



Sandfiller

Manual_Sandfiller_EN_2301

SF120

EC DECLARATION OF CONFORMITY CONCERNING MACHINES
According to Directive 2006/42/EG, annex 2, point 1, A

GKB Machines B.V.
Middelweg 1
2992 SP Barendrecht
Nederland

hereby declares that the

GKB Sandfiller

Type: SF120

to which this declaration relates are in conformity with the provisions of:

- Directive 2006/42/EC Machinery Directive

At Barendrecht, 31/01/2023



T.J.W. Kraaijeveld

UKCA DECLARATION OF CONFORMITY CONCERNING MACHINES
According to Machinery (Safety) Regulations 2008

Manufacturer:
GKB Machines B.V.
Middelweg 1
2992 SP Barendrecht
Nederland

UKCA Delegate
GKB Machines Ltd.
Warwick House, Ermine Buseniss Park, Spitfire Close
Huntingdon PE29 6XY
United Kingdom

hereby declares that the

GKB Sandfiller

Type: SF120

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At Barendrecht, 31/01/2023



T.J.W. Kraaijeveld

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1. FOREWORD

The information contained within these operating instructions covers the necessary use, safety, operation, and maintenance of the machines mentioned in the CE declaration. Before operating anyone of the machinery has to read this operating manual in its entirety. The manufacturer will not be held liable for an injury or damage which occurs from improper use.

It is the goal of the manufacturer to create excellent products, therefore we hold the right to make changes at any time and will not be held under obligation to previously delivered machines. Certain aspects, such as weight and dimensions, may change at any time without notice. Images are also not bound to interim changes.

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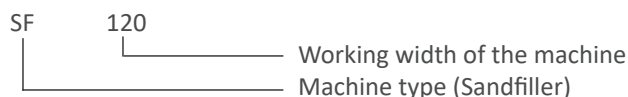
2. INTRODUCTION

The Sandfiller is designed to aerate golf courses in one operation, and fill the slots with sand whereby the aerated material is captured. With this operation the grass field shrinks, the field is aerated intensively, and the drainage improved. The scarifying knives cut until four centimeter deep. The rotor comprises wind vanes so that the removed material is captured in the reservoir. After the milling process the slots are filled with dry, fine sand. Two rollers close the created slots, after which a stable top layer arises which is ready for use. An optimal result is reached when the field has been rooted well. Moreover, the field must have dried out fully for at least one day.

Every machine is marked with a code, as seen in the image below.

Example:

Model 'SF120':



The manufacturer shall not be held liable for any damage resulting from unintentional use.

3. CONTACT

Manufacturer:

GKB Machines B.V.
Middelweg 1
2992 SP Barendrecht
NETHERLANDS
info@gkbmachines.com
www.gkbmachines.com

Productnumber Manual: See footer/ front page

Your personal Dealer:

Your GKB dealer:

4. WARRANTY

The statutory warranty period of two years from the invoice date applies to the machines. Warranty repairs or product replacements do not extend the warranty period of the machine or parts. The guarantee does not apply to items arising from normal wear and tear or ageing.

A warranty procedure starts with an investigation to determine whether the problem is covered by the warranty. Your cooperation is required to verify that the warranty conditions have been met. To this end, keep a record of the maintenance and repairs carried out in a maintenance logbook.

If the manufacturer receives a warranty notification, it will be determined whether the defect is covered by the warranty. If this is the case, a suitable solution will be found in consultation with the customer. In all cases, consult with the dealer before you try to solve the problem yourself. Warranty can only be given if the machine is in its original condition.

The manufacturer's written permission is required to ensure that the machine does not deviate in any way from the aforementioned purpose of use. Use other than as described will lead to the loss of product liability and warranty.

Product liability obliges the manufacturer and the dealer, when selling machines, to provide a manual and to instruct the user on the operating, safety and maintenance instructions.

The manufacturer is not responsible for any (unintended) damages to grass or sport fields.

Caution! The operating instructions must also be supplied if the machine is subsequently exchanged or resold by the user. Also inform the new user of the regulations.

5. SAFETY

5.1. General

The safest operation requires these machines are operated exactly according to these instructions. In addition, there are also safety warnings on the machines to warn of potential dangers and instructions on how to handle them. The only way to 100% guarantee no property damage or personal injury occurs is to follow these instructions. While using this machine, keep this handbook nearby and always ensure that safety markings on the machines are visible.

Any local safety regulations, including road traffic regulations, must be observed at all times.

The warranty, CE marking, and product liability automatically expire upon changes being made to the machine without consultation of the manufacturer.

The machine is equipped with several safety stickers, to instruct the user how to handle the machine with care. An example of a safety sticker is shown next.

Annex III describes every type of safety sticker. Read them carefully before using the machine.



