



# INSTRUCTIONS

## FOR HL-5

# Proportional Hopper Loader



PPE Hopper Loaders are manufactured and sold direct by Plastic Process Equipment, Inc. We are not associated with any other manufacturer. Always specify genuine PPE Hopper Loaders! Do not accept substitutes.

MODEL NO.
<b>HL-5</b>
SERIAL NO.

Made in the U.S.A. by Plastic Process Equipment, Inc. © copyright 2019



**PLASTIC PROCESS EQUIPMENT, INC.**

www.ppe.com • e-mail: sales@ppe.com

**PPE WEST**

6385 Montessouri Street, Las Vegas, Nevada 89113  
702-433-6385 • 800-258-8877 • Fax: 702-433-6388

**PPE SOUTH**

11218 Challenger Avenue, Odessa, Florida 33556  
727-834-8888 • 800-282-6783 • Fax: 727-834-8873

8303 CORPORATE PARK DRIVE, MACEDONIA (Cleveland), OHIO 44056, USA

216-367-7000 • Toll Free: 800-321-0562 • Fax: 216-367-7022 • Order Fax: 800-223-8305

Toll Free: USA, Canada & Mexico  
**800-362-0706**

## RECEIVING

Please thoroughly inspect your HL-5 Proportional Hopper Loader and report any damage to the motor freight carrier before uncrating for setup. They are responsible for any damage incurred during transit. Make note of model and serial numbers. These numbers must be used when ordering parts or accessories from PPE.

## INTRODUCTION

The PPE model HL-5 Proportional Hopper Loader is a self-contained vacuum conveying system. It is designed to keep your material feed hopper full during operation. The unit will cycle loading and dumping material into the hopper until the hopper is full. It will then wait until the material level drops below the dump valve, at which point it will cycle again until the hopper is full. The load time can be varied to provide optimum performance in virtually all conditions, load time can be divided between the two (2) inlets from 0 to 100%. The HL-5 contains a diaphragm filter and blow-off system. This filter remains clean from the blow-off system, but should be checked every 8 hours of use. Do not use with powders.

## ELECTRICAL

The HL-5 Hopper Loader comes wired for 120/60/1 power. Always use a **grounded** 120 volt outlet. If you must use an extension cord, ensure that the extension cord's rating is of the proper size. Failure to do so could cause a low voltage condition and premature failure of the motor. The HL-5 Hopper Loader is equipped with a circuit breaker instead of a replaceable fuse. The reset button is located on the side of the electrical enclosure. **NO FUSE TO LOSE!**

## INSTALLATION

The HL-5 Hopper Loader must be mounted on a flat horizontal surface. It is usually fastened to the cover of the material feed hopper. **Precautions must be taken to prohibit the fasteners from loosening and falling into the feed throat (i.e.: nylok nuts, lok-tite, etc.).** It requires a 9" dia. hole in your hopper lid. The unit must be mounted so that the discharge counterweight valve swings without hitting anything. The counterweight has been adjusted at the factory and should not require any readjustments. The feed probes are secured to the feed hoses with the supplied hose clamps. The other end of the hoses are connected to the inlet tubes located on the loader unit. A ground wire must be installed inside the feed hoses to make a good connection between the feed probes and the loader unit. We suggest you strip 1-1/2" at each end and pinch the stripped ends between the feed hoses and the mounting tubes it slides over. **Failure to connect the ground wires can cause excessive static buildup and can result in possible static shock and damage the unit.** When the HL-5 Hopper Loader is in operation the feed hoses should not have any sags or goosenecks, like the trap under a sink. If the hoses sag, when the unit shuts off the material in the hoses will fall to the bottom of the sag and can plug the feed hoses and restrict suction. When inserting the feed probes into your material gayloads, do not jam the probes in! Insert the probes gently until they are about 1/4 to 1/3 submersed. When the unit is turned on, the probes will pull themselves toward the bottom of the gayloads.

## SETTING THE UNIT

After the unit has been installed and grounded, plug in the power cord and move the "CONVEY" potentiometer clockwise to the max time position. Move the Regrind knob counterclockwise to the max position. Next move the power switch to the "ON" position. The lights should flash and the unit should begin to cycle.

