

Coolant Filtration System

Tool Manual - Safety, Operation and Maintenance

SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL

Models:

68000 (115v) 1 Phase 60 Hz

68100 (230v) 1 Phase 60 Hz

68101 (230v) 1 Phase 50 Hz



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⚠ WARNING

Read and understand this tool manual before operating the system. Follow all safety rules for the protection of operating personnel as well as adjacent areas.

SAFETY LEGEND

	⚠ WARNING Read and understand system manual before work starts to reduce risk of injury to operator, visitors and system.	⚠ WARNING Practice safety requirements. Work alert. have proper attire and do not operate system under the influence of alcohol or drugs	
	⚠ WARNING Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1	⚠ WARNING Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or Local statues, ordinances and/or regulations	
	⚠ WARNING Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law	⚠ WARNING Electric shock hazard. Avoid bodily contact with grounded objects, bodies of water. Do not damage cord set.	
⚠ WARNING			
Some dust created by sanding, grinding, drilling and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are: * Lead from lead-based paints * Crystalline silica from bricks and cement and other masonry products * Arsenic and chromium from chemically treated lumber Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.			

Tool Intent: The system collects in a sump, filters and provides a flow of grinding coolant required by metal grinding and polishing processes

GENERAL SAFETY INSTRUCTIONS

Carefully Read and save all instructions before operating or servicing any Dynabrade® Abrasive Power Tool. Products offered by Dynabrade are not to be modified, converted or otherwise alerted from the original design without expressed written consent from Dynabrade, Inc.

Warning: When using electric system, basic safety precautions should always be followed to reduce the risk of a fire, electric shock, and personal injury, including the following:

Voltage Warning:

Before connecting the system to a power source (receptacle, outlet, etc.), be sure the voltage supplied is the same as what is specified on the nameplate of the system. A power source with greater than that specified for the system can result in **serious injury** to the user as well as damage to the tool. Using a power source with voltage less than the nameplate rating is harmful to the systems motor. If in doubt, **do not plug in the tool.**

Warning: Keep extension cords away from the immediate working area.

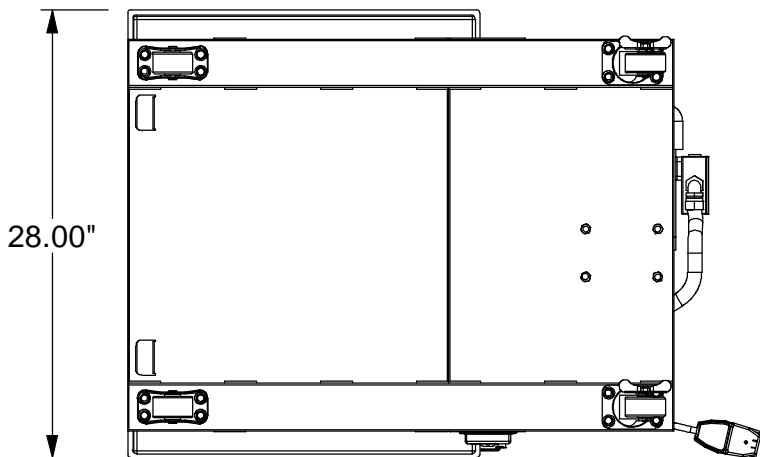
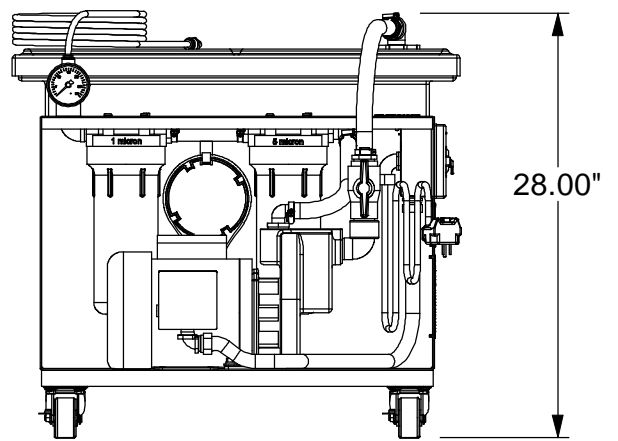
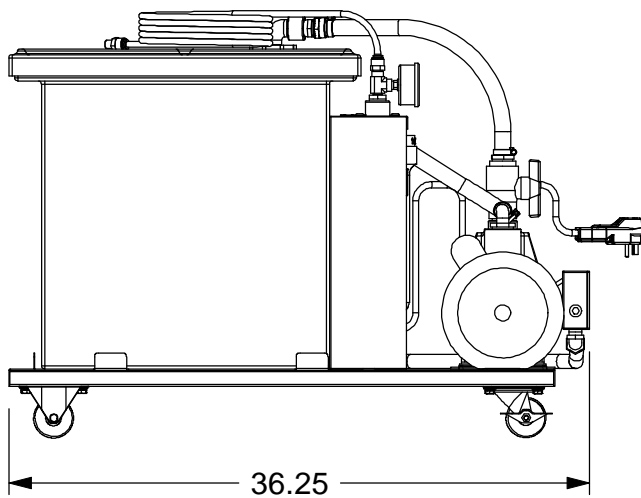
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1. **Keep work area clean.** Cluttered areas and benches invite accidents.
2. **Consider work area environment.** Do not expose system to rain. Keep work area well lit. Do not use system in damp or wet locations. Do not use system in the presence of flammable liquids or gases.
3. **Use with grinding or machining coolant only.**
4. **Keep children away.** Do not let visitors contact system. All visitors should be kept away from work area.
5. **Use the right system.** Do not use system for purposes not intended.
6. **Dress properly.** Do not wear loose fitting clothing or jewelry. Clothes can be caught in moving parts. Wear protective hair covering to contain long hair.
7. **Use safety glasses.** Also use face-shield or dust mask if operation area is dusty.
8. **Do not abuse cord.** Never drag tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
9. **Do not overreach.** Keep proper footing and balance at all times.
10. **Maintain system with care.** Keep system clean for better use and safer performance. Follow instructions for changing filters. Inspect systems cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged.
11. **Do not leave system running.** Disconnect system when not in use, before servicing etc.
12. **Avoid accidental starting.** Be sure switch is off when plugging in.
13. **For indoor use only.** System is NOT to be used outdoors.
14. **Stay alert.** Watch what you are doing. Use common sense. Do not operate system when you are tired.
15. **Avoid gaseous areas.** Do not operate system in gaseous or explosive atmospheres.
16. **Do not alter or misuse system.** Any alteration or modification not specified is misuse and may result in a dangerous condition. Only these accessories and attachments that are found in this instruction manual are acceptable for use with this system. The use of any other accessory or attachment might present a risk to the operator.
17. **Replacement parts.** When servicing, use only identical replacement parts. When ordering replacement parts, please specify model and serial numbers of your machine.
18. **Do not mix grind material.** There is a potential combustion hazard if ferrous and non-ferrous grinding dust is mixed. Clean inside machine between materials.
19. **Use hearing protection.** Permanent hearing loss can result from high process noise levels.
20. **Do not use with flammable or explosive fluids.**
21. **Guard against electric shock.** Be certain machine is adequately grounded before operating.
22. **Unplug from electric power before maintenance.**
23. **Check all connections for coolant leaks:** Immediately repair any leaking connections
24. **Immediately clean up any coolant leak or spill**
25. **Use personal protective equipment to prevent contact or inhalation of coolant**
26. **Immediately wash after skin contact with coolant** (*Follow coolant manufacturers safety and cleanup procedures*)
27. **Maintain coolant quality to avoid bacterial growth**
28. **Test GFI prior to each use**

