



DP Series Loader Instruction Manual

User Manual

DRI-AIR INDUSTRIES, INC.

DP Series Central Loader Instruction Manual

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DP Series Central Loading Systems

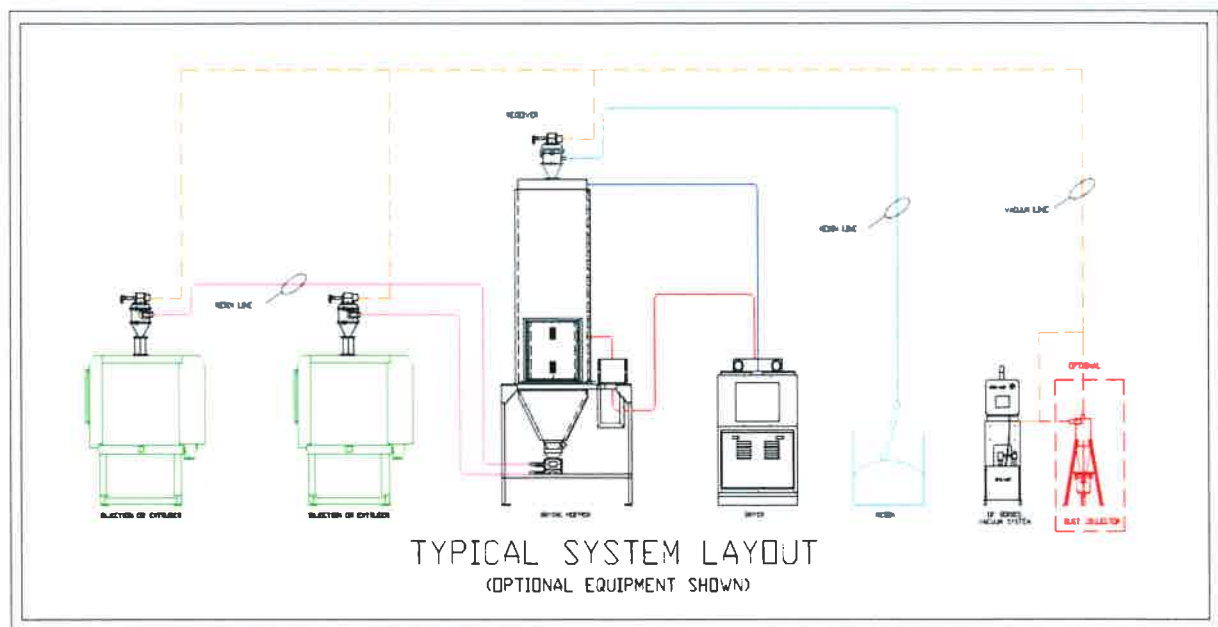
DP series loaders are a versatile, all-in-one loading package that includes a vortex blower, filter, and controls package installed on a compact floor stand. The DP system is an excellent choice for loading drying hoppers, blenders, molding machines, and extruders.

This versatile loader package can be equipped with controls for up to 10 machines. The standard controller for the DP 501, 502, and 504 systems is a simple, easy-to-use toggle switch. On systems built with the upgraded controller, the toggle switches are replaced with an intuitive touch-screen. All systems are able to be controlled remotely, as an option, to allow for the vacuum pumps to be located outside of the production area. This eliminates the introduction of any noise and heat associated with the vacuum system into the production area.

System input and output information, including blow-back functions, material level indicators, load requests, and station vacuum control are handled at the vacuum pump through the control system. Load, discharge, and blow-back timers can be set using the screen sets on the touch-screen for all stations. On the single station systems, timers are adjusted using potentiometers incorporated in the PLC. Either way, setting up the loader system is fast, accurate, and consistent in repeatability.

Typical System Layout

A typical system that would employ a DP Series vacuum pump is shown below. The vacuum pump is being used to convey plastic resin from the gaylorid (or storage bin/silo) to the receiver on the drying hopper and then from the drying hopper to the IMM or extruder. The pump can be used as a standalone unit with the onboard filtration or can be combined with an optional dust cyclone for resins that are dusty or have regrind added. All real-world control signals are returned to pump unit for the control of up to 10 loaders.



