

Installation, Operation and Maintenance Instructions



HYDROFLOW

**TANK-SIDE
COALESCER
MODEL 92-1120**

Introduction

This manual details the proper steps for installing, operating and maintaining the Eriez Tank-Side Coalescer, Model 92-1120.

Careful attention to these requirements will assure the most efficient and dependable performance of this equipment.

If there are any questions or comments about the manual, please call Eriez at 814-835-6000 for Tank-Side Coalescer assistance.



CAUTION

**Safety labels must be affixed to this product.
Should the safety label(s) be damaged, dislodged
or removed, contact Eriez for replacement.**

Installation

For air-pump equipped models, see page 6.

1. Connect one end of the 1/2" hose to the hose barb on top of the coalescer drum and attach the other end to the hose barb on the pump/skimmer assembly. Use the snap grip hose clamp (supplied) to make positive seal connections on both ends. (See **Figure 1** for further clarification.) **DO NOT CUT THE HOSE SHORTER. IF THE HOSE IS CUT SHORTER, IT WILL INCREASE THE COOLANT FLOW THROUGH THE SKIMMER AND PUMP, WHICH WILL IN TURN NOT ALLOW THE SKIMMER TOP TO FLOAT PROPERLY.**

2. Connect the 1" clear hose to the 90° hose barb on the side of the coalescer drum. Use the snap grip hose clamps (supplied) to make a positive seal connection.

3. Make sure the drum inner baffle is adjusted to the same height as the drum. Center the baffle in the drum and place lid on drum so that the 1/2" bulkhead in the lid fits inside the baffle. Tighten lid.

4. Elevate the coalescer drum to a point above the machine tool sump so that clean coolant can gravity flow out of the drum through the 1" clear hose and back into the sump. (No more than 2' above the skimmer assembly.) (See **Figure 2** for further clarification.)

5. Measure depth of sump.

Before placing pump/skimmer assembly into the sump, adjust the skimmer height so that the skimmer base is approximately 1-1/4" below the coolant level in the sump. (See **Figure 2** for clarification.)

NOTE 1: If the sump depth is less than 5", modification will need to be made to the skimmer. The skimmer must be trimmed so that the base and the float are short enough to fit the sump. A band saw, cut off saw or hacksaw can be used for this purpose. The length to which to trim the parts are explained in **Table 1**.

NOTE 2: Once the skimmer height is set as described, the skimmer will maintain operation even with a sump level fluctuation of plus or minus 1-1/4".