Machine Specifications

Model Number	Motor HP	Flow Rate	Voltage	Amps	Phase	Freq.	Weight	Length	Height	Width
68000-00	.5 HP	1.5 gal/min.	115	7.6 A	1	60Hz	103lb	36"	28"	28"
68100-00	.5 HP	1.5 gal/min.	230	3.80 A	1	60 Hz	103lb	36"	28"	28"
68101-00	.5 HP	1.5 gal/min.	230	3.70 A	1	50 Hz	103lb	36"	28"	28"

System Dimensions



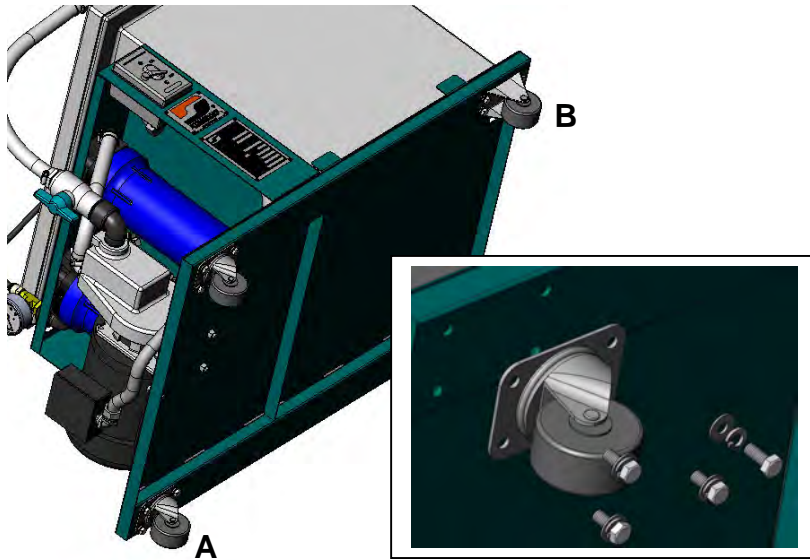
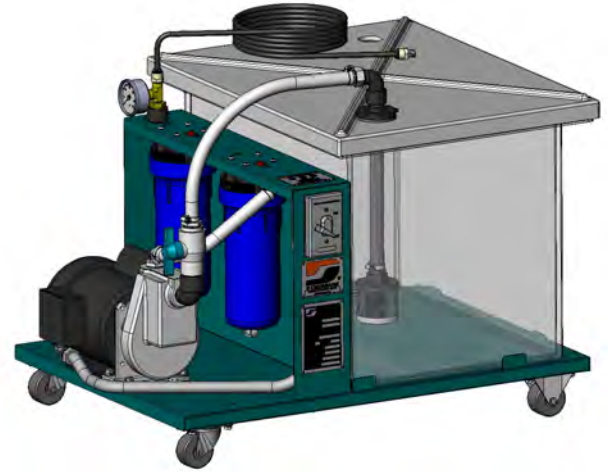
Coolant Filtration System

Tool Setup

The 68000 Coolant Filtration System will be pallet shipped to its destination. The following details will describe the steps required for initial system setup before operation. Use the Coolant Filtration System Flow guide to help familiarize yourself with systems components and functions.

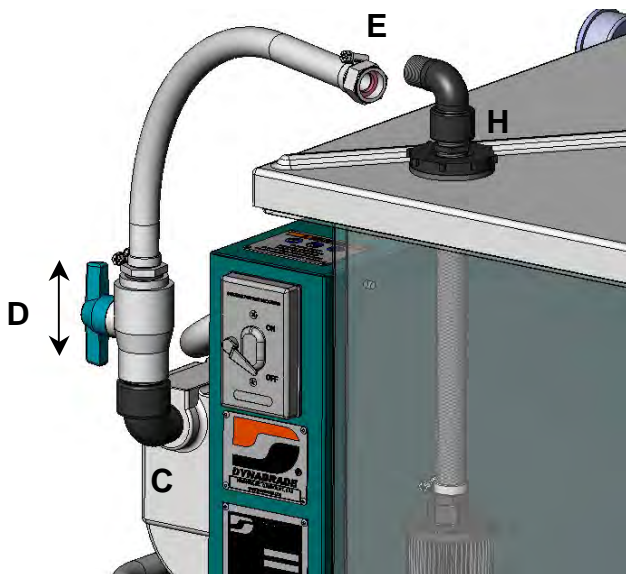
Warning:

Failure to follow the required steps for tool setup may result in damage to system or injury.



After removing your system from the pallet, install casters provided to the bottom of the assembly as shown. Qty 2 rigid and Qty 2 swivel casters are provided for mounting. Swivel casters **(A)** are mounted at the pump end of the assembly. Rigid casters **(B)** are to be mounted at sump/tank end of assembly, as shown in detail.

