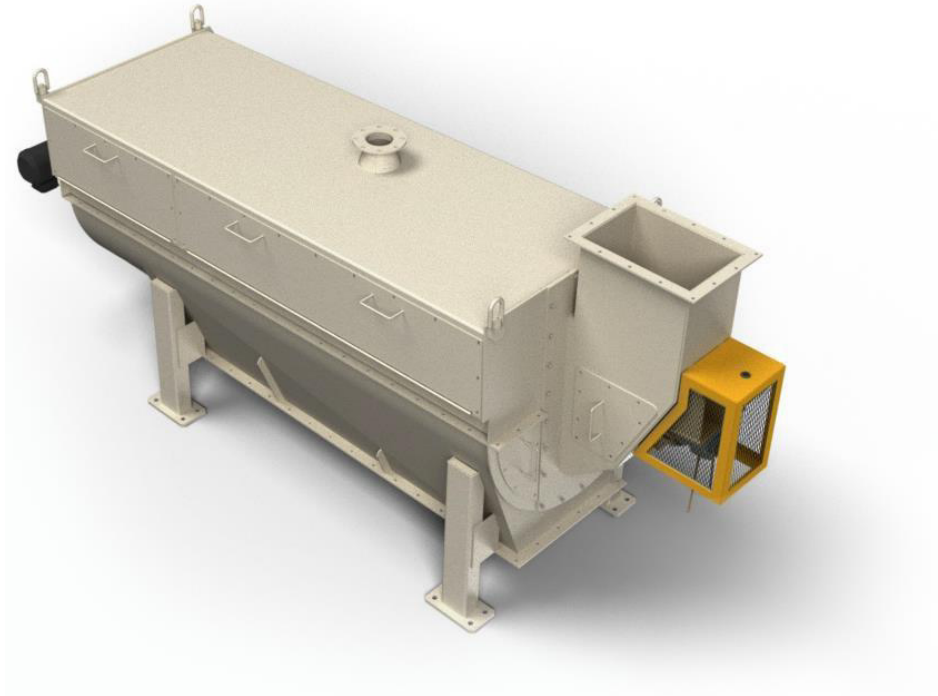


Stucco Rotary Screen

Operation & Maintenance Manual



Introduction

This manual contains **Original Instructions** written to provide detailed technical information to assist in the maintenance of the Rotary Screen equipment. For information regarding normal operation please refer to the Area Operator's Manual. Maintenance should only be performed by qualified, trained personnel.

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1 Safety Overview

Never put yourself at risk.

Many pieces of equipment have the potential to cause serious injury or even death. Be sure to understand the safety concerns related to a piece of equipment before undertaking or performing any maintenance or clean out procedure. Work with your supervisors to address any safety concerns prior to undertaking work.

1.1 General Safety Precautions for Machine Operations and Maintenance

All safety requirements listed below are those generally applicable to this equipment but are not intended to be all-inclusive. They are intended for qualified, experienced personnel who are capable of understanding the maintenance and hazards of machinery operation. Particular types of components may require other precautions as determined by the customer's own safety policies. These precautions should be included in the comprehensive safety program for the particular installation.

These general safety precautions apply to all electrically or mechanically powered equipment and should be observed, as appropriate.

This equipment has been constructed using the highest standards of workmanship with industry accepted state-of-the-art techniques, components, and designs. It has been inspected and tested as thoroughly as possible prior to shipment for proper operation and defects in workmanship. However, this equipment, like any other, may develop problems due to normal wear, abuse, or unforeseeable circumstances. The equipment therefore requires proper operation and maintenance. While performing these functions, personnel will be required to work on or near the equipment. The following precautions are given to avoid injury to these personnel.

Warning:

As with many types of equipment, parts of this machine may start moving as soon as the pneumatic circuits are pressurized or electrical connections are energized, which may result in injury to personnel or damage to the machine.

1.2 Rotary Screen Safety Guidelines

Warning:

Never insert any foreign objects into the operating equipment openings.

DO NOT open the inspection hatches while the equipment is in operation. Lockout all sources of energy before opening the inspection hatches.

DO NOT put any part of your body or any foreign objects in the inlet of the Rotary Screen while it's in operation; it has a rotating shaft which may cause injury to personnel or damage to the machine.

DO NOT try to clear any jams or plugs while the equipment is in operation.

1.3 Set-Up Safety

Avoid locating equipment in environments for which it was not designed (wet, extreme temperatures) or environments which may create a dangerous operating condition such as an explosive atmosphere (gas, dust).

Avoid the use of unauthorized or substitute parts and materials in servicing the equipment. Substitute parts or materials could produce a hazardous operating condition.

Use only materials of adequate size and strength to suit the flows and pressures which will be present in the operating system. Use safety factors in selecting materials for strength to allow for shock and over-pressure conditions should they occur.

1.4 Start-Up Safety

Ensure all pneumatic and electrical connections which may have been removed, replaced, or disconnected during an equipment shutdown have been reconnected securely before starting any equipment.

Ensure that all personnel, products, etc., are clear of machinery prior to starting any equipment.

1.5 During Operation

All guards need to be secured in position when the Rotary Screen is in use. Maintain and keep in place all equipment guards. Do not wear loose clothing or jewelry which could get caught in moving parts.

1.6 Shutdown Safety

Prior to any work being done on the Rotary Screen. LOCK OUT ALL SOURCES OF POWER!

1.7 General Safety

Refer to the Safety Overview manual.

2 Equipment Overview

The Function of the Rotary Screen is to disperse lumps and separate foreign material, i.e., paper, from stucco. It has two discharges: one for clean stucco and one for unwanted material.

