Soil mixer EM 6012

Operating instructions

Issue date: 01.03.2014 / V1.3

Before the initial start-up, read and keep at the machine for future use.

List of Contents

1 Product description

1. Intended use

The MAYER Soil mixer EM 6012 may be used for precise mixing of different soils in the shortest possible time to meet your requirements and in accordance with your experience.

Other means of use of the machine, besides the ones listed here, are not permitted – and they are not the usage for intended purpose.

If the MAYER Soil mixer EM 6012 is not used in accordance with the regulations, the safe operation of the machine is not guaranteed.

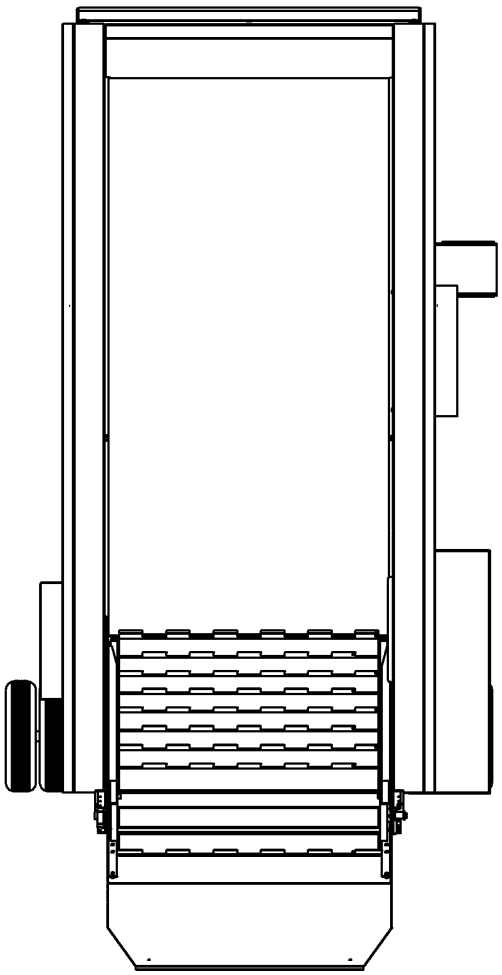
The usage for intended purpose involves the reading of the operating instructions, and the compliance of the regulations, specially safety regulations stated in it. Furthermore, every inspection and maintenance should be performed in specified time.

For damages that are originated from the usage for not the intended purpose, neither the manufacturer, nor the operator of the MAYER Soil mixer EM 6012 takes responsibility.

2. Structure

Plan view of soil mixer EM 6012

back



left

right

front

3. Functional description

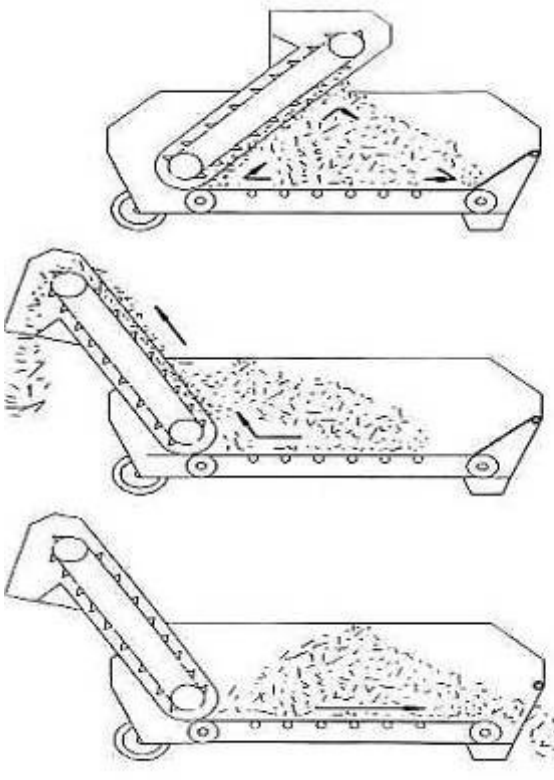
The task of the soil mixer is to mix various components into a soil which meets the needs of the plants.

A rubber conveyor belt inside the soil hopper transports the components towards the elevator which is swivelled backward.

The elevator chains and the rubber conveyor belt turn continuously, thereby mixing the soil. The mixing time can be selected as required.

After the mixing time has elapsed, the elevator swivels forward into the unloading position. The soil is now transported out of the soil mixer into a waiting container or the soil hopper of the potting machine. It is also possible to select the discharging time.

A moistening system is available as an accessory. It can be installed in order to moisten the soil before it is discharged.



Mixing

Emptying from the front

Emptying from the rear

4. Technical data

Make:	**Mayer**
Machine type:	**Soil mixer**
Series:	**6012**
Length, retracted / extended:	299 / 366 cm
Width:	187 cm
Height, retracted / extended:	219 / 243 cm
Weight	1380 kg
Power connection:	400V/50Hz, 5-pole
Power input:	0,7 kW
Capacity of soil hopper:	2 m^3
Workplace related emission value:	70dB (A)

Available accessories (for an additional charge)

- watering device (with ball tap)
- watering device (with magnetic valve)
- heavy-duty execution for extreme soils with heavy-duty motor
- towing bar
- emptying control (Laser light sensor)
- emptying by means of pedal switch

Important note!
When placing repeat orders for accessories and spare parts, make sure to have information about the machine type and number at your hand!

5. EU declaration of conformity

According to Appendix IIA of the EU Machinery Directive (2006/42/EC)

The manufacturer:	**Mayer GmbH & Co. KG** **Maschinenbau u. Verwaltung** **Poststrasse 30** **89522 Heidenheim | Germany**
hereby attests that the machine described in the following:	**Make: Mayer** **Model: Soil mixer** **Series: 6012** **Year constructed: From 2011**
fulfils the safety and health requirements of the following EU Machinery Directive:	**2006/42/EC**

Harmonised standards applied:

	Safety of machinery, basic terminology, general guiding principles for organisation
Part 1 EN ISO 12100-1	Part 1: Basic terminology, methodology
Part 2 EN ISO 12100-2	Part 2: Guiding technical principles and specifications
EN ISO 13857	Safety distances to keep the upper limbs from reaching danger points
ISO 13854	Safety of machines, minimum distances to avoid any crushing of body parts
EN ISO 13849-1	Safety-related parts of control systems Part 1: General principles for design
EN ISO 14121	Principles for risk assessment
ISO 14119	Interlocking devices associated with guards
ISO 13850	EMERGENCY SHUT-OFF systems
IEC 60204-1	Electrical equipping of industrial machines Part 1: General requirements

Any design alterations that effect the technical specifications given in the Operating Instructions or the intended use, i.e. change the machine substantially, will invalidate this EU Declaration of Conformity.