For optimum performance the unit should run just long enough to fill itself. A full unit is indicated by a higher pitched motor sound. Run several cycles and decrease the "CONVEY" time slightly each cycle until the motor shuts off at approximately the same time it is full. If the unit is allowed to run after it is full, performance will decrease. The "CONVEY" time can be adjusted from 10 to 70 seconds (Note: these are approximate times and may vary by a few seconds). In general, longer load times will be needed for: longer distances, heavier materials, and increased amounts of regrind.

Once the "CONVEY" time has been set you can adjust the Regrind percentage knob to split the amount of run time between the two inlets in order to get the percentage of regrind you want in each cycle.

Your PPE HL-5 Hopper Loader was designed to operate on the **ON DEMAND** principal. The "MOTOR" light indicates that the unit is in its loading cycle and should be conveying material up to the loader. When your machine material hopper is full the unit will sense this because the loader dump valve will remain held open by the presence of your material. As long as the dump valve remains open the unit will not cycle. As the machine hopper material level lowers, the dump valve will freely swing closed and the loader will begin to cycle again.

## MAINTENANCE

The HL-5 Hopper Loader is a filtered unit. There is a diaphragm type filter located between the top and bottom halves of the loader housing. This filter should be checked often. The automatic air blow-off system should keep the filter clean, but checking is required to make sure there are no tears or holes. Extra filters are available from PPE. A dirty filter greatly reduces material flow and may cause the vacuum motor to strain and/or fail.

When the "CHANGE BRUSHES" light comes on the motor brushes should be inspected and/or replaced. This light comes on every 300 hours of use and can be reset by pushing the brushes reset button. **WARNING:** The brushes should be changed BEFORE the brush stunt touches the commutator. On reassembly and handling, the lead wires must be kept away from rotating parts and motor frame.

To achieve best performance, the new brushes should be seated on the commutator before full rated voltage is applied. After brush change, apply 50% to 75% of rated voltage for thirty minutes to accomplish this seating. The motor will return to full performance after thirty to forty-five minutes of running at full rated voltage. The motor must not be run with the vacuum air inlet sealed off. **DIRECT APPLICATION OF FULL RATED VOLTAGE AFTER CHANGING BRUSHES WILL CAUSE ARCING, COMMUTATOR PITTING, AND REDUCED OVERALL LIFE.** If reduced voltage is unavailable, connecting two motors of similar rating in series for thirty minutes will accomplish the brush seating.

## WARRANTY

All PPE machinery is warranted to be free of defective material and workmanship for a minimum period of 1 YEAR from date of sale. Some machinery components may carry longer warranties per our suppliers policies which are passed on to our customers (i.e. our drier compressors, conveyor motors, etc.).



