



Mastercool[®] Inc.
"World Class Quality"

English

OPERATING INSTRUCTIONS

"MASTERCLEANSE" FLUSH MACHINE

MODEL#-69900, 69900-220, 69901-220



**Test Equipment
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SAFETY WARNING AND PRECAUTIONS:

WARNING: The machine has been tested with Mastercool flushing fluid. We do not recommend using this machine with any other flushing fluid.

WARNING: DO NOT run the pump dry. The seals and bearings will be damaged and will waive warranty.

WARNING: This machine is not intended to be used to flush assembled systems. Do not flush filter/dryers. Do not flush orifice tubes, TXV valves, or capillary tubes. For best results, flush each component individually.

WARNING: Do not use purge gas that is over 90 PSIG (6.2 BAR).

WARNING: The used flushing fluid must be disposed of by following state or national hazardous fluid disposal regulations.

WARNING: Do not use this machine with highly flammable fluids.

WARNING: Wear proper personal protection equipment – gloves and eye protection – when using the machine.

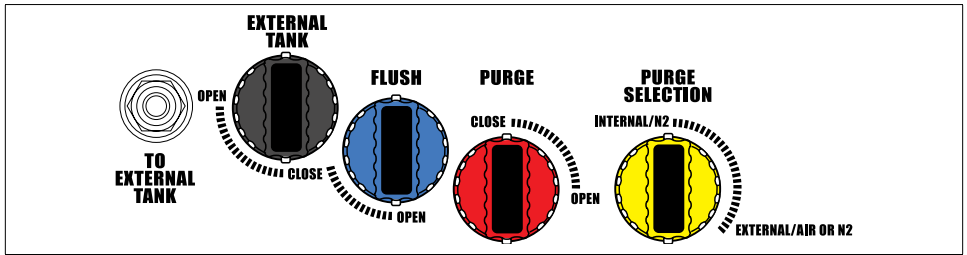
WARNING: Always plug the machine into a properly grounded socket.

WARNING: Depending on the flush fluid that is used, Mastercool recommends that all internal components of the machine including hoses and motor are completely flushed out and purged after each use due to potentially corrosive characteristics.

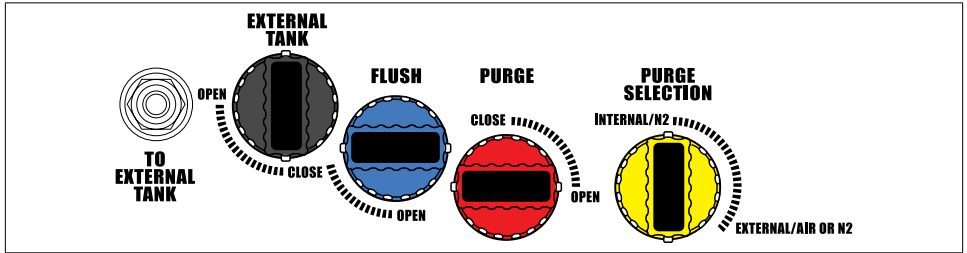
**FEATURES AND FUNCTIONS:**

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Internal tank 2. Flush fill cap 3. Flush return cap 4. Hose for fluid flow out of machine 5. Hose for fluid flow into machine 6. External tank connection 7. External tank control valve | <ol style="list-style-type: none"> 8. Flush control valve 9. Purge control valve 10. Purge source control valve (EU only) 11. Purge gas connection 12. Filter screen cap 13. Pump on/off switch |
|---|---|

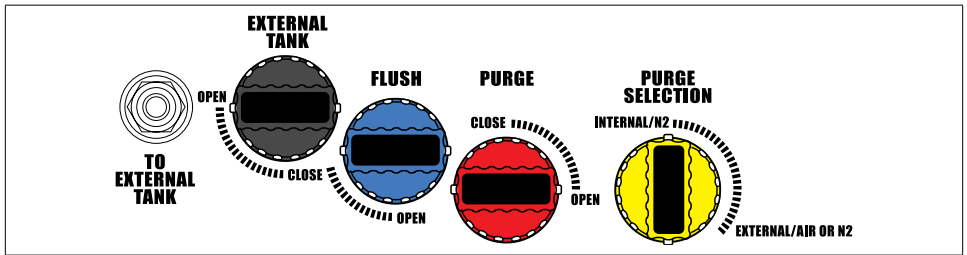
Valve Position 1:



Valve Position 2:



Valve Position 3:



FLUSHING PROCEDURE:

1. Attach the hoses to the item being flushed.
 - a. For automotive use, Mastercool adapter kit 69925 is recommended.
 - b. Flushing in the reverse direction of refrigerant flow will give best results.
2. Add clean Mastercool flushing fluid to flushing machine tank by removing the flush fill cap (2). A minimum of 1 gallon (4L) of flushing fluid recommended.
3. Turn the valves on the machine to "Valve Position 1".
4. Turn on the pump.
5. Verify flushing fluid returning to the tank through the "FLUSH RETURN CAP" (3). Check for flushing fluid leaks.
Note: If the flushing fluid does not start flowing, or the flow is very low, see the troubleshooting procedures.
6. Flush until the flushing fluid in the hose for fluid returning to the machine is the same color as the fluid coming from the machine. If the flushing fluid becomes dirty, drain the fluid and replace with clean fluid and repeat the flushing procedure.
Note: There are too many variables to say how many parts the fluid will clean. The user will have to use their own judgement on when to stop flushing and when to change the fluid.

