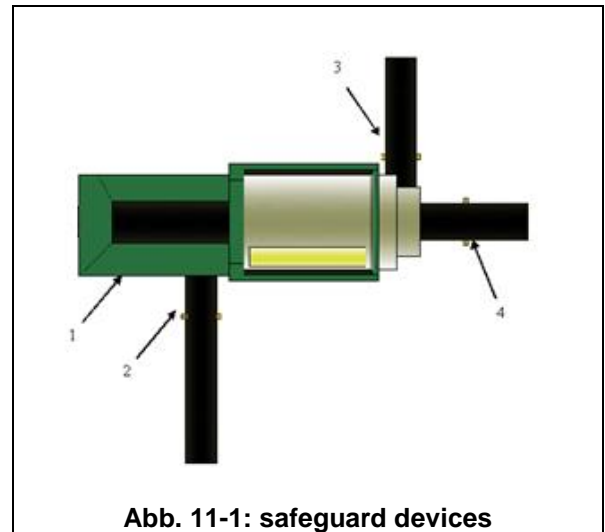


Fig. 11-1: Visual check of the double trommel

11.4 Securing the machine

1. Turn off 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.



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 air filter
	B weekly (50h)	B1	Grease all grease nipples of support roller and conveyor belt drums
		B2	Check cleaning brush of double drum
		B3	Check hydraulic system - leakage
		B4	Visual check of conveyor belt
	C 100 h	C1	Maintenance by an operator
	D 250 h	D1	Maintenance by an operator
	E 500 h	E1	Maintenance by an authorized mechanic
	F 1000 h	F1	Maintenance by an authorized mechanic
	G 1500 h	G1	Maintenance by an authorized mechanic
	H 2000 h	H1	Maintenance by an authorized mechanic

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 daily visual checks of air filter.

if filter clogging the engine is stopped.

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*.

- 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
Lighting		‘		‘
Impermeability of hydraulic system		‘		‘
Impermeability of pneumatic system				‘
Pulleys	wearout	‘		
Bearing	wearout	‘		
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	‘		‘
Feeder conveyor 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
Lighting		‘		‘
Impermeability of hydraulic system		‘		‘
Impermeability of pneumatic system				‘
Pulleys	wearout	‘		
Bearing	wearout	‘		
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
Motor service with filter change	‘		‘
Hydraulic filter change forward/rewind	‘		‘
Hydraulic tank ventilation			‘
Change air filter if necessary			‘
Impermeability of hydraulic system	‘		
Impermeability of pneumatic system	‘		
Lighting			
Bearing wearout			
Pulleys wearout			
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	‘		‘
Feeder conveyor 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
Motor service with filter change		‘		‘
Hydraulic filter change forward/rewind		‘		‘
Hydraulic tank ventilation				‘
Change air filter if necessary				‘
Impermeability of hydraulic system		‘		
Impermeability of pneumatic system		‘		
Lighting				
Bearing	wearout			
Pulleys	wearout			
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	‘		‘
Feeder conveyor 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
Motor service with filter change	‘		‘
Hydraulic filter change forward/rewind	‘		‘
Hydraulic tank ventilation			‘
Change air filter if necessary			‘
Impermeability of hydraulic system	‘		
Impermeability of pneumatic system	‘		
Lighting			
Bearing wearout			
Pulleys wearout			
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	‘		‘
Feeder conveyor 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
Motor service with filter change		‘		‘
Hydraulic filter change forward/rewind		‘		‘
Hydraulic tank ventilation				‘
Change air filter if necessary				‘
Impermeability of hydraulic system		‘		
Impermeability of pneumatic system		‘		
Lighting				
Bearing	wearout			
Pulleys	wearout			
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	‘		‘
Feeder conveyor belt	skew run	‘	‘	
	wear out	‘		‘

Machine no.

Date:

Mechanic:

Operating hours:

h

Remarks:

Realized by:

Signature

11.7 Maintenance Interval Schedule



Note!