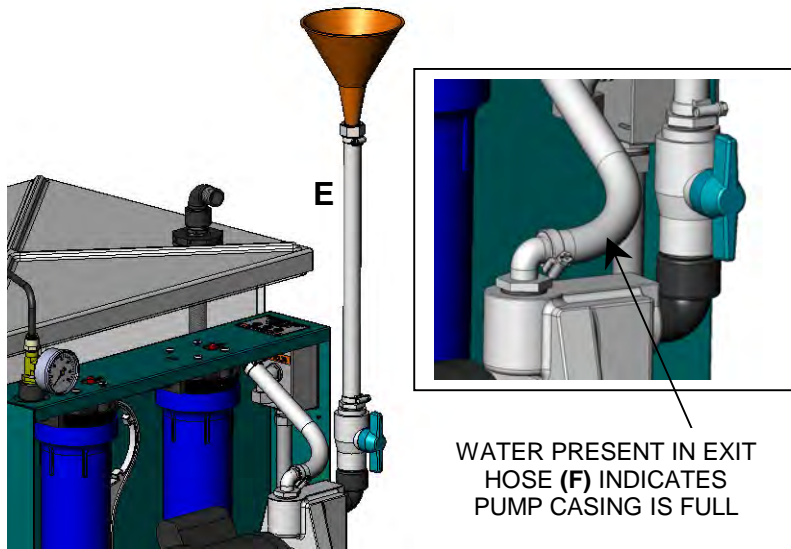
Once casters are mounted, bring unit back to upright position and prepare to fill pump casing with water.



This assembly is provided with a Self-Priming Pump.

Before filling casing **(C)**, be sure valve **(D)** is in the open position as shown. Disconnect pump intake hose **(E)** from sump/tank connect **(H)**.

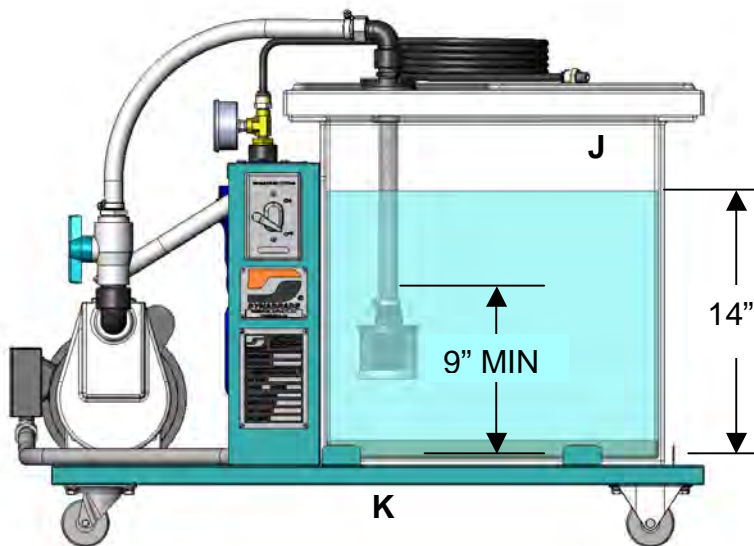
Pump casing must be filled with coolant mixture as described ahead, before starting. Pump self-priming will occur only when casing is full. Damage to shaft and seal will occur if pump runs dry or overheats during priming.



Use a funnel to begin feeding water into pump casing through pump intake hose (E).

Continue feeding water into casing until you see water enter pump exit hose (F). Once water is present in exit hose (F), your casing has been filled. This process will require a minimum of 1/2 gallon.

The next step is to fill your sump/tank, with the proper level of water/coolant mixture. We recommend the use of an oil-free synthetic machine and grinding fluid. Typical dilution for such a fluid is 4%-5%.



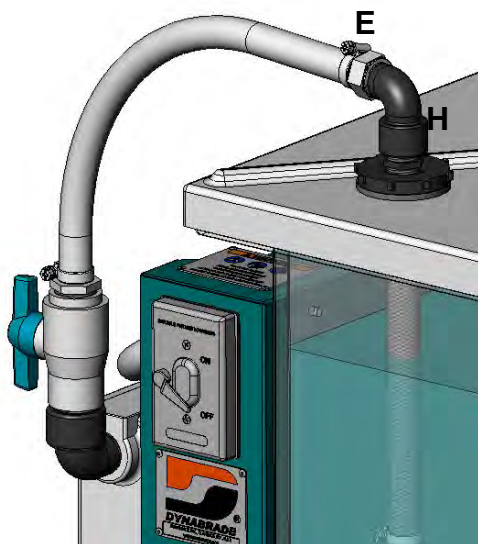
Your sump/tank (J) will hold a maximum of 25 gallons or equivalent to 14 " from the sheet metal base (K). Using the typical 5% dilution add 1.25 gallons of your oil free synthetic fluid to your tank first.

Synthetic Fluid Calculation:
5% of 25gal or $(25 \times .05 = 1.25\text{gal})$

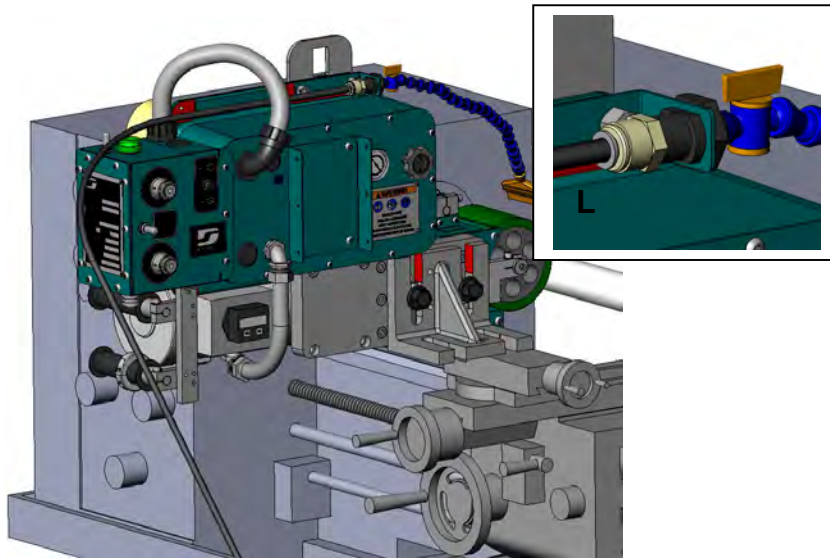
Water to add:
23.75gal or equal to the 14" mark

