

# **INSTRUCTIONS FOR OPERATION & MAINTENANCE**

## **MODEL APB BELT FEEDER**

### **General Description**

The **Metalfab APB Belt Feeder** is a precision volumetric Feeder for dry materials. It consists of a slider belt assembly driven by a 20:1 ratiom D.C. drive as standard. It may also be driven by a 10:1 variable speed A.C. transmission or a constant speed A.C. gear motor. A doctor blade is provided for wiping the discharge end of the belt clean. The unit may also be supplied with a flanged discharge nozzle which is bolted to the outlet of a bin or vibrated bin discharger. The nozzle may have a manually adjustable gate or may be supplied with a fixed outlet, depending on the application.

### **Installation**

The Feeder is supplied with levelers for ease of installation. They should be adjusted to maintain the belt level (both length and width) and also provide a 1/32" to 1/16" clearance from the bottom of the nozzle to the top of the belt.

Nozzle location lengthwise is not critical, but the nozzle centerline should be forward of the end pulley by a minimum of 2". Also, the front face of the nozzle should be back from the centerline of the forward pulley by at least twice the maximum height of material discharge.

### **Motor Connections**

For motors provided with a D.C. drive, an S.C.R. controller is supplied. The controller converts 115/1/60 or 230/1/60 line voltage to D.C. voltage. The controller has stop/start switch, fuses, pilot light and digital setpoint to control motor speed. The controller should be wired to a supply line and also wired to the drive motor. Wiring diagrams and instruction sheets are shipped with the unit. The controller may be mounted locally or remotely.

For units with mechanical variable speed drives, wiring diagrams are provided on the inside of the conduit box. Also, instruction manuals are shipped with the unit. This drive has a 10:1 speed range.

### **Caution**

ADJUST SPEED ONLY WHEN THE MOTOR IS RUNNING. SINGLE SPEED MOTOR DRIVES HAVE WIRING DIAGRAMS ON THEIR NAMEPLATES.

## **Operation**

After the bin has been charged with material, start the bin discharger and the Belt Feeder simultaneously. These units should be electrically interlocked so that the bin discharger cannot run unless the belt is running.

For variable speed drives with adjustable gates, set the belt speed at mid-range and adjust the gate height to achieve the mid-range or normal running range of the Feeder.

For fixed gates, vary the belt speed until the rate required is achieved.

Constant speed drives require adjustment of the gate to achieve desired feed rates.

## **Adjustments**

If the nozzle does not discharge a full flow of material, and a bin discharger proceeds it, the eccentric weights of the bin discharger should be adjusted. These are the only adjustments required. If there is no bin discharger, flow aids must be used on the static bin.

## **Maintenance**

All of the bearings on the Feeder are sealed and lubricated for life. After running, belt take-up adjustment may be required. The Feeder is provided with standard take-up bearings on the rear pulley. They should be adjusted uniformly to maintain belt tracking.

To replace belt, loosen the set collars of the shaft bearings on the side of the Belt Feeder opposite the drive. Remove the bolts holding the slider bed and guide rails. Also, remove the bolts in the connector brackets. If the Feeder has idler pulleys, remove the nuts holding them in place. The side panel can now be removed.

Once the panel is loose, the belt may be removed and replaced. Reassemble the unit and adjust the take-up pulleys to achieve proper tracking.

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

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