Heidenheim, 01 March 2014

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Dipl.-Ing. (TU)[1] Arpad G. Meszaros
Head of Development and Design

[1] Graduate engineer (from a technical university)

2 General safety instructions

1. Due diligence of the operating company

The MAYER soil mixer EM 6012 was designed and built taking a danger analysis into consideration and after careful selection of the harmonised standards to be complied with as well as other specifications. It therefore meets the state of the art and guarantees a maximum degree of safety.

However, only if all the measures required for such are taken can this safety be achieved in actual operational practice. Planning these measures and checking their implementation is subject to the operating organisation's duty to take due care.

The operating organisation must in particular guarantee that:

- … the machine is only used in accordance with its intended use (cf. the Product description section).
- … the machine is only operated when in flawless working order and, especially, that the working order of the safety equipment is regularly checked.
- … the Operating Instructions are always available in legible condition and complete at the location where the machine is used.
- … only sufficiently qualified and authorised personnel operate, service and repair the machine.
- … these personnel are regularly instructed about all relevant matters concerning industrial safety and environmental protection and that they know the Operating Instructions and especially the safety instructions they contain.
- … none of the safety and warning signs attached to the machine are removed and that all remain legible.
- Users must obligate themselves only to ever operate the machine when it is flawless condition.
- No unauthorised conversions or alterations are allowed that influence the machine's safety.
- Only when it has stopped, must any work ever be carried out on the machine.

- Before beginning with any work on the machine, secure its drives and accessory parts against being switched on unintentionally.
- The protective devices may only be removed when the machine has been stopped.
- Local safety and accident-prevention regulations always apply to any operation of the machine.
- The machine may not be started if any safety devices are removed.
- In the working area the operator is responsible for other people.
- **In case of non-compliance with any one of the points cited above, the manufacturer shall be released from all liability.**

1. Explanation of the safety symbols used

The safety symbols along with the text of the safety instructions are meant to point out unavoidable residual dangers that exist when dealing with this machine. These residual hazards relate to:

- People
- The machine
- Other things and objects
- The environment

The following safety symbols are used in these Operating Instructions:

This symbol indicates that there are dangers to the machine, things and the environment, but that no dangers to people are to be expected.

If these instructions are not followed, it might result in malfunctions and damage to the machine. Property damage and environmental damage might also come about

This symbol identifies instructions contributing to better understanding of the machine information that helps you to use the machine in optimum fashion. This symbol does not identify safety instructions.

This symbol warns against the danger of electric shock.

Be sure to also note that a safety symbol can never replace the text of safety instructions—the text of safety instructions must therefore always be read completely!

3. Basic safety precautions

Always be sure that:

- … tight-fitting working clothes are worn at all the workplaces.
- … it is not allowed to wear chains, rings, bracelets or wristbands.
- … for operationally relevant reasons, it is not possible to completely cover the soil hopper.
- … it is not allowed to reach into the soil hopper (to push in more soil, for example), because when doing so there would be a danger of getting caught by the scraping chain.
- … it is not allowed to get into the soil hopper while the machine is running.

4. Machine-related safety precautions

The workplaces are spread over various areas of the soil mixer.

a) Controlling the working steps from the control desk.

b) Filling the soil hopper with soil from the rear, from the right-hand side or from the left-hand side.

c) Monitoring the discharging cycle

- When discharging from the front: Next to the container being filled
- When discharging from the rear: Next to the rear of the soil mixer

Responsibilities for the various activities must be clearly defined and complied with.
Unclear competencies represent a safety risk.
The side walls of the soil hopper do provide a certain degree of protection against the revolving elevator chains.
In case of malfunctions during the work flow it is forbidden to touch the running machine in order to resolve the malfunction.
It must always be possible to access the emergency cut-off switch.
The emergency cut-off switch should always be located on the relevant workplace (during normal operation preferably on the panel, next to the right of the worker).

It is forbidden to climb onto the running machine.

The machine must be set up on even and solid surface so that it stands securely in place.
There is danger of life in case of a machine falling over.

The floor (workplaces at the machine and traffic routes) must be regularly cleaned from dirt and water in order to avoid danger of slipping.

Stumbling blocks in the form of cables connected to the energy supply systems must be avoided

All feed lines to the machine must be protected against damage.

Only a skilled electrician is allowed to carry out works on the electrical equipment.

Protection devices

- are fitted for the safety of operating personnel
- must in no case be changed, removed or evaded by modifications to the machine.

5. Demands on operating personnel

The machine may only be operated by personnel who have been trained for such, shown what is involved and are authorised to do so. These individuals have to know and act in accordance with the Operating Instructions. The respective authorisations for the operation personnel must be clearly prescribed.
In addition to this, special qualifications are required for the following activities:
Operation personnel being trained may at first only work with the machine under the supervision of an experienced individual. It should be confirmed in writing that the training has been successfully completed.

Only trained personnel may ever operate any of the control and safety equipment.

All individuals that carry out any activities with the machine have to read the Operating Instructions and confirm by their signature that they have understood the Operating Instructions.

3 Transport

To prevent damage to the machine as well as injuries while transporting the machine, it is absolutely necessary to comply with the following points:

- The transport work may only be carried out by individuals qualified to do so, complying with the safety instructions.
- The machine may only be lifted by the supporting points provided for such.
- Only the load-lifting devices and tackle specified here may be used to transport the machine.
- Be sure to also read the "General Safety Instructions" section.

When transporting the machine, the following special dangers must be expected:

- Suspended loads can drop, which would be a lethal danger – never go under suspended loads!
- If load-lifting equipment other than that specified here, severe damage to the machine may result.

1. Transport

When the machine is transported special care shall be taken to avoid damage of the machine during loading or unloading.

During transport fixings according to type of transport shall be implemented.

Moisture condensation caused by temperature difference during transport as well as shocks during transport shall be avoided.

The machine shall be operated with usual care.

2. Handling

The soil mixer is fitted with 2 pneumatic tyres on one axle on the front and 2 feet on the soil hopper. A tow bar makes it easy to move the machine over level ground.

If the machine is to be moved over an inclined plane, it is necessary:

- to completely empty the soil hopper,
- to make sufficient safety precautions in order to prevent the machine from accidentally rolling away.

Such precautions may include:

- enough personnel
- to secure the wheels using a wedge
- and so on..

3. Storage

When the machine or its parts are not reassembled right after transport, then they shall be carefully stored on a protected area. It shall regularly be covered and protected against dust and moisture.

Tasks for putting out of operation are detailed in section 6.3.

4 Installation

1. General notes

a)
To protect the machine against weather caused damages it is suggested to use and store it inside.

b)
Electrical connection: 400V/50Hz.
The machine must be connected to a socket which has a 0.03 amp residual current operated circuit breaker.

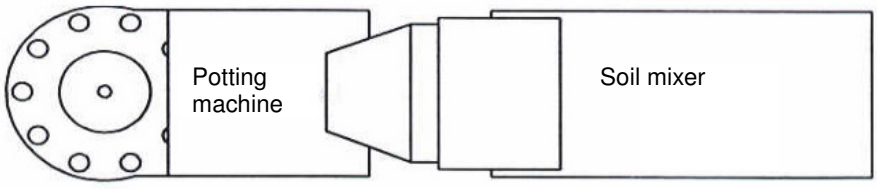
c)
Be sure that enough space is assured for feeding and filling pots. Same care shall be taken in case of machines connected in front of or behind it.

2. Installing the machine

a)
A hard soil surface shall be provided under the machine to prevent the wheels and feet from sinking into the soil.

b)
Make sure the individual components of the soil to be mixed and the finished soil after mixing only need to be transported a short distance.

Setup example:



3. Measures for the machine's stability against overturning

There is no need to carry out other activity for erecting the machine than it is described in section 4.2.

4. Disassembly and disposal of the machine

After completion of its full time of operation, the machine must be duly separated from energy supply systems and disposed of according to valid legal regulations.

5 Initial start-up

It is absolutely necessary to comply with the following safety instructions for the initial start-up of the machine. This will prevent injury to individuals, damage to machinery and other property damage.

- The initial start-up may only be carried out by qualified individuals, complying with the safety instructions.
- Before the first start-up, check whether all the tools and parts not belonging in it have been removed from the machine.
- Before the first start-up, check the electrical connections.
- Activate all the safety equipment and EMERGENCY SHUT-OFF switches before the initial start-up.
- Also read the section "General Safety Instructions".

1. Check prior to first start

Prior to starting up the machine, the following must be checked:

- are all safety devices available?
- was the machine damaged during transport?
- all visible bolted joints must be checked for tight seat.
- Prior to putting the machine into operation, the machine's connecting cable and the cable of the emergency cut-off switch must be checked for damages.

1. Starting the machine for the first time

After reassembly the machine shall be checked as per the following:

a)
Be sure not foreign materials, such as tools or similar, are left in the soil hopper or in the elevator.

b)
The elevator is secured by a transport fixture in order to protect the spindle of the swivel drive against excessive loading during transport.
It is essential that this transport fixture (strut between the elevator and the soil hopper) is removed before the machine is taken into operation

c)
Put main switch of the machine to OFF („Null") position before plug of the connection cable would be connected to the socket.

d)
The MAYER soil mixer is fitted with a phase-sequence watchdog which ensures it always moves in the same working direction.
If the "Control on" check lamp on the control cabinet does not light up after the start key is pressed, this indicates that the phase-sequence watchdog has been triggered and the polarity of the socket must be reversed.
Check all sockets on your premises to make sure they have the same polarity. This is a safeguard for you as well as

guaranteeing that the machine will move in the same working direction no matter which of your sockets it is connected to.

IMPORTANT!
Only specialist personnel are allowed to perform work on the electrival system.

e)

- Set the "Mixing time" dial to a short running time for the mixing cycle.
- Turn the "Elevator" switch to "Forward 1" and the "Discharging" switch to "Continuous".
- Set the master switch to "1 ON".
- The mixing cycle is started by pressing the "Start" key. ("Control on" comes on.)
- The machine operates for the preset mixing time.
- The elevator automatically swings forward into the discharging position after the mixing time has elapsed.
- Interrupt the discharging cycle by setting the "Discharging" switch to "0".
- Press the stop key.

f)

In case of there were no problems found or unusual noises heard during test operation, the machine may be put into operation as it is described in section „Operation”.

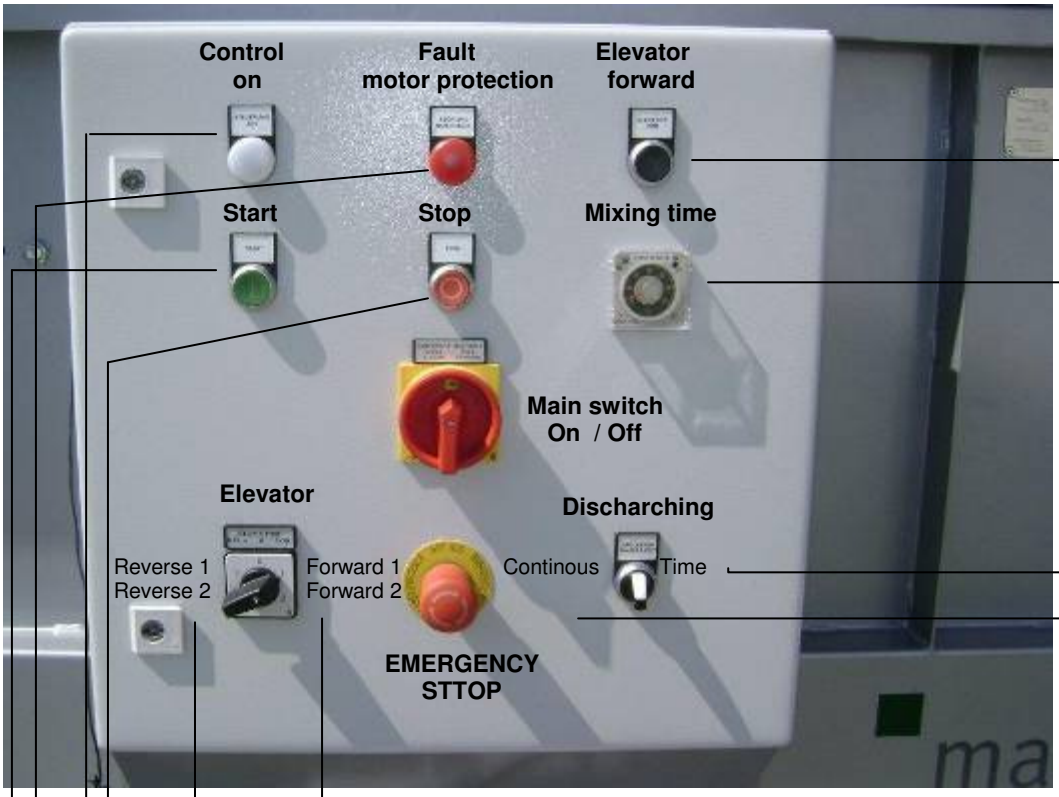
3. Stopping the machine

There are two ways provided to switch off the machine.

a)
In normal case by switch „Stop” mounted on the switch board.

b)
In emergency case by „Emergency Stop” switch.

Note:
See also section "6.2 – Shutting down the machine"



Elevator and soil conveyor belt move in working direction

Elevator and soil conveyor belt move opposite to working direction ⇒ discharging to the rear

Manual operation:
Mixer continues discharging until the switch is moved to another setting

Automatic:
Time set on time-delay relay K7 elapses

Elevator swivels forward into discharging position

Mixing time can be set from 1.5 – 30 min.

Mixer stops

Comes on when master switch is "on" and start key is pressed

Motor protection fault

Mixing or discharging cycle commences

6 Operation

1. Normal operation

a) Check the following points before starting work:

Where is the finished soil required after it has been mixed?

The soil mixer should be set up so there is no need to transport the soil to be mixed to the machine and the mixed soil from the machine.

Where should the soil mixer be set up?

Should the soil mixer be located where the individual components to be mixed are stored, or where the finished soil is to be processed?

b) Mixing and discharging

The discharging time has been set in the factory to about 80 sec. If this time proves to be either too long or too short, it is possible to adjust it using time-delay relay K7 in the control cabinet. The adjustment range is between 15 and 300 seconds.

The elevator is swivelled forward in the initial position.

Load the MAYER SOIL MIXER with the individual soil components layer-by-layer (content max. 2 m^3).

Select the running time for the mixing cycle on the "Mixing time" dial.

The "Elevator" switch must be set to "Forward" and the "Discharging" switch to "Time".

Turn the mixer on at the master switch.

Press the "Start" key to begin mixing. Mixing continues until the set mixing time has elapsed. (The "Control on" lamp comes on.)

The elevator which was swivelled forward now swivels into the mixing position with its scoops running.

The elevator automatically swivels into the discharging position after the mixing time has elapsed. It then conveys the soil into waiting containers or the soil hopper of the potting machine.

It is possible to interrupt the mixing process using the "Elevator forward" key if you have selected too long a mixing time. The elevator then swivels into the initial position for discharging.

Set the "Discharging" switch to "0" if you want to interrupt the discharging of the soil hopper.

The discharging cycle can be restarted by turning the "Discharging" switch to "Continuous" (manual) or "Time" (automatic).

It is not possible to restart the discharging cycle after it was interrupted by pressing the "Stop" key. In this case, it is necessary to restart with a mixing cycle.

Discharging continues until the set discharging time has elapsed, discharging is interrupted by pressing the "Stop" key or the "Discharging" switch is set to "0".

c) Mixing and manual discharging

The mixing cycle in "manual" discharging is the same as for "automatic" discharging.

After the mixing time has elapsed, the elevator swivels forward and the mixer starts discharging until the "Discharging" switch is set to "0" or the "Stop" key is pressed.

The discharging cycle cannot be restarted unless the discharging switch is first set to "0".

The program sequence starts from the beginning with the mixing cycle if you have interrupted discharging by pressing the "Stop" key.

IMPORTANT!
NEVER SET THE "ELEVATOR" SWITCH TO "0" OTHERWISE THE SWIVEL DRIVE MAY BE DAMAGED.

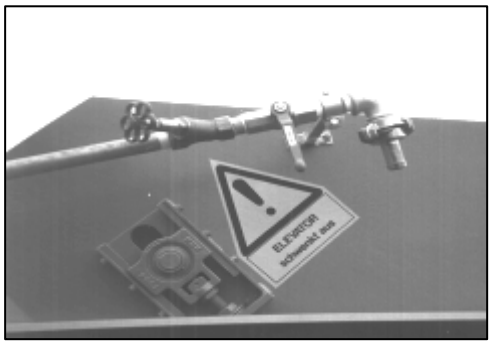
d) Mixing and moistening

If your machine is fitted with a moistener, you are able to moisten the finished soil after it has been mixed.

To do this, take the mixer into operation in the normal way and let it mix the contents. Set the "Discharging" switch to "0" to prevent the MAYER SOIL MIXER from discharging its contents after the first mixing cycle.

Start another mixing cycle and open the ball cock on the moistener.

You can regulate the amount of water using the straight-way valve.



Close the ball cock again after the mixing cycle with moistening has finished. Leave the setting on the straight-way valve unchanged in order to have the same level of moisture in the next batch.

We recommend you mix the moistened soil again before discharging it.

To discharge the soil, turn the "Discharging" switch to "Time". The soil hopper is now discharged under the control of the automatic timer.

e) Mixing and automatic moistening

It is possible to fit the MAYER soil mixer with an automatic moistening system as a special option.

With the automatic moistening system, the soil is moistened when the mixing cycle starts and watering stops when the mixing cycle does.

The "Discharging" switch should be set to "0" for this.

Now close the straight-way valve and mix the moistened material again. Set the "Discharging" switch to "Time" in order to discharge the hopper.

f) Mixing and discharging to the rear

The mixing cycle is the same as for the other discharging methods.

Set the "Discharging" switch to "0".

Mixing is started by pressing the "Start" key after the MAYER SOIL MIXER has been loaded.

