

# Moorfeed

A Division of EAS

**24 IN FLAT DISC CENTRIFUGAL  
MOORFEED P\N 9962400**



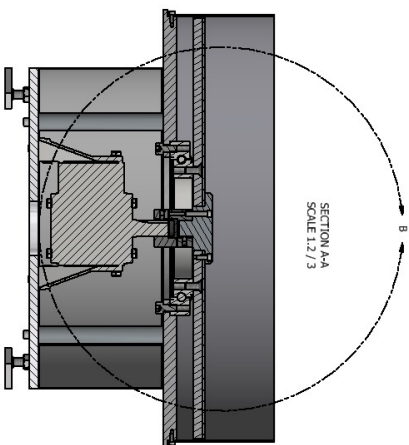
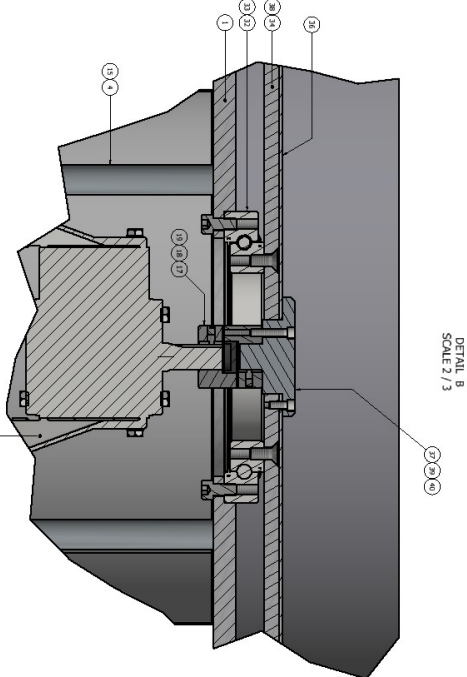
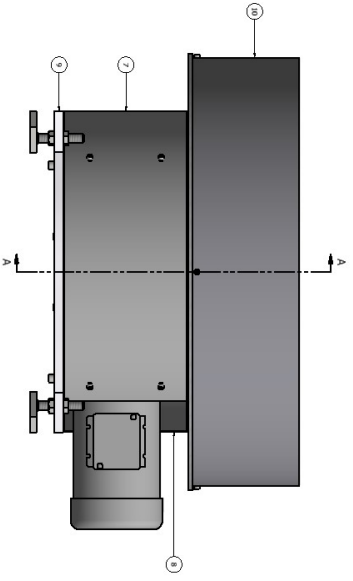
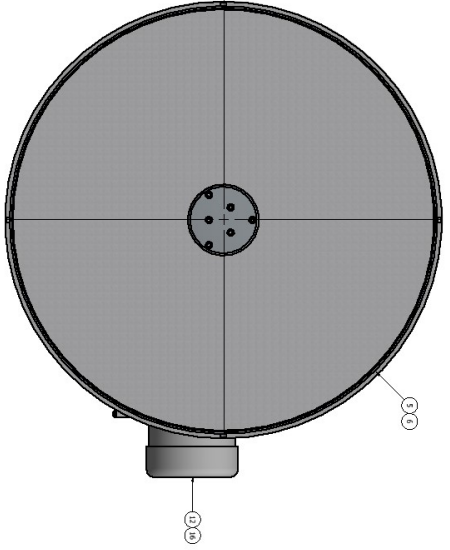
**4162 EMS BLVD.  
GREENFIELD, IN 46250  
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FX 317-542-7317**

With over 30,000 sq. ft. of manufacturing facilities in Indianapolis over 60 years of experience in the development of special parts feeding equipment, Moorfeed is a major leader in parts feeding and automated assembly systems of the North American and worldwide markets. Our clients include many Fortune 500 manufacturers providing systems for electronic computer, pharmaceutical, automotive, packaging, appliance, food and cosmetic industries to name but a few. We have a thorough understanding of the technology required to design and build even the most complex feed systems. Each Moorfeed component is carefully designed for durability, dependability, ease of fabrication and compliance to industry standards. We offer a variety of equipment, quality constructed and inspected. Moorfeed quality means the feed system we build for you today will be on less concern for you tomorrow.