Total water/synthetic fluid mix= **25gal**

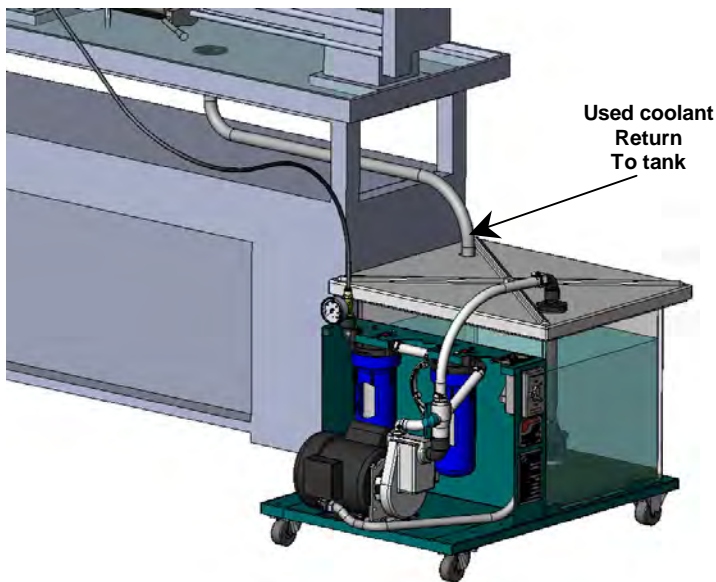
Note: As a minimum, coolant level must be higher than intake or approx. 9"



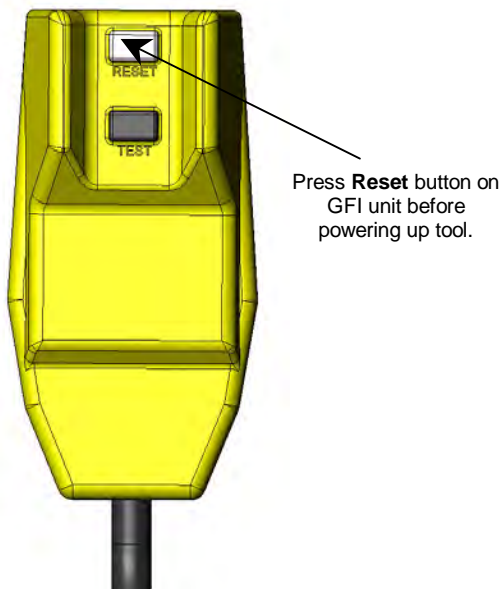
Once your sump/tank has been filled, secure intake hose (E) with swivel connection to top of sump/tank connect (H).



The next step is to hook up your Coolant Filtration System to your processing tool and lathe assembly. In this example, we will be utilizing the Superfinisher. There is a 3/8" supply line (**L**), which is used to bring your coolant to the processing tool intake. The Superfinisher is supplied with a 3/8" quick connect for easy hook-up when utilizing your Coolant Filtration System.

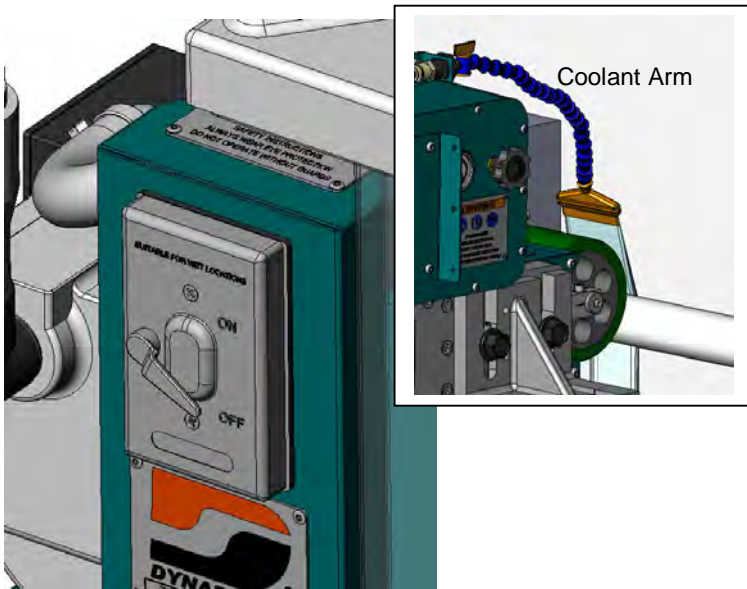


Before plugging in your Coolant Filtration System, you need to provide a means of bringing your used coolant back to the tank/sump. Your lathe bed will need a drain and a connection available for attaching a hose, which will bring coolant back to the main assembly.



Now you are ready to connect the Coolant Filtration System to your power source.

Refer to the machine specification table to determine the correct power source by model number.

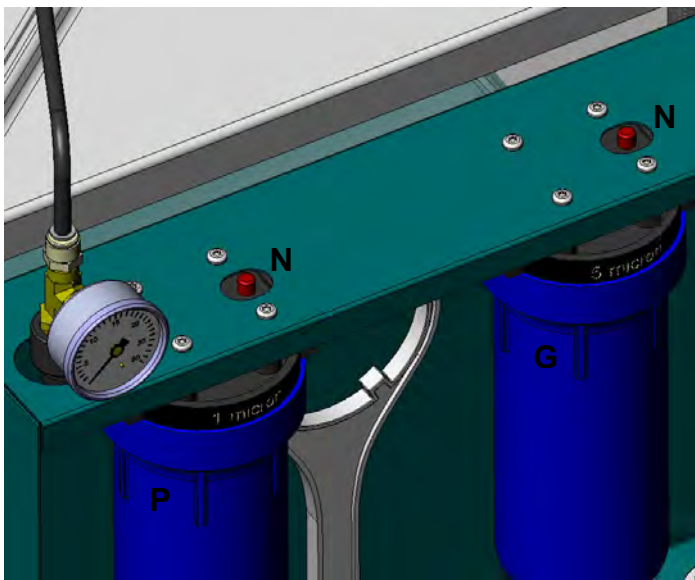


Be sure that your tool coolant arm is pointing toward the proper location for lathe bed collection.

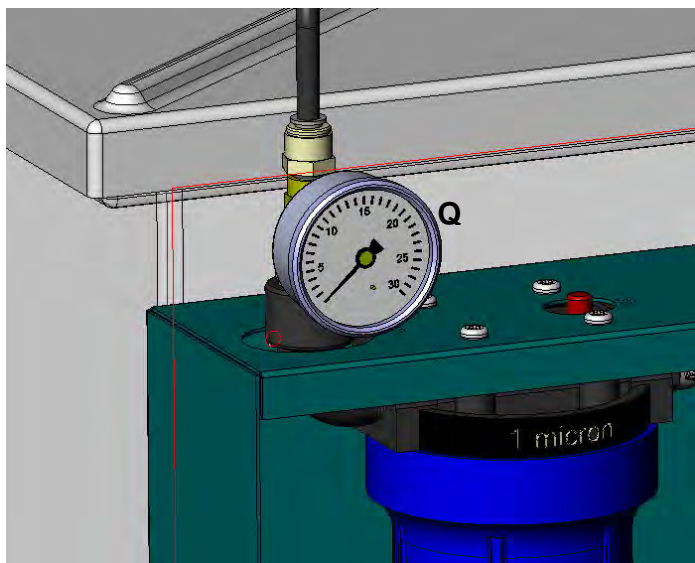
Warning: Contact with coolant can cause skin irritations and blindness. Safety goggles required.