The elevator swivels forward and remains in that position after the mixing time has elapsed. Now remove the back plate in the soil hopper. Set the moving direction of the elevator from "Forward" to "Reverse" and the "Discharging" switch to "Continuous". This means the soil is not discharged via the elevator but instead out of the back of the soil hopper by the reversing conveyor belt.

2. Shutting down the machine

There are two ways provided to switch off the machine.

a)
In normal case by pressing switch „**Stop**" mounted on the switch board.

b)
In emergency case by „**Emergency Stop**" switch.
When push button „Emergency Stop" is pressed the machine stops immediately and remains stopped. After „Emergency Stop" is eliminated the machine may be started by pressing push button „Start".

Note
It is not possible to restart the discharging cycle after it has been interrupted by pressing the "Stop" key or the "Emergency stop". The machine has to be restarted and another mixing cycle initiated.

3. Measures prior to and after a longer shutdown

a) Before a long shutdown

- Clean carefully the machine.
- Grease and oil certain parts of the machine according to maintenance plan.
- Protect against dirt and moisture (to be covered)
- Disconnect the machine from power lines (electricity, compressed air)

b) After a long shutdown

- Grease and oil certain parts of the machine according to maintenance plan.
- Visually check the machine.
- Connect the machine to required energy sources.
- Start the machine as it is described in section „Initial start-up".

7 Malfunctions

To prevent damage to the machine as well as injuries while remedying malfunctions at the machine, it is absolutely necessary to comply with the following points:

- Only eliminate a malfunction if you have the qualification specified to do so.
- Also read the section "General Safety Instructions".
- When eliminating malfunctions with the machine, the following special dangers have to be expected:
- Accidentally switching on the power sources can result in injuries to people as well as damage to the machine.
- In case of unprotected manual operation, there is an increased risk of injuries through bruising

1. Behaviour in case of malfunctions

If any malfunctions should occur while the machine is in operation, proceed as follows:

1. Stop the machine either using the STOP button or EMERGENCY SHUT-OFF, depending on the situation.
2. When necessary for the safety of people or of the machine, immediately cut off the machine from the power system it has.
3. Troubleshooting > If necessary, then by qualified personnel
4. Error correction > If necessary, then by qualified personnel
5. Starting up the machine

2. Possible malfunctions and trouble shooting

a) Mechanical malfunctions

Failure/Malfunction	Cause	Trouble shooting
Roller chains of the mixer drive are jumping	Chains are too loose	Tighten the chains
Roller chains of the mixer drive are worn	Chains are not greased	Grease the chains; fit new chains if necessary
Elevator chains climbing onto the chain sprockets	Transport chains on the elevator are too loose	Tighten the chains
	An object has become trapped in the chain	Clean the chain
Scoops not running straight	Chain is tight on one side	Tighten the chains evenly
Scoops do not move	Chain on the elevator is too loose	Tighten the chains
V-belt of swivel drive slipping	V-belt is too loose	Tighten the V-belt

b) Electrical malfunctions

Failure/Malfunction	Cause	Trouble shooting
Motor protection switch is triggered	Fault in the electrical system	Have a specialist check the electrical system.
	Conveyor belt not running freely enough	Remove soil deposits between the sealing strips and the rubber belt.
		Check for soil build-up on the reversing rollers and the carrier rollers.
		Remove soil deposits from between the drive or reversing rollers and the conveyor belt.

8 Maintenance

When carrying out maintenance for the machine, it is absolutely necessary to comply with the following safety instructions. Doing so will prevent injuries to people, damage to the machine and other damage to property as well as the environment.

- **Cleaning, lubricating and maintenance work may only be carried out by authorised operating personnel. The Operating Instructions must be complied with exactly.**
- Only trained electricians may ever carry out any of the work on the machine's electrical equipment.
- Switch off all sources of voltage and secure the sources of voltage against them being accidentally switched back on.
- Release pressure of every unit that is under pressure.
- Only Mayer GmbH & Co. KG may ever manipulate the machine's control programme.
- All un-recycled operational materials, lubricants and supplies must be disposed of in an environmentally friendly manner.
- Also read the section "General Safety Instructions"

When carrying out maintenance on the machine, the following special dangers have to be expected.

- Installing incorrect spare parts or wearing parts can cause severe damage to the machine.
- Accidentally switching on the power source can result in severe bodily injuries and damage to the machine.
- There is a danger of getting injured on sharp-edged machine parts/tools that are exposed.
- Lubricants or fertilisers that have escaped can result in caustic burns on direct contact with the skin.
- When unsecured manual operation is carried out, there is an increased risk of injury through crushing.

1. General notes

We recommend an annual inspection of the entire machine by our customer service.

For service or repair work, order our customer service at one of our service workshops.

Spare parts have to meet the technical requirements of the machine's manufacturer. This is guaranteed with original spare parts from MAYER.

2. Inspection and preventative maintenance

The extent of maintenance work has been reduced to a minimum thanks to the installation of zero-maintenance machine elements.

The following parts should be greased with standard machinery grease:

1. **Mixer and transport chain**
2. **Swivel drive with spindle and spindle nut**
3. **Swivel guide with ball bearing**
4. **Roller chains on the mixer drive**

2.1 Elevator chains

The oil in the elevator drive gearbox should be changed after about 10,000 operating hours.
The following oil grades are suitable:

BP	**Energol SG-XP 460**
KLÜBER	**Syntheso D 460 EP**
MOBIL	**Glygole 80**
SHELL	**Tivela SD**

Alternatively, another synthetic oil VG 460 with a viscosity of 440 – 500 cSt at 40 °C may be used.
The appropriate oil quantity can also be obtained from MAYER GmbH & Co. Simply tell us the motor number and the gearbox type.

Regularly check the tension on the transport and mixer chains. The tension is sufficient if it is possible to press in the chain by 1 – 1.5 cm in the middle of the elevator.
The transport chain can be tightened using the two tightening bearings at the top of the elevator.

Grease elevator chain prior to a longer shutdown!

The tension of the chains on the mixer drive must also be checked regularly. The chains can be tightened using the housing if they are too loose.

