



## Diversi-Flush™ Usage Instructions

The Diversi-Flush™ Kit consists of a reusable injection tank (with built-in 200 psi (13.78 bar) Pressure relief valve), nitrogen charging hose, and injection tool assembly. The trigger injector on the tool assembly ensures more efficient use of the solvent by allowing infinite control of the flushes rather than the less efficient method of flushing in one long burst. The Diversi-Flush™ Solvent is a dual purpose blend designed to clean line sets and systems in preparation of changing from R-22 to a blended HFC refrigerant (mineral oil to POE oil) as well as to flush the contaminants from a system after a compressor burn out. Typically, due to the high acidic level of contamination in a burn out, more solvent will be required in system flushes than in line set flushes. The Diversi-Flush™ Solvent is non-ozone depleting and has low-toxicity.

## Detailed Instructions

### Compressor Burnouts

#### I. Equipment required

1. Diversi-Flush™ Kit including one 473 ml can of Diversi-Flush™ Solvent for every 17.5 Kw to 28 Kw of system capacity.
2. Re-sealable container to hold the contaminated flush material.
3. Nitrogen tank with regulator.
4. Refrigerant recovery machine.
5. Vacuum pump with accessories.
6. Absorbent shop cloths, rubber gloves and safety goggles.

#### II. Detailed Instructions

1. Evacuate the system using approved techniques and recovery equipment.
2. Take the electrical system offline
3. Remove the old compressor from the system
4. Remove filter drier cores as well as any check valves and reversing valves on heat pump systems. It may be quicker and less expensive to by-pass the filter drier, check and reversing valves with a by-pass loop.
5. Make sure a re-sealable waste container is attached to a discharge port to capture the flushed acidic contaminants.
6. To maximize solvent contact time, restrict the flow at the discharge port. This will minimize the amount of solvent needed to thoroughly clean the system.



- Pressure Relief Valve
- Hose
- Injector Tank
- (1) 473ml. Can of Diversi-Flush™
- Injector Trigger Nozzle
- Diversi-Flush™ Adapter



7. Attach the hose and injector tool assembly to the outlet side of the pressure tank. Fill the Diversi-Flush™ Injector pressure tank with Diversi-Flush™ Solvent. A tank may be filled with up to 720 ml of Diversi-Flush™. Connect the hose from the regulator of the nitrogen tank to the inlet (ball valve) side of the injector tank (fig. A).
8. Set the nitrogen gauge at 50 psi (3.4 bar). Open the regulator valve on the nitrogen tank then slowly open the valve on the injector tank to pressurise it. DO NOT EXCEED 200 psi (13.78 bar).
9. Close the valve on the injector tank and nitrogen tank and then disconnect the nitrogen hose from the injection tank.
10. Insert the rubber adapter in the inlet port (fig. B), maintaining the injector tank in an upright position. Inject Diversi-Flush™ Solvent in 3 second increments in stages (30-60 ml/3.5 Kw). The number of flushes will depend on the size of the system and the contamination level.



**Figure A**

11. Connect the hose from the nitrogen tank to the inlet port of the part that is being flushed and purge the system at 150 psi (10.34 bar) for 1-2 minutes. This will ensure removal of all trace amounts of oil residue and solvents. Check the solvent at the outlet port to be sure all contaminants have been purged from the system. If the exiting solvent is not yet clear repeat steps 10 and 11.
12. Next, install the new compressor, new filter drier core and check valves. If the system was bypassed with a loop, remove and reconnect the lines.

13. Using a vacuum pump, evacuate the system to a low micron reading. The typical evacuation time is approximately 3 minutes per 3.5 Kw .
14. Check the system for leaks and recharge the system with refrigerant and oil as per the equipment manufacturer's recommendations.
15. Reconnect the electrical circuitry and test the system again following the manufacturers recommendations.
16. Any unused Diversi-Flush™ Solvent can be stored in the injection tank and saved for future use. Ensure all valves are closed on the injection tank to prevent solvent loss during storage. Dispose of the waste solvent in accordance with national and local waste disposal regulations.