5.2. Safety instructions

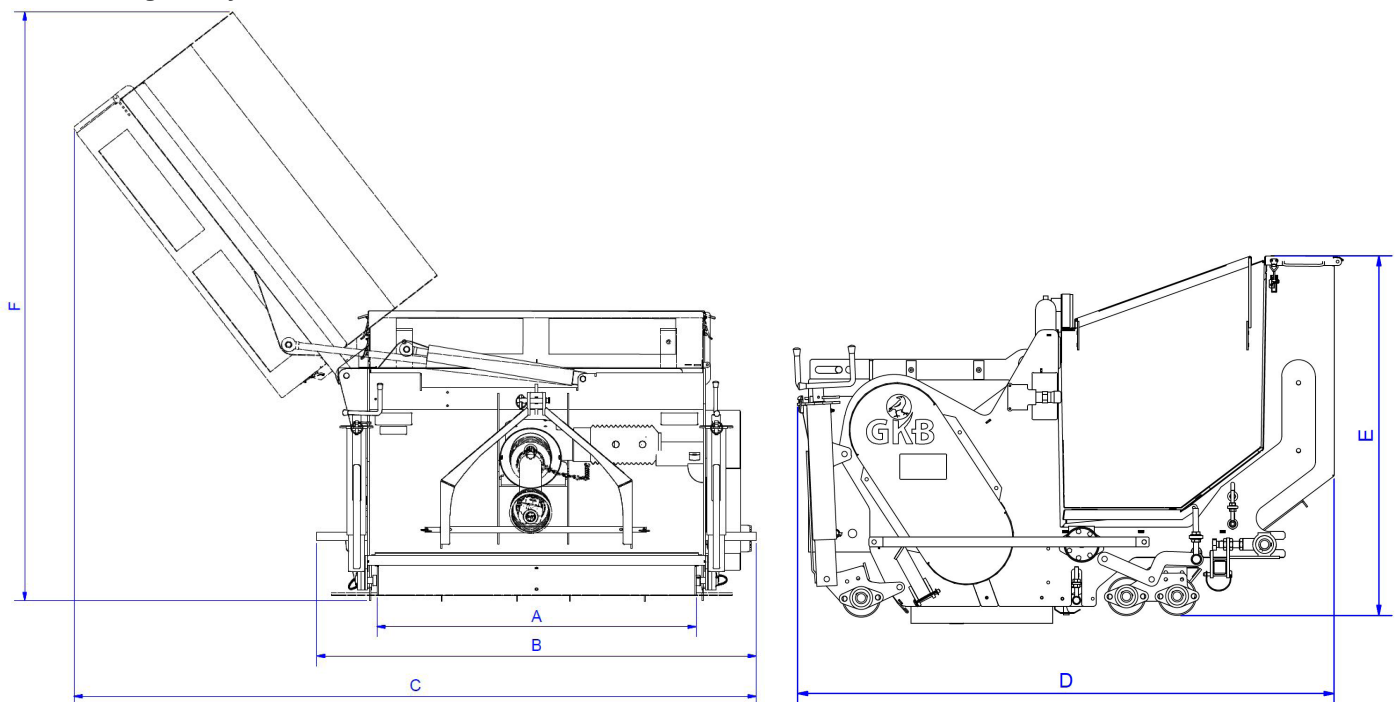
1. These operating instructions must be read and understood by everyone who works, checks or maintains the machine in order to avoid risks and to avert dangers.
2. Pass on all safety and operating instructions to all users.
3. The machine may only be used for the intended work.
4. For optimum performance, the surface to be worked on must be flat and free of obstacles.
5. Only use parts and accessories specified by GKB. The installation and/or use of non-original parts and accessories may change or impair the specific characteristics of the machine. GKB is excluded from any liability for damage resulting from the use of non-original parts and accessories.
6. Before working with the machine, it is necessary to become familiar with all control components, their functions, safety aspects and risks. The machine may therefore only be operated and maintained by qualified personnel.
7. Maintenance must be carried out in accordance with the instructions in the manual. The maintenance carried out must be recorded. Never come under the machine in any situation!
8. Before commissioning, the safety of operation and transport must be checked. The inspection includes, but is not limited to, the correct functioning of the mechanical, hydraulic and electrical components.
9. If leaks are suspected, stop the entire hydraulic system and allow it to cool down before carrying out maintenance.
10. Before use, check that there are no persons and/or obstacles within the working area of the tractor and the machine.
11. There are several warning labels on the machine. These stickers contain important instructions for safe use and must always be clean and visible.
12. All safety devices must be attached to the machinery and be in good working order. Timely replacement of worn and damaged protective equipment is required. This also applies to the warning labels. Fixed guards must always be present during operation.
13. The operator's clothing must be close-fitting. If necessary, wear head and hearing protection.
14. Driving on the machine during work and transport is not permitted.
15. When using the machine on public roads, the (local) traffic regulations of the respective country apply. Observe the markings, lighting and safety devices applied. Only drive if all required permits and approvals have been obtained.
16. Maintain an adjusted speed when the machine is hanging behind the tractor. Especially when driving over thresholds or poor road conditions. Always place the topline in the round hole!
17. The driver is responsible for ensuring that the tractor and the machine are on public roads in accordance with the regulations. Permitted axle loads and weights must be considered.
18. If the driver is unable to oversee the carriageway immediately behind him, he must be instructed when reversing. Instructors must be within the driver's field of vision only and never between the tractor and the machine.
19. Connect the machine with the tractor according to prescribed tools.
20. When connecting and disconnecting, parking or storing the machine, it must be prevented that the machine moves unintentionally. Depending on the machine, this can be prevented by applying the brakes, using the parking position or locking the wheels by placing wedges.
21. During use, transport or storage on a sloping slope or during maintenance, one should be aware of the risk of tipping over.
22. Prevent burns by careful use of hot components such as oil lines and engines. When carrying out maintenance work, allow the system to cool down completely.
23. It is not allowed to drive or maintain the machine under the influence of medication, drugs or alcohol.
24. Using headphones or hearing protection with music or radio is not permitted.
25. Smoking and open fire is prohibited in and around the machine.

