



DIVERSIFIED STORAGE SYSTEMS
(888) SILO-SYS (888) 745-6797

1400c.f. Silo Manual



Silo Description

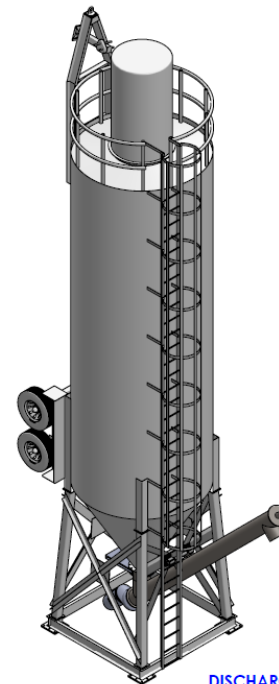
Portable Silos- specially designed portable vertical storage system for bulk powder products.

1400 cubic feet of Storage

Featured Options

- 1400c.f. welded steel construction
- 10" Diameter Pivoting Auger with hand winch
- 15hp 3 Phase Motor & Gear Box Drive
- 225sq. ft. Dust Collector
- Starter Panel
- Upper Level Indicator with light and Horn Alarm
- Cone Fluidizers
- Caged Ladder & Rail Package
- Heavy Duty Axle Trailer with light Package
- Other Custom Options Available to Fit Your Needs

Specifications	1400
Storage in Cubic Ft	1400
Ton Capacity **	60
Tank Diameter	8'-6"
Height***	37'



DISCHARGE HGHT
12'-3" [147]

**Cement can weigh between 88-94 lbs. per cubic foot depending on how aerated it is.
*** Height is standard silo with a 150sq ft dust collector.

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1400c.f. Silo Manual

Portable 1400c.f. Silo

The Standard DSS 1400c.f. Portable Silo is equipped with all the necessary equipment for operation. Electrical power to the panel and an air supply is all that is needed. The unique feature of this silo is its versatility. A crane is required to set up this unit in the field.

Be sure to keep the silo as moisture free as possible. Foreign objects or hardened cement will cause the auger system to jam. Clean out holes are installed in the auger to free jammed material. If the silo is not to be used for an extended length of time it should be cleaned out completely, as not to have hardened material dislodge into the auger system upon resumption of use. The auger system is designed to start under a full load, if some problem occurs clean out gates are installed at the auger inlet points so material can be cleared out from the auger in emergency situations. Keep the bearings greased (do not over grease) and check the lubricant level in the gear box, as it is not to run dry. Running dry will cause major damage to power transmission unit. Keep the auger discharge free of cement build up. Remove the end of the discharge spout occasionally and free any hardened materials. Neglect causes the drive to be over worked and could cause the motor to burn out.

The silo is equipped with a dust collector. Be sure to check the dust socks for excess build up of cement. . The socks need to be checked to make sure they stay on the holders. Neglect may cause damage to the dust socks or possible damage to the silo. Care of these units depends on how much they are used.

The silo is equipped with an emergency pop-off valve. If the socks or air transfer system would plug, the valve would lift up relieving the pressure. The valve is adjusted by DSS but may need further adjusting on site. **DO NOT OVERTIGHTEN.** Do not over fill the silo. Over filling of this unit could cause a hazardous situation. The air transfer system will plug and the pop-off valve may also be rendered unable to function, causing the dust collector to break loose or the top to be forced open or possibly off. **BE CAREFUL NOT TO OVERFILL**

Pivoting Auger Set up:

THE AUGER MUST BE POSITIONED IN THE OPERATION MODE PRIOR TO LIFTING THE SILO

This silo is equipped with a pivoting auger that rotates up for transportation and down prior to erection for operation. The unit has a automatic break hand winch and support braces for operation and travel positions.

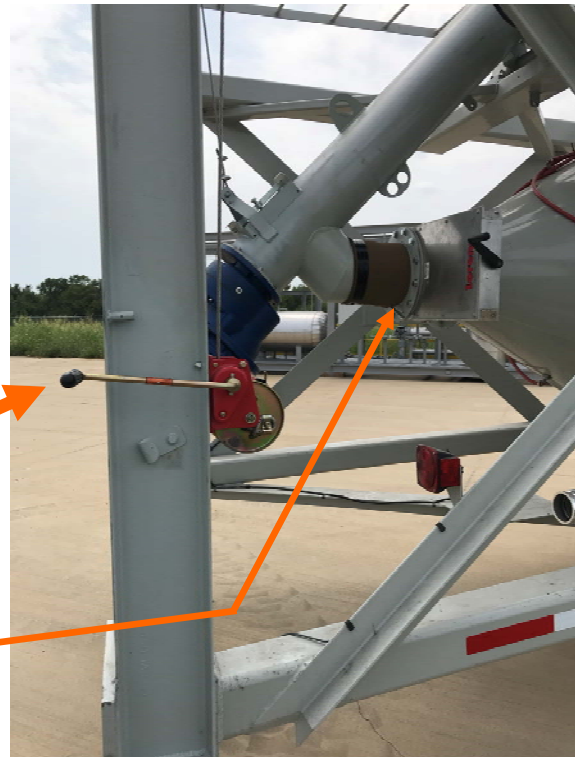
Step One: Prior to erecting the silo remove the Bolt (9/16" wrench required) holding the auger down



Step Two: Use the hand winch to lower the auger into place. It has a built in break so You just turn the handle to lower or raise.

