



# **USER MANUAL**

## **EYS COMPOST TURNER**

GK3000

March 2021

#### **INTRODUCTION**

We are glad that you chose EYS compost turner for your compost solutions and are confident that you will be more than satisfied with your purchase.

This manual is intended to provide basic information about the operation of the EYS windrow turner, and to point out to main areas of consideration while operating and maintaining the machine. Please read this manual carefully before operating the machinery, and keep it in an easily accessible place for future reference. If any of your questions or concerns are not covered in this manual, please contact the respective dealer who had installed the machinery. Your dealer's contact information is:

If you are not able to reach your dealer and in need of immediate support, then please contact EYS directly at:





This user manual is an important part of the EYS Compost Turner. It is recommended that the suppliers of Compost Turner provide the machine together with this manual to the customer.

Please make sure that the operator in charge of operating and/or maintaining this product has full access to this manual and that he/she has read it entirely prior to running or servicing the machine. Also please record your product model number and serial number from the machine's info-tag to the following section. These info will be necessary and useful when ordering replacement parts in the future.

Congratulations again on your purchase of the EYS Compost Turner!

## **PRODUCT INFO**

Fax

Product	: COMPOST TURNER		
Model	:  GK3000		
Serial Number	:		
Dealer	:		
Adress	:		
Tel	:		
Fax	:		
Installation Date	:		
Manufacturer :			
<b>SEY</b>	S	<b>S</b> EYS	
EYS GmbH		EYS Metal San. Ve Tic. Ltd. Sti	
Robert-Bosch-Str.3 49393 Lohne Deutschland		Sehit P.Er M.Ali Tosun Bulv. Tepecik Mh. 234/1 Efeler / 09100 Aydin, Türkei	
	de info@eys-gmbh.de 40 Fax: 04442 955 9050	www.e-y-s.com info@e-y-s.com Tel: +90 256 231 1138 Fax: +90 256 231 1101	
Customer	:		
Address	:		
Telephone	:		

Please keep serial number of your machine in a safe place and specify model and serial number when you contact with your dealer or manufacturer.

## HAND-OVER FORM (TO BE SIGNED OFF BETWEEN THE DEALER AND THE CUSTOMER) Product : COMPOST TURNER Model : () GK3000 Serial Number Dealer Customer Installation Date : This form confirms that the product installation and start-up has been completed successfully. Basic training has been provided and this manual has been handed over to the responsible personnel below. Responsible person on behalf of the dealer/distributor (date and sign) Responsible person on behalf of the customer (date and sign; please print name)

upon installation!

NOTE

Manufacturer's warranty is not valid unless this form is signed and dated

#### **WARRANTY AND SERVICE**

This manual is valid for GK3000 compost turner.

Provided that the principles, warnings and standards contained in this manual are followed, EYS GmbH/EYS Metal San.ve Tic.Ltd.Şti. grants 1 (one) year warranty against material and manufacturing defects for compost turners.

The warranty conditions are specified in the warranty certificate, which is supplied with the compost turner in accordance with the provisions of the relevant law. Please read this information carefully. The product warranty document is signed by the point of sale along with the product and sent to you. You must keep your warranty certificate in a safe place so that it can be presented to authorized service personnel so that warranty work can be carried out during the service process.

Guarantee transactions only apply to transactions made by persons authorized by EYS GmbH/EYS Metal San.ve Tic.Ltd.Şti. EYS GmbH/EYS Metal San.ve Tic.Ltd.Şti. is not responsible for any interference with the product by unauthorized, non-professional induviduals. If you have any problems with the product, please contact EYS GmbH/EYS Metal San.ve Tic.Ltd.Şti. Our customer service is always available.

EYS Compost Turner has technological and high-quality materials that can serve you for many years without any problems. The minimum lifetime specified by the Ministry of Customs and Trade for separator is 10 (ten) years. Under the current law, the manufacturer undertakes to maintain compost turner and to provide spare parts within this period.

#### **GENERAL INSTRUCTIONS**

**Qualified Operators** should be properly trained in their assigned area of responsibility, be knowledgable about general machinery handling precautions and related hazards/risks, capable of foreseeing and preventing potential damages to the machine before they happen, and be able to apply necessary first-aid practices as necessary.