Installation

The installation of the DP Vacuum Pump and associated equipment is a straightforward procedure. As always, care should be taken during the installation process to avoid damage to the equipment.

WARNING: Follow all local and federal requirements for electrical and physical installation. Failure to follow all requirements may result in equipment damage, injury, or death.

CAUTION: Electrical installations must be performed by qualified electricians only.

NOTE: All required electrical, compressed air, and water (if needed) should be installed prior to starting the equipment installation.

Installation Procedures

1. Determine the area for the installation of the vacuum pump.
2. Uncrate the vacuum pump and discard all packing materials.
3. Locate and identify all parts and equipment associated with the installation.
4. Move the vacuum pump into position.
5. If installed, carefully raise the pump to gain access to the roller wheels located under the frame.
6. Remove the wheels and place the vacuum pump back on the floor (removing the wheels stabilizes the unit and keeps it from rotating during motor start-up).
7. If an optional dust collector has been included with the pump package, place the dust collector into a position that allows for the shortest hosing connection while still allowing for filter maintenance. It is recommended that the legs of the dust collector be anchored to the floor using suitable means.
8. Connect all flexible vacuum tubing to the pump, dust collector (if supplied), and vacuum system used from the production equipment to the pump. Use suitable clamps to ensure a tight seal at all hose connection points.

Electrical Installation Procedures

1. All electrical procedures and installations must be performed by a qualified electrician.
2. Determined the required electrical requirements based on the equipment nameplate or drawings.
3. Following all local and federal requirements, connect the main power to the equipment at the designated location on the pump. This must include an appropriate ground circuit per NEC code be attached to the equipment at the proper location using approved methods.
4. Install all of the control wiring needed to control the system. This includes, but is not limited to, receivers, blow-back circuits, alarm lights, and remote controller stations.
5. Once all circuits have been connected as required, start-up of the system can begin.

System Start-up

1. Using a suitable voltage meter, test and verify the main power for proper voltage.
2. Turn on the system disconnect on the pump. Verify that the main power circuit is properly energized.
3. Verify proper rotation of the vacuum blower using established methods.
4. Correct improper rotation by swapping the P1 and P3 leads on the motor wiring terminal blocks.
5. Verify proper rotation if wiring was corrected.
6. If the vacuum system is equipped with a touch screen, verify that the screen has finished its start-up procedures and is at the “home” page. All settings can be set and/or adjusted using the touch screen and the correct level of security.
7. At this time, the system should be ready for functionality testing and commissioning to production.

Maintenance

Normal Maintenance Procedures

Routine Filter Maintenance (vacuum pump system)