Lower the auger till the booting material reaches the silo cone. (you may need a hand Getting the booting over the tube but it is very flexible and easy).

Attached it with the supplied clamp.



Step Three: Once the auger is in place secure it with the 2 yellow support braces.
One just above the cone, The other high on the side side wall.

Lower support Brace



Upper support Brace



Reverse the procedure to set it down.

These instructions are a guideline to standing up a Diversified Storage System 1400c.f. (350Brrl) vertical silo.

Equipment Required:

1. Crane - 35 ton is typical.
2. Spreader bar with leads - 8'-6" spreader bar with 10' leads is typical.
3. Concrete pad or suitable foundation.
4. Anchor bolts.

Crane - The size of the crane depends on the size of the silo and proximity of the crane to the silo. The crane company should have the final say in the size of the crane. The information the crane company will need.

1. The size of the silo - the 1400c.f. silo weights 12,000lbs empty , it is 8'-6" dia. It is 37' tall.
2. There are two lifting eyelets on top.
3. How close can the crane get to where it will pick-up and set down the silo.

Foundation - The silo needs a suitable foundation able to withstand the weight of the silo fully loaded, that can be up to 180,000 lbs, depending on the product. It can be a concrete foundation or compacted dirt with steel freeway plates over top. Local building codes and soil condition need to be followed when deciding on the foundation. **It is the customers responsibility to determine the proper foundation.**

Anchor Silo - Once the silo is set up it should be anchored down to the foundation. The silo has predrilled holes in each base plate for this. The size of the anchors does depend on local building codes. (DSS recommends minimum 7/8" dia. X 8"). Anchors can be drill and wedge style or set by epoxy. Customers can also use guild wires attached to the top size needs to be determined by the customer.



It is best to place the lifting Straps on the outside of the Railing when standing up the silo so as to not damage the hand railings.



The crane operator will pull up the silo. The legs and base of the silo are strong enough to support the silo being lifted. Once the silo is vertical the crane will set it down in the desired location.



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Airmax 225 Dust Collector



Collector Specifications

Total Filtration Area	225 Sq. Ft.
Air to Cloth Ratio (ACFM/Sq.)	2.5
Pressure Drop (in. H 2O)	6"
Air Capacity	675 C.F.M.
Outlet Area (Sq.)	.58
Cleaning Method	Shaker Plate
Vibrator (Air or Electric)	Rotary Style
Vibrator Air Consumption (High Press.)	8 CFM (Max)
Vibrator Power	120 V/ 1 ph
Duty Cycle	1.5 hours
Normal Operating Pressure on Truck	8 - 13 PSI *
Filter Servicing Pressure on Truck	15 PSI *
Over-pressure relief settings on Truck	18 PSI *

* Dust Collector performance is measured by the back pressure gauge on truck product line. Truck line pressure gauge is acceptable for determining operating pressures. (See *† Below)

Filter Bag Specifications

Filter Bag Count	18 hung style
Replacement Filter Bag Model #	DC 225S
Dimensions	8" OD X 72" Height
Filter Area (Per)	8.33 Sq. '
Material Weight	9 oz. / Sq. Yd.
Fiber	100% Polyester
Construction	Spun/Spun
Permeability	25 c.f.m.
Mullen Burst Dry	500 PSI
Temperature Limit	275 Deg. F.
Efficiency (PM-10)	99.99%

Vibrator Specifications

Air Vibrator	Model V-190
VPM @ 60 PSI	4200
CFM @ 60 PSI	7.5 CFM
Noise @ 60 PSI	70 db
Control	Manual
Electric Vibrator	Model 2P-75
Voltage/amps	115v/0.5 amp
VPM	3600
Noise	60 db.
Control	Auto/Manual

Collector Performance (PM-Reg.)**

0.5 - 1.0 Micron	99.9 % Passing	0.10 % Retained
1.0 - 20.0 Micron	0.02 % Passing	99.98 % Retained
> 20.0 Micron	0.01% Passing	99.99 % Retained

** Typical Portland Cement is 44 Micron

Mounting Options

Bin Vent Mount (Silo Top)
Base Mount (Optional Base Needed)
Trailer Mount (Portable Applications)

*† Dust Collector performance can be reduced or fail if silo is overfilled. Warranty is voided if there are no silo overfill or overpressure preventing systems installed. Standard one year warranty for all actuating parts and timers (not filters). Magnehelic gauge is optional if needed.

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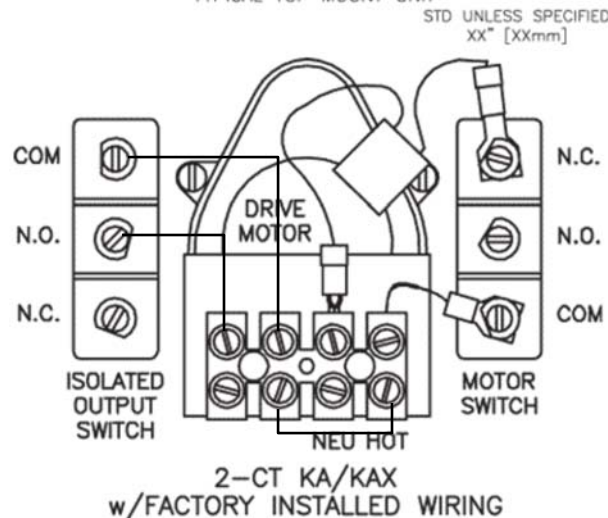
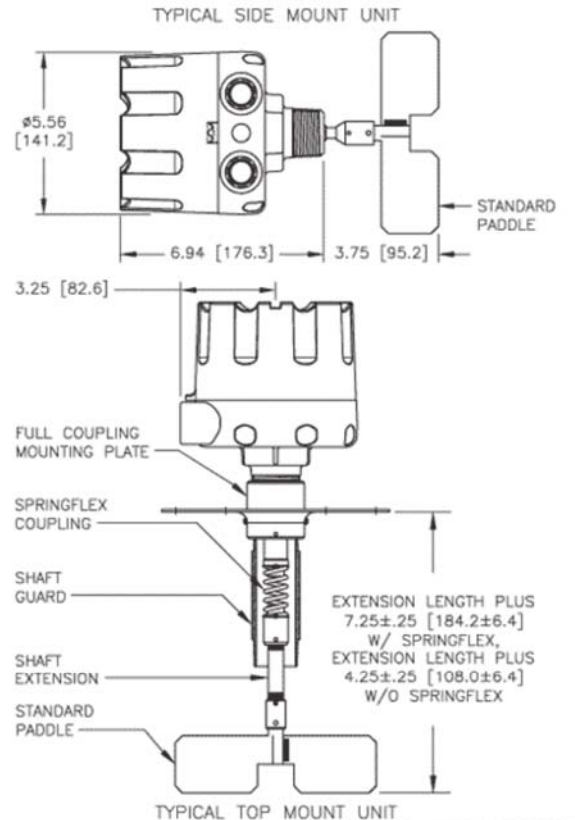
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High Level Indicator

Monitor's line of rotary paddle bin monitors consists of the most reliable, rugged and economical point level control sensors available for detection of dry bulk materials. These easy to install units are proven performers in a wide variety of bulk materials. Monitor's paddle units can be used to eliminate bin overflow, maintain a predetermined material level, indicate plugging of conveyors and pneumatic lines or provide any of a number of level control functions. Unlike many other available paddle units, Monitor's paddle level indicators incorporate a feature that automatically shuts off the motor of the unit when the paddle is in a stalled position, which both extends the life of the motor and minimizes maintenance.

The operation of Monitor's paddle level control products is quite simple. The unit is installed through the wall of the vessel, so that the paddle protrudes inside the vessel. A small electric motor drives a paddle which rotates freely in the absence of material.

When the paddle is impeded by material, the motor rotates within the housing which triggers two switches. The first switch is a "dry" electrical contact closure that is available to control a process function or alarm circuit. The second switch cuts the power to the motor, preventing a locked rotor condition, thus extending motor life. This also activates the signaling device which is wired through that same motor switch. When the material level drops, the loaded stretched tension spring returns the motor to its original running position and the unit is reactivated.





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Maintenance

Motor:

See Page 6-9

Your silo will be equipped with either a Baldor, Lesson or World Wide Motor, all maintenance requirements are the same.

Gear Box:

See Page 10-13

Your silo will be equipped with either a Baldor, Lesson or Hub City gear box, all maintenance requirements are the same.

Dust Collector:

The dust collector socks should get a visual inspection once a month. Check for excessive build-up on the socks. Make sure the vibrator is working. If the socks are clogged they should be replaced.

225sq. ft Dust Collector-parts

Electric Vibrator 2p75

6" x 72" Polyester Sock (18) D-742-s

Auger:

Top bearing needs to be greased every 200 hours of use

Filling the Silo:

Truck filling should not exceed 8-10 PSI. **DO NOT OVERFILL!**

Additional Parts:



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Maintenance Motor

Table 3-2 Service Conditions

Severity of Service	Hours per day of Operation	Ambient Temperature Maximum	Atmospheric Contamination
Standard	8	40° C	Clean, Little Corrosion
Severe	16 Plus	50° C	Moderate dirt, Corrosion
Extreme	16 Plus	>50° C* or Class H Insulation	Severe dirt, Abrasive dust, Corrosion, Heavy Shock or Vibration
Low Temperature		<-30° C **	

* Special high temperature grease is recommended (Dow Corning DC44). Note that Dow Corning DC44 grease does not mix with other grease types. Thoroughly clean bearing & cavity before adding grease.

** Special low temperature grease is recommended (Aeroshell 7).

Table 3-3 Lubrication Interval Multiplier

Severity of Service	Multiplier
Standard	1.0
Severe	0.5
Extreme	0.1
Low Temperature	1.0

Table 3-4 Bearings Sizes and Types

Frame Size NEMA (IEC)	Bearing Description (These are the "Large" bearings (Shaft End) in each frame size)					
	Bearing	OD D mm	Width B mm	Weight of Grease to add * oz (Grams)	Volume of grease to be added	
					in ³	tea- spoon
56 to 180 incl. (63 to 112)	6206	62	16	0.19 (5.0)	0.3	1.0
210 incl. (132)	6307	80	21	0.30 (8.4)	0.6	2.0
Over 210 to 280 incl. (180)	6311	120	29	0.61 (17)	1.2	3.9
Over 280 to 360 incl. (225)	6313	140	33	0.81 (23)	1.5	5.2
Over 360 to 449 incl. (280)	6319	200	45	2.12 (60)	4.1	13.4
Over 5000 to 5800 incl. (355)	6328	300	62	4.70 (130)	9.2	30.0
Over 360 to 449 incl. (280)	NU319	200	45	2.12 (60)	4.1	13.4
Over 5000 to 5800 incl. (355)	NU328	300	62	4.70 (130)	9.2	30.0
Spindle Motors						
76 Frame	6207	72	17	0.22 (6.1)	0.44	1.4
77 Frame	6210	90	20	0.32 (9.0)	0.64	2.1
80 Frame	6213	120	23	0.49 (14.0)	0.99	3.3

* Weight in grams = .005 DB

Note: Not all bearing sizes are listed. For intermediate bearing sizes, use the grease volume for the next larger size bearing.

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Maintenance Motor

Lubrication Procedure

Be sure that the grease you are adding to the motor is compatible with the grease already in the motor. Consult your Baldor distributor or an authorized service center if a grease other than the recommended type is to be used.

Caution: To avoid damage to motor bearings, grease must be kept free of dirt. For an extremely dirty environment, contact your Baldor distributor or an authorized Baldor Service Center for additional information.

With Grease Outlet Plug

1. With the motor stopped, clean all grease fittings.
2. Remove grease outlet plug.

Caution: Overgreasing can cause excessive bearing temperatures, premature lubrication breakdown and bearing failure.

3. Add the recommended amount of grease.
4. Operate the motor for 15 minutes with grease plug removed. This allows excess grease to purge.
5. Re-install grease outlet plug.

Without Grease Provisions

Note: Only a Baldor authorized and UL or CSA certified service center can disassemble a UL/CSA listed explosion proof motor to maintain it's UL/CSA listing.

1. Disassemble the motor.
2. Add recommended amount of grease to bearing and bearing cavity. (Bearing should be about 1/3 full of grease and outboard bearing cavity should be about 1/2 full of grease.)
3. Assemble the motor.

Sample Lubrication Determination

Assume - NEMA 286T (IEC 180), 1750 RPM motor driving an exhaust fan in an ambient temperature of 43° C and the atmosphere is moderately corrosive.

1. Table 3-1 list 9500 hours for standard conditions.
2. Table 3-2 classifies severity of service as "Severe".
3. Table 3-3 lists a multiplier value of 0.5 for Severe conditions.
4. Table 3-4 shows that 1.2 in³ or 3.9 teaspoon of grease is to be added.

Note: Smaller bearings in size category may require reduced amounts of grease.

Maintenance Motor

Section 3 Maintenance & Troubleshooting

WARNING: UL rated motors must only be serviced by authorized Baldor Service Centers if these motors are to be returned to a flammable and/or explosive atmosphere.

General Inspection

Inspect the motor at regular intervals, approximately every 500 hours of operation or every 3 months, whichever occurs first. Keep the motor clean and the ventilation openings clear. The following steps should be performed at each inspection:

WARNING: Do not touch electrical connections before you first ensure that power has been disconnected. Electrical shock can cause serious or fatal injury. Only qualified personnel should attempt the installation, operation and maintenance of this equipment.

1. Check that the motor is clean. Check that the interior and exterior of the motor is free of dirt, oil, grease, water, etc. Oily vapor, paper pulp, textile lint, etc. can accumulate and block motor ventilation. If the motor is not properly ventilated, overheating can occur and cause early motor failure.
2. Use a "Megger" periodically to ensure that the integrity of the winding insulation has been maintained. Record the Megger readings. Immediately investigate any significant drop in insulation resistance.
3. Check all electrical connectors to be sure that they are tight.

Lubrication & Bearings

Bearing grease will lose its lubricating ability over time, not suddenly. The lubricating ability of a grease (over time) depends primarily on the type of grease, the size of the bearing, the speed at which the bearing operates and the severity of the operating conditions. Good results can be obtained if the following recommendations are used in your maintenance program.

Type of Grease

A high grade ball or roller bearing grease should be used. Recommended grease for standard service conditions is Polyrex EM (Exxon Mobil).

Equivalent and compatible greases include:

Texaco Polystar, Rykon Premium #2, Pennzoil Pen 2 Lube and Chevron SRI.

- Maximum operating temperature for standard motors = 110° C.
- Shut-down temperature in case of a malfunction = 115° C.

Lubrication Intervals

Recommended lubrication intervals are shown in Table 3-1. It is important to realize that the recommended intervals of Table 3-1 are based on average use.

Refer to additional information contained in Tables 3-2 and 3-3.

Table 3-1 Lubrication Intervals *

NEMA / (IEC) Frame Size	Rated Speed - RPM					
	10000	6000	3600	1800	1200	900
Up to 210 incl. (132)	**	2700 Hrs.	5500 Hrs.	12000 Hrs.	18000 Hrs.	22000 Hrs.
Over 210 to 280 incl. (180)		**	3600 Hrs.	9500 Hrs.	15000 Hrs.	18000 Hrs.
Over 280 to 360 incl. (225)			* 2200 Hrs.	7400 Hrs.	12000 Hrs.	15000 Hrs.
Over 360 to 5800 incl. (300)			* 2200 Hrs.	3500 Hrs.	7400 Hrs.	10500 Hrs.

* Lubrication intervals are for ball bearings. For vertically mounted motors and roller bearings, divide the lubrication interval by 2.

** For motors operating in this speed range, contact Baldor for lubrication recommendations based on specific motor and application.



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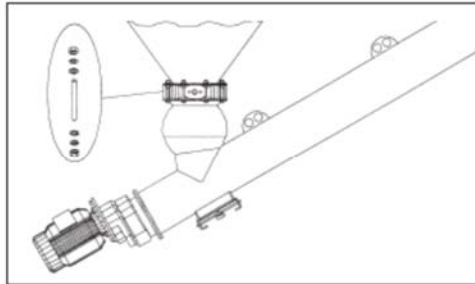
ES - TUBULAR CEMENT SCREWS CONVEYORS

OPERATION AND MAINTENANCE

CATALOG 2002

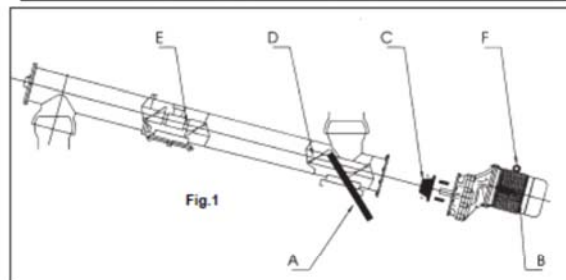
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ASSEMBLY INSTRUCTIONS WHEN USING WAM[®]BUTTERFLY VALVE



- 1) The VFS-type valves made of aluminium alloy are not designed to bear the weight of equipment installed below (e.g. screw feeders, belt conveyors, vibratory feeders etc.).
- 2) To fix the valve, only use stud bolts that are long enough to pass through the upper connecting flange, the valve itself as well as the lower connecting flange, forming a sandwich. Screw on the nuts firmly but not excessively. The inside nuts have no weight-bearing function. They only serve to secure the valve when the feeder installed below is stripped down.
- 3) Apply a thin layer of liquid seal before fitting the valve to the connecting flange.
- 4) Close the valve only when material is flowing.
- 5) Clean the valve regularly with either air or water. This is particularly important if the material handled tends to compact or to solidify due to longer shutdown periods.
- 6) Operating temperature < 80° C.
- 7) The material weight resting on the disc must never be greater than its maximum static torque. As it is difficult to calculate this weight exactly due to varying material properties, as rule of thumb, one may consider there are no problems with bulk densities <1.3 t/m³ in standard hoppers and silos.
- 8) Refer to assembly instructions on WAM[®] actuators included in each package.

REPLACEMENT OF SEALS IN DRIVE HEAD AND IN END BEARING ASSEMBLY



Referring to Fig.1 carry out the following steps:

- 1) Close silo valve.
- 2) Empty screw feeder.
- 3) Disconnect electric motor from mains.
- 4) Open inspection hatches.
- 5) Prevent the inlet screw (D) from sliding out by introducing a plank (A) into the inlet hatch ensuring plank firmly locks in.
- 6) Ensure eyebolt (F) of electric motor is tightly screwed on.
- 7) Fix the lifting device to the eyebolt (F).
- 8) Remove reducer flange bolts and remove gear motor (B).
- 9) Replace seals (C) with new ones.
- 10) Reassemble parts proceeding in the opposite way as described.

The same operations apply also if drive unit is at outlet end.
And if the sealing of the end bearing has to be substituted

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Maintenance Auger/Gear Box



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OPERATION AND MAINTENANCE

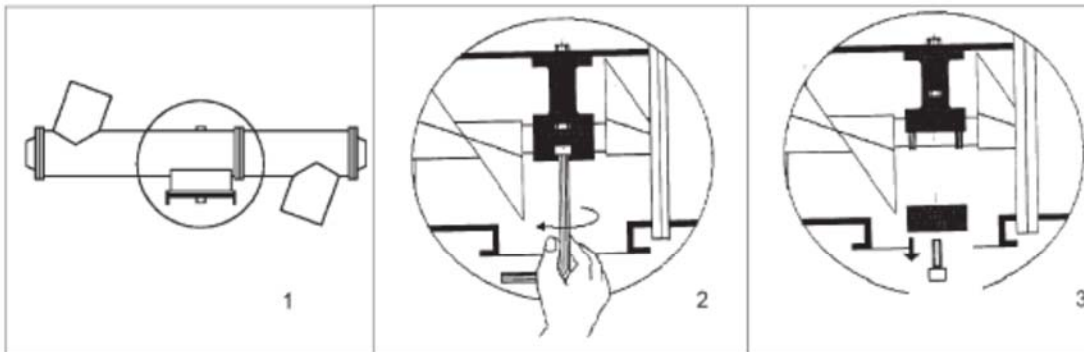
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REPLACEMENT OF HANGER BEARING

With reference to Fig. 2 carry out the following steps:

- 1) Open inspection hatch beneath the bearing to be replaced.
- 2) Remove bolts that fasten the two bearing halves.
- 3) Lower bearing half is now free. Remove external hanger bolts and turn upper hanger half until it can be extracted through the hatch.



REPLACEMENT OF HANGER BEARING (INCLUDING SHAFT)

In addition to Fig.1, as well as to instructions under reference Fig.2 proceed as follows:

- 4) Carefully loosen plank (A)
- 5) Gently lower inlet spiral (D) until shaft (E) is free.
- 6) Replace shaft (E).

For reassembly proceed the opposite way.

If only the slide bushes must be replaced the above-mentioned steps do not have to be carried out. The half bush may be simply replaced without carrying out the above steps.

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Maintenance Auger/Gear Box



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OPERATION AND MAINTENANCE

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TROUBLE SHOOTING

Minor problems can be solved without consulting a specialist. Below is a list of the more common problems with their possible causes and remedies.

PROBLEM

Motor does not start

POSSIBLE REASONS

- 1) No correct wiring
- 2) Motor failure or failure in the wiring supply

ACTION

- 1) Check fuses; if faulty, replace
- 2) Repair or replace part concerned

PROBLEM

The motor starts but then stops

POSSIBLE REASONS

- 1) Incorrect rotation
- 2) Screw obstruction
- 3) Output rate too high
- 4) Motor burnt out
- 5) Defective bearing or gear re-ducer
- 6) Outlet blocked

ACTION

- 1) Reverse poles
- 2) Change hanger bearings; if necessary clean whole screw feeder
- 3) Check ammeter reading and output rate; if both are too high contact our Sales Office.
- 4) Discover reason and only then replace motor
- 5) Discover reason (see 2) - could be normal wear - replace part concerned
- 6) Free outlet

PROBLEM

Motor starts, but screw does not convey

POSSIBLE REASONS

- 1) Gear pinion or drive shaft sheared
- 2) Incorrect rotation
- 3) Bad outflow of material from silo due to faulty fluidization

ACTION

- 1) Discover reason, replace part concerned
- 2) Reverse poles
- 3) Improve outflow of material.

CHECK LIST IN CASE OF SCREW FEEDER TROUBLE

1) General questions Fault description

- a) Ask plant operator when and under which circumstances feeder stops. Does feeder start without problems after long periods of non-operation?
- b) Do weather conditions negatively influence feeder operation?
- c) If valve is fitted to feeder outlet check the center line of the valve shaft is parallel with the center line of the feeder, as would be fitted in normal circumstances.

Check valve fully opens.

Make sure feeder outlet valve is open when feeder starts and it only closes when feeder has already stopped.

If necessary disconnect valve actuator in open position.

2) Silo check

- a) Is the silo equipped with a deflecting or bridge breaking cone?
- b) Does silo include a fluidization system? If so how does it operate? Automatically at intervals while feeder is turned on? Manually for emergency in case of bridging?
- c) Is silo cone equipped with a vibrator or knocker? How does it work?

3) Electric equipment check

- a) Is a drop in voltage possible through the contemporary starting of various machines?
- b) Is the plant equipped with a generator?
- c) Check main supply of motor.
- d) Check electric motor is correctly wired and make sure wires are tightly fastened.
- e) Check adjustment of thermal cutout in the control panel and compare with data on the motor plate.
- f) Check motor rotation.
- g) Read amperage with feeder running empty, then with filled feeder starting, as well as with full feeder running.
- h) Check cross section of mains cables are suitable for the installed drive power.

4) Mechanical parts check

- a) Is breather plug of gear reducer functioning?
- b) Check outlet is free of crusts. Describe outlet (e.g. vertical or angular).
- c) Check weigh hopper vent is functioning correctly and check correct dimensioning of same.

5) Feeder check

- a) Are feeder parts correctly assembled? Do all inspection hatches point downwards?
- b) Does feeder bend? Stretch a string. If necessary additional supports must be fitted (every 3 to 5 metres to feet).
- c) Shut silo outlet valve. Empty feeder.
- d) Open inspection hatches. Check intermediate bearings are okay and correctly mounted.
- e) Turn feeder by hand using a spanner on the outlet end bearing shaft. If you don't feel any resistance and don't hear any grinding noise it is most certain that feeder is mechanically sound.
- f) Shut inspection hatches. Start feeder. Read amperage, voltage, cycles and screw r.p.m. with empty feeder running. Compare ammeter reading with motor plate data.
- h) Repeat starting procedure with feeder at full load and read amperage, voltage and cycles.

6) Material check

- a) Material description?
- b) Bulk density? (kg/dm³)
- c) Particle size? (µm/mm)
- d) Humidity? (%)
- e) Flowability? (make material slide down a metal plate by varying the angle from low to steep)
- f) Compressive material? (can you make a 'snowball'?)
- g) Abrasive material? (does it hurt when rubbing it between your fingers?)

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Maintenance Gear Box



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OPERATION AND MAINTENANCE
LUBRIFICATION

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LUBRICATION OUTLET END BEARING (with drive at inlet)

- Supplied with a long life grease filling the bearing does not require any further lubrication.

LUBRICATION INLET END BEARING (with drive at outlet)

- Grease approx. every 200 working hours (depends on handled material). Substitute lubricant approx. every 7500 working hours.

LUBRICATION HANGER BEARING

- For most materials handled is not lubrication required. For those materials that require lubrication, grease every 10 working hours approx.

The trade marks of the lubricants are in alphabetical order which does not refer to the quality of the product. The list does not cover all available lubricants. Other quality makes can equally be used.

Table of lubricants
TRADE MARK
ESSO
MOBIL OIL
SHELL
TEXACO

LUBRICATION GEAR REDUCER

- L19, L17, M19 and M17 gear reduction units are supplied with long life oil filling. They are only equipped with a filling plug and the oil does not need to be topped up or changed.
- M12, M11 and M15 gear reduction units are supplied with a first oil filling and are equipped with oil level, outlet and breather plugs.
- First oil replacement after 1000 operating hours, then every 2500 operating hours approximately.

OIL	TRADE MARK
ENERGOL GR - XP220	BP
NL GEAR COMPOUND 220	CHEVRON
SPARTAN EP 220	ESSO
MOBILGEAR 630	MOBIL OIL
OMALA 220	SHELL
MEROPA 220	TEXACO

OIL QUANTITY FOR ONE FILLING (liters)			
Type	Motor size	$\alpha = 0^\circ$	$\alpha = 45^\circ$
M12	100-112	0.75	1
M12	132	1	1.50
M12	160	1.40	/
M11	132	1	1.50
M11	160	1.50	2.75
M15	160-180	4	6.50

The trade marks of the lubricants are in alphabetical order which does not refer to the quality of the product. The list does not cover all available lubricants. Other quality makes can equally be used.

- Table data refer to operation temperature between 0°C and 35°C . For temperatures higher than 35°C higher viscosity oils must be used, for temperatures lower than 0°C less viscous oils must be used.

46 Pioneer Parkway
Sulphur Springs, TX

Ph # 903-919-0600
Fax # 903-919-0601

www.CementSilos.com



DIVERSIFIED STORAGE SYSTEMS
(888) SILO-SYS (888) 745-6797

1400c.f. Silo Manual

Inverter Controls

The control display located on the outside of the panel allows you to adjust the speed of the unit UP/DOWN.

The Black ARROWS
Are used to adjust the
Speed of the auger. 60Hz
Is full speed and we allow you to
Adjust down to 18Hz.

The unit will initially start up at the minimum hertz 18 upon energizing the panel every time.

Use the BLACK arrows to increase the Hertz. It will stay on that setting till you power the panel off for the day.

The Start button is not operable.

The STOP button is an emergency STOP.

To run the auger place the Auger switch On the panel to AUTO.

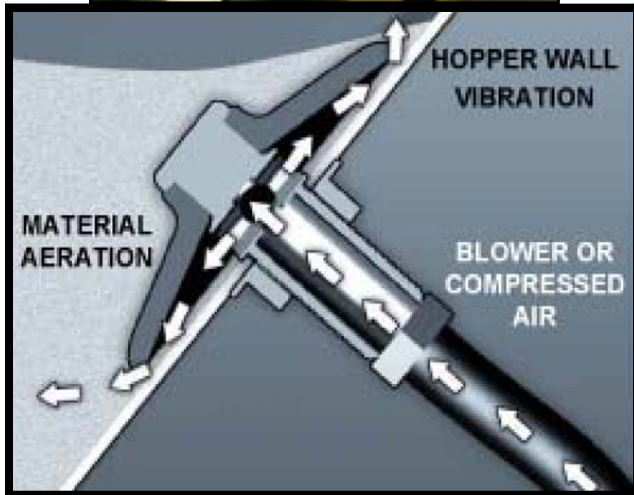
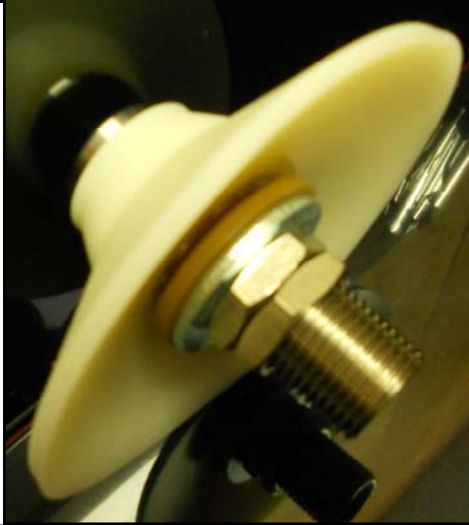




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Aeration—loosens product allowing it to flow – minimum back pressure puts energy where it is needed the most – in the silo.

Directional Air Flow – forces air to move along the bin wall, freeing product, assuring good clean-out.

Gentle Vibration – keeps product flowing, without allowing it to compact or plug.

No Airline plugging— Disk seals tightly against the silo wall and prevents airline plugging.

Robust Design — Will not tear if cut, pick up moisture and is unaffected by temperatures up to 350° F (170° C) and up to 120 psi.

Material Compatible— Silicone rubber standard in blue or white (both food grade/FDA approved), or black or white EPDM.