#### **Operational Responsibility**

Responsibility of operating the machine in accordance with its intended purposes lies with the customer. The manufacturer is not in anyway responsible for any damages that may be caused by inappropriate handling of the waste streams resulting form the operation of the product. Likewise, the manufacturer can not be held responsible for any damages resulting from the use of un-approved and/or non-original spare parts on the machine.

#### **Second-hand Ownership**

In the case of transfer of ownership of the product to a new customer, the original owner is responsible for handing over this user-manual to the new owner. New owner must be informed and trained about the basic operation of the product accordingly.

#### **Operational Liability**

The entire liability of operating the product properly lies with the customer. The customer is responsible for making sure that the product is used in accordance with the guidelines set forth in this document, plus other general machinery operating rules that may not be covered here but are expected to be known by any machinery operator. The maximum liability of the manufacturer in any event can not exceed the monetary value of the product itself.

#### **Purpose of Use**

EYS compost turners are produced to mix separated solids/composts for maturation. Operations apart from the structure mentioned above are considered as inappropriate use. The manufacturer is not responsible for the results occured of inappropriate use. The damages which will be resulted of the inappropriate use will be the buyer's responsibility. The purpose of the operation of the machine at the same time covers the confirmity with the start of the machine, maintenance and service instructions. EYS Compost Turners should be used by only staff who are able to cope with the damages which may occur from the machine. The prevention of the accidents and all first aid rules should be analyized carefully. Any change that will be done on the machine by unathorized staff will make the manufacturer not to be responsible for the possible damages.

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A	WARNING	This warning box is used to highlight safety related precautions throught the document. Remember that there is risk of personal injury with every "warning" sign topic and it is of utmost importance to understand and follow the contained information.
0	CAUTION	Failure to follow instructions can result in damage to a par tor the whole of the machine, possibly putting the machine out of commission.
	NOTE	It is especially important to understand and implement the instructions highlighted therein fort he successful long-term operation of the machine.
		All control panels must be grounded.
		Freezing hazard.
		Read the instructions.
		Use your personal protective equipment.
M		Danger of explosion.
		Before starting the machine, check electric cables against damages.
J. C.		Danger of fire.
		Electrical shock or burn hazard.
13		Do not use the machine without checking all parts.
4		In case of leakage of oil or protective materials, prevent contact with skin.
		Provide sufficient lightning in the area.
		All electrical and safety connections must be done according to local regulations.

#### 1 SAFETY INSTRUCTIONS

#### FOR CORRECT AND SAFE USAGE



NOT

It's strictly forbidden for untrained, unauthorised personnel to montage, maintain and operate the machines and to be around the machine.

#### EYS compost turner can not be used except of it's intended use.

#### **Usage Information**

- Keep remote controller in a dry place and don't expose directly to weather conditions.
- When power take-off is active, do not turn tractor/machine to left or right. Disconnect power take-off and lift tunnel. Then manoeuver to left or right.
- For all failures/breakdowns and assistance, contact EYS Metal/EYS GmbH or your supplier.

#### Check conformance with safety instructions prior to each start-up!

 In addition to the specific instructions contained in this document, general machinery operating rules and precautions must be followed!



- 2. Safety related signs are marked on the product as necessary. These signs and stickers are important for personal safety, so do not remove them!
- 3. Do not operate the machine before replacing/installing all safety and protection related parts/covers!



- 4. Make sure you understand the general functioning principle of the machine before operation!
- **\***
- Put on relatively snug operational outfit when operating the machine. Loose outfits and long sleeves can get caught by the moving parts during operation and servicing.
  Slurry can emit flammable gases under certain conditions; so avoid smoking or carrying
- 美
- 7. Machine should be installed at a properly ventilated area. Avoid spending long periods of time in poorly ventilated areas around the slurry!

#### **Electric Driven Equipment**

open fire near the machine!