## Flushing Lines for R-22 to blended HFC refrigerant Conversions

### I. Equipment required

1. Diversi-Flush™ Kit including one 473 ml can of Diversi-Flush™ Solvent.
2. Re-sealable container to hold the contaminated flushed material.
3. Nitrogen tank with regulator.
4. Refrigerant recovery machine
5. Vacuum pump with accessories
6. Absorbent shop cloths, rubber gloves and safety goggles.

### II. Detailed Instructions

1. Recover the refrigerant from system and disconnect and remove old equipment.
2. Make sure a re-sealable waste container is attached to the exit end of the lines to capture the flushed material. Establish one end of the line set as the discharge point.
3. To maximise solvent contact time, restrict the flow at the discharge point. This will also minimise the amount of solvent needed to thoroughly clean the system. For best results, use the DiversiTech Line Set Flush Adapter to connect the liquid line and the suction line at the disconnected indoor air handler. Inject solvent into the liquid line and collect solvent at the suction line outdoors at the disconnected condensing unit.
4. Attach the hose and injector tool assembly to the outlet side of the pressure tank. Fill the Diversi-Flush™ Injector pressure tank with Diversi-Flush™ Solvent. A tank may be filled with up to 720 ml of Diversi-Flush™. Connect the hose from the regulator of the nitrogen tank to the inlet (ball valve) side of the injector tank (fig. A).
5. Set the pressure regulator on the nitrogen tank at 50 psi (3.4 bar), open the inlet valve at the tank then slowly open the valve on the injector tank to pressurise it. DO NOT EXCEED 200 psi (13.78 bar).
6. After pressurising the Injection Tank, close the valve and disconnect the nitrogen fill hose.
7. Line sets of different diameters, lengths and configurations will require different quantities of Diversi-Flush™ Solvent to achieve complete removal of residual oils.
- A. For liquid lines, a 473 ml can of Diversi-Flush™ will typically clean up to 150 metres of liquid line: Insert the rubber adapter in the inlet of one of the line sets, maintaining the injector tank in an upright position, inject Diversi-Flush™ Solvent in 3 second increments in stages. The number of flushes will depend on the length of the line and the contamination level. A typical line set will require 60 to 90 ml of Diversi-Flush™ to effectively remove the oil residual in the line sets. Results will vary depending on contamination level.
- B. For larger diameter pipes: Larger diameter line sets will require considerably more Diversi-Flush™ Solvent due to increased volume of the larger pipes. The flushing process will therefore require multiple 3 second injections of Diversi-Flush™ solvent to achieve satisfactory results.

8. Connect the hose from the nitrogen tank to the inlet port (fig. B) of the part that is being flushed and purge the system at 150 psi (10.34 bar) for 1-2 minutes. This will ensure removal of all trace amounts of oil residue and solvents. Check the solvent at the outlet port to be sure all contaminants have been purged from the system. If the exiting solvent is not yet clear, repeat steps 7 & 8.
9. Connect the new equipment and, using a vacuum pump, evacuate the system to a low micron level. The typical evacuation time is approximately 3 minutes per 3.5 Kw.
10. Check the system for leaks, then charge system with the refrigerant and oil as per the equipment manufacturer's recommendations.
11. Connect the electrical circuitry and test the system again following manufacturers recommendations.
12. Any unused Diversi-Flush™ Solvent



Figure B

can be stored in the injection tank and saved for future use. Ensure all valves are closed on the injection tank to prevent solvent loss during storage. Dispose of the waste solvent in accordance with national and local waste disposal regulations.

These recommended quantities are based on typical flush situations during a conversion from R-22 to a blended HFC refrigerant. In the event of compressor burn out double the amount of solvent required to compensate for the added oil contamination load. This is for lines only and do not calculate in any allowance for the system components connected to the lines.

#### LIT-DUSE-FLUSH

Manufactured by  
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