**WARNING**  
**STATIC SHOCK HAZARD**



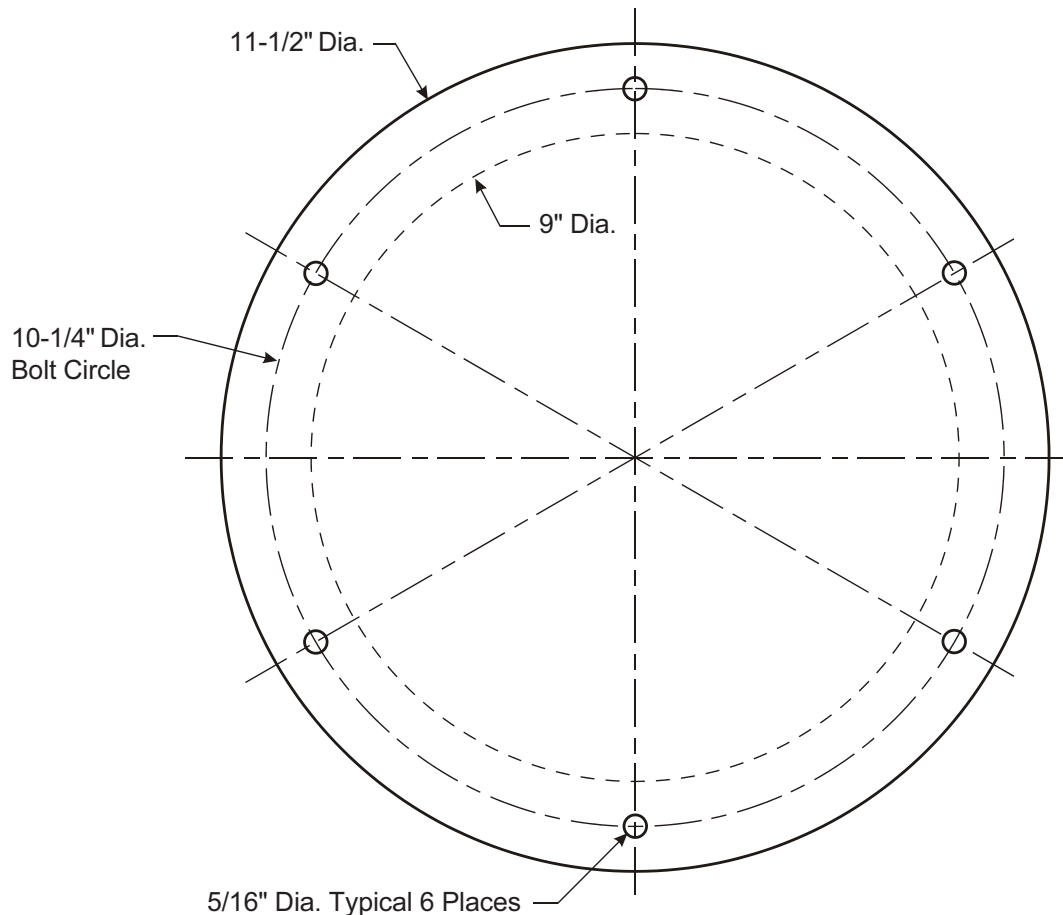
All PPE Vacuum Hopper Loaders are supplied with a vacuum hose that contains a ground wire to help control static electricity for user safety. We also recommend you install an extra static ground wire on your HL Series Vacuum Hopper Loader unit. The ground wire should be run **INSIDE** your feed tube and connect the metal probe to the hopper loader frame. This will help to dissipate the static charge generated by some