1. All electrical work except standard maintenance must be carried out by a professional electrican!



- 2. Malfunctioned or defect plug, socket etc. must be replaced by a professional electrician!
- 3. If there is an application including plug and socket (hoist, modular control panel etc.) never unplug cables. Firstly make sure the machines are not running and main power is off. A damaged electric cable may cause leakage of electricity and cause short circuit. Never cut electric cables (to pass the cable through wall etc.). pull the plug not cable.
- 4. extention cables which are connected to main power line or extention cables which will be used for main power line must only be used for a short time! Never should be a long term solution!



- 5. If extention cables are to be extended on a road, they must be connected from 5 meters height minimum.
- 6. Then executing any operation on the machine, make sure the main power is off.
- 7. Before starting the machine always check cables for damages, cuts etc. protect cables from direct sunlight, sharp edges and oil. Replace unusable cables before starting the machine.
- 8. If there is not enough precautions against moisture and dust in sticky or fire risky area, don't use electrical equipment.
- 9. Covering electric motors can prevent proper cooling and can cause heat consistence and can cause harm to the equipments, even fire!



Make sure all the malfunctions are solved when the power take-off is back on.



Check electric cables regularly. This process must be done after the main power is cut off.

#### Maintenance

- 1. Never perform any maintenance, service or cleaning before fully stopping the machine and the other system components.
- 2. Always check and verify that the bolts/nuts on the machine are securely tightened.
- 3. Always wear work gloves when handling sharp and metal objects during maintenace.

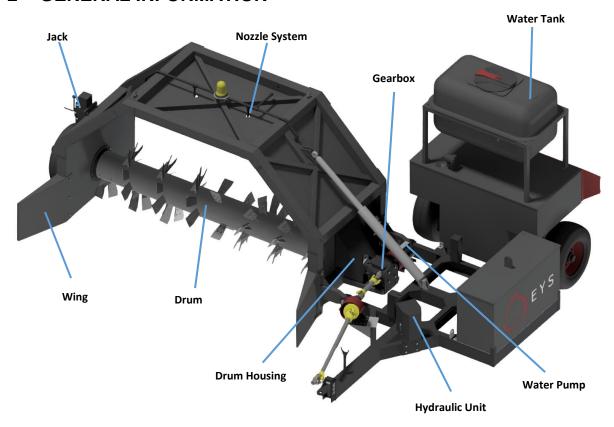


- 4. Always observe local regulations when disposing of lubricants/grease, etc.
- Never work on the control panel and/or electrical connections without fully cutting off the power first.



6. Only manufacturer approved spare parts must be used for repairs and replacements.

## 2 GENERAL INFORMATION



EYS compost turner is designed to mix separated or compost bovine and pig manure and organic waste. Manure should be mixed frequently with the machine to complete maturation over time. This process will also decrease moisture of material. Compost turner is driven by tractor power take-off. Control of pistons, nozzle system, rotation of drum etc. are carried out from tractor.



WARNING

When the machine is running (power take-off active), do not turn tractor or the machine to left/right. Firstly disconnect power take-off and lift tunnel in parking position. Then manoeuver to left/right. When rotation monoeuver is completed, lower tunnel and start machine in working mode and continue operation. If left/right manoeuver is done when power take-off is active, possible damages will not be covered by warranty!

In order to make proper piles, the suface must be flat and concrete. Material should be stacked by a truck, loader etc. before compost turner starts operation. When compost turner goes over stacked material, it reshapes piles based on it's dimensions. Piles with 3 meters width are created. In order to allow passage for tractor, there must be 3 meters distance between each pile.