2.2 Rubber conveyor belt

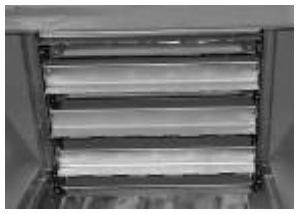
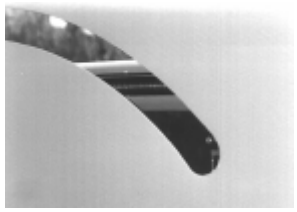
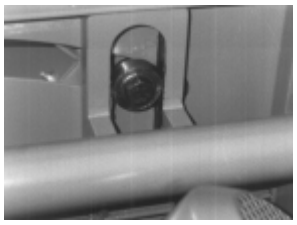
The rubber conveyor belt also has to be checked to make sure it is at the right tension.
Tensioning of the belt may be adjusted by means of tensioning nuts located at end of soil hopper. It is important that both sides of the belt are tensioned by the same force.

2.2 V-belt

The V-belt for the swivel drive can be tightened using the mount for the electric motor.

Follow the maintenance schedule.

3. Maintenance schedule

Description	Interval	
Grease elevator chain (prior to a longer shutdown)		
Grease the shaft for the swivel drive	quarterly	
Grease the mountings of the swivel drive	quarterly	

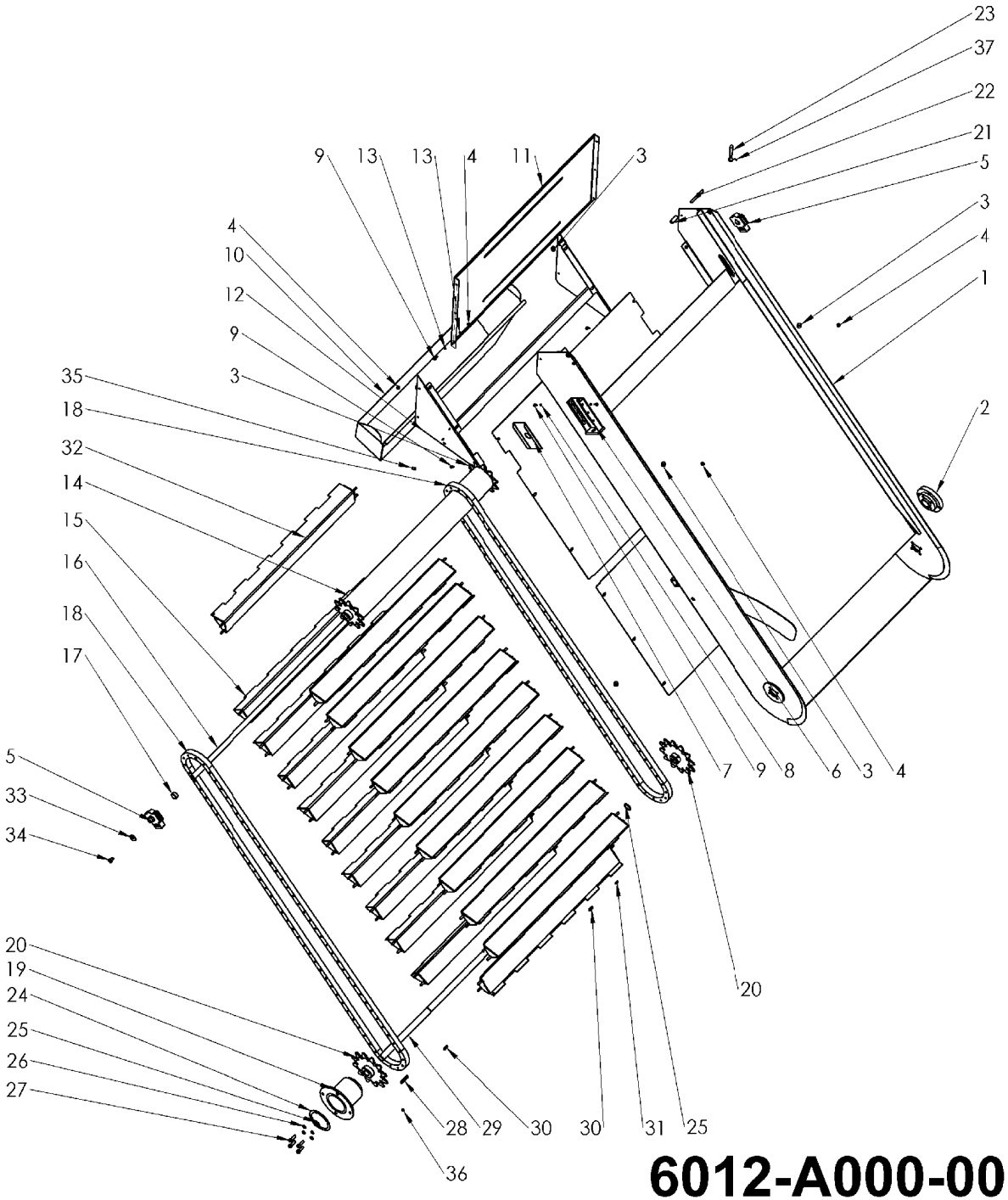
9 Part list

ELEVATOR 6012-A000-00-00
ELEVATOR

Pos.	Benennung **Description**	Artikelnummer **Part number**	Stück **Amount**
1	Elevator-Gehäuse **Elevator housing**	6012-A001-01-00	1
2	Legerflansch **Offset bearing**	6002-01-03-01-00	1
3	Scheibe **Washer**	101 595 / 500 088	30
4	6-Kt-Mutter **Square nut**	105 083 / 500 221	24
5	Lager **Bearing**	504 513	2
6	Leiste **Lath**	6002-01-02-02-02	4
7	Platte **Plate**	6002-01-02-04-02	1
8	Scheibe **Washer**	101 604 / 500 075	12
9	6-Kt-Schraube **Hexagonal screw**	101 767 / 500 122	60
10	Erdrutsche **Soil chute**	6012-A031-01-00	1
11	Kopfblech **Headplate**	2400-A011-01-03	1
12	Trichter **Cone**	6012-A001-02-00	1
13	Scheibe **Washer**	101 595 / 500 088	28
14	Spannrolle **Tensioning piece**	6012-A011-02-00	1
15	Schaufel 5 Kratzer **Shovel blade**	6012-A021-02-00	10
16	Umlenkwelle **Deflecting shaft**	6012-A011-02-04	1
17	Distanzrohr **Distance piece**	6012-A011-02-03	1