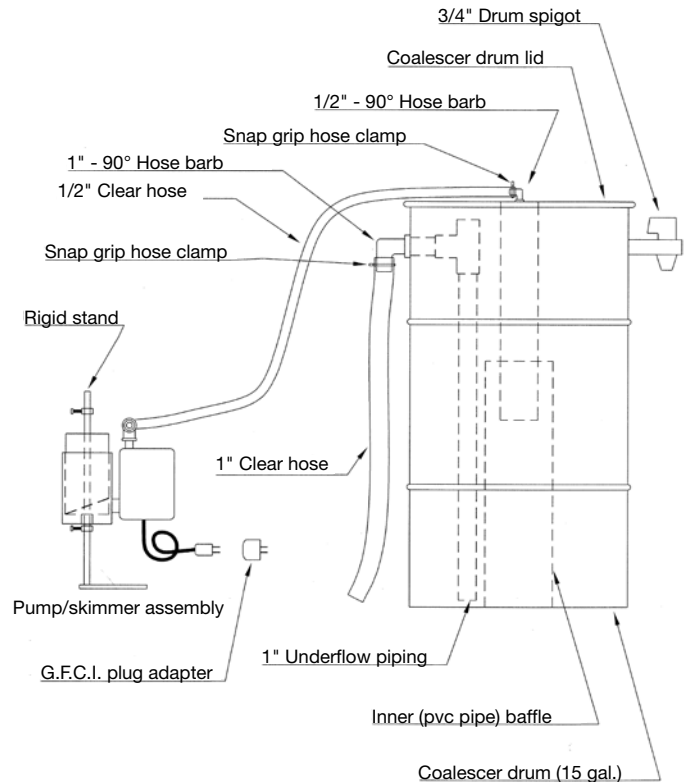


FIGURE 1
Typical TSC Assembly/Parts

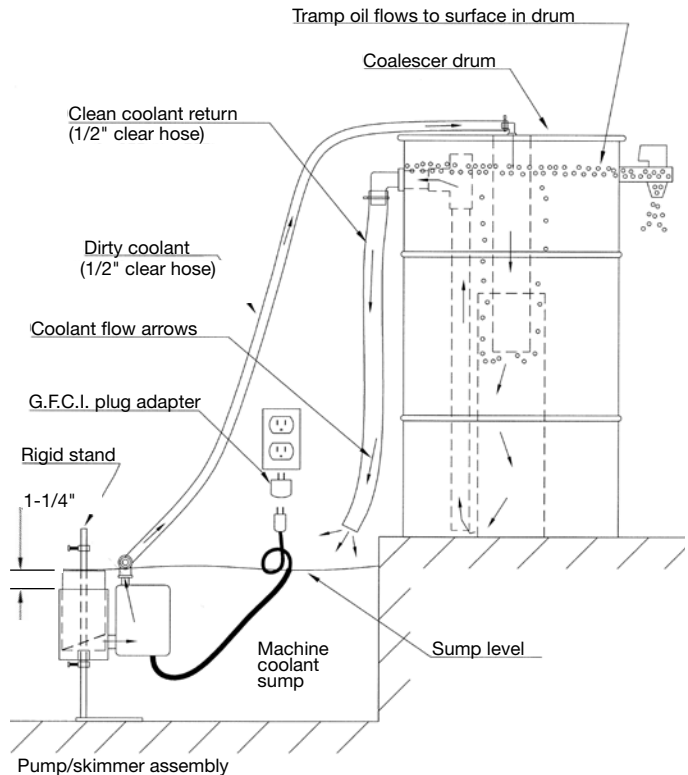


FIGURE 2
TSC Typical Set-Up

NOTE 3: For sump levels less than 3-1/2", the pump cannot be directly coupled to the skimmer. In these cases, use a short piece of hose and some barbed fittings to connect the pump to the skimmer after removing the pump from the skimmer base, or just use the pump by itself with it sitting on the bottom of the sump.

Sump Level	Trim Amount	Skimmer Height After Trim	Sump Level Range of Trimmed Skimmer
5-1/4" or greater	None	4-5/8"	+2-1/4" from initial level
4"	1-1/4"	3-3/8"	+1 from initial level
3"	2-1/4"	2-3/8"	0" from initial level
2-3/4"	2-1/2"	1-7/8"	0" from initial level
Less than 2-3/4"	Cannot do	N/A	N/A

TABLE 1

6. Make sure filter screen is in skimmer base.
7. Set pump/skimmer assembly into sump in an area where tramp oil tends to accumulate, or at an area of convenience. The base will sit on the sump bottom keeping the pump/skimmer assembly upright. It is best to sit the skimmer as low as possible in the sump with the upper set screw installed so the upper portion of the float will still stay within the lower portion of the skimmer base. This allows the upper portion to "bob" up and down a small amount, which helps keep the skimmer clean of solids.
8. Plug pump power cord into a GFCI plug adapter, and then into a 110 volt electrical outlet.

Operation

For air-pump equipped models, see page 6.

1. Once pump is operational, fluid will flow through the 1/2" hose and into the coalescer drum.
2. Initially, the time to fill the drum will be 6-8 minutes.
3. Optional: Fill coalescer drum with new coolant to avoid reducing coolant level in machine tool sump. Coalescer drum holds approximately 15 gallons of coolant.
4. Once the drum is full, clean coolant will gravity flow through the underflow pipe, out the drum, and back into the machine sump.