plastics as they are conveyed up the tube. You can use a standard 18 gauge electrical wire, strip the ends about 1-1/2" and pinch them between the plastic feed hose and the metal tubes that it mounts over, then clamp it securely with the supplied hose clamps. Do not use plastic suction probes!



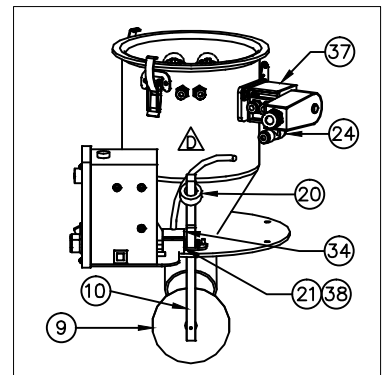
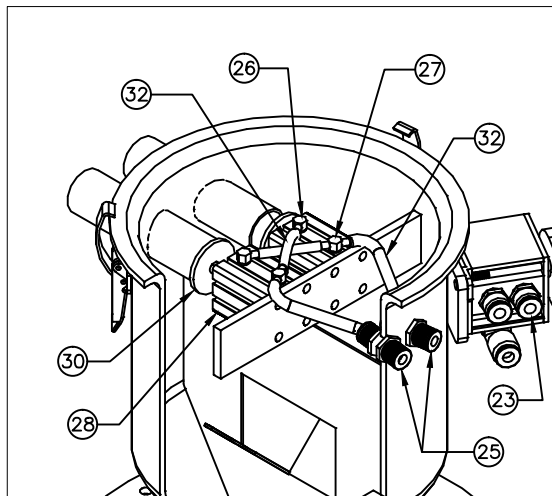
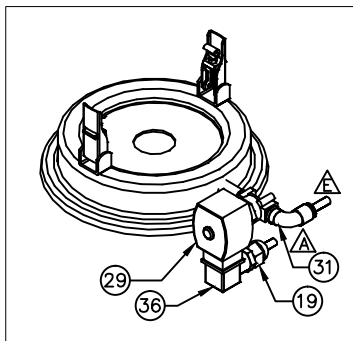
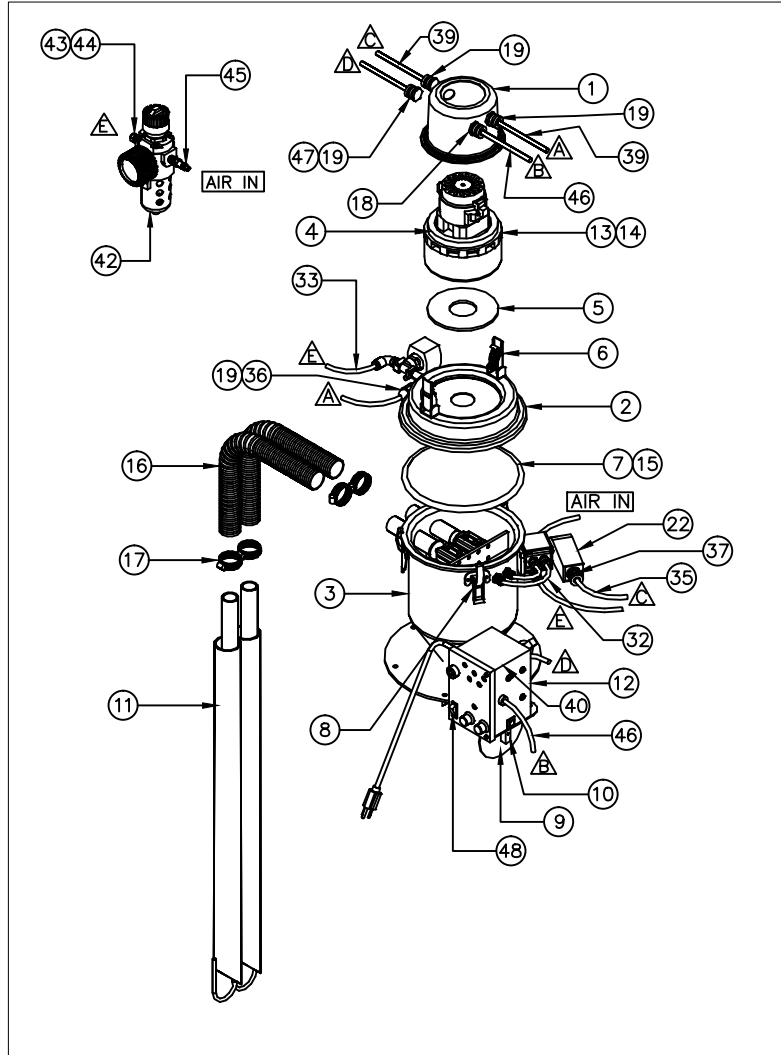
**STATIC SHOCK HAZARD**  
**WARNING**