Pos.	Benennung **Description**	Artikelnummer **Part number**	Stück **Amount**
18	Förderkette **Bear chain**	501 317	2
19	Getriebeflansch **Drive offset**	6002-01-03-03-00	1
20	Antriebsrad **Beater wheel**	1010-01-03-06-00	2
21	Distanzbuchse **Distance sleeve**	1010-01-02-19-00	1
22	Gewindestange **Screw-bolt**	1010-04-01-10-02	1
23	Kegelgriff **Clamping lever**	500 342	1
24	Distanz **Distance**	6002-01-03-04	1
25	Sicherungsring **Seeger ring**	101 624 / 500 865	2
26	U-Scheibe **Washer**	101 606 / 500 077	4
27	6-Kt-Schraube **Hexagonal screw**	105 040 / 500 184	4
28	Passfeder **Latch**	101 851 / 500 057	1
29	Antriebswelle **Shaft**	6012-A011-01-01	1
30	Passfeder **Latch**	101 849 / 500 055	2
31	Passfeder **Latch**	505 557	1
32	Schaufel 6 Kratzer **Shovel blade**	6012-A021-01-00	10
33	U-Scheiben **Washer**	101 618 / 500 349	2
34	6-Kt-Schraube **Hexagonal screw**	105 038 / 500 175	2
35	Gewindestift **Grub**	500 032	2
36	Gewindestift **Grub**	101 746	2
37	Spannhülse **Spanning sleeve**	501 578	1

Pos.	Benennung **Description**	Artikelnummer **Part number**	Stück **Amount**
38	Haltewinkel links **Bracket left**	1010-01-03-20-03	15
39	Federring **Spring ring**	101 605 / 500 076	34
40	6-Kt-Mutter **Hexagonal nut**	101 688 / 500 222	66
41	Blech **Plate**	2400-A001-05-01	1
42	Elevator-Gehäuse **Elevator housing**	2400-A001-01-00	1
43	Abstreifer **Pull-of**	2400-A062-00-00	1
44	Halter für Abstreifer **Support for Pull-of**	2400-A061-00-00	1
45	Deckblech **Cover plate**	2400-A001-02-01	1
46	Abdeckplatte **Cover plate**		2
47	Klemmleiste **Connecting lath**		16
48	Profil **Profile**	2400-A001-04-01	2
49	6-Kt-Mutter **Hexagonal nut**	101 614 / 500 230	2
50	Spannhülse **Clamping sleeve**	101 817 / 500 004	2
51	4-Kt-Mutter **Square nut**	101 638 / 500 239	2
52	Distanzrohr kurz **Distance sleeve short**	2601-A011-04-02	2