For a detailed description of how to carry out the maintenance, please refer to the enclosed engine operating manual.

Daily

- Coolant level- Check
- Driven Equipment – Check
- Engine Air Cleaner Service Indicator – Inspect
- Engine Air Precleaner – Check / Clean
- Engine Oil Level – Check
- Fuel System Primary Filter/Water Separator - Drain
- Walk-Around Inspection

Every Week

- Hoses and Clamps – Inspect/Replace

Every 50 Service Hours or Weekly

- Fuel Tank Water and Sediment - Drain

Every 50 Service Hours or Monthly

- Fuel Tank Water and Sediment - Drain

Every 500 Service Hours or 1 Year

- Battery Electrolyte Level - Check
- Cooling System Supplemental Coolant Additive – Test/Add
- Engine Air Cleaner Element - Inspect/Clean/Replace
- Engine Oil and Filter – Change
- Fuel System Primary Filter Element - Replace
- Fuel System Secondary Filter – Replace
- Radiator – Clean
- Fan Clearance - Check

Every 1000 Service Hours

- Water Pump - Inspect

Every 1500 Service Hours

- Engine Crankcase Breather Element - Replace

Every 2000 Service Hours

- After Cooler Core - Inspect
- Engine Mounts – Inspect
- Starting Motor - Inspect
- Turbocharger - Inspect

Every 3000 Service Hours

- Alternator – Inspect
- Alternator and Fan Belts – Replace
- Diesel Particulate Filter – Clean
- Oxygen Sensor – Replace
- Radiator Pressure Cap – Clean/Replace

Every 3000 Service Hours or 2 Years

- Coolant - Change

Every 4000 Service Hours

- Aftercooler Core – Clean/Test

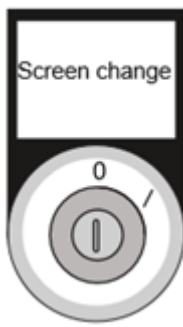
Every 6000 Service Hours or 3 Years

- Coolant Extender - Add

When Required

- Battery – Replace
- Battery or Battery Cable - Disconnect
- Engine – Clean
- Engine Air Cleaner Element – Inspect/ Clean/Replace
- Engine oil Sample - Obtain
- Fuel System – Prime


11.8 Exchange screens



Activate screen change with key switch MS2 on the control unit. Set the key switch to "I" .

Screen change is active. All other machine functions are deactivated.

The display shows



If the function is active, the remote control is active and all other functions of the machine are deactivated.



Plug in connector of remote control.

By pressing the arrow button of the yellow remote control, the trommel can be slowly rotated in inching mode. The trommel turns only while pressing the arrow button.

- **Remove wire screens:**

1. Open the right side door of the trommel in the direction of travel.
2. Using the remote control in inching mode, place the clamping station of the trommel at the mounting height and loosen the screws.
3. Loosen both ends of the wire screen with help of the mounting lever out of the clamping station.
4. Carefully pull the screen out of the machine.

- **Apply wire screens:**

1. Position clamping station of the trommel with remote control just above the conveyor belt under the trommel.
2. Hook the end of the wire screen without screws into clamping station.
3. Rotate trommel by hand until the pad is completely wrapped around the trommel.
4. Put ends into clamping station with mounting lever and use the screws to tighten the wire screen pad.



Warning – of the entry of bodies and body parts!