5.3. Product specifications Sandfiller

		Unit	SF120
Dimensions			
Working width	A	cm	120
Total width	B	cm	165
Width when folded out	C	cm	255
Length	D	cm	160
Height	E	cm	110
Height when folded out	F	cm	220
General specifications			
Empty weight		kg	620
Content collection bin		l	400
Content sandbunker		l	120
Max. noise*		dB(A)	80
Outgoing shaft speed		min ⁻¹	540
Towing vehicle			
Power**		pk	40-60
Oil flow rate		l/min	20
Max. hydraulic pressure		bar	150

* When using personal protective equipment, bear in mind that in many cases the sound of the Sandspreader is drowned out by the towing/powering vehicle.

** Low gear shift needed.



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6. CONSTRUCTION OF THE SANDFILLER

A Sandfiller has many different components and parts. This chapter will describe each of them.

6.1. The Frame

The frame of the Sandfiller forms the basis for the different components of the machine. The three-point hitch connects the machine with the towing vehicle.

6.2. The Frasing blades

On the front side of the machine a rotor has been mounted. The rotor comprises hard metal scarifying knives and wind vanes. The knives cut slots in the turf, after which the material is blown by the wind vanes into the reservoir. The reservoir can be emptied sideways using a hydraulic cylinder.

6.3. The sand spreading unit

Behind the reservoir a sand bunker has been placed. The sand is carried into the slots using a stainless steel filling unit. Two rolls push the sand down to create a stable top layer.

6.4. The guide rollers

On the front side a roller is mounted. Using spindles this rollers can be adjusted in height. Setting the roller will decide the milling depth of the scarifying knives.

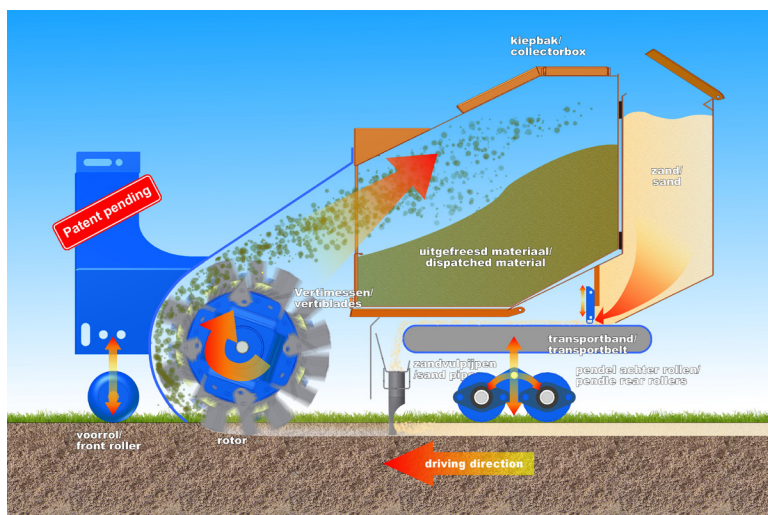
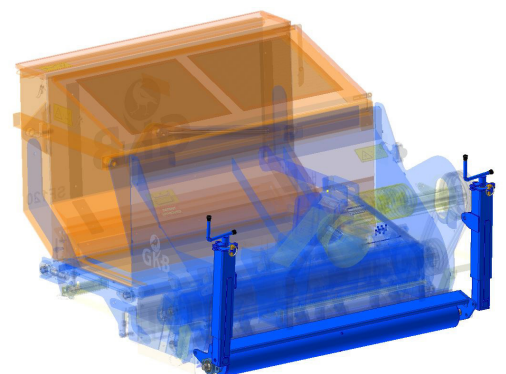
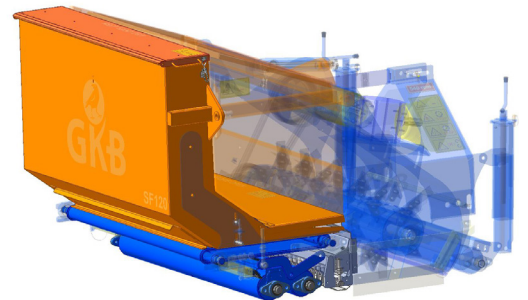
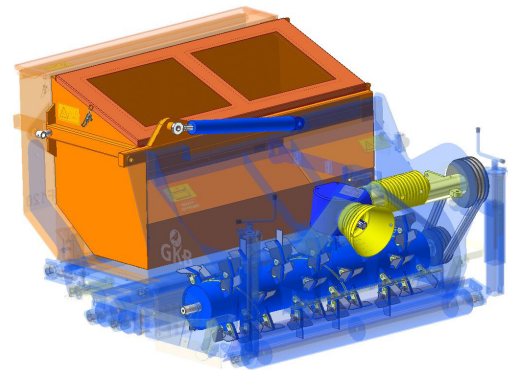
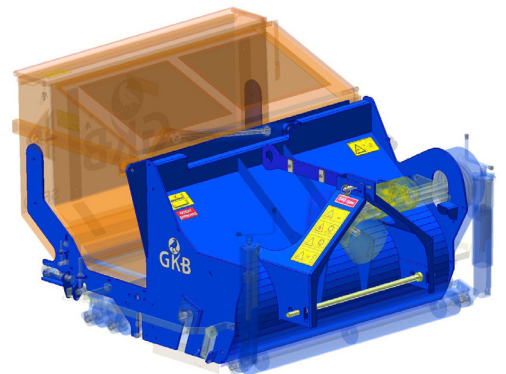
6.5. The hydraulic components