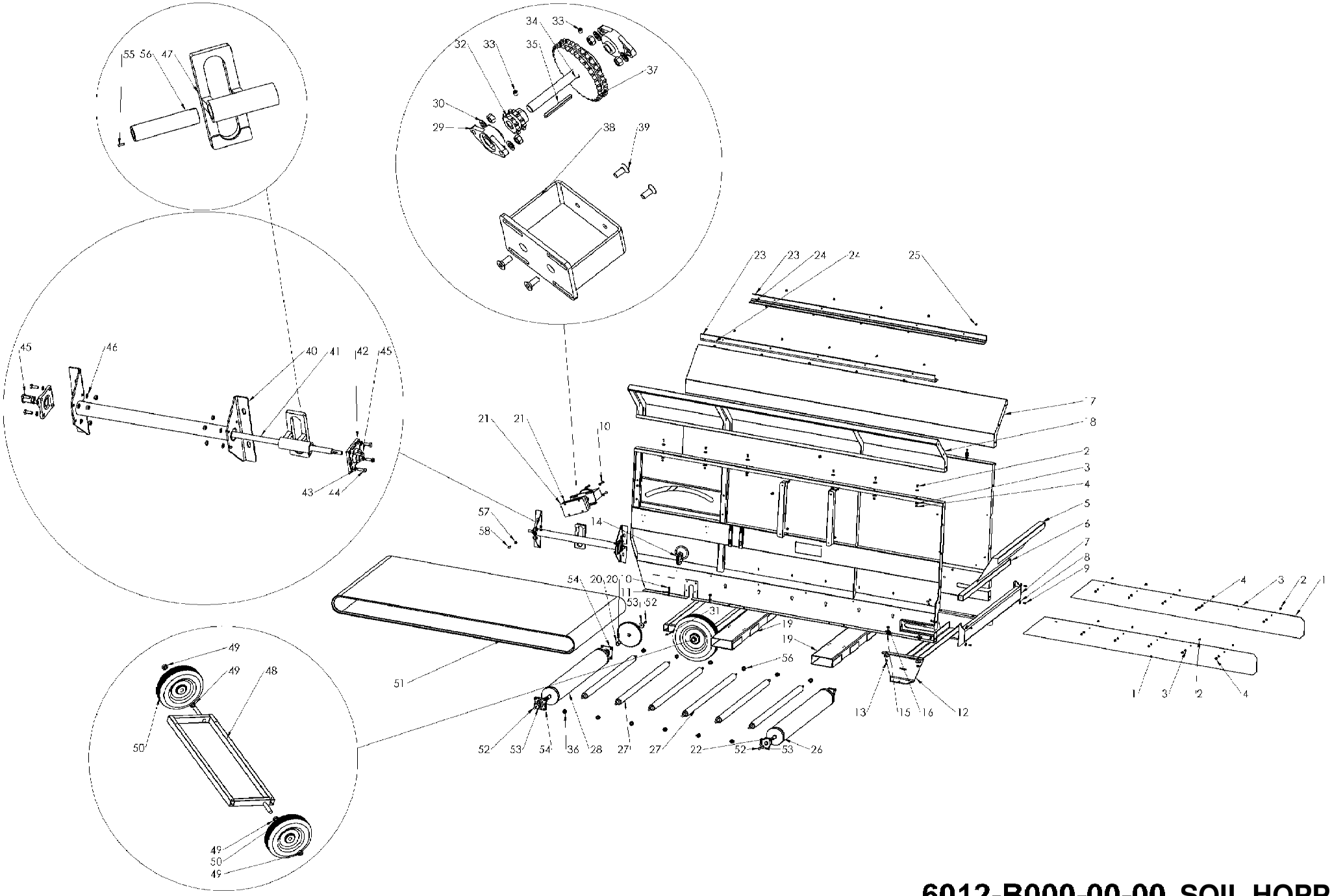
6012-A000-00-00 ELEVATOR

ERDBEHÄLTER 6012-B000-00-00
SOIL HOPPER

Pos.	Benennung **Description**	Artikelnummer **Part number**	Stück **Amount**
1	Abstreifplatte **Deflector plate**	6012-B001-08-03	2
2	6-Kt-Schraube **Hexagonal screw**	105 027 / 500 113	26
3	U-Scheiben **Washer**	101 596 / 500 089	48
4	6-Kt-Mutter **Hexagonal nut**	101 688 / 500 222	40
5	Rückplatte **Back plate**	6012-B001-41-01	1
6	Befestigung **Bracing**	6012-B001-03-00	1
7	Austräger **Frame**	6012-B001-02-00	1
8	U-Scheiben **Washer**	101 617 / 500 350	32
9	6-Kt-Schraube **Hexagonal screw**	105 023 / 500 112	4
10	6-Kt-Schraube **Hexagonal screw**	105 025 / 500 173	4
11	U-Scheiben **Washer**	101 606 / 500 077	12
12	Fuss **Foot**	6012-B031-01-00	1
13	6-Kt-Mutter **Hexagonal nut**	105 078 / 500 224	8
14	Keilriemenscheibe **V-belt pulley**	6002-01-04-03-17	1
15	U-Scheiben **Washer**	501 530	8
16	6-Kt-Schraube **Hexagonal screw**	105 026 / 500 177	4
17	Trichter Links **Cone Left**	6012-B001-06-00	1

Pos.	Benennung **Description**	Artikelnummer **Part number**	Stück **Amount**
18	Trichter Links **Cone Left**	6012-B001-07-00	1
19	Transportvorrichtung **Transport**	2601-Z001-00-00	1
20	Distanz **Distance**	6012-A011-08-01	2
21	Distanzplatte **Distance plate**	6012-A011-06-1	2
22	Lager **Bearing**	502 501	2
23	Abstreifplatte **Defector plate**	6012-B001-08-01	2
24	Abstreifgummi **Defector rubber**	6012-B001-08-02	2
25	6-Kt-Schraube **Hexagonal screw**	101 768 / 500 169	5
26	Spannrolle **Tensioning roller**	2601-B011-01-00	1
27	Tragrolle **Long cylinder**	2601-B011-03-00	6
28	Antriebsrolle **Driving roller**	2601-B011-02-00	1
29	Lager **Bearing**	500 476	2
30	U-Scheiben **Washer**	101 598 / 500 081	4
31	6-Kt-Mutter **Hexagonal nut**	105 079 / 500 223	8
32	Kettenrad **Sprocket**	6012-A011-05-03	2
33	Gewindestift **Grub**	101 746	4
34	Welle **Shaft**	6012-A011-05-01	1
35	Passfeder **Latch**	505 558	1
36	6-Kt-Mutter **Hexagonal nut**	107 536 / 500 226	12
37	Kettenrad **Sprocket**	6012-A011-05-02	2

Pos.	Benennung **Description**	Artikelnummer **Part number**	Stück **Amount**
38	Gehäuse **Housing**	6012-A011-03-00	1
39	Senkschraube **Countersunk screw**	500 210	4
40	Spindelführung **Spindle pulley guide**	6002-01-04-01-00	1
41	Spindelmutter **Spindle nut**	6002-01-04-02-04	1
42	Lager **Bearing**	500 475	2
43	U-Scheiben **Washer**	101 607 / 500 78	8
44	6-Kt-Schraube **Hexagonal screw**	101 669 / 500 183	8
45	Hülse **Money-box**	6002-01-04-03-05	2
46	U-Scheiben **Washer**	101 597 / 500 090	8
47	Führung **Gate leaf**	6002-01-04-02-01	1
48	Rahmen **Frame**	6012-B021-01-00	1
49	Stellring **Ring**	101 696	4
50	Stahlscheibenrad **Solid wheel**	102 598 / 500 409	2
51	Band **Band**	6012-B011-02-00	1
52	6-Kt-Schraube **Hexagonal screw**	105 033 / 500 170	4
53	U-Scheiben **Washer**	501 530	4
54	Lager **Bearing**	502 502	2
55	Spindelmutter **Spindle nut**	500 011	2
56	Hülse **Money-box**	6002-01-04-02-03	1
57	U-Scheiben **Washer**	101 607 / 500 078	2
58	6-Kt-Schraube **Hexagonal screw**	105 033 / 500 170	2



6012-B000-00-00 SOIL HOPPER

10 Circuit diagrams for electric and pneumatic system

11 Guarantee

Horticultural machinery and special machinery

We will accept liability for faults in the supplied goods and for any failure to provide features for the existence of which an express assurance had been given. In such a case we undertake – to the exclusion of all further claims – to improve or re-supply (at our discretion) free of charge any parts which have revealed themselves to be unserviceable or subject to a not inconsiderable impairment in serviceability due to faults in their material, manufacturing process or design within twelve months (or within six months for multi-shift operation) of their arrival on the customer's premises. For parts which we do not manufacture ourselves (e.g. motors), we can only accept liability for the same scope and length of time which the subcontractor has accorded to us.

Any replaced parts shall become our own property. No warranty claims can be accepted if the fault occurs as a result of the customer having mistreated or neglected the products delivered by us, made modifications or undertaken repairs incorrectly or without our prior approval, or had third parties undertake such work.

The customer's entitlement to assert claims due to faults shall in all cases lapse six months following a complaint made within the required time period, however no sooner than the end of the compulsory warranty period. We are not responsible for correcting faults unless the customer has fulfilled its obligations due to us up to the point when the fault became apparent.

Changes in the design and shape of horticultural machinery and equipment

We reserve the right to make changes in design and shape, in particular with regard to deviations from the drawings and descriptions etc. during the delivery period, provided that the purchased object is not thereby significantly altered, rendered less effective or reduced in value and the customer can reasonably be expected to accept the modifications.

You have chosen to purchase a product of true quality.

We wish you every success with your product.

We would be most grateful if you would recommend our products to others.

Thank you

Your MAYER-TEAM