**OPERATION AND MAINTENANCE MANUAL** 



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**Industrial Filter Cart** 



Read all instructions before installation or operation of equipment. Failure to comply with these instructions could result in bodily injury and/or property damage.



# Operational Instructions – FloWash Industrial Filter Cart

# 1. <u>Starting the Filter/Pump:</u>

- a. Install filter bag in housing. The new filter does not have a bag installed.
- b. Install the inlet and outlet hoses. Install optional wands if desired.
- c. Ensure the strainer drain valve is closed.
- d. Ensure the  $\frac{1}{2}$ " air supply valve (found on the air filter/regulator) is in the off position.
- e. Install air supply to the <sup>1</sup>/<sub>2</sub>" NPT air filter/regulator. A male quick disconnect fitting works well.
- f. The air filter/regulator is preset at 30 psi, a pressure found to work well with the bags.
- g. Place the inlet and outlet hoses/wands in the appropriate locations, insuring they are secure.
- h. Open the 1-1/2" inlet valve.
- i. To begin pump/filter operation, turn the  $\frac{1}{2}$ " air supply value to the open position.
- j. The filter will begin operation.

# 2. <u>Stopping the Filter/Pump:</u>

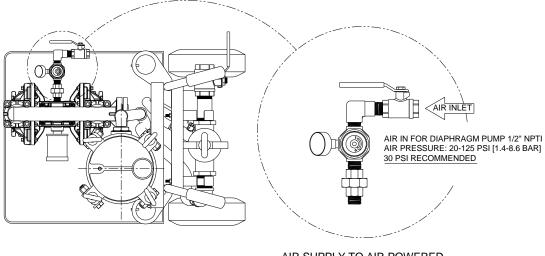
- a. Close the  $\frac{1}{2}$ " air supply valve (found on the air filter/regulator).
- b. Remove air supply from the air filter/regulator
- c. Close the 1-1/2" inlet valve.

## 3. System Operations and Notes:

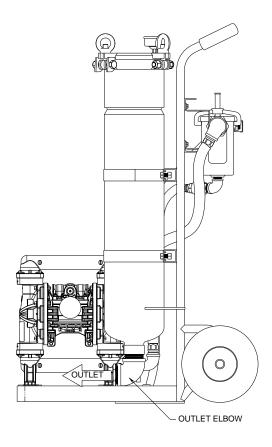
- a. The gauge on the lid shows the differential pressure (DP) measured across the filter bag. As debris builds on the inside of the bag, the gauge reading will rise. <u>Do not</u> <u>restrict the outlet of the filter</u> or damage can occur due to the positive displacement dual diaphragm pump.
- b. Maximum DP is 10 to 15 psi.
- c. When the filter bag is filling up, the gauge will rise, and the pump will begin to sound labored. Change the filter bag.
- d. If too much air pressure is applied to the air filter/regulator, you may burst a bar. The pump will go from the sound of it working (lower cycles per second) to an unrestricted sound (more cycles per second). This will happen quickly. If this happens, turn down the air pressure and change the bag.