Tramp oil will float to the surface in the drum and will be contained until it is drained off. Adjust the PVC elbow that is attached to the drain spigot on the inside of the drum so the opening of the elbow is just below the fluid level in the drum while it is running. When tramp oils build up inside the drum they will automatically drain out through this elbow when the spigot is opened. The spigot valve can remain open all of the time if the elbow is adjusted correctly. Or periodically open the spigot to drain out any tramp oils.

Skimmer Adjustment

1. Push down on the 3/8" rod as shown at (A).
2. Pull up on the pump as shown at (B) to release assembly.
3. Push down or pull up on the pump as shown at (C), depending on if assembly needs to be raised or lowered.
4. At required level, release pump. Assembly will lock in place.
5. Set thumbscrew collars.
6. Remove pressure at (A).

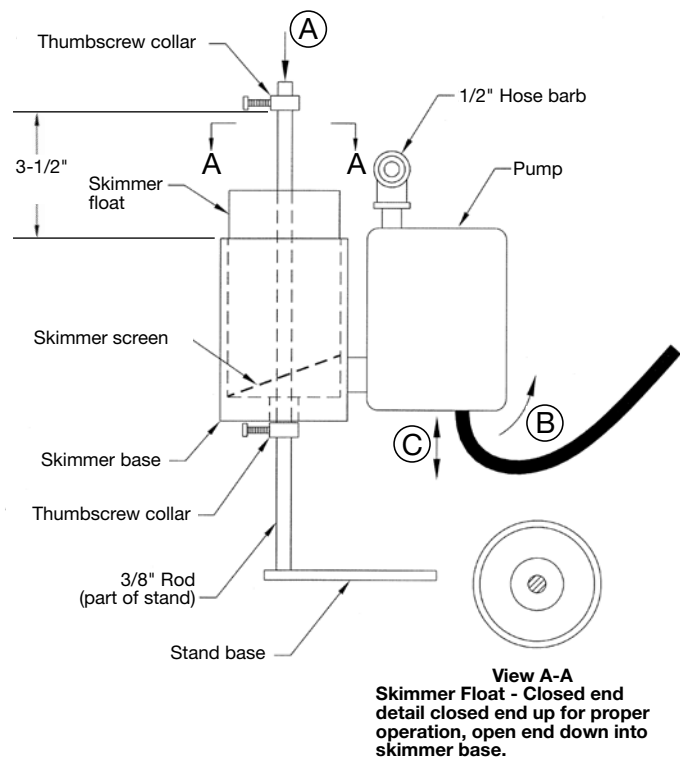


FIGURE 3
TSC Skimmer Adjustment



Maintenance

1. Drain oil from the drum as required. Time intervals between drainings will depend upon tramp oil levels in the machine sump.
2. Remove drum lid once a month to check for sludge buildup in the drum. It is important to remove sludge often as bacteria will breed in the sludge.
3. Check operation of skimmer daily. Make sure the skimmer float is skimming the surface of the machine sump.
4. Check skimmer screen for plugging once a week. If it is plugged, remove screen and clean.

Troubleshooting

PROBLEM	PROBABLE CAUSE	REMEDY
1. Pump not pumping	Electrical power disconnected	Reconnect power
	Air turned off to the pump	Turn air back on
	Skimmer obstructed or plugged	Remove obstruction
	Pump chamber is plugged with solids	Disassemble the air pump and remove solids from chambers
2. Not removing oil	Pump is air locked	Purge all air from hose between pump and drum
	Pump not pumping	See 1
	Skimmer float stuck below surface	Clean skimmer
3. Coolant discharges from drum before drum is completely full	Skimmer screen plugged	Clean screen
	1" clear hose is submerged upon start up	Pull hose to an area above the surface. Crack drum spigot until drum is full