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

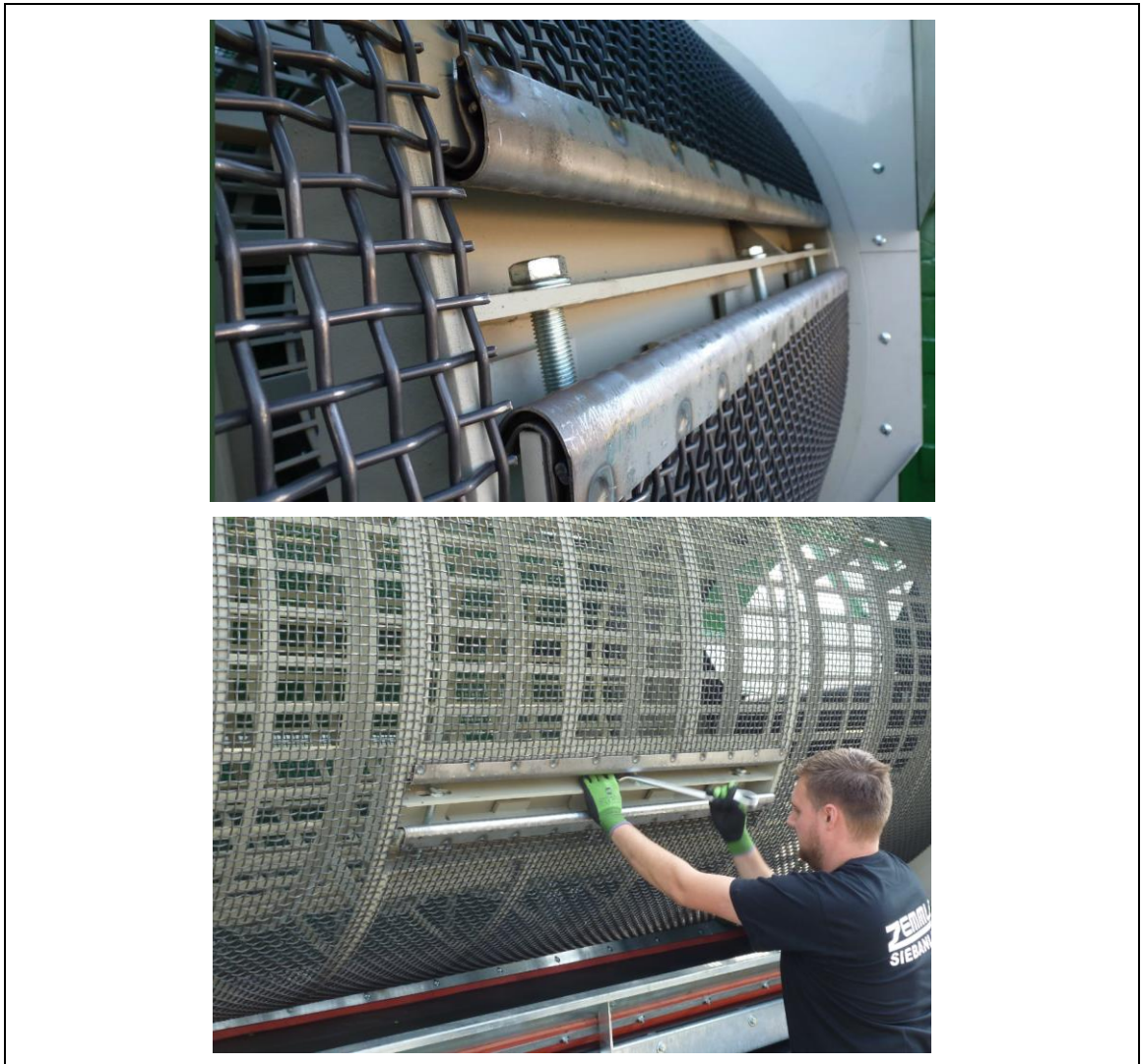


fig. 11-3: Clamping and fastening devices for wire screen pads



Notice!

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

11.9 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.