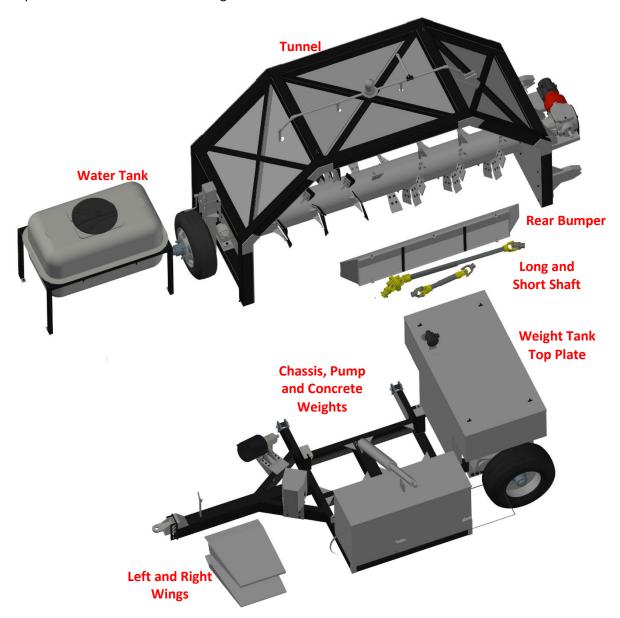
**ATTENTION** 

EYS compost turner is designed to work on a flat and concrete surface. In order to maximize life time of your machine, make sure the surface is completely flat and made of concrete.

## 3 DELIVERY, HANDLING AND INSTALLATION

## 3.1. Delivery

EYS compost turner is delivered as 9 parts. All parts are available in below image. Please make sure all the parts are available while receiving the machine.

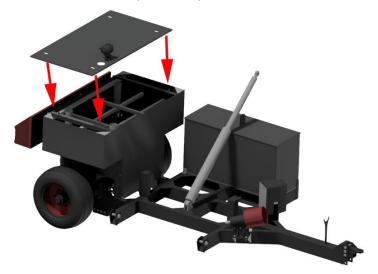


Make sure to use a suitable forklift to lift and assemble the parts of EYS compost turner. Total machine weight is 6500 kg. Depending on custom drum, total machine weight can vary. Contact manufacturer or your supplier for detailed information.

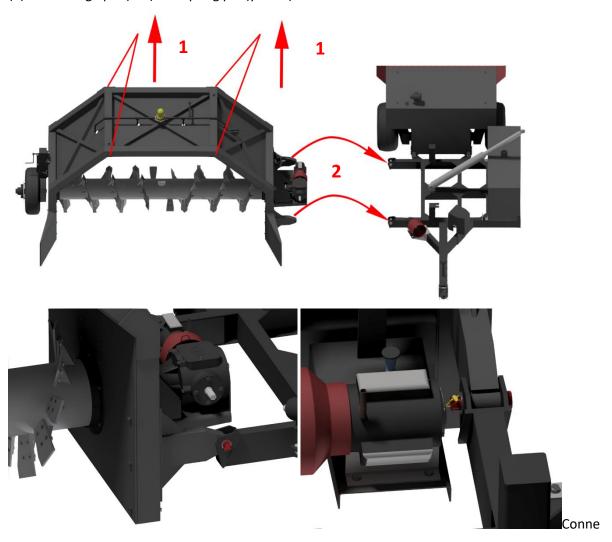
## 3.2. Installation

You will need wrench set, sling ropes and a forklift to assembly EYS Compost Turner.

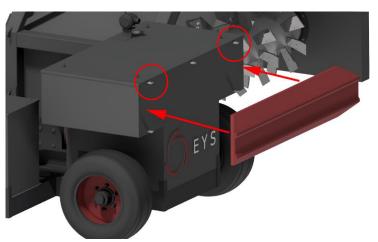
Firstly place top plate of weight tank as shown in right image but do not fix it yet. After placing water tank on weight tank, top plate will be fixed by using M12x40 screws.



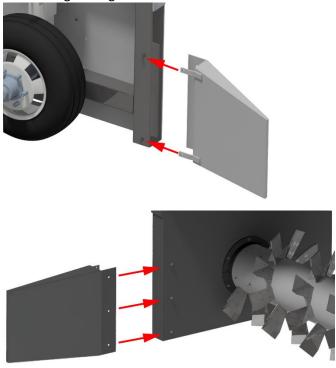
Connect 2x rope slings to lifting eyes available in marked points in below image and lift the tunnel slowly (1). Then bring tunnel closer to chassis and place it on marked points as shown in below image (2). Place hinge pin (red) and spring pin (yellow) for connection between tunnel and chassis.



Connect rear bump to weight tank as shown in right image and fix it by M8x16 screws and M8 nuts. Screws will be fixed to marked parts in right image.