TABLE 2

Parts List

Skimmer assembly with stand #18-1025

Skimmer assembly with stand and pump #18-1140

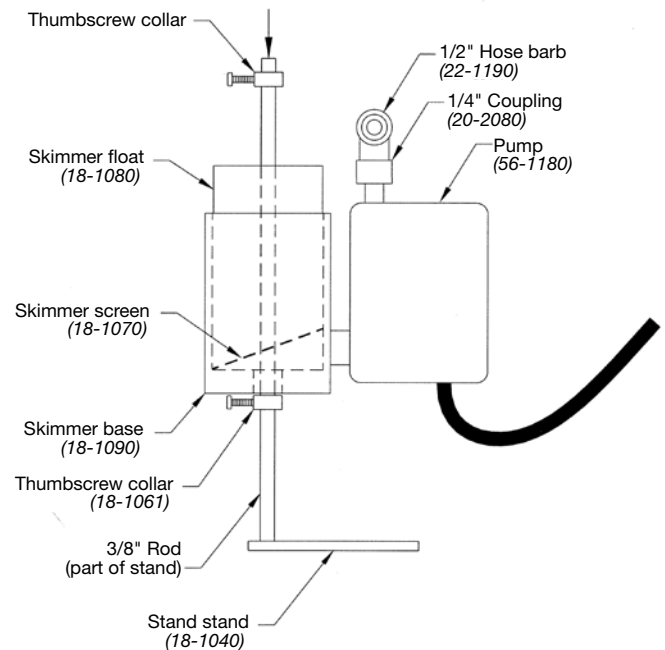


FIGURE 4
TSC Skimmer Part Numbers

PART #	DESCRIPTION	QUANTITY
18-1040	Skimmer stand	1
18-1070	Skimmer screen	1
18-1080	Skimmer float	1
18-1090	Skimmer base	1
18-1100	Thumb screw	2
56-1180	Little giant pump	1
18-1061	Thumb screw collar	2
22-1190	1/2" hose barb	1
20-2080	1/4" coupling	1

Contact Eriez Manufacturing for pricing and availability on above components

TABLE 3

Air-pump equipped models

Installation

1. Cut the 1/2" hose to a length to fit between the pump and the skimmer. For standard skimmer equipped unit, follow steps 5-7 on page 3-4.
2. If unit comes with triangle skimmer, attach one end on the barbed fitting on the triangle skimmer and the other end to the pump inlet.
3. Place the triangle skimmer so that the screened inlet is pointing up in the sump. Make sure the fluid pick-up of the skimmer is under the surface of the fluid. If it is too high, loosen the jam nut on the bottom of the pick-up pipe and unscrew the pick-up pipe to lower the inlet. Tighten the jam nut.
4. Adjust the air pressure regulator all the way out to start with so when the air line is connected to the regulator, the pump will not start right away.

Operation

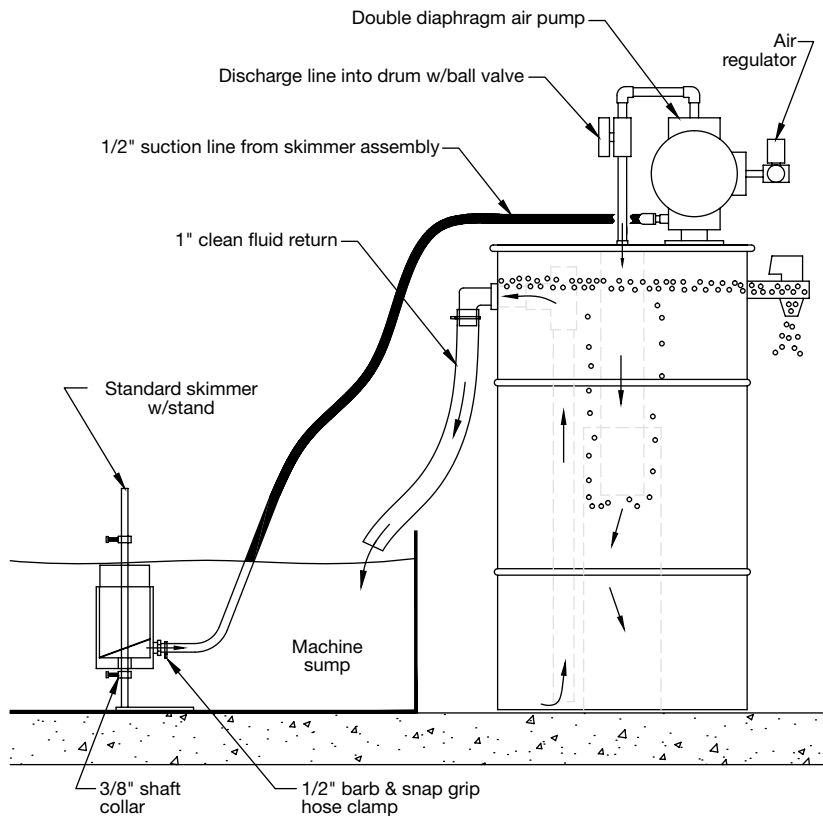
1. Open the flow control ball valve on top of the drum all the way. Slowly increase the air pressure so the pump starts working. Air pressure should be between 25 and 30 PSI.
2. Once pump is operational, fluid will flow through the hose and into the coalescer drum. Initially, the time to fill the drum will be 6-8 minutes.
3. Once the drum is full, clean coolant will gravity flow through the underflow pipe, out of the drum, and back into the machine sump. At this time, adjust the ball valve on the inlet to the drum so that the flow rate is 1-1/2 GPM. Running faster than this may not allow tramp oils to settle out in the drum. Tramp oil will float to the surface in the drum and will be contained in the drum until the drain spigot on the side of the drum is opened allowing oil to be drained from the drum.

NOTE: Oil draining must be done when pump is de-energized.

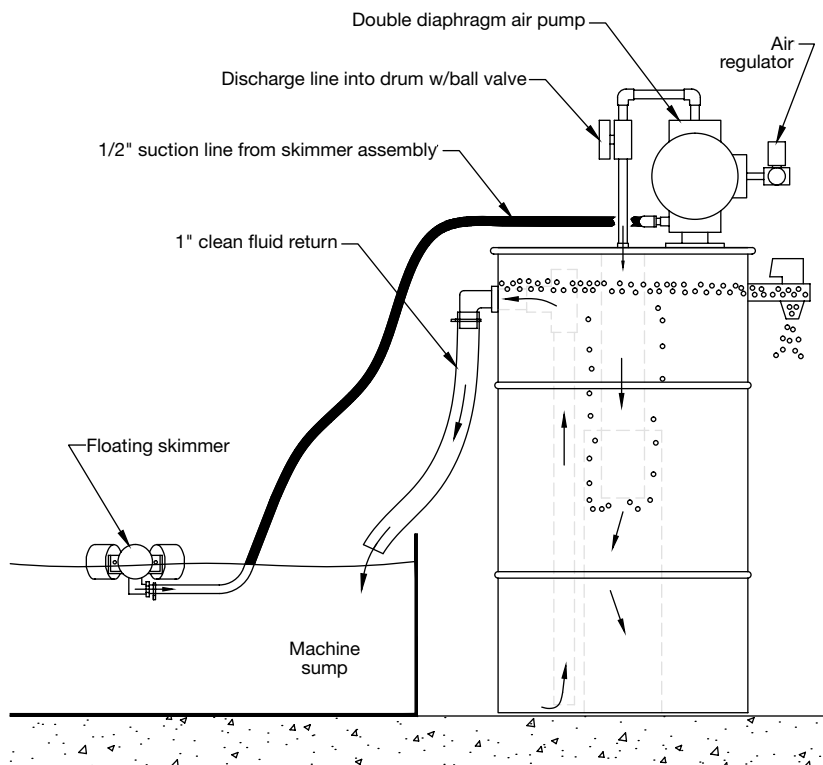
Troubleshooting

PROBLEM	PROBABLE CAUSE	REMEDY
1. Pump not pumping	Air turned off to the pump	Turn air back on
	Skimmer obstructed or plugged	Remove obstruction
	Pump chamber is plugged with solids	Disassemble the air pump and remove solids from chambers
	Pump is air locked	Purge all air from hose between pump and drum
2. Not removing oil	Pump not pumping	See #1
	Skimmer float stuck below surface	Clean skimmer
	Skimmer screen plugged	Clean screen
3. Coolant discharges from drum before drum is completely full	1" clear return hose is submerged upon start up	Pull hose to an area above the surface. Crack drum spigot until drum is full





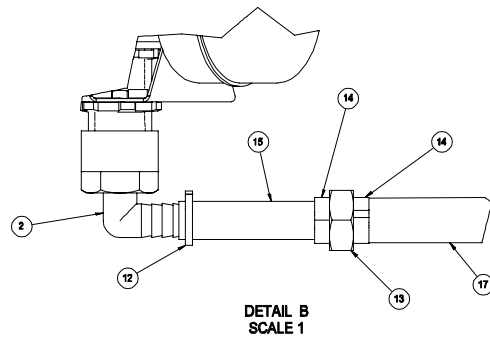
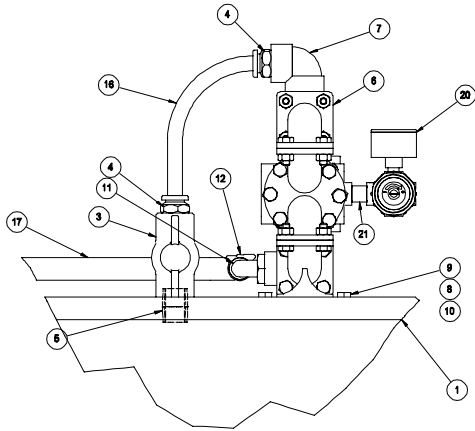
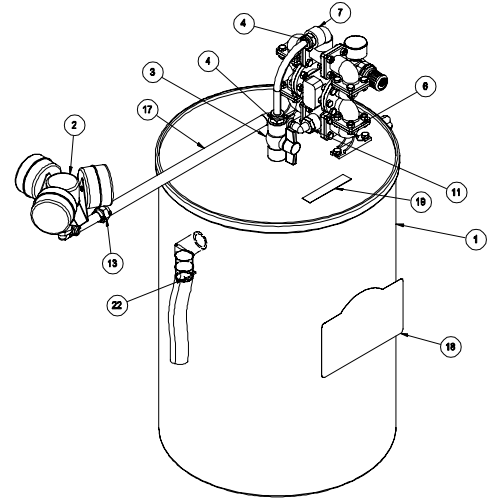
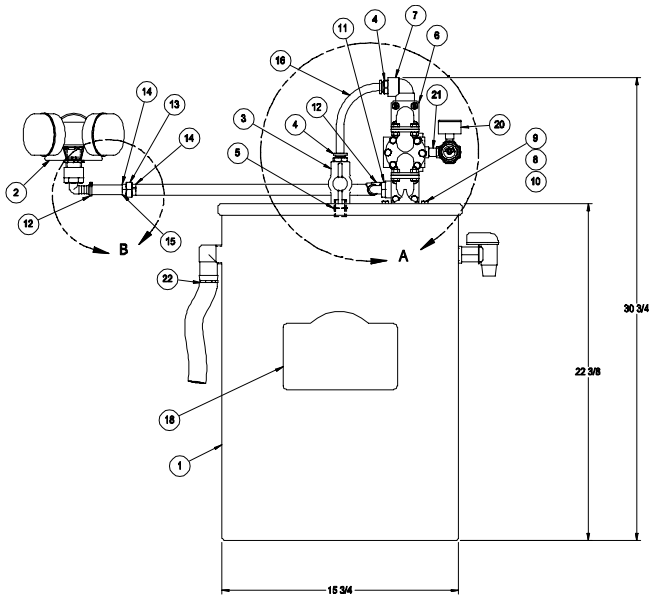
TANK-SIDE COALESCER / A – PART NO. 92-1160
 With Air Pump & Standard Skimmer