Turn switch to “On” position to check all connections and ensure proper operation.

Check for any coolant leaks and if found, repair before continuing operation.



There may be some air trapped in the system during initial start up. Pressure release valves (**N**) are provided on both filtration housings (**G**) and (**P**). Pressing each release, one at a time, will aid in releasing this trapped air from the system.

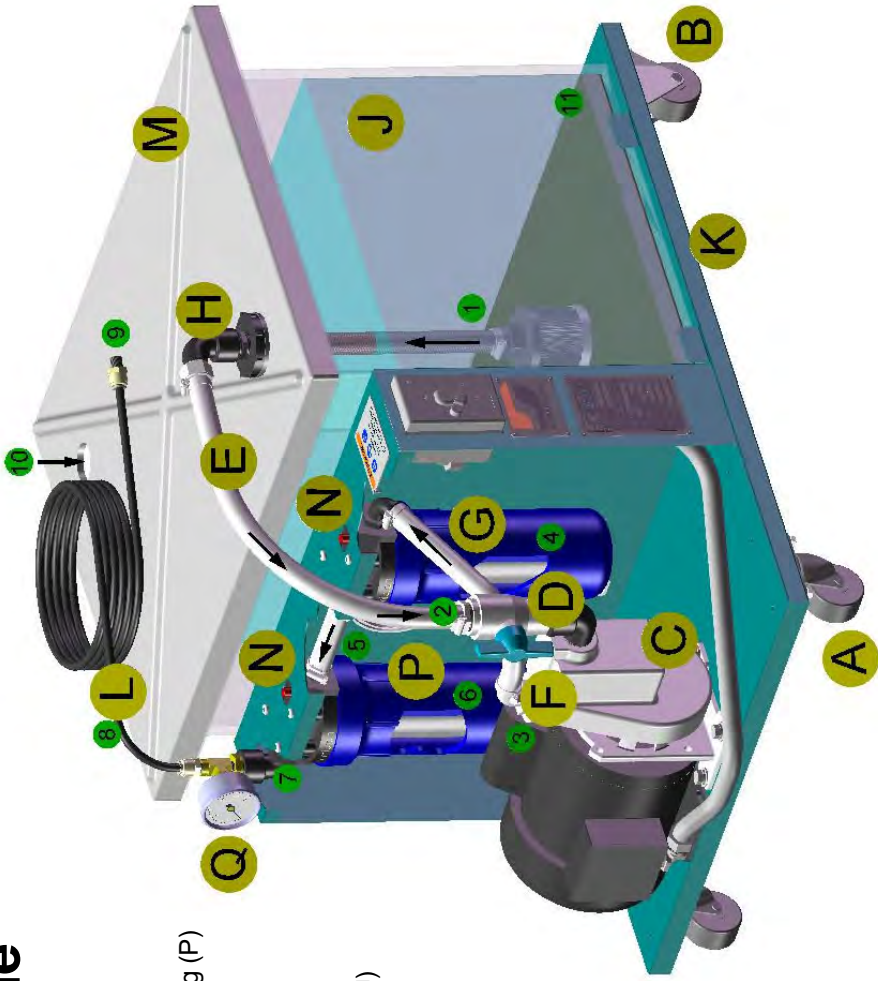
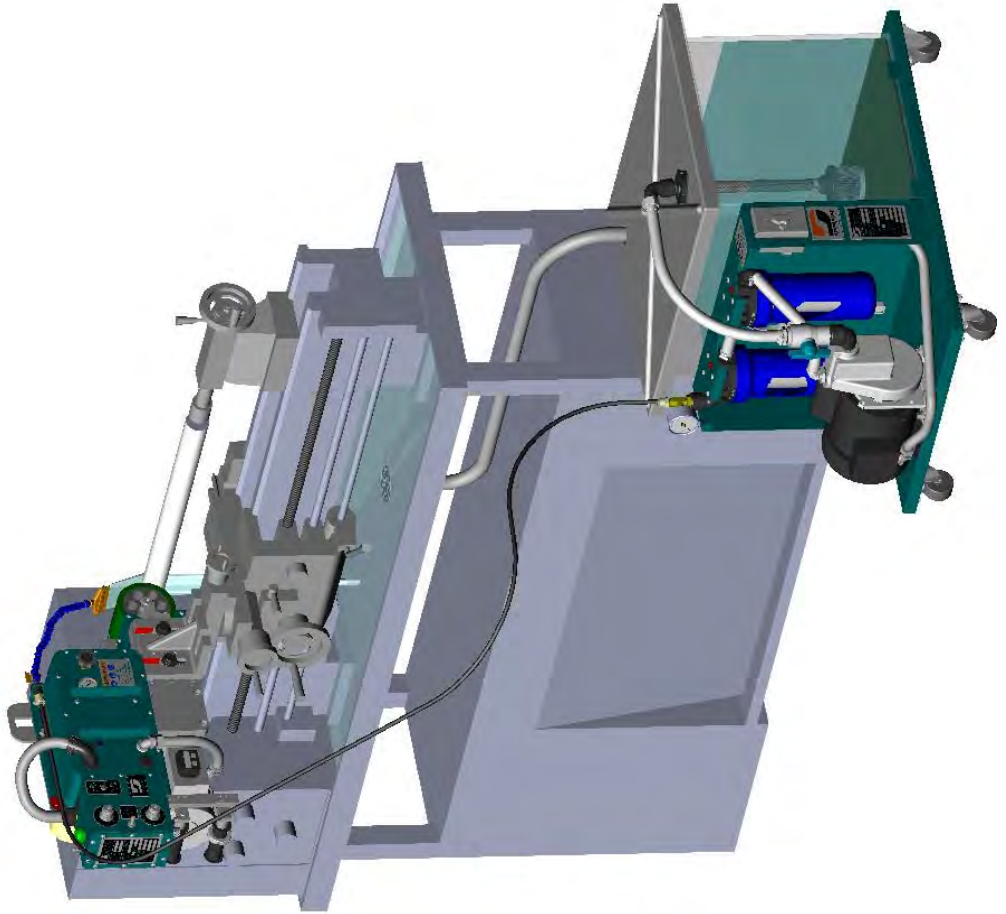


At this time, take note of the water pressure indicated on the outlet pressure gauge (**Q**). This pressure reading will help you to determine when your filters need to be changed for optimal filtration. A 5 psi loss in pressure would be the indicator that a filter change is required. See Coolant Filtration System Maintenance for a guide to performing this process.