**When you want to feed more  
parts through your line, think Moorfeed.....  
Our name says it all.**

Moorfeed  
A Division of EAS

| ITEM # | QTY | PART NUMBER | DESCRIPTION                        |
|--------|-----|-------------|------------------------------------|
| 1      | 1   | 9962400     | TOP PLATE                          |
| 2      | 4   | 41000       | SPACER (20X) W/SLIDERS             |
| 3      | 8   | 41001       | SPACER (20X) W/SLIDERS             |
| 4      | 8   | 41002       | SPACER (20X) W/SLIDERS             |
| 5      | 8   | 41003       | SPACER (20X) W/SLIDERS             |
| 6      | 8   | 41004       | SPACER (20X) W/SLIDERS             |
| 7      | 1   | 9962401     | BASE PLATE                         |
| 8      | 1   | 9962402     | ROTOR GEAR (1.125" X .50" X .125") |
| 9      | 1   | 9962403     | ROTOR GEAR (1.125" X .50" X .125") |
| 10     | 1   | 9962404     | ROTOR GEAR (1.125" X .50" X .125") |
| 11     | 1   | 9962405     | ROTOR GEAR (1.125" X .50" X .125") |
| 12     | 1   | 9962406     | ROTOR GEAR (1.125" X .50" X .125") |
| 13     | 1   | 9962407     | ROTOR GEAR (1.125" X .50" X .125") |
| 14     | 1   | 9962408     | ROTOR GEAR (1.125" X .50" X .125") |
| 15     | 1   | 9962409     | ROTOR GEAR (1.125" X .50" X .125") |
| 16     | 1   | 9962410     | ROTOR GEAR (1.125" X .50" X .125") |
| 17     | 1   | 9962411     | ROTOR GEAR (1.125" X .50" X .125") |
| 18     | 1   | 9962412     | ROTOR GEAR (1.125" X .50" X .125") |
| 19     | 1   | 9962413     | ROTOR GEAR (1.125" X .50" X .125") |
| 20     | 1   | 9962414     | ROTOR GEAR (1.125" X .50" X .125") |
| 21     | 1   | 9962415     | ROTOR GEAR (1.125" X .50" X .125") |
| 22     | 1   | 9962416     | ROTOR GEAR (1.125" X .50" X .125") |
| 23     | 1   | 9962417     | ROTOR GEAR (1.125" X .50" X .125") |
| 24     | 1   | 9962418     | ROTOR GEAR (1.125" X .50" X .125") |
| 25     | 1   | 9962419     | ROTOR GEAR (1.125" X .50" X .125") |
| 26     | 1   | 9962420     | ROTOR GEAR (1.125" X .50" X .125") |
| 27     | 1   | 9962421     | ROTOR GEAR (1.125" X .50" X .125") |
| 28     | 1   | 9962422     | ROTOR GEAR (1.125" X .50" X .125") |
| 29     | 1   | 9962423     | ROTOR GEAR (1.125" X .50" X .125") |
| 30     | 1   | 9962424     | ROTOR GEAR (1.125" X .50" X .125") |
| 31     | 1   | 9962425     | ROTOR GEAR (1.125" X .50" X .125") |
| 32     | 1   | 9962426     | ROTOR GEAR (1.125" X .50" X .125") |
| 33     | 1   | 9962427     | ROTOR GEAR (1.125" X .50" X .125") |
| 34     | 1   | 9962428     | ROTOR GEAR (1.125" X .50" X .125") |
| 35     | 1   | 9962429     | ROTOR GEAR (1.125" X .50" X .125") |
| 36     | 1   | 9962430     | ROTOR GEAR (1.125" X .50" X .125") |
| 37     | 1   | 9962431     | ROTOR GEAR (1.125" X .50" X .125") |
| 38     | 1   | 9962432     | ROTOR GEAR (1.125" X .50" X .125") |
| 39     | 1   | 9962433     | ROTOR GEAR (1.125" X .50" X .125") |
| 40     | 1   | 9962434     | ROTOR GEAR (1.125" X .50" X .125") |



**Moorefeed**  
 A Division of EHS  
 24 SINGLE MOTION ROTARY  
 PART NUMBER: 9962400  
 DATE: 1/1/18  
 DRAWN BY: E

| REV | DESCRIPTION | DATE | APPROVED |
|-----|-------------|------|----------|
|     |             |      |          |

## 24 IN FLAT DISC MAINTENANCE INSTRUCTION

**TOOLS REQUIRED:**

Allen Wrench set range from 1/16" to 5/8"  
 6mm Allen Wrench  
 Torque Wrench  
 Adjustable wrench

**BOLT TORQUE REQUIREMENTS:**

BOLT SIZE

|              |
|--------------|
| 10-24 SHCS   |
| 10-32 SHCS   |
| 1/4-20 SHCS  |
| 5/16-18 SHCS |
| 3/8-16 SHCS  |
| 1/2-13 SHCS  |

TORQUE REQUIREMENTS

| INCH·POUNDS | FOOT·POUNDS |
|-------------|-------------|
| 79 IN·LBS   | 6.5 FT·LBS  |
| 90 IN·LBS   | 7.5 FT·LBS  |
| 200 IN·LBS  | 16.5 FT·LBS |
| 415 IN·LBS  | 34.5 FT·LBS |
| 740 IN·LBS  | 61.5 FT·LBS |
| 1800 IN·LBS | 150 FT·LBS  |

NEWTON·METERS

|               |
|---------------|
| M8X1.25 SHCS  |
| M8X1.25 FHCS  |
| M10X1.50 SHCS |
| M10X1.50 FHCS |

|        |
|--------|
| 65 Nm  |
| 28 Nm  |
| 130 Nm |
| 56 Nm  |

I. TOOLING BAND REMOVAL (Detail 10)

1. Remove four 10-24 S.H.C.S. (Detail 23) located 90 degrees apart on outside lower portion of band.
2. It may be necessary to remove some tooling and disconnect electrical and/or air line connections before removing tooling band.

II. TOOLING BAND INSTALLATION

1. Reverse above procedure.

III. DISC REMOVAL (Detail 36 and 34)

1. Remove the three 1/4-20 S.H.C.S. (Detail 39) located nearest the edge of the Cap (Detail 37). Lift off the Cap. As Cap is removed, Coupling (Detail 19) will come off also.

NOTE: Do not lose rubber spider (Detail 18)

2. Remove disc (Detail 36)
3. Remove four M10X1.50 F.H.C.S. (Detail 38)
4. Remove Disc Support (Detail 34)

IV. DISC INSTALLATION

1. Reverse above procedure

V. MOTOR AND GEAR REDUCER REMOVAL (Detail 12 and 11)

1. Proceed by going through steps I and III preceding this section.
2. Disconnect electrical connections.

NOTE: Make sure power is disconnected

3. Remove eight 10-24 S.H.C.S. (Detail 23) to remove Skirts (Detail 7 & 8).
4. Remove four 3/8-16 S.H.C.S. (Detail 14)
5. Motor and reducer can now be removed.

NOTE: Do not lose Keystock

VI. MOTOR AND GEAR REDUCER INSTALLATION

1. Reverse above procedure.

VII. BEARING REMOVAL (Detail 32)

1. Proceed by going through steps I, III and V preceding this section.
2. Remove four M10X1.50 S.H.C.S. (Detail 33)
3. Remove Bearing (Detail 32)

VIII. BEARING INSTALLATION

1. Reverse above procedure.

| <b>PART</b>                           | <b>LUBRICANT RECOMMENDED</b>                   |
|---------------------------------------|--|
| KADON BEARING MTO-065T<br>(Detail 32) | LUBRIPLATE #630-AA OR COMPARABLE<br>SUBSTITUTE |
| GEAR REDUCER<br>(Detail 11)           | 90 WEIGHT GEAR OIL                             |

IT IS RECOMMENDED THAT ALL PARTS LISTED IN THE ABOVE LUBRICATION DATA CHART  
HAVE LUBRICATION CHANGED ONCE EVERY SIX MONTHS.

## RECOMMENDED LUBRICANTS

The table indicates the type and viscosity of suitable lubricants and applicable AGMA numbers for speed reducers operating at various temperatures. It is important to use the proper type of oil since many oils are not suitable for the lubrication of worm gears. Different types of gears require different lubricants.

The lubricant must remain free from oxidation and contamination by water or debris since only a very thin film of oil stands between efficient operation and failure. To ensure long service life, the speed reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil.

Recommended oil change intervals for Boston Gear speed reducers:

Under normal environment conditions, oil changes are suggested after the first 250 hours of operation, and thereafter at regular intervals of 2500 hours or every six months. Synthetic lubricants will allow extended lubrication intervals because of their increased resistance to thermal and oxidation degradation. If a synthetic lubricant is used, it should be changed after the first 1500 hours of operation, and thereafter at 5000CF hour intervals.

**CAUTION:** Speed reducers must be lubrication more frequently when operated at high ambient or operation temperatures, in unusually contaminated environments, or with high loads.

### LUBRICANTS FOR BOSTON GEAR 700 SERIES WORM GEAR SPEED REDUCERS

| Ambient (Room) Temperature          | Recommended Lubricant (or equivalent) | Viscosity Range SUS at 100° F. | Lubricant AGMA No. + | ISO Viscosity Grade | Boston Gear Catalog Nos. Of Standard Lubricant Container Sizes ++ |
|-------------------------------------|---------------------------------------|--------------------------------|----------------------|---------------------|---|
|                                     |                                       |                                |                      |                     | 1 qt. 1 gal.  |
| -30° to +156°F.** (-34° to +52° C.) | Mobil SHC 634* Synthetic              | 1950/2150                      | -                    | 320/460             | 51493<br>41494  |
| 40° to 90°F. (4.4° to 32.2°C.)      | Mobil 600W Cylinder Oil               | 1920/3200                      | 7 or 7C              | 460                 | 27300<br>51492  |
| 80° to 125°F. (26.7° to 51.7°C.)    | Mobil Extra Hecla Super Cylinder Oil  | 2850/3600                      | 8 or 8C              | 680                 | - -   |

\*Synthetic recommendation is exclusively for Mobil SHC 634.

\*\*Mobil SHC 634 lubricant will perform at oil temperatures exceeding 225°F. However, factory should always be consulted before operating at higher temperatures since damage may occur to oil seals and other components.

+Other lubricants corresponding to AGMA numbers are available from most major oil companies.

++Boston Gear Distributors stock Mobil SHC 634 (synthetic) and Mobil 600W (cylinder oil) in both 1 quart and 1 gallon containers.



## OIL ORDER QUANTITY FOR ENCLOSED GEAR DRIVES

Oil capacity is determined by oil level plug or dip stick measurement as indicated in installation and lubrication instructions furnished with each drive. This chart indicates suggested quantity of oil to purchase for each drive to be serviced.

| <b>Model No.</b> | <b>Order Quantity Per Unit</b> | <b>Model No.</b> | <b>Order Quantity Per Unit</b> | <b>Model No.</b> | <b>Order Quantity Per Unit</b> |
|------------------|--------------------------------|------------------|--------------------------------|------------------|--------------------------------|
| 221              | 1 Pint                         | 710              | 1/2 Pint                       | H1270            | 1 Pint                         |
| 226              | 2 Pints                        | 713              | 1/2 Pint                       | H1350            | 1 Quart                        |
| 231              | 3 Pints                        | 715              | 1 Pint                         | H1530            | 2 Quarts                       |
| 239              | 3 Quarts                       | 718              | 1 1/2 Pints                    | R131/R231        | 1/2 Pint                       |
| 247              | 4 Quarts                       | 721              | 1 1/2 Pints                    | R137/R237        | 1/2 Pint                       |
| 252              | 6 Quarts                       | 724              | 1 1/2 Pints                    | R146/R246        | 1 1/2 Pints                    |
| 259              | 11 Quarts                      | 726              | 2 1/2 Pints                    | R158/R258        | 2 1/2 Pints                    |
| 621              | 1 Quart                        | 732              | 2 1/2 Quarts                   | VR131VR231       | 1/2 Pint                       |
| 631              | 1 Quart                        | 738              | 3 1/2 Quarts                   | VR137VR237       | 1/2 Pint                       |
| 641              | 1 Quart                        | 752              | 8 Quarts                       | VR146VR246       | 1 1/2 Pints                    |
| 651              | 1 1/2 Quarts                   | 760              | 12 Quarts                      | VR158VR258       | 2 1/2 Pints                    |
| 661              | 3 Quarts                       | FW & W713        | 1 Pint                         | R1211            | 1 Pint                         |
| 622/623          | 1 Pint                         | FW & W718        | 2 Pints                        | R1214            | 1 Pint                         |
| 632/633          | 1 1/2 Quarts                   | FW & W721        | 2 Pints                        | R1215            | 1 Pint                         |
| 642,643 (R)      | 2 Quarts                       | FW & W726        | 3 Pints                        | R1216            | 1 Pint                         |
| 652,653 (R)      | 2 1/2 Quarts                   | FW & W732        | 3 Quarts                       | R1412            | 1 1/2 Pints                    |
| 662,663 (R)      | 4 1/2 Quarts                   | FW & W738        | 4 Quarts                       | R1413            | 2 Pints                        |
|                  |                                | FW & W762        | 9 Quarts                       | R1414            | 2 Pints                        |
|                  |                                | FW & W760        | 14 1/2 Quarts                  | R1416            | 1 1/2 Pints                    |
|                  |                                | TW 113           | 1/2 Pint                       | R1511            | 4 Pints                        |
|                  |                                |                  |                                | R1514            | 5 1/2 Pints                    |
|                  |                                |                  |                                | R1515            | 4 1/2 Pints                    |
|                  |                                |                  |                                | R1516            | 4 1/2 Pints                    |

### **TROUBLE SHOOTING**

| <b>SYMPTOM</b>        | <b>POSSIBLE CAUSES</b>  | <b>REMEDY</b>   |
|-----------------------|---|---|
| I. DISC WILL NOT SPIN | 1. FOREIGN OBJECT LODGED BETWEEN DISC AND TUB<br><br>2. WORN SPIDER COUPLING<br><br>3. WORN KADON BEARING<br><br>4. BAD MOTOR OR GEAR REDUCER | REMOVE DISC AND REMOVE ANY FOREIGN OBJECTS<br><br>REMOVE DISC AND CHECK COUPLING FOR WEAR. IF WORN, REPLACE.<br><br>REMOVE DISC AND CHECK BEARING FOR WEAR. IF WORN, REPLACE<br><br>CHECK GEAR REDUCER FOR PROPER OIL LEVEL. IF MOTOR OR REDUCER IS BAD, REPLACE. |

### **RECOMMENDED SPARE PARTS LIST**

1. MOTOR – MOORFEED #83751
2. GEAR REDUCER – MOORFEED #981687
3. KADON BEARING MTO-068T – MOORFEED #9989180
4. RUBBER SPIDER COUPLING – MOORFEED #989183

## **WARRANTY INFORMATION**

**WARRANTY:** Moorfeed warrants the equipment to be free from defects in material and workmanship under normal use and service for a period of two (2) years after delivery. The warranties shall not apply to and Moorfeed will not be responsible for any equipment or part which has been repaired or altered in any way that, in our judgement, affects its stability or its reliability or which has been subjected to misuse, negligence or accident.

**SERVICE WARRANTY:** Moorfeed warrants that it will cover all labor, travel expense and materials for a service call as a result of faulty workmanship and materials or as a result of not meeting performance specifications that were mutually agreed to in writing. The service warranty period begins 30 days after shipment of equipment from Moorfeed. Service warranty does not cover installation or interface with equipment supplied by another manufacturer. Service warranty work covers only products shipped and installed in the continental United States. Moorfeed will not be responsible for any equipment or part which has been repaired or altered by customer or outside service or which has been subjected to misuse, negligence or accident.