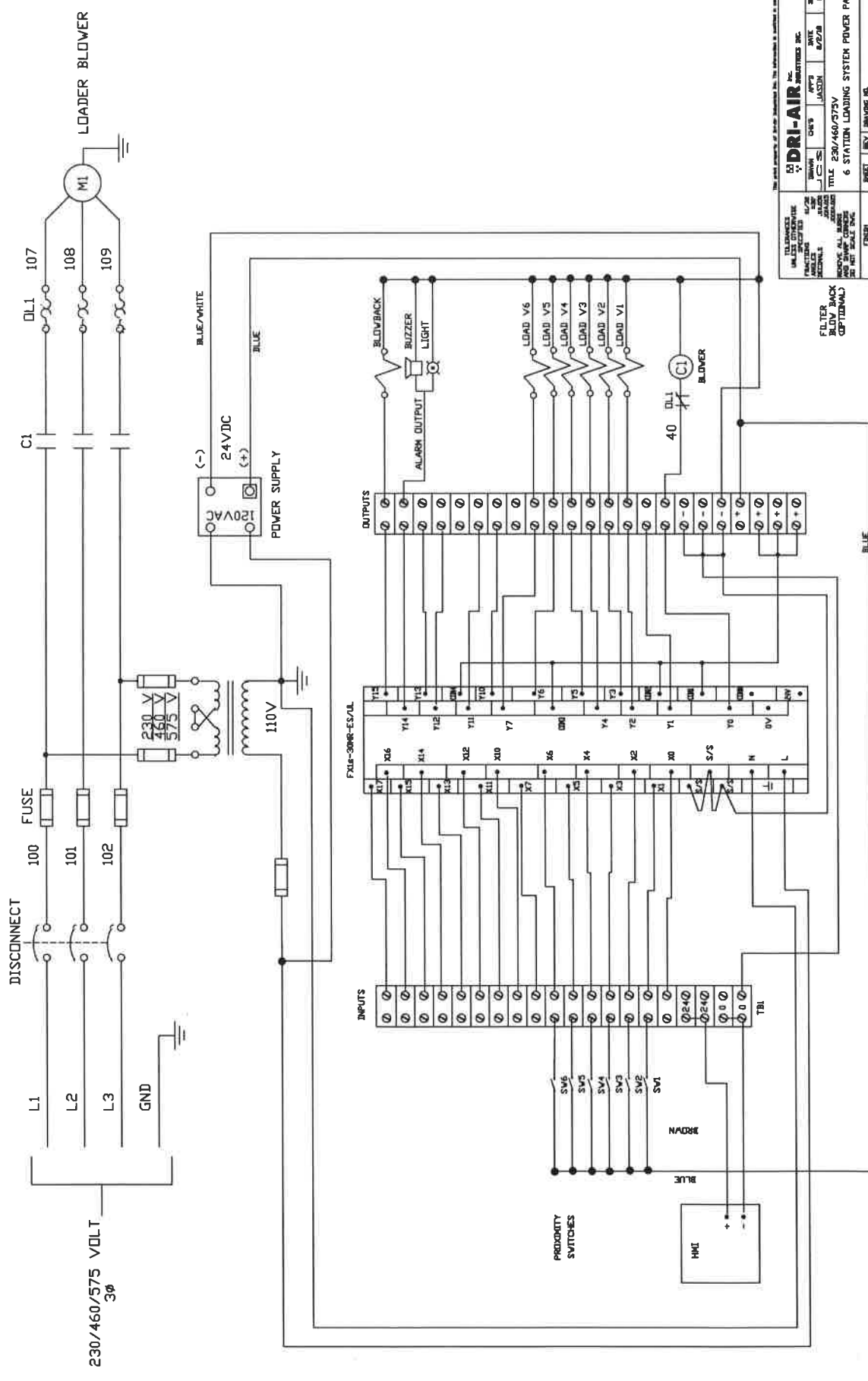
1. Remove spin-on filter element and clean, using compressed air from the inside-out, on a daily basis. Reinstall filter.
2. Remove filter canister, remove filter element and clean using compressed air. Reinstall filter into canister and reinstall canister.
3. Change filter elements every 6-months or as needed.

Routine Filter Maintenance (optional dust collector)

1. Open filter canister underneath the cyclone using quick latches.
2. Remove filter element from canister and clean using compressed air.
3. Empty canister into an appropriate disposal container.
4. Re-insert filter into canister.
5. Install canister on the cyclone verifying the proper orientation and seal once installed.
6. Change filter every 6-months or as needed.

Spare Parts List

SPARE PARTS LIST	
DESCRIPTION	PART NUMBER
Blower, 200 CFM	86900
Filter, Spin-On	88277
Filter, Element	88650
Touch Screen	86276
PLC, Mitsubishi	84571
Power Supply, 24VDC	85351
Contactora, 25A 600V	85987
Overload, 3.2 - 16A	86217
Overload, 12 - 16A	88344
Switch, Disconnect	85365
Hose, 2" Clear	81859



The product name and part number are subject to change without notice. See the information in the literature for the latest information.

DESIGNATION	DRY-AIR
MANUFACTURER	DRY-AIR
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6 STATION LOADING SYSTEM POWER PACK
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