

Instructions for Operation & Maintenance

Model DB2 Volumetric Screw Feeder

General Description

The DB2 Feeder is a simple, rugged and accurate, volumetric Feeder used for the dependable metering of dry solids into process. It consists of a trough with a metering screw and a variable speed drive, all mounted on a common base plate.

The large diameter inlet allows for the material flow to the "V" shaped trough. This helps insure constant pick-up of material and filling of the metering screw. Hence, accuracy is maintained while rates are varied by screw speed changes. It is recommended that a bin activator precedes the feeder when handling new free-flowing materials.

Installation

The DB2 Feeder is shipped complete and ready for operation. There is no need for bolting the unit into place, however, there are four (4) tabs positioned at each corner of the base plate to allow the unit to be bolted for reasons of safety or location. The base should be supported its entire length to a firm structure. Room should be provided at the discharge end to allow for screw removal.

Electrical Requirements

Standard units are provided with A.C. variable speed drives with manually operated controls with indicator located directly on the drive. They are three phase units requiring 203/460 volt, 60 hertz power. See separate instructions for A.C. drives. Optional drive is a D.C. drive with S.C.R. controllers capable of converting alternating current to direct current. These drives are provided for single phase operation. See separate instructions for D.C. drives.

Caution

1. Do not change speed of an A.C. drive unless the motor is running.

2. Screw rotation must be clockwise when facing the discharge end of the Feeder.

Operation

After the unit is in place under the hopper and wired, it is ready for operation. As noted above, A.C. drives must be in motion to change speed. Units equipped with D.C. drives can have their speed adjusted at anytime, i.e., with the unit stopped or in operation. The speed dial provides for setting screw speeds to 1 part in 1000. Speed is increased by increasing the potentiometer setting.

Sufficient material should be placed in the hopper and the hand operated controller dial should be set to #2.5 (#250 for D.C. drives). The unit should be allowed to run for 5 minutes before a 30 second sample is collected and weighed. It is suggested that 5 or more samples be taken to assure the Feeder is operating properly. Once the feed rate is known at setting #2.5, the required rate may then be obtained by proper speed change. The drive and therefore the feed rates, are linear, hence, at a setting of #2.5, the Feeder will be operating at approximately one fourth capacity. Take samples at three or four settings and a plot graph, setting verses rate. From this graph, any feed rate may be selected.

WARNING: Keep hands clear of all moving parts. Serious injury can occur.

Disassembly

Warning: Motor must be electrically locked-out before any work is performed.

The DB2 Feeder is easily disassembled for cleaning, changing of screws or maintenance purposes. To remove the screw (Part #1 drawing S-1020):

1. Loosen the set collar on the front bearing (Part #3).
2. Remove bolts on front discharge cover (Part #2) and remove the cover by pulling it forward until it disengages the screw shaft.
3. Loosen the set screw on the rear bearing (Part #5).
4. Loosen the set screw on the jaw coupling (Part #6) so it will fall from the screw shaft when the screw is pulled forward.

The trough cover (Part #10) may be removed by undoing the bolts and lifting vertically off the trough assembly.

Reassemble by reversing the above procedures.

WHEN INQUIRING ABOUT ANY FEEDER, ALWAYS REFER TO THE SERIAL NUMBER STAMPED ON THE METALFAB NAMEPLATE.

Metalfab Service

**Metalfab, Inc.
Prices Switch Road
P.O. Box 9
Vernon, NJ 07462
Phone (973) 764-2000
Fax (973) 764-0272
Email: metalfab@metalfabinc.com**

DB2 Feeder Parts List
(See Schematic S-1020)

Item #

1. Feed Screw*
2. Discharge Cover
3. Front End Bearing*
4. Rear Packing Box*
5. Rear End Bearing*
6. Drive Coupling
7. Flexible Coupling Insert*
8. A.C. Drive
9. Bolting Tabs
10. Trough Cover
11. Trough Assembly
12. Base Plate

*IT IS SUGGESTED THAT THESE PARTS BE
PURCHASED AS SPARES AND KEPT ON HAND.

SEE RECOMMENDED SPARE PARTS LIST