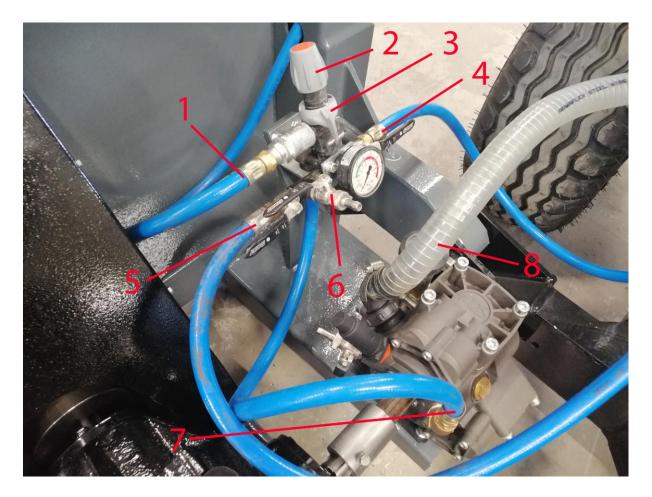
Left and right wings will be connected on tunnel. Use M12x25 mm screws for connection.



Connect rope slings to water tank and lift it slowly by forklift. Top plate is placed on weight tank in first step of installation. Now place water tank and fix it by M12 nuts. Afterwards connect water hoses to water tank.



Connection of watering system is available in next page.



- 1 Nozzle inlet line
- 2 Pressure adjustment screw
- 3 Pressure control lever
- 4 Bottom bypass outlet (returns to tank)
- 5 Top bypass outlet (returns to top of tank)
- 6 Additional outlet
- 7 Pump Outlet
- 8 Pump inlet

During a normal operation, nozzle inlet line (1), bottom bypass line (4), top bylass line (5) and pressure control lever (3) should be open. If pressure control lever (3) is closed, water won't reach nozzles.

Pressure control lever is currently open in above photo. If it's rotated 90° then it will be closed.

Additional outlet (6) should only be opened if an additional water source is required. A hose can be connected to this outlet to clean machine etc.

Gray pump inlet hose (8) is connected between pump and filter. Same hose is also used between filter and water tank's outlet.

Nozzle inlet line (1) is already connected before shipment. Both bypass lines and gray hoses should be connected before first run.

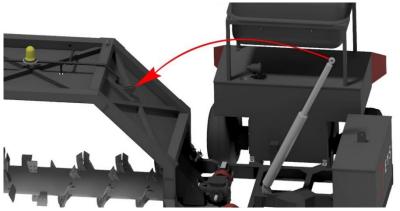
When pressure adjustment screw is rotated clockwise, it closes. When it's rotated counter-clockwise, it opens.



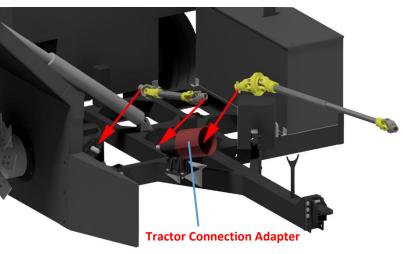
WARNING

Working pressure should be 20-40 Bar under normal working conditions!

Slowly turn piston as shown in right image and connect piston and lifting eyes on tunnel by using pin.



Now connect short and long shafts. Short shaft will be connected between gearbox and tractor link adapter. In order to connect short shaft, first remove link adapter by removing it from chassis. To do so first remove four screws which holds bottom plate of link adapter. Connect short shaft to gearbox and then connect other end of short shaft to link adapter. Finally install link adapter back to it's place and tension



screws. Long shaft will be connected between tractor link adapter and power take-off.

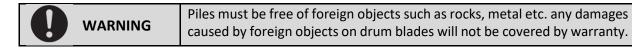


Finally connect hydraulic hoses to tractor. One end of hoses are already connected to hydraulic unit on compost turner chassis. Then place remote controller in tractor. Lifting/lowering tunnel and axle will be done by remote controller.

## 4 PRELIMINARY PREPARATIONS BEFORE START-UP

- Make sure water tank is full.
- Make sure all bearings are greased.
- Check all hydraulic connections and hoses against damages.
- Check tractor connection and make sure the tractor is sufficient for the machine.