## BASE MOUNTING DIMENSIONS



# HL-5 HOPPER LOADER PARTS



PLASTIC PROCESS EQUIPMENT, INC.

8303 Corporate Park Drive, Macedonia (CLEVELAND), OHIO 44056  
 (216) 367-7000 TOLL FREE: 800-321-0562 FAX (216) 367-7022 ORDER FAX: 800-223-8305 EMAIL: SALES@PPE.COM

6385 Montessouri Street, Las Vegas, Nevada 89113  
 (702) 433-6385 TOLL FREE: 800-258-8877  
 FAX: (702) 433-6388

11218 Challenger Ave., Odessa, FL 33556  
 (727) 834-8888 TOLL FREE: 800-282-6783  
 FAX: (727) 834-8873

# HL-5 HOPPER LOADER

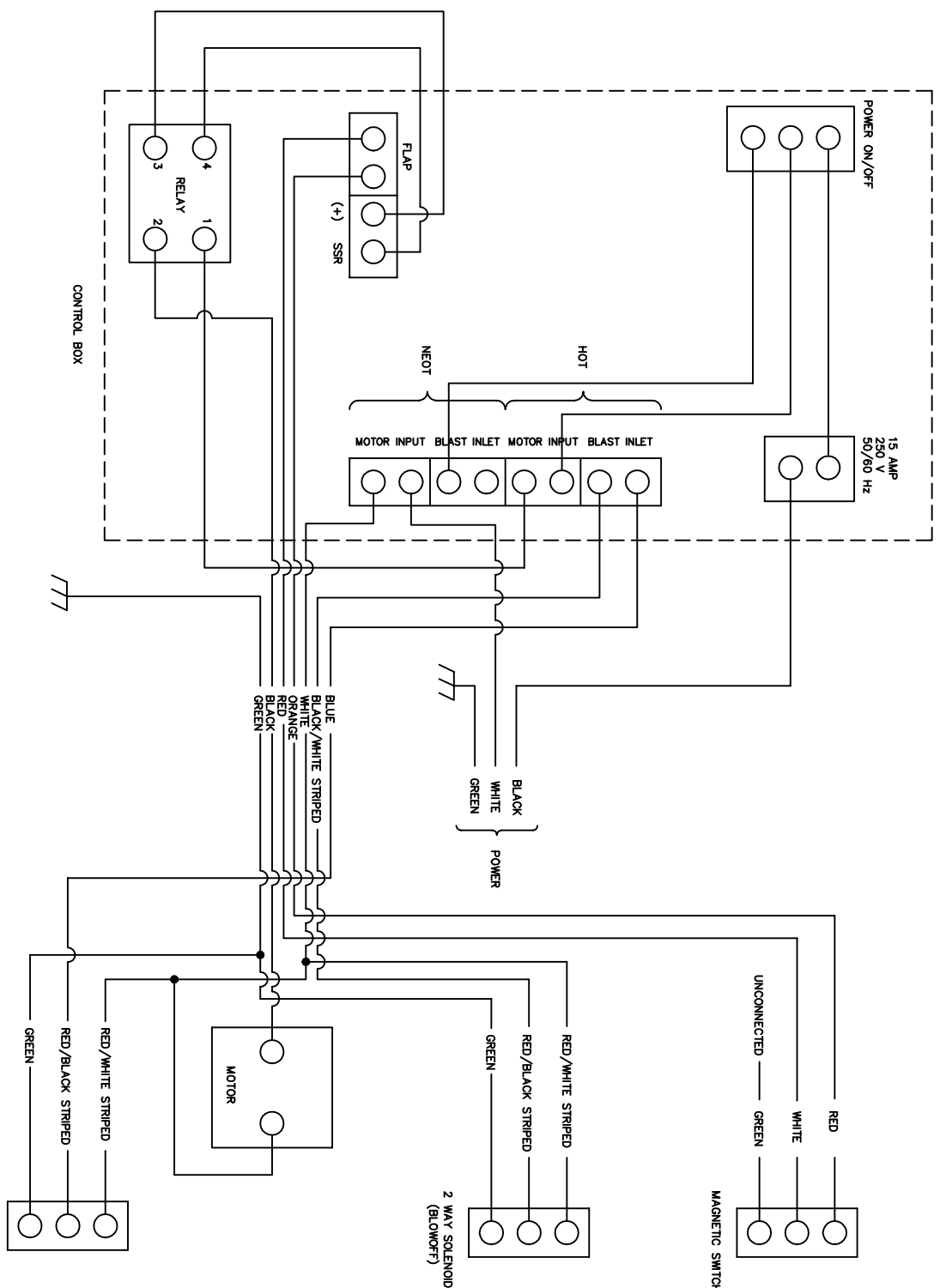
05/23/24

## PARTS LIST

05/23/24

ID	QTY	P/N	DESCRIPTION	UOM
1	1	A-9105	HOPPER LOADER MOTOR CAP	EA
2	1	A-9106	HOPPER LOADER LID WITH BLOWOFF	EA
3	1	C-9132	PROPORTIONAL HOPPER LOADER HOUSING	EA
4	1	8694K14	FOAM MOTOR GASKET MATERIAL PER FT (was 8694K8)	FT
5	1	ZX2056	ROUND MOTOR GASKET FOR HOPPER LOADER	EA
6	2	91-99-218	MOTOR COVER CLAMP FOR HOPPER LOADER	EA
7	1	FR1SS	FILTER RING 8.5" A-10087	EA
8	3	HR1	HOUSING CLAMPS	EA
9	1	B-2617	FOOT VALVE	EA
10	1	B-7446	FOOT VALVE ARM	EA
11	2	TALP382P	36"S.S.PROBE 1-1/4"OD INLET 2 PIECE FOR TAL	EA
12	1	CBHL5	MICROPROCESSOR CONTROLLER FOR PROPORTIONAL LO	EA
13	1	2M266	MOTOR	EA
14	2	1R236	BRUSHES FOR HOPPER LOADER MOTOR	EA
15	1	ZX2054	GASKET 8.5"DIA	EA
16	2	VHG11415	GROUNDED VACUUM HOSE 1-1/4" DIA 15FT	EA
17	4	HSS-20	HOSE CLAMPS	EA
18	1	2R7006A20A120	PANEL MOUNT CONNECTOR FOR CONTROL CABLE	EA
19	5	S2112	STRAIN RELIEF FOR ELECTRIC CORD	EA
20	1	A-1195	3/4" SCREW COLLARS	EA
21	1	A-7418	SWITCH MOUNTING BLOCK FOR HOPPER LOADER	EA
22	1	JSP8340G1-120	4 WAY SOLENOID VALVE FOR PROPORTIONAL LOADER	EA
23	3	KQ2H07-35AS	MALE CONNECTOR	EA
24	1	KQ2T11-35AS	UNION TEE	EA
25	2	KQ2E07-00A	BULKHEAD UNION 1/4" X 9/16-18UNF	EA
26	2	TOPM5LB4	90 DEGREE STEM END FOR 6MM TUBING	EA
27	2	TOPM5T4	DOUBLE STEM END FOR 6MM TUBING	EA
28	2	NCQ2A20-25D	CYLINDER 20mm X 25mm DOUBLE ACTING	EA