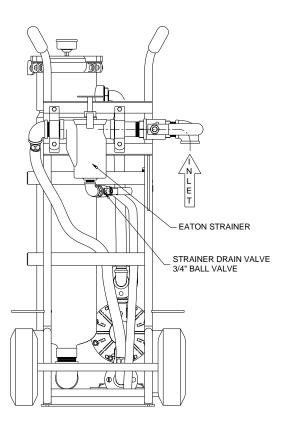
# Pump Operations manual

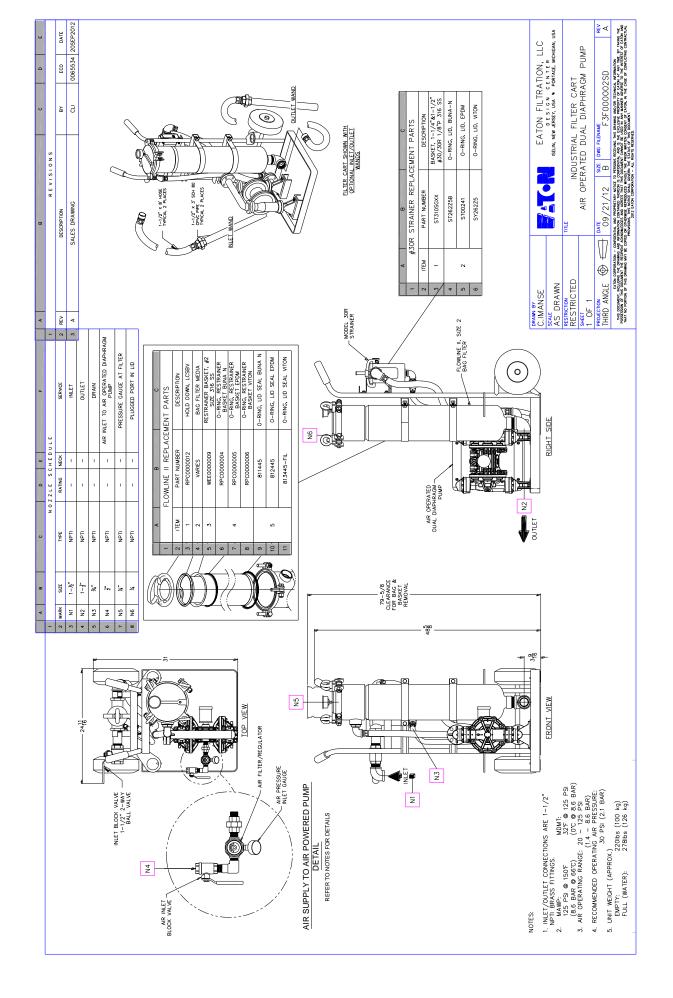
1. For further operations, performance and parts information concerning the pump refer to Graco® Husky® 1050 Air-Operated Diaphragm Pump 312877L.

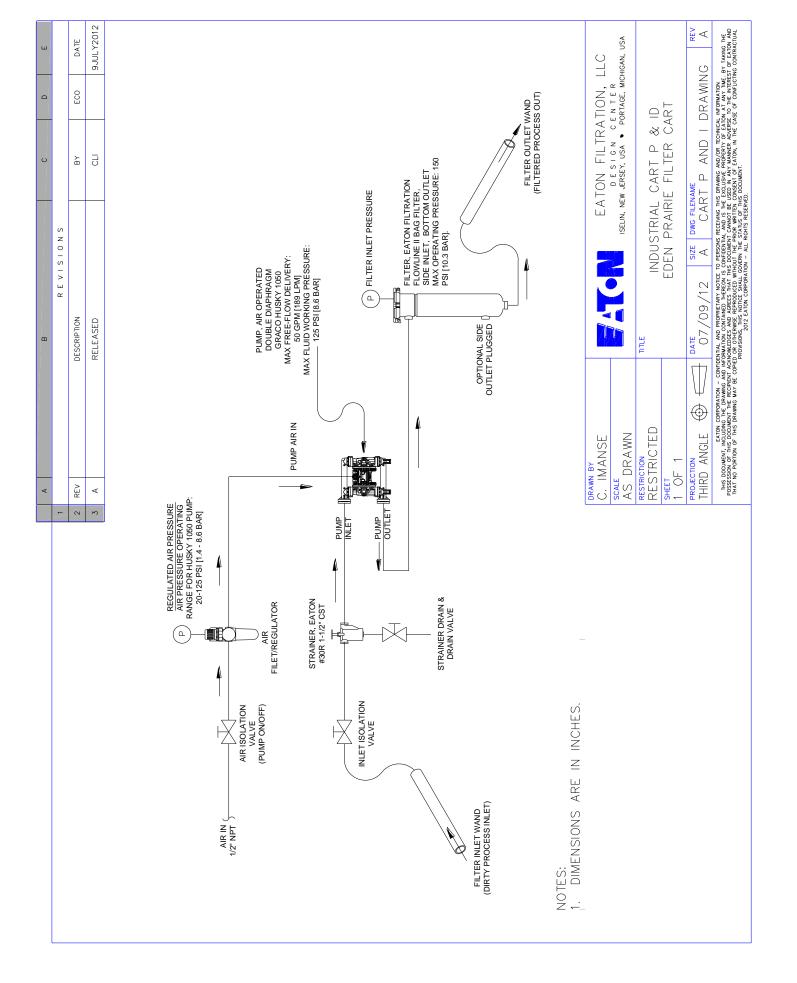


AIR SUPPLY TO AIR POWERED PUMP DETAIL









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## SPECIFICATIONS

MATERIAL: Carbon Steel, 304 Stainless steel or 316 Stainless Steel. The material selection for this vessel is based on the information provided when the unit was ordered. It is the customer's responsibility to ensure material compatibility with process conditions and chemistry.

#### CONNECTIONS:

Inlet / Outlet: 2" NPTI , 2" or 3" 150# ANSI Flanged, DIN50 or DIN80 PN16 Flanged Drain: 2" NPTI (On In-Line and Loop configured units) Vent and Gauge Ports: 1/4" NPTI.

ELASTOMERS: Buna N, EPDM or Viton®.

**DESIGN PRESSURE: Maximum working pressure:** 125 PSI (8.6 bar), **Maximum filter media differential pressure:** 30 PSID (2.1 bar).

DESIGN TEMPERATURE: 250° F (121° C).

#### FILTER VOLUME:

Size #2 filter housing: .9 ft<sup>3</sup> (0.025 m<sup>3</sup>) or 6.6 gal. (25.0 liters)

### INSTALLATION INSTRUCTIONS

Upon receipt of the vessel(s), carefully inspect the unit(s) for damage that may have been caused during shipment. Report all claims of damage to the carrier immediately. Remove the unit from the carton or skid and properly dispose of the shipping materials.

1. Install the filter as close to the final process as possible.

2. Secure the filter unit frame legs to a foundation.

3. Attach the customer supplied inlet and outlet connection piping. Insure that this piping is adequately supported. The filter is not

intended to be used as a pipe support.
4. Note – Isolation block valves (supplied by others) are required on all process connections to allow the unit to be isolated from the process liquid during bag change-outs. Pressure gauges (optional equipment) are also recommended before and after the filter to monitor differential pressure across the filter.

## INSTALLATION CHECKLIST

Complete this checklist before operating the system:

□ Insure that all connections are secure and free of leaks.

□ If the unit is installed in a new piping run, the filter vessel should be inspected after system flush to insure that any dirt and debris is removed prior to system start-up.

□ Insure that the cover and restrainer basket o-rings are properly installed

□ Insure that a new, clean bag is properly installed prior to system start-up (see section on Bag Change-out).

## MAINTENANCE

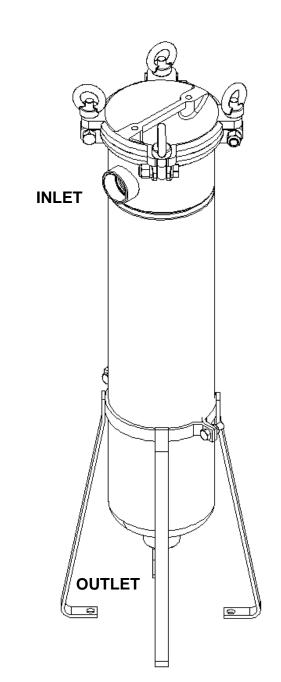
As with all equipment, some maintenance is required to ensure a long and productive vessel life.

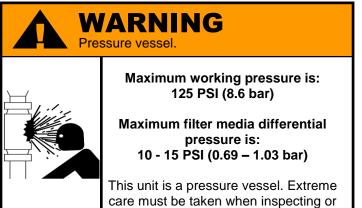
 The cover and restrainer basket o-rings require routine inspection. Remove the o-rings and wipe away any residual process fluid and clean the o-ring seating surfaces of any solids that may have built up. Inspect each o-ring visually for abrasion, cracks or other deterioration that may prevent proper sealing. Replace as necessary. Bending the o-ring by hand will make the wear indicators more visible.
 Reinstall both o-rings.

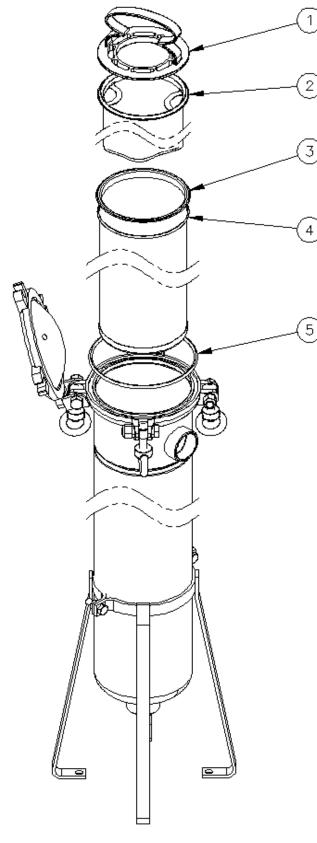
 Inspect the bag hold down after cleaning away any solids or debris and replace if there are any breaks or tears.

4) **DO NOT** re-pressurize the vessel until the lid closure bolting is tightened to a recommended torque of 30 to 50 ft.-lbs. (3.8 to 5.6 N-m).

5) When gauges are installed, insure that calibration is current and up to date to prevent inaccurate readings that may lead to equipment and process damage.









#### BAG CHANGE-OUT

- 1) Close isolation valves and open the unit drain and/or vent to relieve any residual pressure in the vessel.
- Open the cover and remove the bag hold down. Remove the Bag Positioner or Displacement Balloon if either was used. Grasp the bag by the media handles and remove from the basket.
- 3) Discard the dirty bag in a safe and environmentally friendly manner.
- 4) Prepare a new, clean bag for installation by removing any ID tags and pre-wetting the media if required. Enter the ID tag information in your maintenance records. Slightly fold the bag lengthwise and insert into the restrainer basket. Use a Bag Positioner to properly seat the bag in the basket. Install the Displacement Balloon if one is used.
- 5) Install the bag hold down.
- 6) Close the cover and tighten the bolts to the recommended torque of 30 to 50 ft.-lbs.
- Slowly open the upstream valve before slowly opening the downstream valve to prevent backflow.
- 8) Open the vent valve (customer supplied) to bleed air from the vessel. Apply system pressure slowly.

TABLE 1 – REPLACEMENT PARTS		
Ref	Part Number	Description
1	RPC0000012	HOLD DOWN, LCSVB
2	VARIES	BAG FILTER MEDIA
3	WEE0000009	RESTRAINER BASKET, #2 SIZE 316 SS
	WEE0000010	RESTRAINER BASKET, #1 SIZE 316 SS
4	RPC0000004	O-RING, RESTRAINER BASKET BUNA N
	RPC0000005	O-RING, RESTRAINER BASKET EPDM
	RPC000006	O-RING, RESTRAINER BASKET VITON
5	811445	O-RING, LID SEAL BUNA N
	812445	O-RING, LID SEAL EPDM
	813445-FIL	O-RING, LID SEAL VITON

#### WARRANTY

All products manufactured by Seller are warranted against defects in material and workmanship under normal use and service for which such products were designed for a period of eighteen (18) months after shipment from our factory or twelve (12) months after start-up, whichever comes first. OUR SOLE OBLIGATION UNDER THIS WARRANTY IS TO REPAIR OR REPLACE, AT OUR OPTION, ANY PRODUCT OR ANY PART OR PARTS THEREOF FOUND TO BE DEFECTIVE. SELLER MAKES NO OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. WE SHALL NOT BE LIABLE FOR CARTAGE, LABOR, CONSEQUENTIAL DAMAGES OR CONTINGENT LIABILITIES. OUR MAXIMUM LIABILITY SHALL NOT IN ANY EVENT EXCEED THE CONTRACT PRICE FOR THE PRODUCT.

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