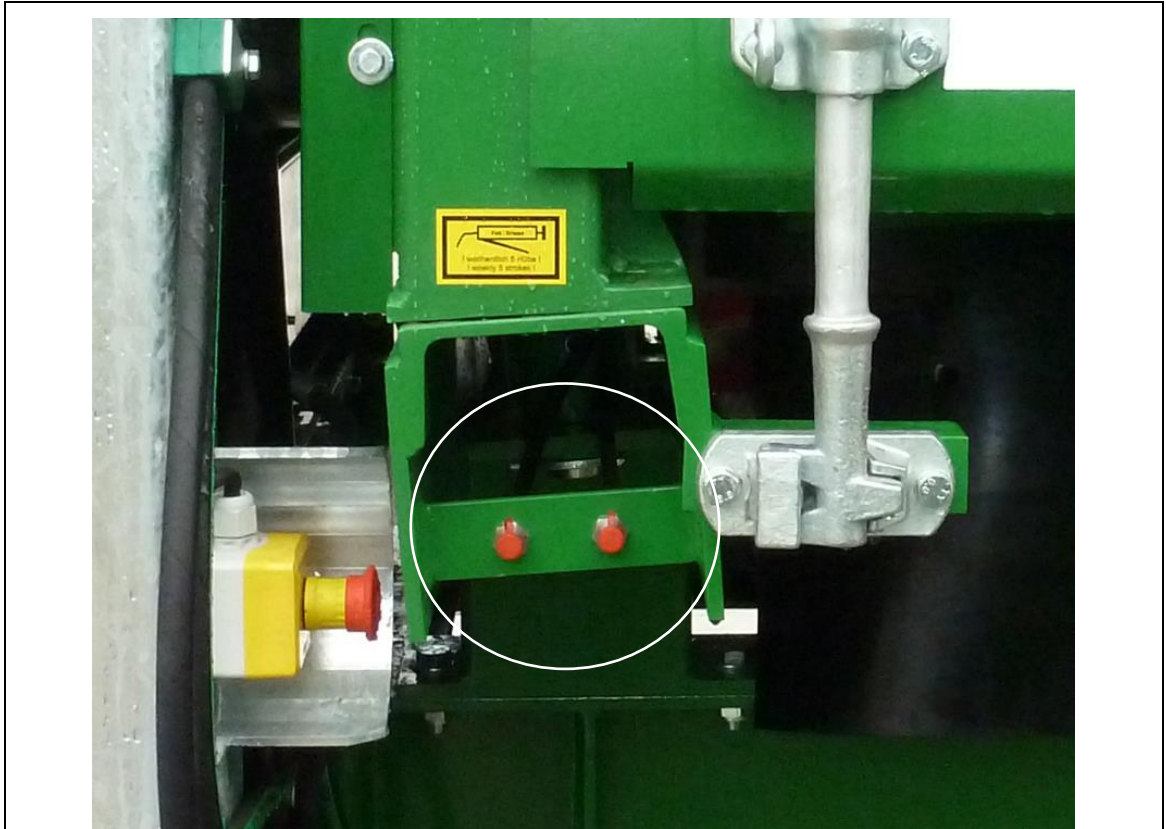


fig. 11-4: Position of grease points

11.9.1 Exact position of grease points

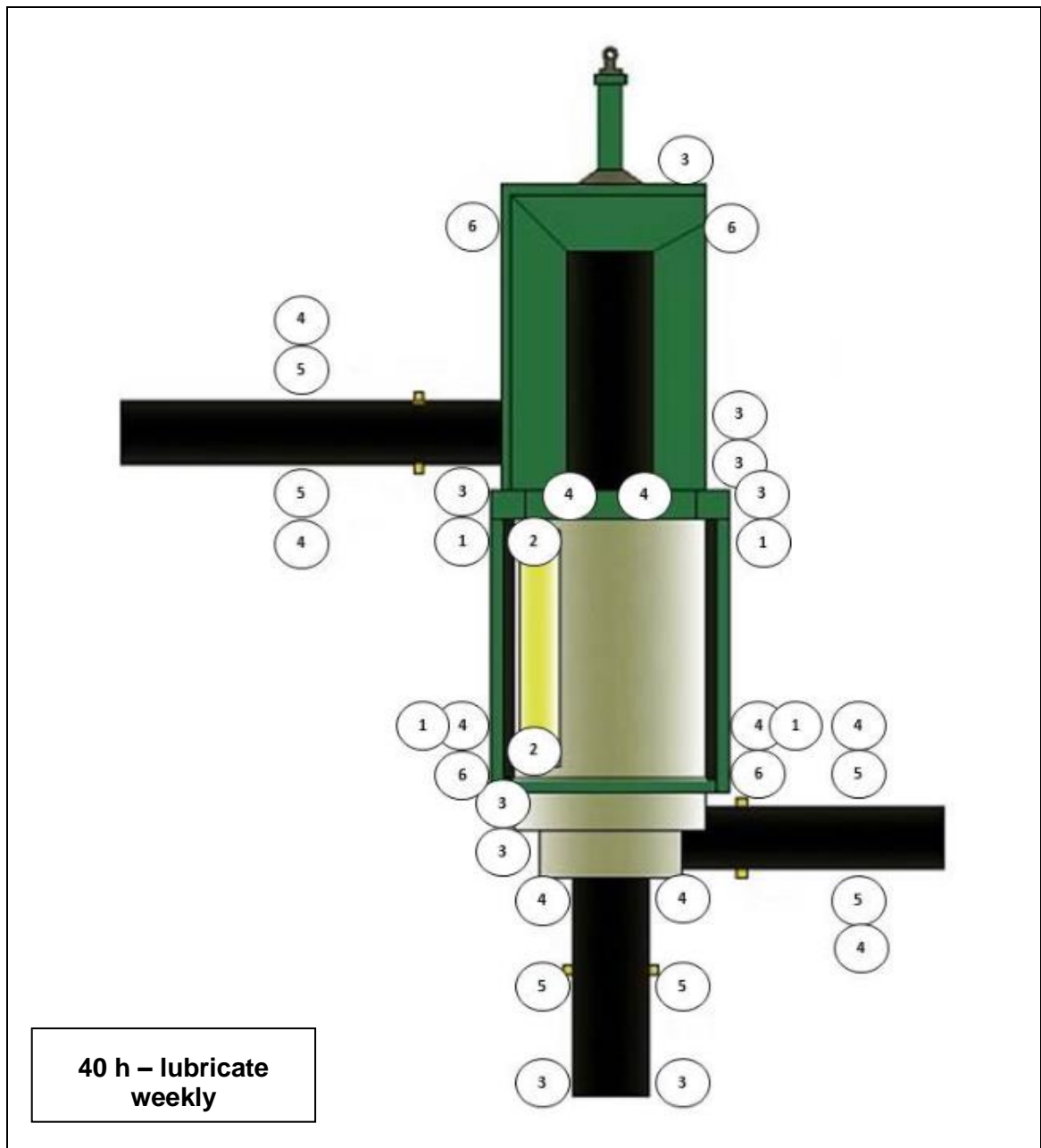


fig. 11-5: Position of grease points

- 1 Idlers
- 2 Brush arbor
- 3 Pedestal bearing drive drum pulley
- 4 Pedestal bearing tail drum pulley
- 5 Hydraulic cylinder
- 6 Landing gear

11.10 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

1. Disassembling the motor drive (2).
2. The two brackets (6) of the brush shaft must be disassembled and removed.
3. Lift up the alignment with a crane, pulley or other adequate tool from the machine.
4. It is now possible to take of the brush elements and spacer of the shaft.
5. The brush elements can be reassembled in opposite order.