BinFlow Specifications

Disk	4" Silicone Rubber
Stem	Mild Steel
Air Feed Fittings	1/4" or 1/2" NPT
Installation Hole	7/8"
Length of Stem	1 5/8"
Airline Options	3/8" - 1/2"
Capacity	10—20 CFM @ 20—30 PSI

BinFlo Applications

Silos, Bins, Hoppers, Rail Cars, Bulk Trailers

BinFlow Performance

Spacing Influence @ 20 PSI	24" from Each
Spacing Influence @ 30 PSI	36" from Each
Max PSI	120 PSI

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10" Auger

PARTS LIST

Item No.	Part No.	Description
1	ES.273.1100	WAM ES auger 10" x 17'
2	EM-15-480	15HP 480v motor
3	DP-GR-WAM 5.1	WAM gear reduction 5-1 ratio
4	VA-12-AL-SG	10" Lorenz Slide Gate
5	BH-225-E	Airmax 225 Bag House w/Elec Vibrator
6	FL-6x72 Sateen	Sateen filters 6" x 72"
7	HC-5	6" clamps for filters
8	FU-VBI	Oli VBI Fluidizers
9	H-38-AH	3/8" Air Hose
10	EL-IND-K115	Monitor K115 Level Indicator

Electrical Parts

Allen Bradley #3 Panel NEMA 3r
Allen Bradley 525 Inverter with Key Pad
Transformer 350VA
Programmable Automatic timer

Your parts may vary from above list.
Please have serial # when ordering parts.

Parts can be ordered through DSS at (888) 745-6797

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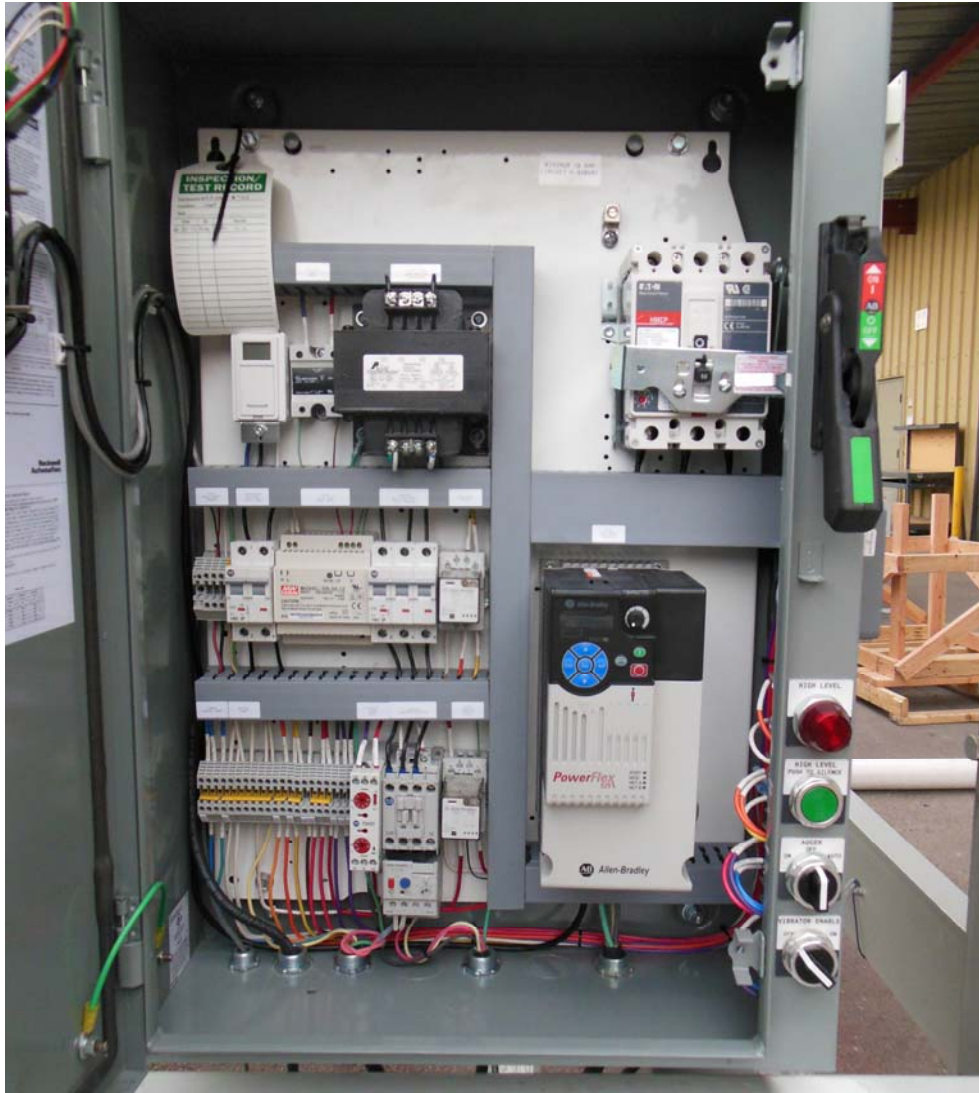
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1400c.f. Silo Manual

ELECTRICAL PANEL



- A 50amp Main Circuit Breaker
- B Starter for Auger
- C 350vdc. Control Transformer
- D Bag House Vibrator Timer
- E 120 volt Fuse Block
- F High Level Horn Reset Relay
- G Ground
- H 120 volt Terminal Strip
- I Power to Auger
- J Auger On/Off Switch
- K High Level Horn Reset
- L High Level Alarm Light
- M 120v to Bag House Collector vibrator & Indicator
- N High Level Horn
- O Main Circuit Breaker Disconnect
- P Incoming Power High Voltage 3ph.
- Q Out to Hand Held Remote
- R Inverter
- = White Wire

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