29	1	SD8262G212-120	2 WAY SOLENOID VALVE FOR BLOWOFF	EA
30	2	A-9614	INLET SHUTOFF DISC FOR DMHL (HL-5)	EA
31	1	KQ2L11-35AS	ELBOW UNION	EA
32		TISA07B-20	1/4" NYLON TUBING 22FT	FT
33		TISA11W-20	3/8" NYLON TUBING 22FT	FT
34	1	PRX8300P	MAG SWITCH WITH 6" LEADS AND PLUG	EA
35	1	703000D02F060	SMALL CABLE FOR BLOWOFF HL	EA
36	1	88122601	DIN CONNECTOR FOR SOLENOID	EA
37	1	7R3006A19A120	SOCKET FOR PROPORTIONAL SOLENOID	EA
38	1	ZF10172N	FOOT VALVE MOUNTING BRACKET HOPPER LOADERS	EA
40	1	MASL02501000	MAGNET FOR HL-1 SWITCH	EA
	1	HL-5PCB	PC BOARD FOR HL-5/8	EA
42	1	AMC403D	AIR REGULATOR	EA
43	1	KQ2L07-35AS	MALE ELBOW	EA
44		TISA11W-20	3/8" NYLON TUBING 22FT	EA
45	1	H2CH	1/4" NPT MALE THREAD HOSE NIPPLE	EA
46	1	207000A01F030	SPARE 3FT CONTROL CABLE FOR HL W/SINGLE FITTI	EA
47	5	BL-50	1/2" TIGER GRIPS	EA
48	1	1500R11E	ROCKER ON/OFF SWITCH	EA

DATE	S/N	REVISION RECORD	AUTH	DR	CK
10/05	A	REMOVED RED & WHITE ON MAIN SWITCH SHOWED GREEN UNCONNECTED ON MAIN SWITCH	JS	DE	



**CONFIDENTIALITY**

ALL DRAWINGS AND SPECIFICATIONS IN ANY DRAWINGS OR DATA FURNISHED BY PLASTIC PROCESS EQUIPMENT, INC. ARE HEREBY DESIGNATED AS PROPRIETARY AND CONFIDENTIAL AND SHALL BE MAINTAINED BY USER AS SUCH INCLUDING, IN APPLICABLE CASES, IN CONFORMITY WITH EXISTING CORPORATE CONFIDENTIALITY AGREEMENTS. INFORMATION ON THIS DRAWING IS THE PROPERTY OF PLASTIC PROCESS EQUIPMENT, INC. AND SHALL NOT BE USED OR DISCLOSED TO THIRD PERSONS EXCEPT IN CONFORMITY WITH PLASTIC PROCESS EQUIPMENT, INC. CONSENT. REPRODUCTION RIGHTS ARE RESERVED BY PLASTIC PROCESS EQUIPMENT, INC.

<p><b>TOLERANCES UNLESS OTHERWISE SPECIFIED</b></p> <p>DECIMAL ± .005</p> <p>FRACTIONAL ± 1/16</p> <p>ANGULAR ± 1/2°</p>	<p><b>PLASTIC PROCESS EQUIPMENT, INC.</b></p> <p>MACEDONIA, OH</p> <p>SCALE _____</p> <p>DRAWN BY DE</p> <p>APPROVED BY _____</p>
<p><b>HL-5 WIRING DIAGRAM</b></p>	
<p>DATE 10/26/05</p>	<p>DRAWING NUMBER <b>A-9630</b></p>