TANK-SIDE COALESCER / ATS – PART NO. 92-1170
 With Air Pump & Triangle Floating Skimmer

Spare Parts – Eriez Stock 92-1160

Drawing

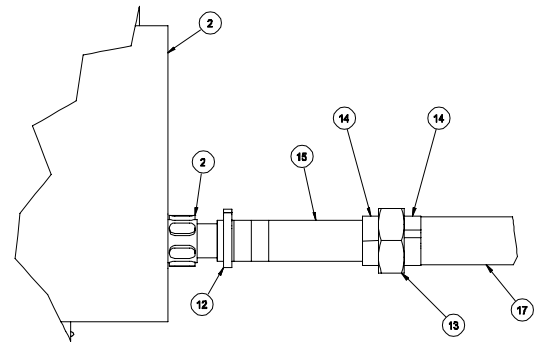
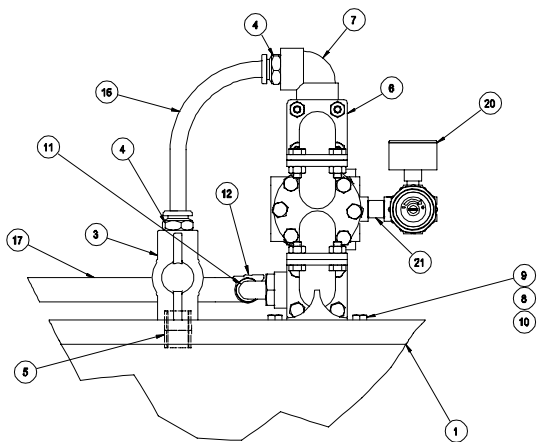
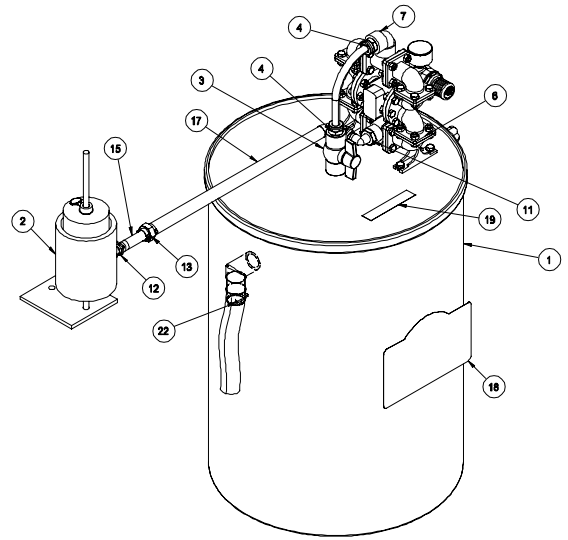
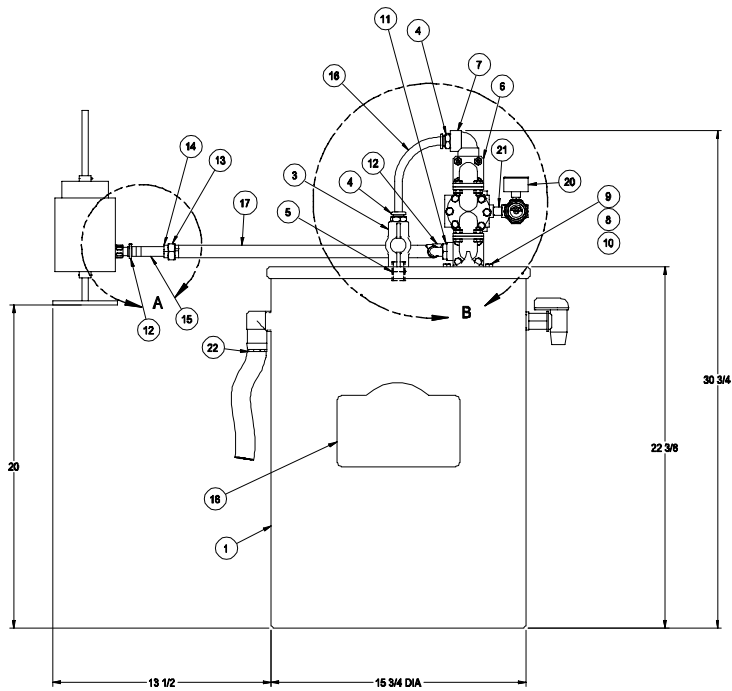