A PTO shaft is placed between the towing device and the machine. Using a gearbox and string transmission the rotor is driven.

The conveyor belt is driven by a hydro motor.

6.6. The result

The result is a worked field which is directly ready for use.



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7. OPERATION OF THE SANDFILLER

7.1. Connecting and disconnecting the machine

The following steps describe how to connect and disconnect the Sandfiller.

Connecting:

- 1 Make sure that the machine is positioned safely on the four support legs;
Make sure that the tractor and machine are placed horizontal and in line;
Switch the tractor off.
- 2 Connect the machine to the three-point hitch of the tractor and secure the attachment points with the locking pins;
Connect the hydraulic hoses and PTO-shaft;
Lift the machine and fold the four supportlegs of the machine. Lock the support legs with the locking pins.






Disconnecting:

- 1 Place the tractor and machine on a flat, solid en horizontal surface. Make sure that the combination can't move unintentionally. Lift the machine completely of the ground;
Disassemble the four locking pins from the supportlegs. Lower the support legs and reinstall the locking pins in the intended holes;
- 2 Lower the machine slowly until it completely rests on the support legs;
Disconnect the hydraulic hoses and PTO-shaft of the tractor;
Disconnect the tree-point hitch and move the tractor.



7.2. Start with fraising

- | | | |
|---|---|--|
| 1 | <p>Make sure that the machine is connected correctly behind the tractor and is free from the ground;</p> <p>Fill the bunker with dried sand; (killn dry sand)</p> <p>Change the height of the roller at the front of the machine if necessary.</p> |  |
| 2 | <p>Switch on the PTO-shaft (540 RPM); The rotor starts rotating;</p> <p>Switch on the conveyor belt;</p> <p>Start to drive slowly, lower the machine and fraise for a couple meters.</p> |  |
| 3 | <p>Stop fraising, lift the machine and switch of the tractor.</p> <p>Check if the desired depth is reached and if the entire surface is fraised equally. If not, change the height by adjusting the spindles or change the driving speed of the tractor;</p> <p>Check if the slots are correctly filled with sand. If not, change the conveyor-belt speed or dosing valve to increase or decrease the sand supply.</p> <p><i>Pay attention, never come under the machine!</i></p> |  |

7.3. Clean the collection bin

The reservoir can be emptied as follows:

- Drive the combination of tractor and machine to the preferred location;
- Unlock the lock of the lid;
- Serve the hydraulic cylinder to tip the reservoir;
- Tip the reservoir as far as possible and inspect whether the reservoir has been completely emptied;
- Serve the hydraulic cylinder to close the reservoir;
- Lock the lid.



 Zie risicoanalyse: Zandstrooier/ omgeving machine

7.4. How to fill the sandbunker

On the rear side of the machine a sand bunker has been mounted. Unlock the attachments from the lid to fill the bunker:

- Drive the combination of towing vehicle and machine to the preferred location;
- Turn the towing vehicle off and on the handbrake;
- Unlock the lid of the sand bunker;
- Fill the bunker with dried sander and lock the lid.

Dry infill sand with a small grain size is required. (Killn dry sand)



Zie risicoanalyse: Zandstrooier/ omgeving machine

7.5. Cleaning the Sandbunker

The sand bunker can be cleansed at the top and bottom as follows:

- Make sure that the machine is fixed on support legs or is mounted correctly behind the towing vehicle so it cannot move;
- Unlock the lid on the top side using two clamps;
- Unlock the closing plates on the bottom by demounting the two winged nuts. (circled in green)

Always ensure the bunkers are fully clean and dry.