Example: If your pressure gauge (**Q**) reads 12 psi with both filter cartridges being new, then the proper time to change these filters would be when the pressure gauge indicates a reading of 7 psi or lower.

Coolant Filtration System Flow Guide

1. Coolant gets drawn from sump/tank (J) and through suction filter
2. Coolant travels down and into pump casing (C)
3. Coolant exits pump casing towards Stage 1 filtration housing (G)
4. Coolant travels through Stage 1 (5 Micron) filter
5. Coolant exits Stage 1 filtration housing and moves into Stage 2 filtration housing (P)
6. Coolant travels through Stage 2 (1 Micron) filter
7. Coolant exits Stage 2 filtration housing
8. Coolant enters 3/8" supply line (L)
9. 3/8" supply line (L) connects to processing tool at lathe
10. Used coolant re-enters in return hole located in tank/sump cover (M)
11. Heavy machined particles and sludge fall and collect at the base of sump tank (J)

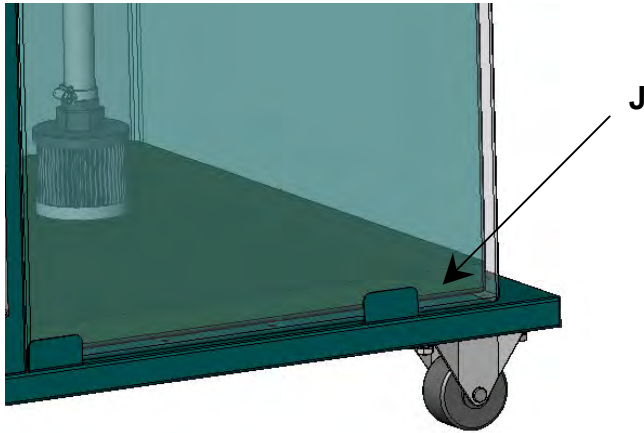


A	SWIVEL CASTER
B	RIGID CASTER
C	PUMP CASING
D	VALVE
E	PUMP INTAKE HOSE
F	PUMP EXIT HOSE
G	STAGE 1 FILTER HOUSING

H	SUMP/TANK CONNECT
J	SUMP/TANK
K	SHEET METAL BASE
L	3/8" SUPPLY LINE
M	SUMP/TANK COVER
N	PRESSURE RELEASE
P	STAGE 2 FILTER HOUSING
Q	PRESSURE GAUGE

Coolant Filtration System Maintenance

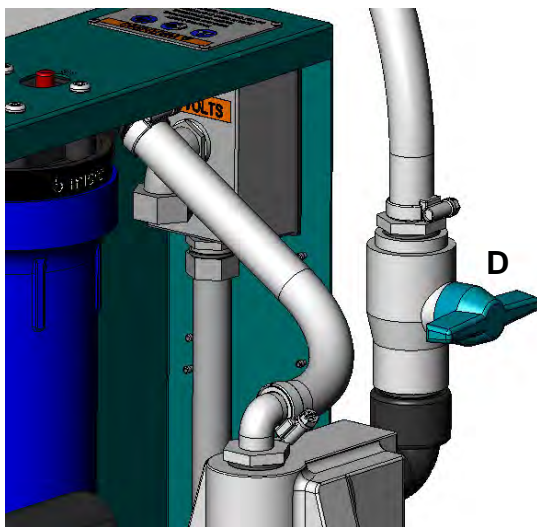
Warning: Be sure to unplug your system before performing any maintenance



Heavy machined particles and sludge will collect at the bottom of the sump/tank (**J**). It is recommended that your tank/sump be pumped/drained dry and sludge removed to maintain a consistent, quality water/synthetic fluid mix.

Machined particles and sludge collection should not exceed a 1" thickness at bottom of sump/tank (**J**).

Adhere to your local codes to properly dispose contaminated liquids.



Along with sump/tank sludge removal, it is also recommended that both Stage 1 and Stage 2 filters be replaced. Before getting started, close ball valve (**D**) to help maintain a primed system.

Using the supplied filter-housing wrench, loosen each housing in a counter clockwise direction. Be aware that each housing will be filled with water/synthetic fluid mixture, so be careful not to dump on motor/pump assembly.

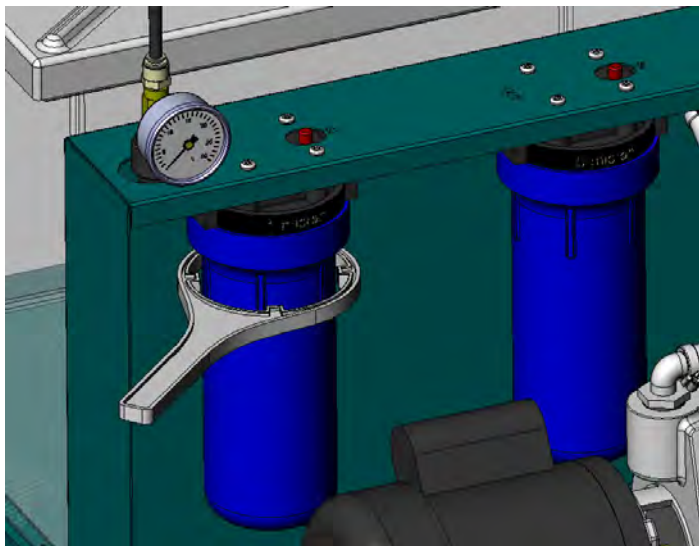
Remove filters and properly dispose, along with contaminated water/synthetic fluid mix collected in filter housings.