- Check tyre pressure. The value is 55 Bar.
- Check screw tension of blades on drum.
- Make sure there are no obstacles or foreign materials (rock etc.) in operation area.
- Blind spots may occur during operation. Make sure there is no human or animal in operation area between/around piles while the machine is running.



**0** v

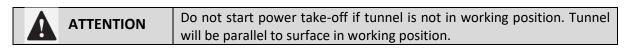
WARNING

Tyre pressure must be 55 Bar. Check tyre pressure before each operation!

## 5 STARTING AND STOPPING THE MACHINE

## 5.1. Starting The Machine

- 1. Make sure the tractor is in a suitable position to dock with compost turner. Connect long shaft to power take-off.
- 2. Connect hydraulic hoses (2x) to tractor.
- 3. Release jack.
- 4. While tunnel is lifted (in parking position) and power take-off is not active, drive tractor in front of first pile.
- 5. Release tunnel slowly to prepare machine to running position.
- 6. Adjust axle height to a desired position. Recommended height of tunnel from surface is 2-4 cm. If operation ground isn't flat or there are foreign objects, machine or drum blades can be damaged. To prevent possible damages, make sure the base is concrete and flat.
- 7. Start power take-off with 540 RPM.
- 8. Slowly go forward on first gear and enter first pile.
- 9. Do not manoeuver to left/right. Go straight forward and complete mixing the first pile.
- 10. When first pile is passed and left behing the machine, shut down of power take-off.
- 11. Lift tunnel to be able to turn left/right.
- 12. While tunnel is lifted, complete left/right manoeuvers to be in correct position to enter second pile. Release tunnel and start operation again.





**WARNING** 

Piles should be in the same direction and be parallel to each other. Due to it's design, compost turner isn't suitable to go forward in curved piles. If an operation is done in non-straight piles, any possible damages occurred will not be covered by warranty.

### 5.2. Stopping The Machine

- 1. When mixing final pile is completed, leave pile behind and cut connection of power take-off.
- 2. Lift tunnel.
- 3. Complete required manoeuvers to park the machine in a suitable position.
- 4. Clean inside of tunnel with water.

## **6 TROUBLESHOOTING**

PROBLEM	POSSIBLE REASON	SOLUTION
Drum blades are broken.	There are foreign materials such as rocks, metals in piles.	Make sure the piles are free of foreign objects.
Wheel hub is broken during operation.	Piles aren't linear.	Piles must be linear and be parallel to each other. When going forward through piles, do not manoeuver left/right.
	Hydraulic hoses aren't connected.	Check hydraulic hose connections on tractor and machine.
Tunnel can not be lifted or lowered.	Hydraulic hoses are damaged.	Check hydraulic hoses against damages. Replace hoses if necessary.
	Insufficient tractor oil.	Check tractor oil. Refill if necessary.
	Water pump can be damaged.	Contact EYS or your supplier.
Watering system not working.	Hoses can be damaged.	Check hoses against damages. Replace if there are damages or leakages.
	Nozzle pipes can be blocked.	Check pipes.
Compost turner can not mix material.	Machine is moving too fast.	Decrease velocity of tractor.
Despite of adjusting axle height, machine isn't lifted.	Low tyre pressure.	Check tyre pressure.

## 7 MAINTENANCE

In order to use your EYS compost turner for long years, a proper maintenance is required. Please follow the steps in this section to maximize life span of your machine.

FREQUENCY	OPERATION	
Defense verbere verber	Check tyre pressure.	
Before each operation	Check watering and hydraulic hoses against damages.	
Once every 8 working hours	Check tension of all screws and nuts.	

### 7.1. Lubrication

There are 6 points to lubricate on the machine. This points are available below.

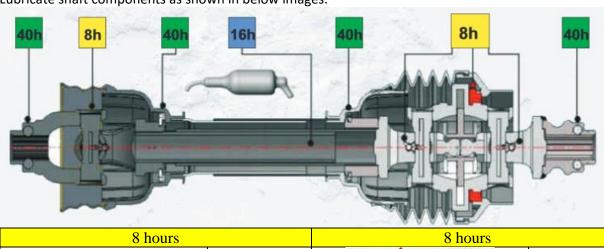
- 1. Bearings on each side of drum once every 8 hours,
- 2. Grease nipples on each side of wheel hub once every 8 hours,
- 3. Grease nipple on tractor link adaptor once every 8 hours,
- 4. Hydraulic piston connected between chassis and tunnel once every 8 hours,
- 5. Long and short shafts,
- 6. Gearbox on chassis.

Lubrication of gearbox and shafts are available in next page.

ISO VG 320 synthetic oil will be used for gearbox. Required amount is 3 liters and must be replaced once every year. Oil cover is marked in right image. Remove the cover and fill oil.



Lubricate shaft components as shown in below images.



0.1			
8 hours		8 hours	
	Cross Kit		Wide Angle CV Joint 80°
8 hours		40 hours	
	Overruning Clutch		Push Pin
16 hours		16 hours	
	Ratchet Torque Limiter		Shield Cones

## 7.2. Cleaning

If there any foreign materials on your compost turner such as sacks, plastic etc. make sure to clean them by hand and then clean inside of tunnel with pressure water.



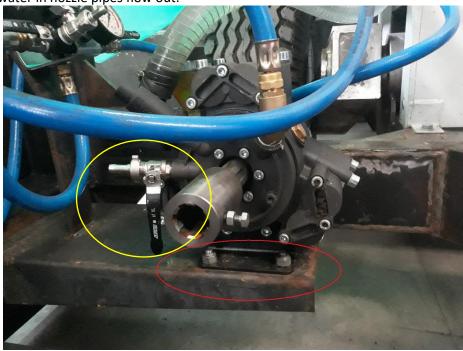
#### **WARNING**

When machine is in operation, do not touch or interfere any moving parts. If a maintenance is required, completely stop tractor and disconnect long shaft from power take-off. Then complete any maintenance. Go around drum when power take-off is connected to long shaft.

## 7.3. Emptying Water Pump

If EYS GK3000 compost turner will be used in areas where environmental temperature is less than 0°C, water pump should completely be emptied after each operation and before storage. In order to drain water completely, follow below steps;

- 1. Firstly open the valve marked with yellow in below photo.
- 2. Disconnect water tank and water pump by removing the hose between.
- 3. Start system and run the pump. Remaining water in pump will be discharged.
- 4. After operation is completed, remove pump and nozzle connection. Raise tunnel a little and let water in nozzle pipes flow out.



As an alternative and more effective method, an antifreeze addition can be added in water tank. In a warehouse after the operation is completed, run the machine for 2 minutes after adding antifreeze in water tank. As the pump is filled with antifreeze, stop the system. Clean the machine and store it.

### 7.4. Deactivating Water Pump

If water pump won't be used during operation, follow below steps;

- 1. Firstly loosen 4x screws which are marked red in above photo. Only two screws are shown in above photo. Other two screws are located on the other side of pump.
- 2. Then push the pump towards chassis. It will slide on chassis up to a point. Pump will automatically be deactivated after this process.

## **8 LONG TERM STORAGE**

If EYS compost turner will not be used for a long time, in order to protect the machine from corrosion, clean the body with water. The pieces of the manure which will dry on the machine may cause corrosion in a long term. Lubricate all necessary parts.

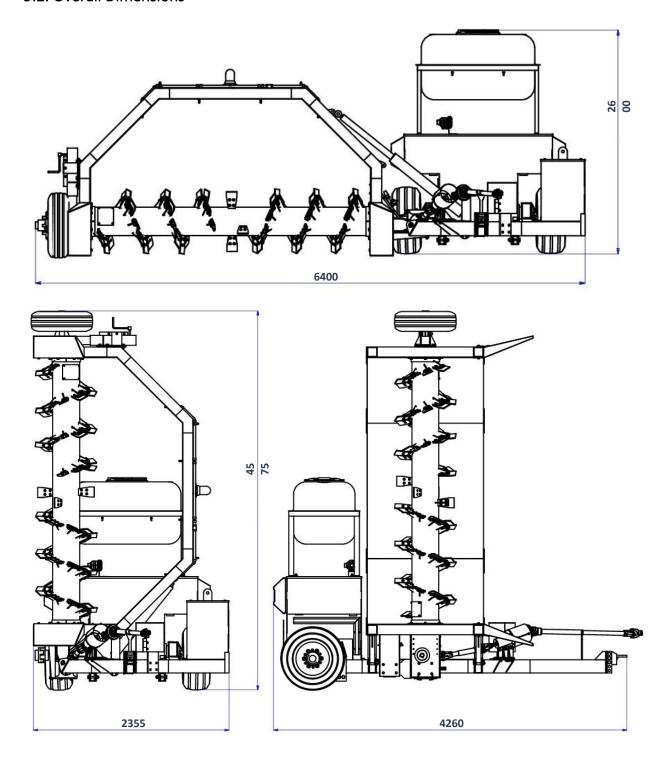
## 9 TECHNICAL DETAILS

## 9.1. Technical Specifications

Working Width	3000 mm	Working Height	1500 mm
Advance Speed in Separated Manure	0 – 550 m/h	Advance Speed in Scraped Manure	0 – 350 m/h
Water Tank Capacity	800 lt	Mixing Capacity	960 m³/h*
Minimum Tractor Power for Separated Manure	80 HP	Minimum Tractor Power for Scraped Manure	90 HP
Shifting Range	1,5 – 2 m	Machine Weight	6500 Kg

<sup>\*</sup>Hourly mixing capacity may vary depending on moisture and foreign material ratio of manure.

## 9.2. Overall Dimensions



## 9.3. Identification Label

While contacting your supplier or EYS, make sure to tell serial number of your machine. Serial number and date of manufacture are available in the identification label of the machine.



**ISO 9001** 

PRODUCT DESCRIPTION :

MODEL :

DATE OF MANUFACTURE:

SERIAL NUMBER :

EYS Metal San. Ve Tic. Ltd. Şti.

www.e-y-s.com / info@e-y-s.com Made in Turkey

## 9.4. Warning Labels

There are warning labels available on EYS Compost Turner. To maximize safety, please pay attention to these signs.

## 10 DECLARATION OF CONFORMITY

# EC UYGUNLUK BİLDİRİSİ EC DECLARATION OF CONFORMITY



ÜRETİCİ

MANUFACTURER

EYS METAL SAN. VE TİC. LTD. ŞTİ.

ADRES

TEPECİK MAHALLESİ, ŞEHİT PİYADE ER M.ALİ TOSUN BULVARI, NO:

**ADDRESS** 

234/1 EFELER, AYDIN, TURKEY

Yetkili firma, bu belgede bildirilen makine ekipmanın 2006/42/EC Makine Direktiflerine uygunluğunu garanti eder. Aşağıda bahsi geçen makine ekipmanın tüm imalat kontrolleri **EYS METAL SAN. VE TİC. LTD. ŞTİ.** tarafından gerçekleştirilmiştir.

The undersigned Company certifies under its sole responsibility that the item of equipment specified below satisfies the requirements of the Machinery Directive 2006/42/EC which applies to it. The item of equipment identified below has been subject to internal manufacturing checks with monitoring of the final assessment by EYS METAL SAN. VE TİC. LTD. ŞTİ.

ÜRÜN,

PRODUCT

**COMPOST TURNER** 

MODEL / TİP

MODEL / TYPE

GK3000

DİREKTİFLER

MAKİNA DİREKTİFLERİ (MACHINERY DIRECTIVE) 2006/42/EC

**DIRECTIVES** 

DÜŞÜK VOLTAJ DİREKTİFLERİ (LOW VOLTAGE DIRECTIVE) 2006/95/EC

HARMONIZE STANDARTLARA GÖRE UYGULANAN KURALLAR
REGULATIONS APPLIED ACCORDING TO HARMONIZE STANDARDS

EN ISO 12100:2010, EN 60204-1:2006, EN ISO 13857

Belgelendirme tarihi ve yeri

Place and date of issue

AYDIN / TURKEY 11.2012

Yetkili kişi ve pozisyonu

Name and position of authorized person

ORHUN ÇETİN

TEKNİK MÜDÜR / TECHNICAL MANAGER

Yetkili kişinin imzası

Signature of authorized person