Zie risicoanalyse: Zandstrooier/ omgeving machine

7.6. Transport and storage

Transport:

When transporting the machine, a suitable means of transport must be selected. Make sure that the machine is secured against rolling away and tipping over. If you don't have sufficient knowledge for a transport, carry it out by a specialised transport company. Provide at least four attachment points on the transporting vehicle.

Storage:

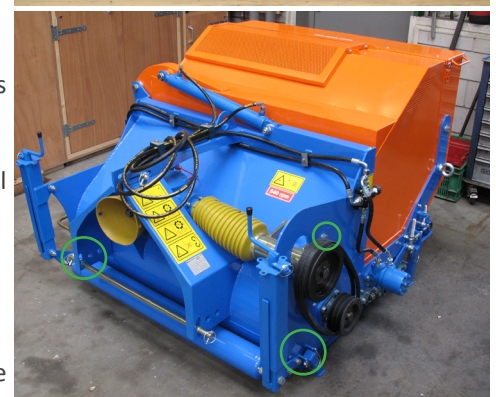
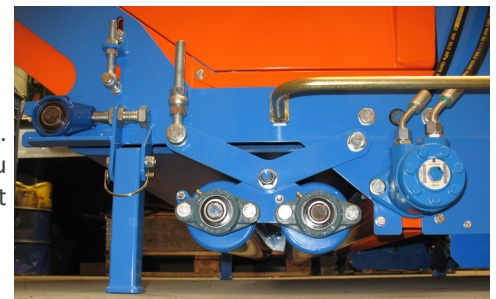
The following points must be taken care when storing the machine:

1. Before storage, clean the machine in such a way that no sand or other impurities are left behind;
2. Store the machine at a dry place;
3. Check if the machine is positioned right with the support legs or place wheel chocks in front and behind the wheels;
4. Never put the machine away on the brake (if applicable);
5. Empty the tanks of the machine if they are filled with water;
6. To prevent corrosion of uncoated parts, apply a protective oil layer;

If the machine is to be used again after storage, all maintenance points must be gone through. Before use, make sure that all components are working properly.

Lifting:

There are fastening eyes provided at the machine for safe lifting. It's recommended to hoist the machine with lifting straps. Use at least two straps in all cases. The lifting points are indicated in the figure. Before lifting, make sure that the machine is free from loose materials like seeds or infill materials etc.



8. MAINTENANCE

8.1. Maintenance schedule

To maintain machine quality, adhere to the following diagram. The list of spare parts will show the correct parts to replace. See chapter 7.3 for safe execution of the maintenance points.

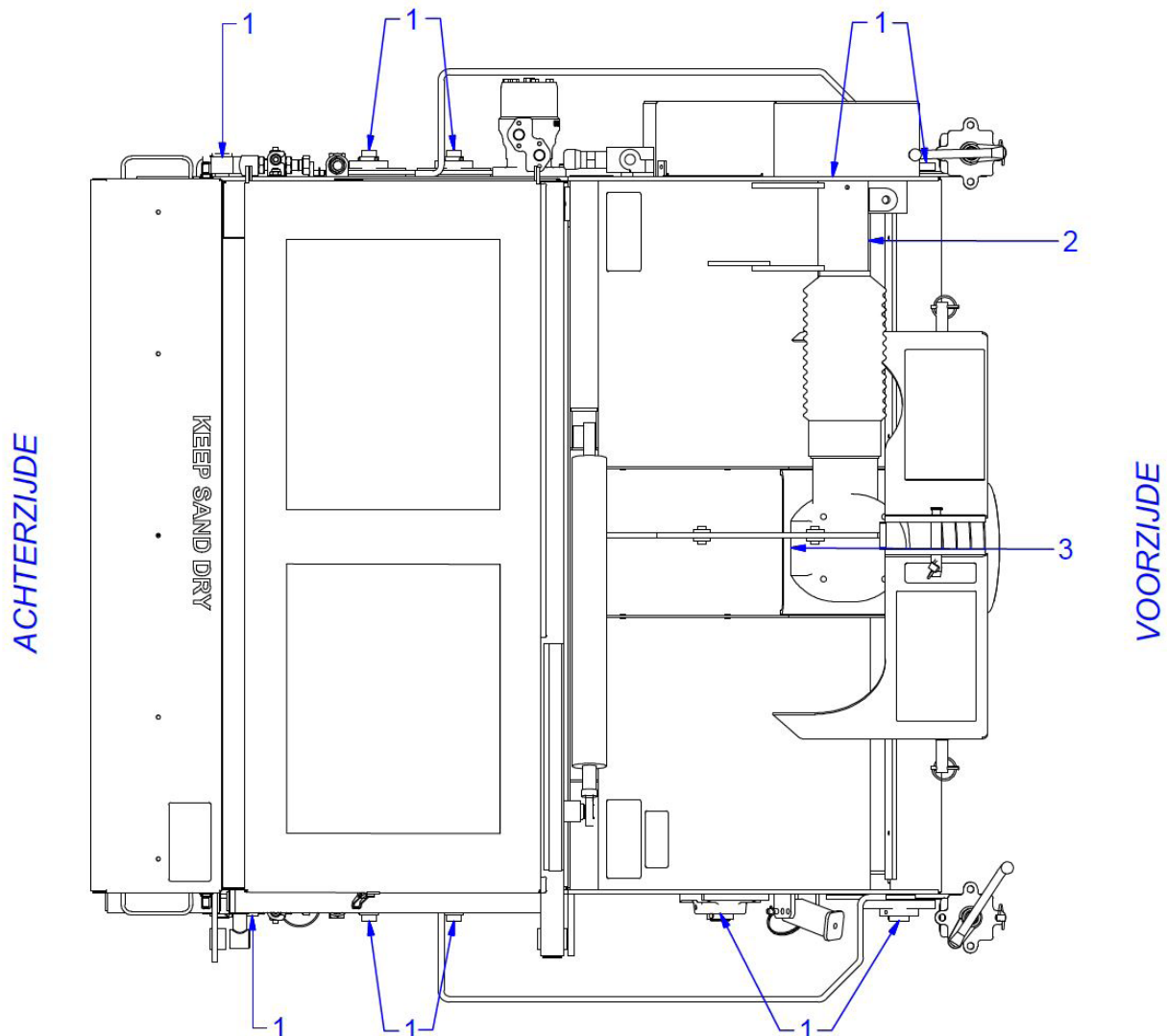
Always ensure that the machine is switched off, cannot move and has cooled down completely.