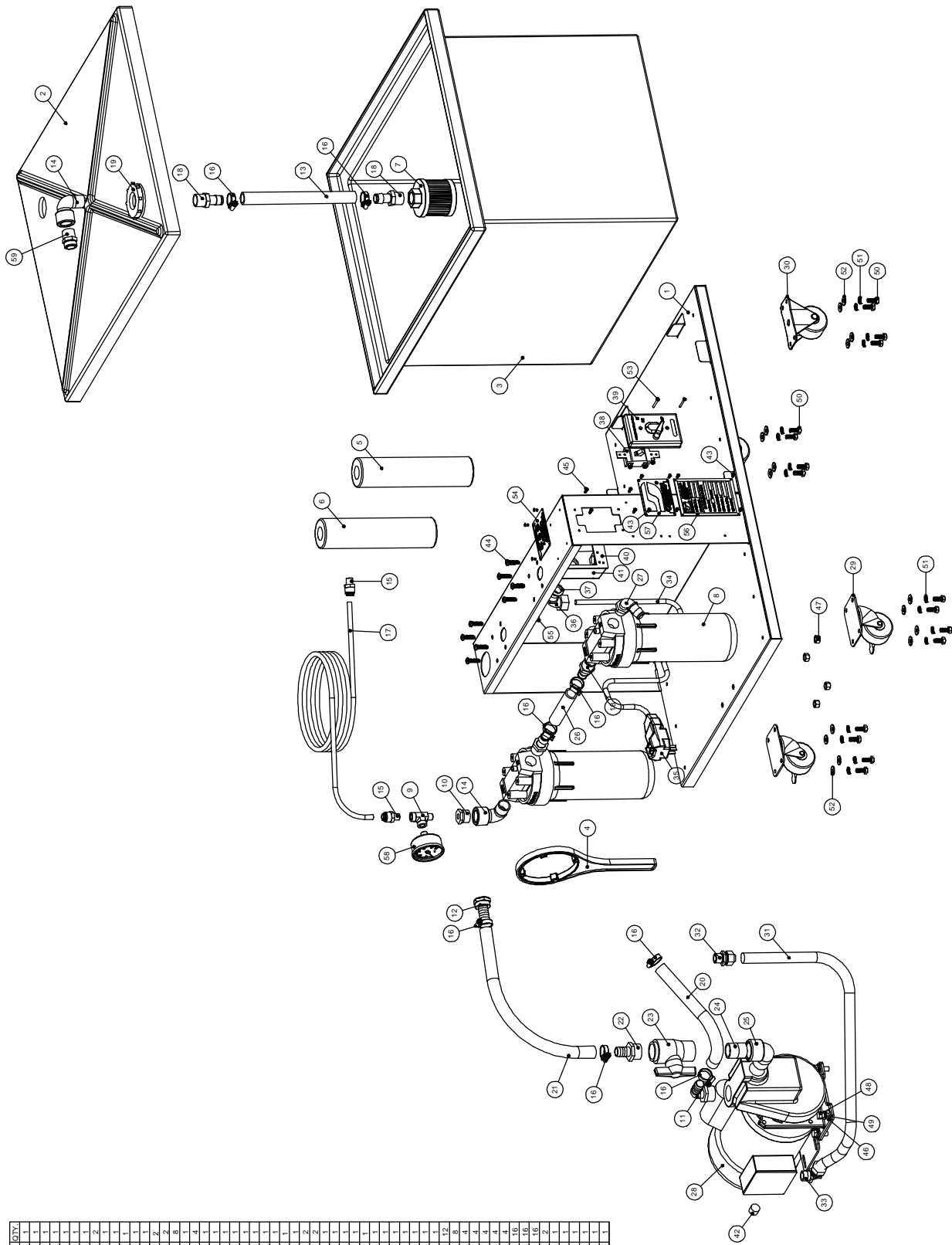
Replace stage one filter with Dynabrade part number **66635** (5 micron) filter. Replace stage 2 filter with Dynabrade part number **66631** (1 micron) filter.

After inserting new filters into housings, begin tightening assembly back together by hand, making sure to align center of filter to center of housing lid. Finish, by again using filter wrench to tighten to a watertight seal.

Visually inspect the filter housing to lid; making sure that proper thread engagement has occurred.

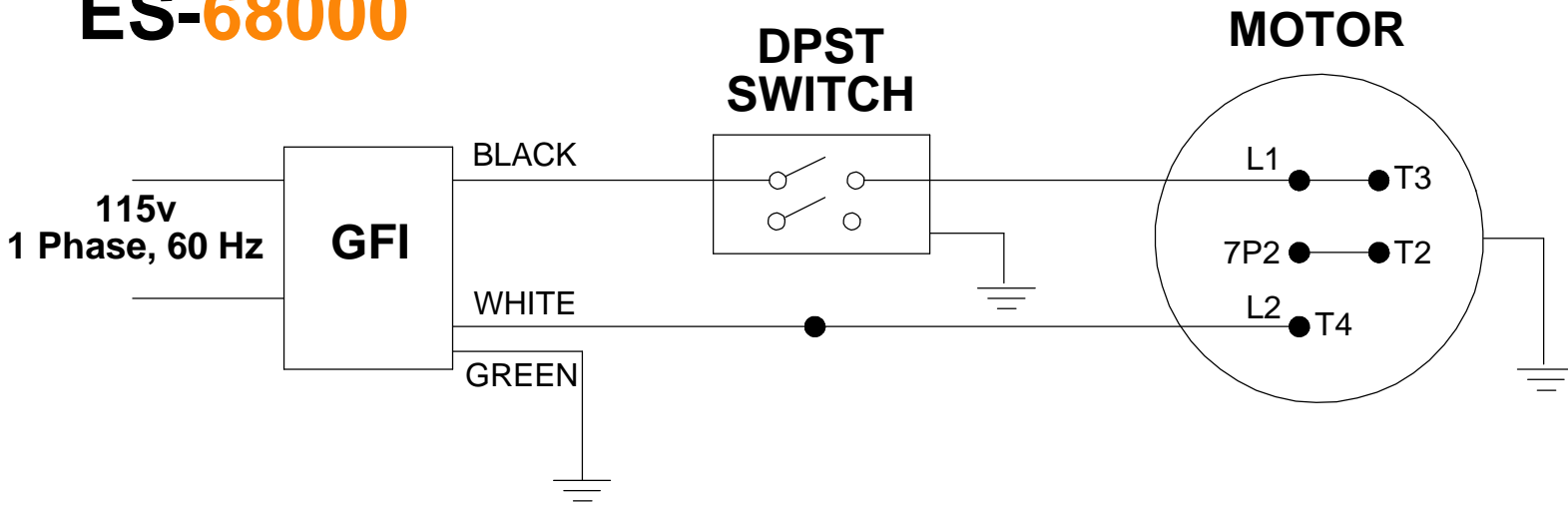
Open ball valve (D**) and re-fill tank with water/synthetic fluid mix as described in Coolant Filtration System Setup.**



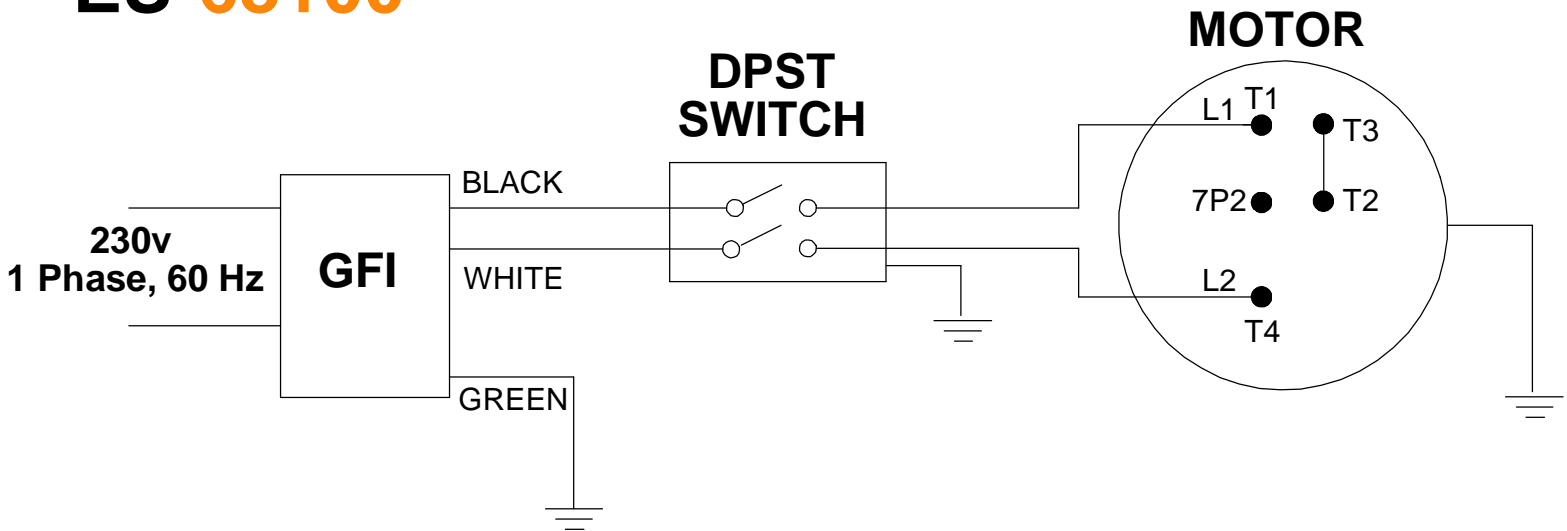


IT.	P/N.	DESCRIPTION	QTY.
1	18001	COOLANT FILTRATION WELDED BASE	1
2	18002	SWIVEL ADAPTER, 3/4" BARB X 3/4" FEM NPT	1
3	18003	SUMP TANK MACHINED	1
4	18004	FILTER CANISTER WRENCH	1
5	18005	5 MIC FILTER	1
6	18006	1 MIC FILTER	1
7	18007	SUCTION FILTER	1
8	18008	1 MIC FILTER	2
9	18009	1" FIBRA BARRA	1
10	18010	3/4" NPT M8x0.4 NPT FEM. RUBBER	1
11	18011	1" MALE NPT X 3/4" BARB, 90° ELBOW	1
12	18012	SWIVEL ADAPTER, 3/4" BARB X 3/4" FEM NPT	1
13	18013	3/4" NPT X 3/4" BARB, 90° ELBOW	1
14	18014	3/4" MALE NPT X 3/4" FEMALE NPT, 90°	2
15	18015	QUICK CONNECT, 3/8" OD TUBE X 1/4" NPT	2
16	18016	HOSE CLAMP	8
17	18017	3/8" OD TUBE	1
18	18018	1/4" FIBRA	1
19	18019	RIM K HEAD ASSEMBLY	1
20	18020	BRAIDED HOSE, PUMP TO FILTER	1
21	18021	BRAIDED HOSE, COOLANT IN	1
22	18022	1" NPT X 3/4" BARB	1
23	18023	1" NPT X 1" FEMALE NPT	1
24	18024	1" NPT X 1" FEMALE NPT	1
25	18025	1" FEMALE NPT X 1" MALE ELBOW	1
26	18026	BRAIDED HOSE, FILTER BRIDGE	1
27	18027	3/4" NPT X 3/4" BARB 90° ELBOW	1
28	18028	3000 PSI PRESSURE GAITHER	1
29	18029	3000 PSI PRESSURE GAITHER	2
30	18030	RIGID CASTER	2
31	18031	FLEXIBLE CONDUIT, GREY SHIELD	1
32	18032	90° CONDUIT ELBOW	1
33	18033	90° CONDUIT ELBOW	1
34	18034	90° CONDUIT ELBOW	1
35	18035	90° CONDUIT ELBOW	1
36	18036	90° DEGREE ELBOW	1
37	18037	1/2" SEALING RING	1
38	18038	PS20AC2-HP	1
39	18039	1" BRASS BRONZE LOCKWASHER	1
40	18040	SINGLE DEVICE JBOX GASKET	1
41	18041	WEATHERPROOF JBOX, SINGLE DEVICE	1
42	18042	1/2" NPT PLUG	1
43	18043	ALUMINUM BLIND POP RIVET	1
44	18044	1/2" ALUMINUM BLIND POP RIVET	4
45	18045	1/2" ZINC	4
46	18046	5/16" WASHER	4
47	18047	5/8" HEX NUT	4
48	18048	3/8" X 1" HEX HEAD BOLT	4
49	18049	3/8" LOCK WASHER	4
50	18050	3/8" HEX BOLT	4
51	18051	1/4" LOCK WASHER	16
52	18052	1/4" WASHER	16
53	18053	6-32 X 1/4" FIMS	2
54	18054	WARNING LABEL EYE PROTECTION	1
55	18055	WARNING LABEL EYE PROTECTION	1
56	18056	DESCRIPTION PLATE ELECTRICAL DATA	1
57	18057	DESCRIPTION PLATE COMPANY LOGO	1
58	18058	Pressure Gauge, 0-30 PSI	1
59	18059	3/4" NPT X 3/4" GHT FITTING, BRASS	1

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ES-68100



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