FLUSHING LARGE ITEMS:

If the internal tank gets low while filling the item being flushed, add more flushing fluid while the pump is still running. Keep adding flushing fluid until flushing fluid is returning to the internal tank and there is enough flushing fluid in the internal tank to prevent air from going into the pump. It is best to keep the level of flushing fluid above the tank outlet fitting.

When purging the extra flushing fluid, add a hose to the external tank connection (6). Put the hose into an external tank to collect the extra flushing fluid. The external tank must be at the same level as the internal tank or lower than the internal tank. Open external tank valve (7).

PURGING PROCEDURE:

If a purge selection valve is available:

1. Turn the purge selection valve to the preferred purge source.
 - a. To use an external purge gas source (Nitrogen is preferred. If air is used, the air source must be clean and dry), attach the gas source to external "PURGE GAS CONNECTION" (11). The pressure of the external gas cannot exceed 90 PSI (6.2 Bar).
 - Turn the purge selection valve (10) to "EXTERNAL AIR/N2".
 - b. To use the internal nitrogen source, screw a bottle of nitrogen onto the regulator.
 - Turn the selector valve (10) to "INTERNAL N2".
2. Turn the "FLUSH" valve (8) to a horizontal position as in "Valve Position 2".
3. Check that all connections are tight.
4. When ready to purge turn the "PURGE" valve (9) to "OPEN".
5. Continue purging until all of the flush fluid is out of the system and the system is dry.

EMPTYING INTERNAL TANK:

1. Make sure hoses are purged of flushing fluid.
Note: To purge the hoses without an item to flush, use a 1/4" SAE flare male union (Mastercool part number 90633) to connect both ends of the hoses together.
2. Attach a hose to the "EXTERNAL TANK" connection (6). The fitting on the machine is 1/4" SAE 45° flare, male.
3. Run the hose to an external tank for dirty flush storage and disposal.
4. Turn the "FLUSH" valve to the horizontal position.
5. Turn the "EXTERNAL TANK" valve (7) to "OPEN".
Note: Fluid will start flowing as soon as the valve is opened.
6. Follow purging procedure with "EXTERNAL TANK" valve open to purge the flushing fluid out of the pump as well as the tank. The valves will be in "Valve Position 3."
Note: Emptying the tank by putting the hose for fluid coming from the machine (4) into a container and turning the pump on works, but, there is a risk of running the pump dry and damaging it. We do not recommend emptying the tank this way.

CLEANING THE FILTER SCREEN:

1. Purge the hoses to empty any flush fluid from the filter screen.
Note: To purge the hoses without an item to flush, use a 1/4" SAE flare male union to connect both ends of the hoses together.
2. Hold a rag or container under the filter screen.
3. Unscrew the filter screen cap by turning it counter clockwise, looking from the top.
4. Unscrew the screen and clean it.

Reassembly

5. Replace the filter screen.
6. Put some light oil on the filter screen cap threads and O-ring.
7. Screw on the filter screen cap hand tight.

Optional Procedure

1. Disconnect the tube from the "FLUSH RETURN CAP" (3) by pushing in the orange ring and then pulling on the tube.
2. Disconnect the tube that goes from the bottom of the filter screen to the machine from the machine end.
3. Place the tube from the bottom of the filter screen into a suitable container.
4. Backflush the filter screen by pouring flushing fluid through the hose from the "FLUSH RETURN CAP".

TROUBLESHOOTING:

Pump does not turn:

- Check power supply. If power supply is OK, pump may be blocked by debris or seized. Contact the distributor.

Pump turns on then stops:

- There is too much load on the pump motor. There may be debris in the pump or bad seals or bearings. Contact the distributor.

Pump turns, but there is little or no flushing fluid flow:

- Make sure there is plenty of flushing fluid in the internal tank. Add flushing fluid if necessary.
- The item being flushed may be mostly or totally blocked. Connect the hoses together with a male 1/4" SAE flare union

and check for flow. If the flow is normal, then the flow through the item is too low to flush.

- The filter screen may be dirty. Follow the cleaning the filter screen procedure.
- The inlet to the pump may be clogged. Look into the tank and make sure the pickup tube looks clear. Remove the tube from the inlet to the pump and make sure there is plenty of flow.
- The pump may be worn. If none of the above allows fluid to flow, put the hose for flow out of the machine (4) into a suitable container and turn the pump on. There should be significant flow. If not, contact the distributor.

OPTIONAL PARTS:

69925 Adapter Kit
91092-A Flush Gun

REPLACEMENT PARTS:

69900-FS Filter screen
69900-FSO Filter screen O-ring
42010-10 Hose gaskets (10 pcs)
69900-001 110 V / 60 Hz pump
69900-001-220 220V / 50/60 Hz pump
69901-008 Internal regulator for european models

WARRANTY:

MASTERCool Inc.® warrants this product against defects in material and workmanship for a period of one year from date of purchase to original user. This warranty does not cover failure due to abuse, improper usage, neglect or progressive wear and tear. Warranty service is provided through the factory only. Please contact the service department toll free for parts, service concerns, or to obtain a return authorization number for warranty repair.

⚠ WARNING: This product can expose you to chemicals including lead and Di (2-ethylhexyl) phthalate, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



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