		Operating hours					
		Before use	50 h	250 h	500 h	1000 h	Annually
General	Outside cleaning of the machine	x					
	Check if all safety stickers are on the machine	x					
	Check for oil stains/ traces	x					
	Check freewheeling of the rotor	x					
	Check state of wearing parts for broken pieces or deformation	x					
Hydraulic	Clean the hydraulic main connections of the towing vehicle	x					
	Check the operation of hydraulic components	x					
	Check hydraulic components for damages/ leakages. Replace when needed.	x					
	Check hoses and fittings for dehydrations/ cracks			x			
Others	V-belt - Check tension on the belt (1000 Nm)			x			
	V-belt - Check for dehydrations/ cracks and replace when needed			x			
	Conveyor belt - Check for cracks on the surface or at the edges			x			
	Conveyor belt - Check tension on the belt (3-10mm for 1 meter. Tension once per time)			x			
	Check locking pins	x					
	Tighten bolted connections of rotating parts		x				
	Tighten bolted connections of fixed parts			x			

8.2. Lubrication scheme

For optimum machine performance, please refer to the plan below for lubrication of the maintenance points.

		Operating hours					
		Before use	50 h	250 h	500 h	1000 h	Annually
EP2 grease	1 Lubricate bearings		x				
	2 Transmission shaft (200ml grease needed)			x			
SAE90 oil	3 Check oil level of the gearbox	x					
	3 Change oil of the gearbox		x(1 ^{ste})		x		x



8.3. Performing maintenance

Always make sure that the machine is switched off, cannot move and has cooled down completely.

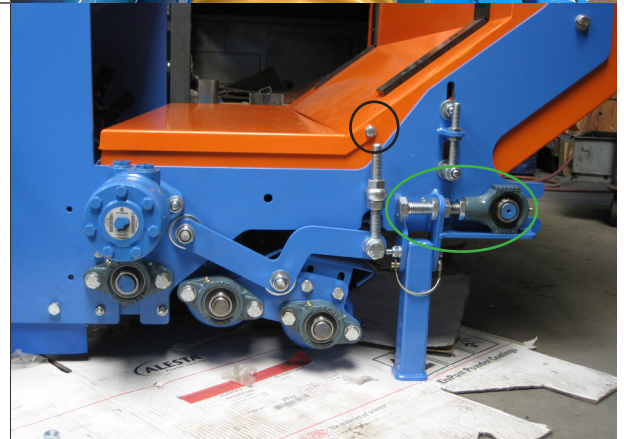
Tension the V-belt transmission:

- Remove the shielding of the transmission;
- Loosen the two bolts one turn; (Orange/ black marked)
- The V-belts can be tensioned by turning out the adjusting bolt; (green marked)
- Tension the V-belt until a static voltage of 1000 Newton is reached. It's still possible to twist the belt easily. To much tension leads to increased wear;
- Align the two pulleys with the excentric bolt; (black marked)
- Tighten the bolts; (red + black marked)
- Tighten the nut at the bottomsides of the bolt; (green marked)



Inspecting the conveyor belt:

- Turn the collection bin with the hydraulic cylinder;
- Open the lid as showed in the figure;
- Tension the conveyorbelt by turning out the bearing. (green marked)



9. FAILURES

If a failure is detected, please go through the following points before contacting your dealer.