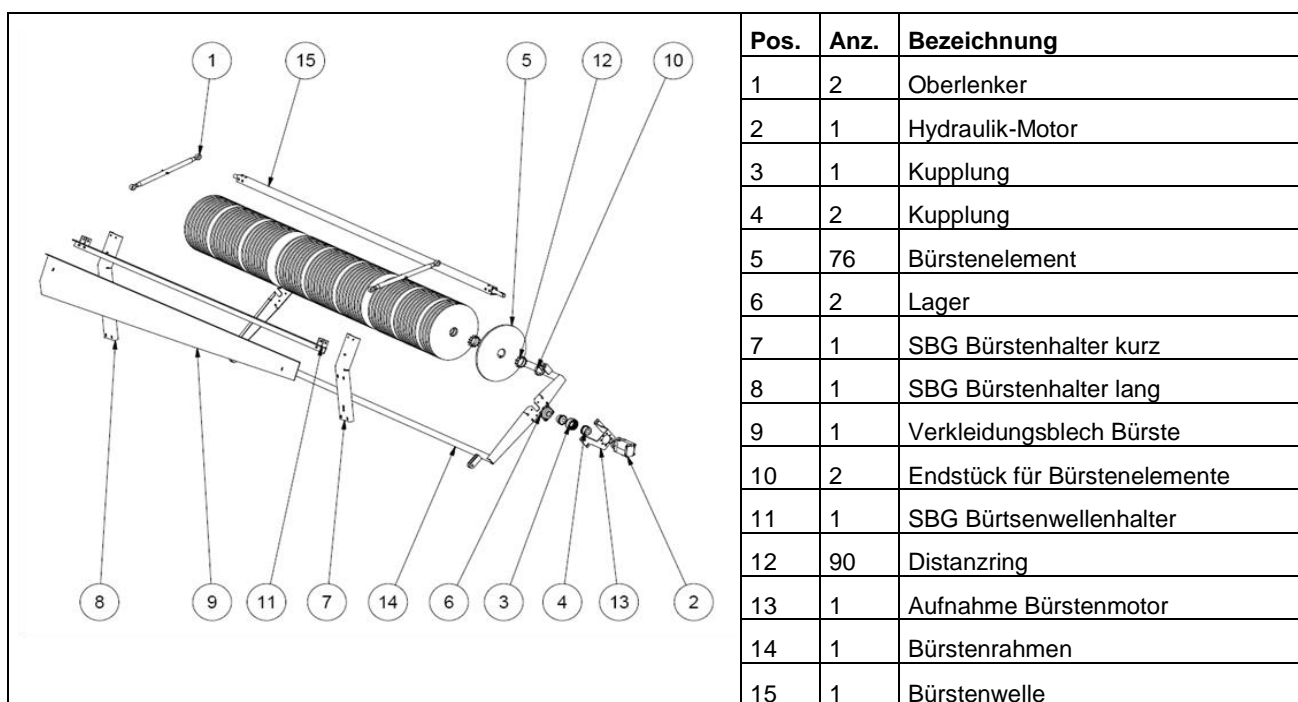


fig. 11-6: Construction and fixing of brush elements



Notice!

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

11.11 Check of air filter /TopSpin PreCleaner



Caution – Risk of injury!

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



Hot surface!

The exhaust system and its parts are hot after operation.

Take adequate precautions.



Handschutz benutzen

The machine is equipped with an air filter. The filter is displayed in the Siemens Logo Control



Fig. 11-6: Air filter with TopSpin PreCleaner

The machine is equipped with a TopSpin Precleaner, which sucks in the air, pre-cleans it and then throws it out.

The PreCleaner extends the cycle for cleaning the downstream air filter.

Self-cleaning makes the PreCleaner maintenance-free.



Notice!

When the display indicates a blocked air filter, it must be cleaned according to enclosed engine instructions.

11.12 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.

11.13 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.

11.14 PVG valve / control block



For troubleshooting!

Hand lever attachable to single section for manual operation

PVG 32	PVG 32	
Conveyors / cleaning brush	1 st fraction	
3rd fraction	Belt under trommel	
2nd fraction	Trommel	
Feeder belt	Forwards But to the left	Forwards But to the right
	Backwards But to the left	Backwards But to the right