The Rotary Screen contains a rotating drum with walls made of perforated plate. As stucco enters the drum, finer material easily passes through the perforated plate and out the discharge. Foreign material, on the other hand, is unable to permeate the perforated plate and, due to the inclined angle of the drum, is eventually drawn towards the “scrap” discharge. Also, any lumps in the stucco typically broken apart due to the rotational action of the drum.

The Rotary Screen includes 4 lifting lug points for safe and easy installation.

The Rotary Screen includes trouble free access doors to allow inspection of screen elements and the drum cleaning brush.

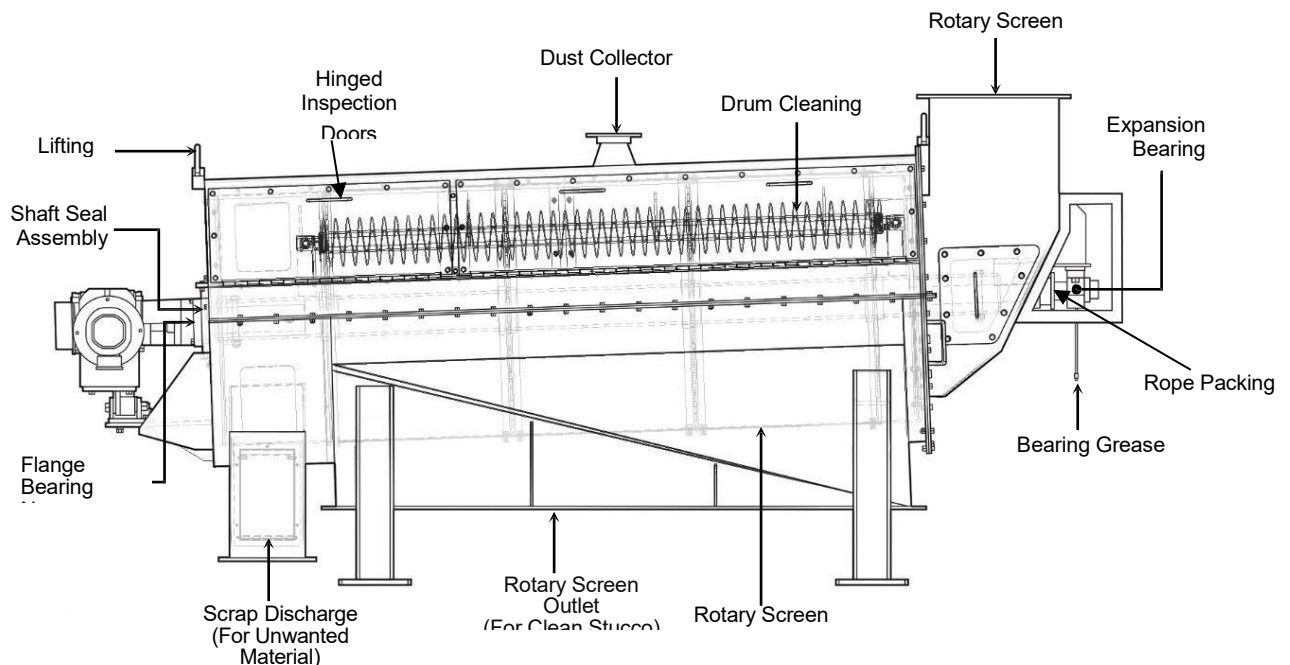


Figure 1: Part Identification – Side View

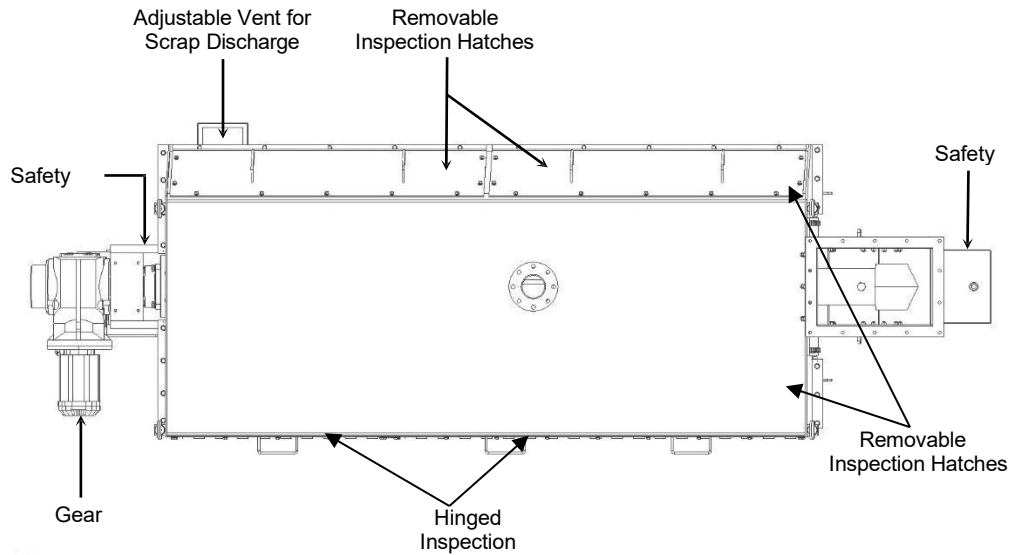


Figure 2: Part Identification – Top View

2.1 Major Components

2.1.1 Rotary Screen Drum

The inclined Drum consists of a main shaft upon which four support rings are attached. These support rings form the structure to which the screen is affixed. The screen allows fine material (stucco) to easily pass through while unwanted material is conveyed along the drum to the scrap discharge. The main shaft is affixed to stub shafts at either end. The stub shafts ride on the main Rotary Screen bearings.