Fraisingblades		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
The result is ragged	Driving speed is too high	Decrease the driving speed
	The knives rotates too slow	Increase the speed of the rotor (until max. permitted speed)
	The field structure works negative	Start fraising in the perpendicular direction
The machine doesn't take enough soil out of the ground	The rotor is placed too high	Lower the machine by adjusting the spindles
Removed material remains behind the machine on the field	The collection bin is full	Check the inside of the collection bin for contamination
	The wind guides on the fraising-blades are contaminated	Inspect and clean the wind guides. Contamination on the guides will decrease the wind force
	The inlet of the collection bin is blocked	Inspect the inlet of the storage bunker and clean if necessary
Sand transport		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
Coneveyor belt skews	There may be contamination under the belt or between the guide rollers	Inspect and clean the belt and transmission
Sand supply is uneven	The sand is wet	Clean the sand bunker completely and refill with dry sand
	Accumulation of sand in the bunker	Clean the sandbunker by removing the bunkervalve at the backside
	Spreading unit is blocked	Clean the stainless steel spreading unit
	Conveyorbelt is contaminated	Clean the belt and check whether the sand is

10. END OF LIFE

To dispose of a machine, follow all local regulations. Practice appropriate safety measures.

Follow these steps:

1. Decommission the machine and shut it down hydraulically;
2. Drain and recycle all consumables;
3. Dispose of the machine in accordance with the local regulations.

ANNEX I TIGHTENING TORQUE

When tightening bolts, observe the following maximum torques (ISO898/1).

The following types of bolts are used in the machine:

- Bolts for wear parts (chisels, etc.): 10.9
- Other bolts: 8.8

Tightening torque [Nm]				
		Bold strength:	8.8	10.9
Metric	M5		6	8,5
	M6		10,3	14,7
	M8		25,5	35,3
	M10		50	70,6
	M12		87,3	122,6
	M14		138,3	194,2
	M16		210,8	299,1
	M20		411,9	578,6
	M24		711	1000


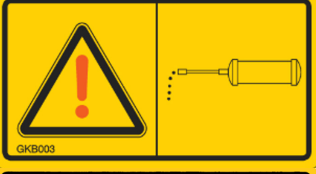

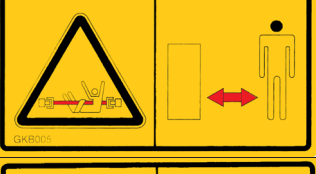



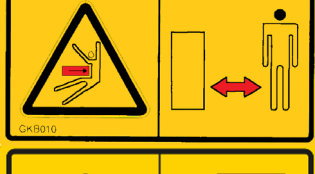






ANNEX II RISKANALYSIS

Based on risk analysis, the machine has been designed with the safety of users and bystanders in mind. Below is a list of the measures that have been taken to ensure proper safety and prevent injury:

Item	Risk	When	Risk reduction
Transmission	Crushing injuries by the transmission	If a bodypart or clothing comes in contact with one of the parts of the transmission	Fixed shieldings placed Safety stickers placed Safety chains placed Safety instructions in manual
V-belt or chain transmission	Crushing injuries by moving parts	If a bodypart or clothing comes in contact with the transmission of the V-belt/ chain and one of the pulleys	Fixed shieldings placed which can only be removed with tools Safety stickers placed Safety instructions in manual
Rotor	Crushing injuries by rotating of the rotor or coulters	If a bodypart or clothing comes in contact with the rotor	Fixed shieldings placed which can only be removed with tools Safety stickers placed Safety instructions in manual
		If a toe or feet comes under the machine during use.	
Towing eye	Crushing injuries by the towing eye	If a person comes under the machine due to unintentional use of the towing eye	Towing eye strengthened Safety stickers placed Safety instructions in manual
Collection bunker	Crushing injuries by moving parts	If someone is near the bunker while it opens unintentionally from the tractor	Safety stickers placed Safety instructions in manual
Conveyor belt	Crushing injuries by rotating parts	If a bodypart or clothing comes in touch with the conveyor belt, guiding rollers or bearings	Fixed shieldings placed which can only be removed with tools Safety stickers placed Safety instructions in manual
	Crushing injuries by moving parts		
Machine environment	Being run over by the machine and/or tractor, resulting in serious injury	If the person is between the machine and the tractor and the combination is moving (unintentionally).	Safety stickers placed Safety instructions in manual
		During transport on public roads.	
	Tilt risk of instability resulting in bruising / pinching injury	If the person is next to or under the machine during maintenance.	Safety stickers placed Safety instructions in manual
		If the person is on a slope next to the machine.	
Breathing difficulties	Danger of breathing difficulties due to dust generation during use of the machine		
Hearing loss	Danger of hearing damage if someone is near the machine.		
Hydraulic system	Poisoning by hydraulic injection	If, in general or during maintenance, the person is in the immediate area of the hazard.	Hydraulic circuits equipped with components that comply with "EN 875". Inspection of hydraulic components
	Serious general injuries to unprotected parts of the body from exploding or escaping hoses		
Electrical voltage	Electrostatic shocks causing a shock reaction.	If a synthetic brush is used in stead of a standard rotor	Safety instructions in manual