Parts List – Eriez Stock 92-1160

QUANTITY	ITEM NUMBER	PART #	DESCRIPTION
1	22	41-1040	Clamp hose 1-1/4" snap grip acetal #57149 US plastics
1	21	20-2010	Pipe nipple 1/4 NPT x 1-1/2 BIP TBE
1	20	28-1020	Regulator 1/4 air filter w/brk T McMaster
1	19	459943	Label hydroflow fluid
1	18	426794	Label Eriez logo 7.625 x 5.312 1N-9904113 GR4
13	17	41-2190	Tubing vinyl fuel & oil 1/2ID x 3/4OD trans yellow
1	16	41-2430	Tubing black polyethylene 1/2"
2	15	41-2180	Hose corrugated polyethylene blk 1/2ID 012PEBUX
3	14	41-1067	Clamp hose double pinch Oetiker 10100024
1	13	22-1370	Fitting barbed 1/2" Unista 620 17
1	12	41-1060	Clamp hose 3/4" snap grip acetal #57134 US plastics
1	11	22-1205	Pipe ell PVC 1/2" FNPT x 1/2" barb el 1212 F green leaf
4	10	233010	Nut hex 1/4-20 plated AXS
4	9	231016	Bolt hex HD 1/4-20 x 1 GR5 PLT AXS
4	8	233312	Washer flat No. 10 plated AXS
1	7	22-1140	Pipe ell PVC 90° thrd sch 80 1/2 Brohapp 808-005
1	6	56-1010	Pump DDA 1/4 – temps up to 140 VP# Sandpiper PB 1/4-A-TS-3-P
1	5	22-1060	Pipe nipple PVC sch 80 1/2 x close Unista 10001-005
2	4	22-1430	Tube 1/2" NPT x 1/2" Acetal str push LK P1011624S John Guest
1	3	25-1105	Valve ball 1/2" thrd UPVC Hayward DN15
1	2	18-1050	Triangle skimmer assy 2N-201104975
1	1	3N-201203039	Drum assembly 15 gallon SSC/ATS

Spare Parts – Eriez Stock 92-1170

Drawing



Parts List– Eriez Stock 92-1170

QUANTITY	ITEM NUMBER	PART #	DESCRIPTION
1	22	41-1040	Clamp hose 1-1/4" snap grip acetal #57149 US plastics
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1	5	22-1060	Pipe nipple PVC sch 80 1/2 x close Unista 10001-005
2	4	22-1430	Tube 1/2" NPT x 1/2" Acetal str push LK P1011624S John Guest
1	3	25-1105	Valve ball 1/2" thrd UPVC Hayward DN15
1	2	3N-201207082	Pump assembly w/o sub pump
1	1	3N-201203039	Drum assembly 15 gallon SSC 3N-201102536



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