fig. 11-7: 5er & 4er valve block

12 Technical information

12.1 Side view of machine

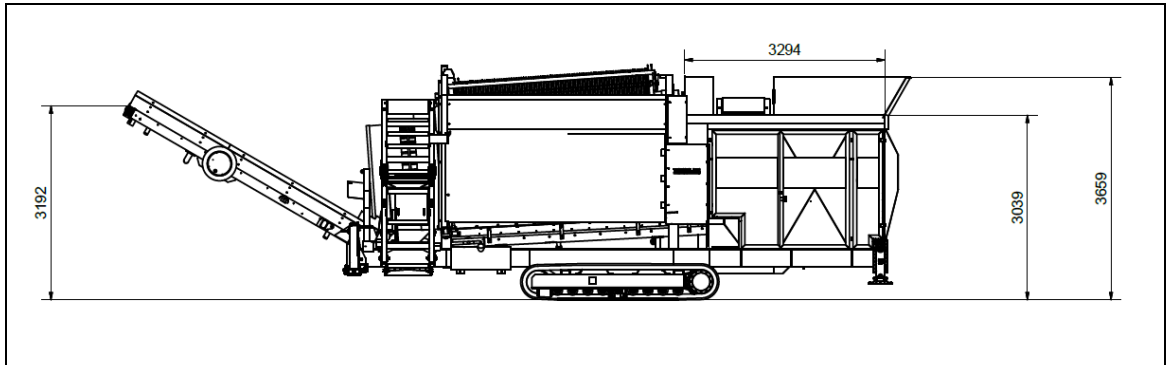


fig. 12-1: Machine

12.2 Rearview of machine

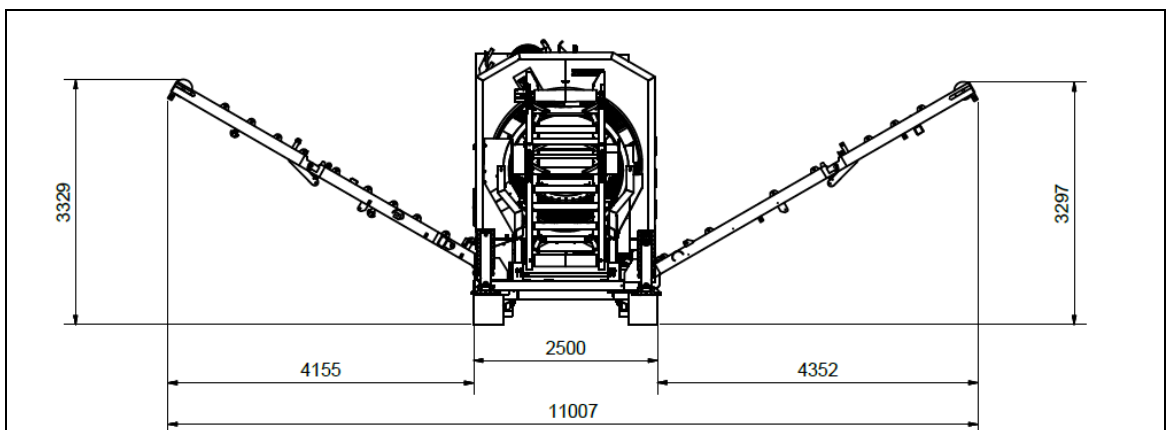


fig. 12-2: Rear view of machine with folded out belts

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:	11.100 mm
---------	-----------

Width:	2.500 mm
--------	----------

Height:	3.900 mm
---------	----------

Weight:	
---------	--

Machine (empty):	Approx.. 14.500 kg
------------------	--------------------

12.5 Diesel engine

Type:	CAT Dieselmotor C3.6
-------	----------------------

Power:	75 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. 12-4: 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.

14 Index

Issue page

A

Assembly · 22
Assembly overview · 21

C

Conventional usage · 13

F

Field of application · 5
Final disposal · 74

G

General description · 20
General information · 5
Guarantee of commitment and warranty · 10

I

Initial operation · 29

L

Location of safety installations · 17

M

Maintenance · 49
Maintenance Interval Schedule rs · 61

O

Operation · 37

P

Performance data · 73
Putting into operation · 29

R

Readiness for operation · 31

S

Safety advices · 12
Scope of delivery · 6
Service · 49

T

Technical information · 72
Transportation · 28

W

Warranty · 11