ANNEX III SAFETY STICKERS

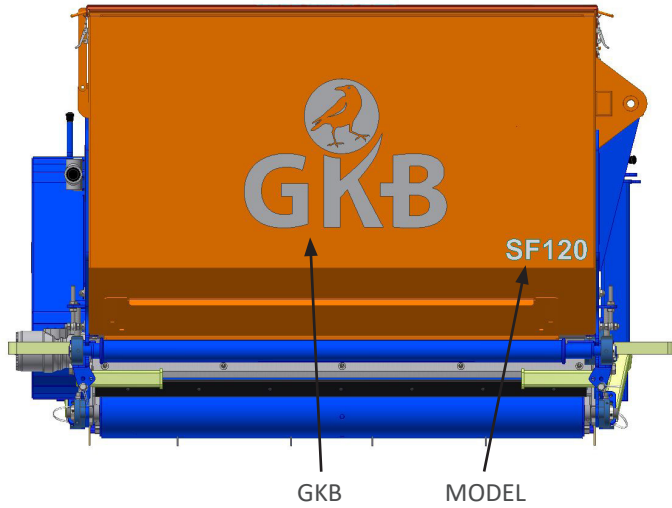
To promote safe practices and proper handling reminders, safety stickers are adhered to all machines. If a sticker cannot be read or found, it should be replaced immediately. The following page shows an overview of all the stickers and their positions.

GKB001	Comply with all maintenance instructions		GKB002	Refer to the owner's manual. It contains useful information about the use, safety and maintenance	
GKB003	Regular lubrication		GKB004	Switch off the power take-off before lifting the implement	
GKB005	Risk of retraction due to rotating parts		GKB006	Risk of finger cutting due to rotating parts	
GKB007	Danger of rotating parts		GKB008	Risk of retraction due to rotating parts	
GKB009	Risk of crushing		GKB010	Keeps distance when the machine is in operation due to swinging parts	
GKB011	Keep a distance when the machine is in operation due to flying parts.		GKB012	Risk of crushing between tractor and implement	
GKB013	Danger of retraction when opening the cover when the rotor is switched on		GKB014	Choice in minimum to maximum adjustment	
GKB015	Danger of retraction due to rotating parts		GKB	Place a safety piece before entering the danger zone	
HOT	Keep a safe distance from hot surfaces		018417	Required speed	

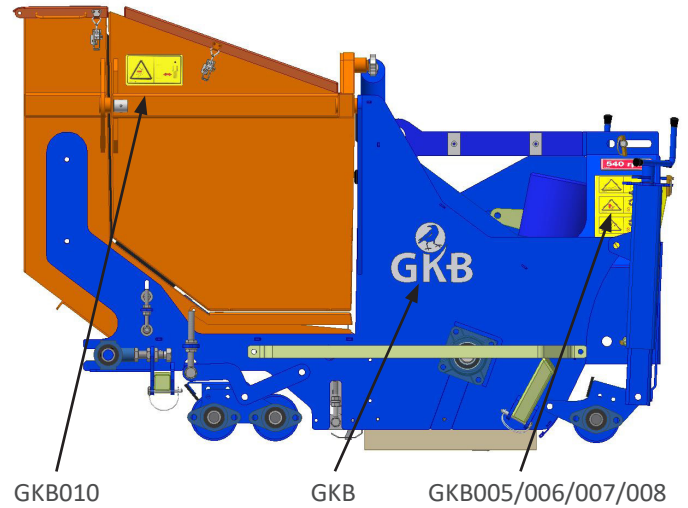
Location safetystickers

The illustrations below show all the safety stickers and their positions:

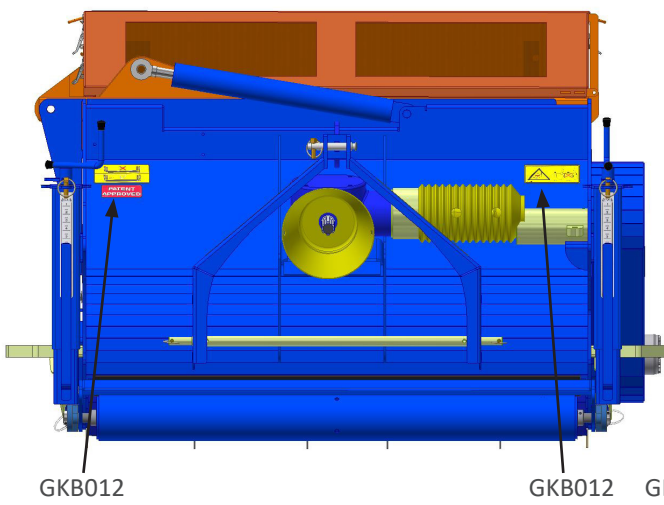
Front view:



Right view:



Rear view:



Left view:

