



Closed Loop Loader Instruction Manual

User Manual

DRI-AIR INDUSTRIES, INC.

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Closed Loop Loader

TO eliminate moisture pickup during the transfer of dried material, our closed loop conveying system is used to convey the resin from the material hopper to the receiver located on the feed throat. A vortex blower is used to provide the vacuum. An easily cleaned filter to remove the fines leaving the receiver is located prior to the blower for protection. Included is a special designed take-off box, which allows introduction of the return conveying air as well as a portion of dry supply

The receiver is adapted to fit on the feed throat and includes a polycarbonate see-through storage section, a high efficiency cyclone to separate the material from the conveying air and proximity sensors to detect high and low material levels.

All the controls are located in one panel mounted on the power pack. While the major advantage of this approach is to reduce downtime, others include safety (*climbing on the press is not necessary*), low headroom requirements, a more complete cleaning, and elimination of large drying hoppers on the molding machine hoppers.

Closed Loop Loader/ Receiver Set-Up

1. Mount Material receiver slip-fit base onto the feed throat of the molding machine. Proper mounting adapter should be provided with your system. Place the receiver on top of the slip-fit adapter. Push down to attach the receiver.
2. Connect the 12', 1 1/2" diameter hose from the receiver top to the filter canister located on the back of the power pack. Make sure to tighten all hose clamps.
3. Mount material take-off box to bottom of your drying hopper. If you have a Dri-Air drying hopper, the take-off box is already mounted.
4. Connect the 6' long, 1 1/2" DIA hose between 1 1/2" air port on the take-off box to the outlet of the closed loop blower.
5. Connect the 1 1/4" DIA (1" DIA in most cases) clear hose from the side of the cyclone, on top of the material receiver, to the material tube sticking out of the take-off box at the bottom of the hopper.
6. Connect the provider proximity level switch plug to the chord located on the side of the control box.
7. Wire in the power cord into the main disconnect switch. ***Please confirm supplied power matches the voltage of the loader.***
8. Turn the loader toggle switch, located in the electrical control box, to the on position.
9. While the two level switches are preset at the factory they may require a fine tuning in the field.
10. The material-air ratio may require adjustment to efficiently feed different materials due to density, type of pellet or regrind. By moving the pickup tube into the take-off box the amount of material is increased. For a mixture of more air and less material, slide the pickup tube out at 1/4" increments until the proper mixture is achieved.

Level Sensor Tuning

1. Turn power on
2. Make sure level sensor leads are plugged into the proper receptacles.
3. If the sensor light is on: Place a paper in front of the sensor.
 - a. If the light goes off the sensor is calibrated.
 - b. If light stays on: Adjust screw* on back of sensor clockwise until the light goes off. Sensor is calibrated.
4. If sensor light is OFF: Adjust screw* counter clockwise until the light comes on. Proceed as above.
5. NOTE: Test sensor with and without the paper 2-3 times to assure calibration is proper.
6. Adjust the lower sensor as described in steps 4 & 5 above.
7. Put toggle switch in "OFF" position.
8. Test loading system for proper operation.

*The adjustment screw turns a twenty turn potentiometer which includes a clutch to prevent over adjustment. If you are not sure where you are in the adjustment, turn the screw counter clockwise (20) turns and the light should come on without an object in front of the sensor. The operational area should be 4-6 turns clockwise from this position.

WARNING: DO NOT USE SOLVENT BASED CLEANERS ON CLEAR RECEIVER TUBE. THIS MAY CAUSE CLOUDING OR CRACKS.

Trouble Shooting

1. If material fails to convey to receiver:
 - a. Material left in drying hopper, making sure material isn't binding
 - b. Slidegate located at hopper bottom is closed
 - c. Conveying line is free of plugged material
 - d. Position of tube in material take-off box is in the correct position
 - e. Material air line is clear
 - f. Return air filter is clean
 - g. Closed loop blower is working
 - h. Vacuum valve, located above closed loop blower is opening
 - i. Feed throat of molding machine is sealed enough to draw a vacuum
 - j. Lower level switch is functioning properly. *See page 3.*

2. If material overfeeds, check:
 - a. Either high or low level switch is not sensing material. This can be determined by seeing if the indicator light on receiver is off when material is in front of it
 - i. **TURN LOADER OFF BEFORE REMOVING RECEIVER FROM FEED THROAT OR MATERIAL WILL BE PULLED IN FILTER**
 - ii. **SHUT OFF DRYER WHEN CLEANING FILTER OR MATERIAL CAN BE DRAWN INTO THE BLOWER CAUSING DAMAGE**

Trouble Shooting



WARNING

USE CAUTION- READ THE FOLLOWING INSTRUCTIONS
BEFORE OPERATING EQUIPMENT

1. Do not operate equipment in hazardous environments where flammable gas or liquid is present
2. ALWAYS DISCONNECT POWER SUPPLY WHEN WORKING ON EQUIPMENT

ELECTRICALS:

CHECK SERIAL TAG FOR PROPER VOLTAGE AND
AMPERAGE.

Replacement Parts List

<u>PART NO.</u>	<u>DESCRIPTION</u>
84868	VORTEX BLOWER 98 CFM
86900	VORTEX BLOWER 200 CFM
85365	DISCONNECT SWITCH ASSEMBLY
85355	CONTACTOR
82298	LEVEL SENSOR (DC)
81444	1-1/4" CLEAR HOSE
80317	1-1/2" CLEAR HOSE
82389	FILTER ELEMENT
81839	3.5" BUTYRATE TUBE
82995	COMPRESSED AIR FILTER/REGULATOR
85623	SOLENOID VALVE SMC
85688	SOLENOID VALVE DIAPHRAGM BB SMC
84842	PLC MITSUBISHI
80466	TOGGLE SWITCH
82802	FILTER: CANISTER GASKET
84959	TRANSFORMER
84229	VACUUM VALVE ASSEMBLY