2.1.2 Drum Cleaning Brush

The Cleaning Brush makes contact with the entire length of the drum to ensure the screen remains free of stucco and paper build up. It rides on a shaft supported by two “sealed-for-life” bearings. The contact pressure between the brush and the drum can be adjusted by two screws at either end (see Section 3 for proper brush adjustment).

2.1.3 Inspection Hatches

There are several removable inspection hatches surrounding the body of the Rotary Screen; two hinged inspection hatches are for brush adjustment/replacement, two for drum inspection, two for inner drum inspection/cleanout and two on either side of the inlet chute for inspection/cleanout.

2.1.4 Rotary Screen Inlet

The Inlet receives stucco material and directs it into the inclined drum where unwanted material is separated from the stucco.

2.1.5 Rotary Screen Outlets

The Rotary Screen has two outlets: one for clean stucco discharge and one for scrap material discharge. The scrap material discharge has an adjustable vent to ensure material flows freely outwards.

2.1.6 Drive End & Non-Drive End Shaft Seals

There are shaft seals located at the Drive End and the Non-Drive End to block material from entering/exiting the Rotary Screen body around the main shaft. At the Drive End, the seal is by virtue of an Ultra-High Molecular Weight Polyethylene fitted to the drive shaft. At the Non-drive End, the seal consists of a fiberglass rope wrapped around the shaft and compressed with an adjustable plate to ensure a tight seal.

2.1.7 Bearings

There are two main bearings installed on the Rotary Screen; one at the Drive End and one at the Non-Drive End. The Drive End Bearing is a Non-Expansion spherical flange mount bearing through which the Drive Stub Shaft rides. The Non-drive End bearing is an Expansion spherical flange mount bearing through which the Non-drive Stub Shaft rides. This bearing is designed to deal with the thermal expansion of the shaft it supports without putting undue stress on the shaft. The Non-drive End bearing is also equipped with grease lines to allow for trouble-free greasing.

2.1.8 Safety Guards

The Rotary Screen is equipped with Safety Guards at the Drive and Non-Drive ends. They are used to protect personnel from coming into contact with a rotating system which could cause bodily harm. These guards must be in place while the machine is in operation.

3 Installation

3.1 Receiving Your Equipment

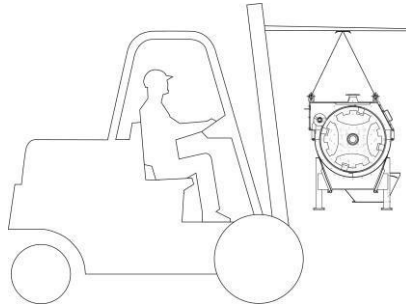
As soon as the equipment is received, it should be carefully inspected to make certain the unit is in good condition and all items listed on the packing list are received. Even though the equipment is packaged at our plant, it is possible for it to be damaged in shipment. All damages or shortages should be noted on the Bill of Lading. The purchaser should take immediate steps to file reports and damage claims with the carrier. All damages incurred to the units in transit are the responsibility of the common carrier since it is the manufacturer's policy to make shipment F.O.B. its factory: i.e., Ownership passes to the purchaser when the unit is loaded and accepted by the carrier. Any claims for in-transit damage or shortage must be brought against the carrier by the Purchaser.

3.2 Pre-Installation

1. If there is any cleaning/power washing or painting to be done, it should be done before installation. To ensure accurate alignment and squaring, clean any surfaces of existing equipment that mates with the new equipment.
2. Prepare the Rotary Screen for installation by removing any shipping bolts/blocks, straps, plastic and clean off any rust protective coatings.
3. Install any air, electrical and water services prior to the final equipment placement. Coil wrap hoses to ensure there are no pinch points on the hoses. Mark all wiring, conduits, and pneumatic lines before installation. Mark all electrical drawings as per any field additions or changes, etc.
4. Review and train production personnel for the operation of the Rotary Screen.
5. Gyptech highly recommends using a variable frequency drive (VFD) on this motor.

Warning:

Only lift the equipment using slings attached to the 4 designated lifting lugs. DO NOT LIFT THE ROTARY SCREEN FROM UNDERNEATH. Failure to follow these instructions may result in equipment damage and/or personal injury.



3.3 Installing

At a minimum, installation requires the expertise of a millwright with alignment credentials and an electrician.

3.4 Installation of the Equipment and Leveling

1. Move the Rotary Screen into place. Adjust to the proper elevation (refer to the Gyptech supplied Installation drawing for application specific details).
2. The Rotary Screen must be level in both ways.
3. The Rotary Screen must be securely mounted to a solid surface using all four holes of each mounting pad (sixteen in total)
4. Make and seal all inlet/outlet connections (chutes) to surrounding process equipment (refer to the Gyptech supplied Installation drawing for application specific details).
5. Inspect all bearings, shafts, and seals for proper mechanical installation. Ensure all fasteners are tight (check set screws on bearings, etc.).

3.5 Electrical Installation

1. Connect the Gearmotor to the VFD or starter system. A VFD is strongly recommended.
2. Upon completion of electrical connections, all covers should be kept closed and

secure at all times. Disconnect power before opening areas where electrical terminations exist.

3. Connect any electrical, water and pneumatic lines to existing equipment that was disconnected for the Rotary Screen installation.
4. Reinstall any guards and covers that have been removed during installation.

4 Operation

Ensure all installation steps and checks have been performed per section 3 herein before the equipment goes into service.

The Rotary Screen is intended to be fed with Stucco by a volumetrically controlled source. Ensure the Rotary Screen is running before material is fed into the machine. Failure to do this may cause the inlet to become plugged.

The Drum Cleaning Brush should be adjusted so that the bristles just barely protrude the mesh of the drum. If the brush is too far out, it won't adequately clean the mesh. Conversely, if it's adjusted too far in, the brush will likely experience premature wear.

5 Troubleshooting

Condition	Probable Cause	Solution
Rotary Screen is not discharging material	<ul style="list-style-type: none"> Inlet chute is plugged. Screens have blinded over. 	<ul style="list-style-type: none"> Remove plugged material using access hatches. Inspect screens and brush, adjust as required.
Rotary Screen is Running Rough	<p>Drum is unable to clear material because:</p> <ul style="list-style-type: none"> Brush is not in contact with Rotary Screen Drum. Material is unable to pass through scrap discharge (back pressure) Foreign objects are stuck in drum. <p>Shaft(s) is damaged/ worn</p>	<ul style="list-style-type: none"> Replace and/or adjust brush. Adjust scrap discharge vent. Remove foreign objects. Replace damaged shaft(s)
Rotary Screen is making excessive noise	<ul style="list-style-type: none"> Worn Bearing Drum is unable to clear material (see above) 	<ul style="list-style-type: none"> Inspect and replace bearings. See above
Rotary Screen does not start	<ul style="list-style-type: none"> Gearmotor failure No power 	<ul style="list-style-type: none"> Inspect and Replace Gearmotor Check power source, restore Power
Unwanted material is passing through Stucco Discharge	<ul style="list-style-type: none"> Screen material is worn/damaged 	<ul style="list-style-type: none"> Replace screen elements

6 Maintenance

The following refers specifically to the basic Gypsum Technologies Rotary Screen. The instructions below may not encompass any customization or optional components on your machine.

In order to prevent premature failure of the equipment, the following preventative maintenance procedures are recommended. It is recommended that maintenance work be done by qualified trained millwrights only. The following procedures are not intended to be in-depth technical procedures but a simple step-by-step guide for skilled maintenance personnel.

Rotary Screen must have regular, personal inspections. This general observation is for detecting any extreme vibration that could be taking place due to foreign objects in the Rotary Screen.

- Remove plugged material using access hatches.
- Inspect screens and brush, adjust as required.

Warning:

When performing any maintenance work always lockout all sources of energy (electrical, pneumatic, mechanical, electromagnetic, chemical, thermal, hydraulic, etc.).

6.1 Preventative Maintenance Schedule

6.1.1 Monthly

Unit	What should be done
Gearmotor mount	<ul style="list-style-type: none">• Check for proper fit & ensure no excessive looseness.
Safety Guards	<ul style="list-style-type: none">• Check their condition.
Drive Shaft	<ul style="list-style-type: none">• Check for excessive wear.

6.1.2 6-12 months

Unit	What should be done
------	---------------------

Brush	<ul style="list-style-type: none"> Inspect Brush for excessive wear and contact pressure with screen.
Drum	<ul style="list-style-type: none"> Inspect Drum Screen for excessive wear or damage.
Packing Seal	<ul style="list-style-type: none"> Inspect Fiberglass rope for damage and leaks.

6.1.3 Various Intervals

Unit	What should be done
Gearmotor	<ul style="list-style-type: none"> Shall be in accordance with section 6.1.1 herein
Bearings	<ul style="list-style-type: none"> Shall be in accordance with section 6.4 herein

6.1.4 SEW Gear motor Inspection and Maintenance Intervals

Frequency	What should be done
Every 3000 machine hours, at least every 6 months.	<ul style="list-style-type: none"> Check the oil and oil level. Check the seals visually for leakage. Check torque arm: Check the rubber buffer and change it, if necessary.
Depending on the operating conditions (see lubricant change intervals chart), every 3 years at the latest. According to oil temperature.	<ul style="list-style-type: none"> Change mineral oil.
	<ul style="list-style-type: none"> Replace anti-friction bearing grease (recommendation). Replace oil seal (do not install it in the same track).
Depending on the operating conditions (see lubricant change intervals chart), every 5 years at the latest. According to oil temperature.	<ul style="list-style-type: none"> Change synthetic oil.
	<ul style="list-style-type: none"> Replace anti-friction bearing grease (recommendation). Replace oil seal (do not install it in the same track).
Varying (depending on external factors)	<ul style="list-style-type: none"> Touch up or renew the surface/anticorrosion coating.

6.2 Maintenance procedures

6.2.1 Replacing of Drum Cleaning Brush

The Drum Cleaning Brush assembly needs to be replaced as the brush will be worn out by having constant contact with Drum Screen to keep screen mesh clean. The replacement procedure will apply to drive and non-drive side as follows:

1. Remove/open all inspection hatch at Top section and Top cover of rotary screen.
2. Hold/secure the cleaning brush shaft at drive and non-drive side.
3. Loosen the collar attached to threaded rod.
4. Turn the nut and threaded rod until the threaded rod comes out from the cleaning brush shaft.
5. Replace the drum cleaning brush assembly and tighten the nut until getting the required close contact of brush to drum screen. Tighten Collar.
6. Attach/close all inspection hatch and Top cover.

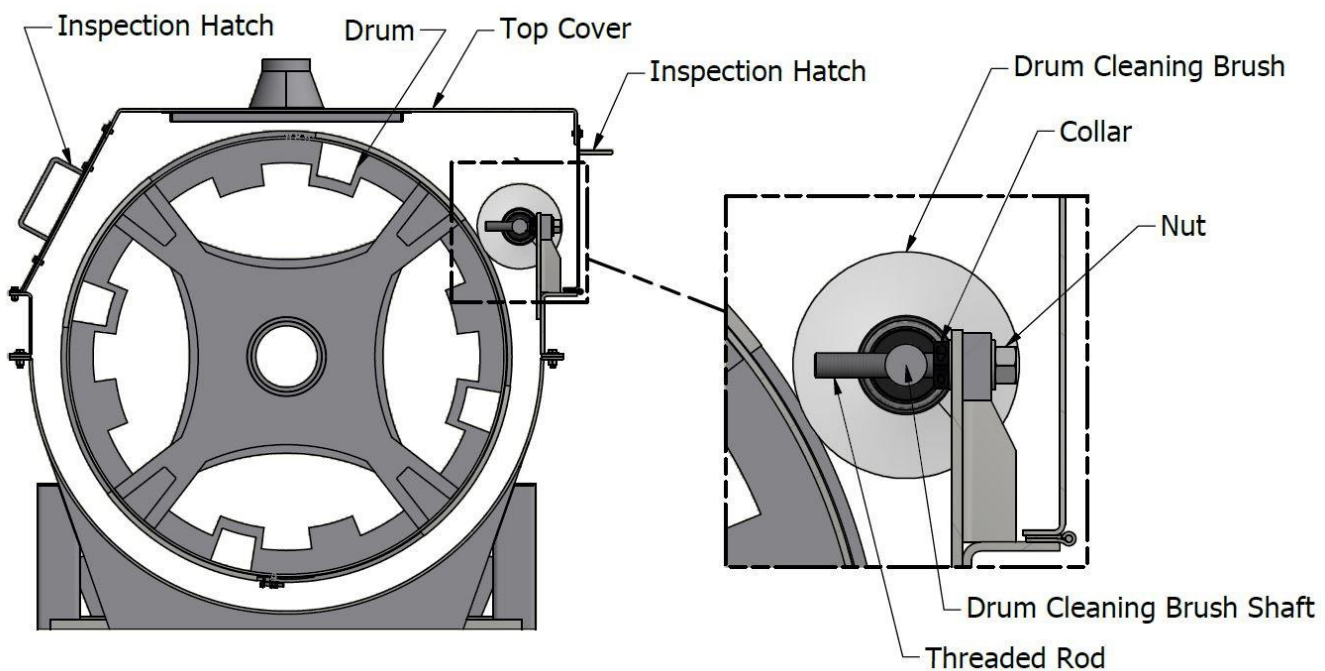


Figure 3: Looking Fron Non-Drive End - Section View

6.2.2 Replacing Sections of Screen

Rotary screen assembly consists of three screen sections. These sections may need to be replaced because of excessive wear, operational damage or required changes to the perforated plate opening sizes. Inspect the rotary screen periodically to ensure longevity of the equipment.

Gyptech Ball Mill Operation and Maintenance Manual

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The replacement procedure is as follows:

1. Remove/open all inspection hatch at Top section and Top cover of rotary screen.
2. Remove or move the cleaning brush assembly away from the screen to get better room to replace drum screen sections. Follow procedure as per 6.2.1.
3. Remove the rivets attached to overlapping screen cover plate only and remove screen section from drum.
4. Insert new screen section to the drum assembly. Place it equally spaced on the drum screen section assembly guides.
5. Use included clips and fasteners to tighten the screen by overlapping the screen with each other (Refer Figure 4).
6. Use cover plate to cover the overlapping screen and drill through the cover plate and drum screen section assembly to fasten the cover on overlapping edge by riveting together. Use 3 rows of $\frac{1}{4}$ " steel rivets spaced 6" apart.
7. Check that the screen is tight to the drum.
8. Double check, there should not be any pinch point after replacing screen sections.
9. Add cleaning brush assembly if removed while replacing screen sections. Follow procedure as per 6.2.1.
10. Attach/close all inspection hatch and Top cover.

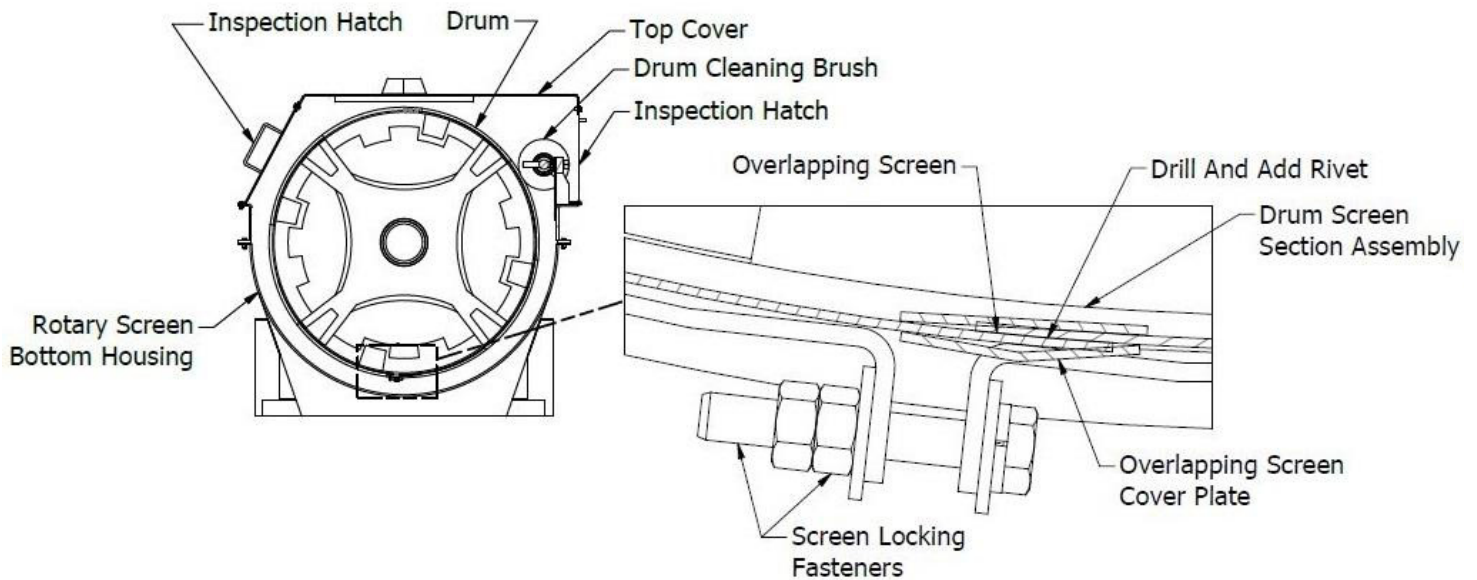


Figure 4: Drum Screen Section Assembly Detail

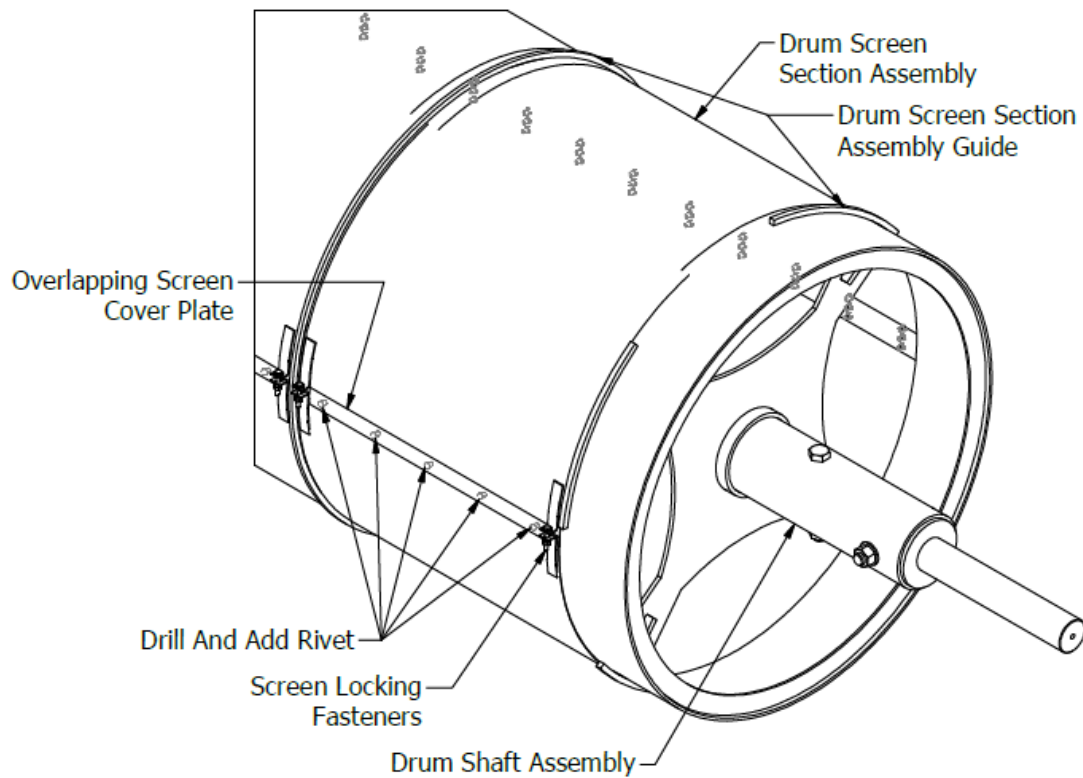


Figure 5: Drum Assembly Detail

6.2.3 Replacing of End Seal Packing

At the Non-Drive End there is a piece of graphite impregnated fiberglass rope packing that will require periodic replacement. The replacement procedure is as follows:

1. Remove Packing Compression Plate.
2. Remove packing with a packing removal tool.
3. Replace packing as illustrated below.
4. While the equipment is down, tighten Packing Compression Plate until snug. Do not over tighten the packing seal.
5. After the equipment is restarted, tighten Packing Compression Plate just tight enough to ensure there is no product leakage through the seal.

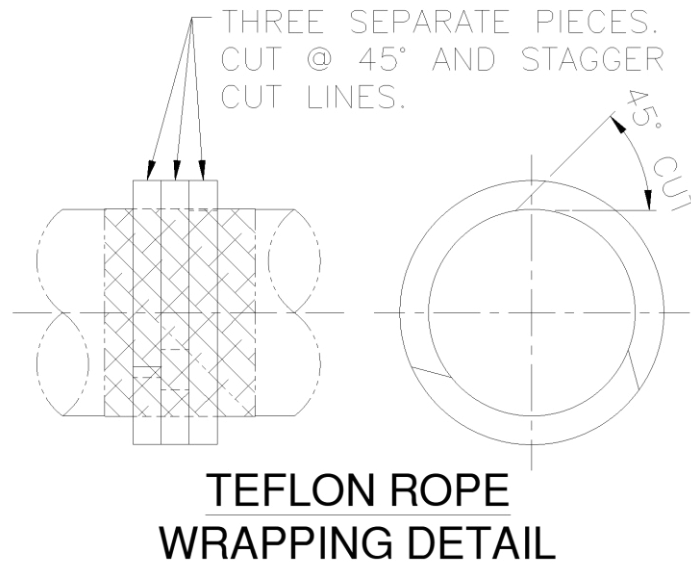


Figure 6: Fiberglass Rope Wrapping Detail

6.2.4 Replacement and Setup of Drive End (Fixed) & Non-Drive End (Floating) Bearings

Please complete the following steps to install QM Blue Brute EC Series bearings.

1. Ensure the shaft is within recommended diameter tolerance shown below in Table 1, and that it is straight, clean, and free of any burrs or debris.
2. If using an open-end cover, slide open-end cover/seal combination into position on shaft.
3. Apply a thin oil film to shaft and bearing bore.
4. Slide bearing into position on shaft.
5. Tighten housing mounting bolts.
6. Slide eccentric locking collar along shaft and onto the extended portion of the bearing's inner ring.
7. Rotate the eccentric locking collar until it is hand tight (the direction of rotation does not matter when using QM Blue Brute EC Series bearings).
8. Lock the eccentric locking collar firmly in place using a spanner wrench or hammer and drift.

Please note: When using a hammer and drift, one or two good blows will be sufficient due to the shallow eccentric ramp on QM Blue Brute EC Series bearings. Be sure to drive the collar in the same direction in which you hand tightened it so as to turn it to a

tighter position on the bearing's inner ring.

9. Tighten the eccentric locking collar set screws (x2) to the torque values shown below in Table 2.

TABLE 1. Recommended shaft tolerances.

Shaft Size	Bearing Number	Tolerance (mm)
-	22208	+0.0000 / -0.0250
40mm	22209	+0.0000 / -0.0380
45mm		
50mm	22210	+0.0000 / -0.0380
55mm	22211	+0.0000 / -0.0380
60mm	22213	+0.0000 / -0.0380
65mm		
70mm	22215	+0.0000 / -0.0510
75mm		
80mm	22218	+0.0000 / -0.0760
85mm		
90mm		
100mm	22220	+0.0000 / -0.0760
110mm	22222	+0.0000 / -0.1270
115mm		
125mm	22226	+0.0000 / -0.1270
130mm		
140mm	23230	+0.0000 / -0.1270
150mm		
170mm	23234	+0.0000 / -0.1270
180mm		

TABLE 2. Set screw torque values.

Shaft Size	Bearing Number	Set Screw Size	Torque (N-m)
-	22208	M10-1.5TPI	33
40mm	22209	M10-1.5TPI	33
45mm			
50mm	22210	M10-1.5TPI	33
55mm	22211	M10-1.5TPI	33
60mm	22213	M10-1.5TPI	49
65mm			
70mm	22215	M10-1.5TPI	49
75mm			
80mm	22218	M10-1.5TPI	49
85mm			
90mm			
100mm	22220	M14-2.0TPI	70
110mm	22222	M16-2.0TPI	150
115mm			
125mm	22226	M16-2.0TPI	150
130mm			
140mm	23230	M16-2.0TPI	150
150mm			
170mm	23234	M16-2.0TPI	150
180mm			

Figure 7: Table: Torque Values

6.2.5 Inspection and Maintenance of Gear Motor

Do not intermix synthetic lubricants and do not mix synthetic and mineral lubricants together!

The standard lubricant is mineral oil (except for Spiroplan® gear units).

The position of the oil level and oil drain plug and the breather valve depends on the mounting position. Refer to the diagrams of the mounting positions.

Checking the oil level



1. **De-energize the gearmotor and secure it to prevent it from being switched on inadvertently!**

Wait until the gear unit has cooled off – Danger of burns!

2. Refer to Sec. "Installing the gear unit" when changing the mounting position!
3. For gear units with an oil level plug: Remove the oil level plug, check the fill level and correct it if necessary. Screw the oil level plug back in.

Checking the oil



1. **De-energize the gearmotor and secure it to prevent it from being switched on inadvertently!**

Wait until the gear unit has cooled off – Danger of burns!

2. Remove a little oil from the oil drain plug.
3. Check the oil consistency.
 - Viscosity
 - If you can see that the oil is heavily contaminated, we recommend that you change the oil even if this is outside the service intervals specified in "Inspection and maintenance periods".
4. For gear units with an oil level plug: Remove the oil level plug, check the fill level and correct it if necessary. Screw the oil level plug back in.

Changing the oil



Only change the oil when the gear unit is at operating temperature.

De-energize the gearmotor and secure it to prevent it from being switched back on inadvertently!

Wait until the gear unit cools down - Danger of burns!

Note: The gear unit must still be warm otherwise the high viscosity of excessively cold oil will make it harder to drain the oil correctly.

With oil drain plug / oil level screw

1. Place a container underneath the oil drain plug
2. Remove the oil level plug, breather plug/breather valve and oil drain plug.
3. Drain all the oil.
4. Screw in the oil drain plug.
5. Pour in new oil of the same type through the vent hole (if changing the oil type, please first contact our customer service). Do not mix synthetic lubricants.
 - Pour in the volume of oil in accordance with the mounting position (see Sec. "Lubricant fill quantities") or as specified on the nameplate.
 - Check at the oil level plug.
6. Screw the oil level plug back in
7. Screw in the breather plug/breather valve.

*Without oil drain
plug / oil level plug*

1. Remove cover plate.
2. Drain the oil through the cover plate opening.
3. Pour in new oil of the same type through the vent hole (if changing the oil type, please first contact our customer service). Do not mix synthetic lubricants.
 - Pour in the volume of oil in accordance with the mounting position (see Sec. "Lubricant fill quantities") or as specified on the nameplate.
4. Check the oil level (→ Sec. "Check oil level for gear units with oil level plug")
5. Attach cover plate (observe the tightening torque and series → Sec. "Check the oil level for gear units without an oil level plug")

**Changing the oil
seal**



1. **De-energize the gearmotor and secure it to prevent it from being switched on inadvertently!**
Wait until the gear unit has cooled off – Danger of burns!
2. When changing the oil seal, ensure that there is a sufficient grease reservoir between the dust lip and protective lip, depending on the type of gear unit.
3. If you use double oil seals, the space has to be filled one-third with grease.

6.3 Lubrication

Your Gyptech equipment has been engineered and designed to provide you with long equipment life. Bearings, Bushings, and equipment subject to wear have been designed to resist wear with minimal servicing time.

6.4 Suggested Lubrication for Bearings

QM Bearings recommends using Dow Corning Molykote® G4700 grease. It is a lithium complex extreme pressure synthetic grease that combines the benefits of wide operating temperatures and broad compatibility with varied materials. This grease offers excellent thermal stability through temperatures ranging from -40 °C/ -40 °F to 177 °C/ 350 °F. QM Bearing's Blue Brute bearings are factory lubricated and are ready for use without additional lubrication. Check the Re-lubrication intervals table for general guidelines.

(Please note: The average manual grease gun will produce approximately 28 grams of grease per 33 strokes. Please check with the manufacturer of your grease delivery system for specific information.)

Shaft Size	Bearing Number	Initial Weight (g)	Relubrication Weight (g)	Relubrication Interval (Hours of Service Based On RPM and Temperature)											
				100 RPM		250 RPM		500 RPM		1000 RPM		2000 RPM		3000 RPM	
				<160°	>160°	<160°	>160°	<160°	>160°	<160°	>160°	<160°	>160°	<160°	>160°
-	22208	14.2	2.8	2200	1000	1400	700	1000	500	240	120	120	60	40	20
40mm	22209	19.8	5.7	2000	1000	1200	600	800	400	320	160	160	80	80	40
45mm															
50mm	22210	22.7	5.7	1600	800	1000	500	640	320	240	120	120	60	60	30
55mm	22211	28.3	8.5	1200	600	800	400	440	220	160	80	100	50	60	30
60mm	22213	39.7	11.3	1120	560	720	360	360	180	120	60	80	40	40	20
65mm															
70mm	22215	76.5	19.8	1040	520	680	340	340	170	100	50	60	30		
75mm															
80mm	22218	104.9	25.5	960	480	600	300	300	150	80	40	40	20		
85mm															
90mm															
100mm	22220	184.3	45.4	840	420	520	260	240	120	60	30	20	16		
110mm	22222	209.8	53.9	680	340	440	220	200	100	60	30	20	16		
115mm															
125mm	22226	300.5	76.5	560	280	360	180	160	80						
130mm															
140mm	23230	589.7	147.4	480	240	320	160	120	68						
150mm															
170mm	23234	850.5	241.0	400	160	240	160	110	60						
180mm															

Figure 8: Table: Re-Lubrication Intervals

6.4.1 SEW Gear Motor Lubricant Change Intervals

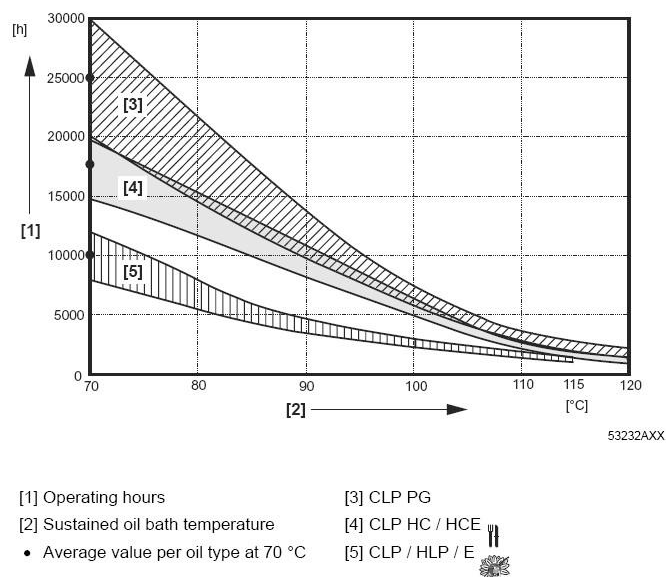


Figure 9: Oil Change intervals for standard gear units under normal environmental conditions

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Gypsum Technologies Inc.
578 King Forest Court
Burlington, Ontario
Canada L7P 5C1
Tel: +1 (905) 567-2000
Fax: +1 (289) 288-0570
info@gyptech.ca

Gyptech AB
Norrkatan 15
Växjö SE-352 31
Sweden
Tel: +46 470 705640
Fax: +46 470 705650
info@gyptech.se

Gyptech GmbH
Eulatalstrasse 31
86633 Neuburg/Donau
Germany
Tel: +49 8431 5387 0
Fax: +49 8431 5387 20
info@gyptech.de