SERVICEFIRST™

Installation
Operation
Maintenance

MityVac

High Pressure, Light Commercial Microprocessor and Electromechanical Refrigerant Recovery Systems

Microprocessor Unit

Electromechanical Unit

Model Numbers:
RRCA122A0A0, RRCA112A0A0, RRCA122B0A0, RRCA112B0A0

RRCA-SVX01B-EN

Table of Contents

General Information

Warnings and Cautions

Warnings and Cautions appear at appropriate locations throughout this manual. Read these carefully.

⚠WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices and where property-damage-only accidents could occur.

Model Number Description

R	R	C	A	1	1	1	A	0	A	0
1	2	3	4	5	6	7	8	9	10	11

Refrigerant Recovery

Digits 1, 2 - Product Description
RR = Refrigerant Recovery

Digit 3 - Model Identifier
A = MicroVac
B = HandiVac
C = MityVac
D = EVAC Commercial
E = EVAC Industrial
F = LoVac
G = AllVac

Digit 4 - Development Sequence
A = First Development

Digit 5 - Condenser Type
1 = Air Cooled
2 = Water Cooled
3 = Air/Water Cooled

Digit 6 - Control Type
1 = Electromechanical
2 = Microprocessor

Digit 7 - Connection Type
1 = 1/4” flare
2 = 1/2” flare
3 = 3/4” flare
4 = 1.25” pipe thread fitting w/ball valve
5 = Quick Connects on unit and hoses

Digit 8 - Unit Voltage (voltage/hz/phase)
A = 115/60/1, 110/50/1
B = 230/60/1, 220/50/1
C = 460/60/3, 415/50/3
D = 575/60/3, 220/50/3
E = 230/60/3, 220/50/3
F = 575/60/3
G = 230-460/60/1, 220-415/50/1
H = 460-575/60/3, 415-550/50/3

Digit 9 - Safety Features
0 = Open
1 = Float Cable Connection
2 = Low Pressure Shut-Off
3 = Float cable connection, LP shut-off

Digits 10, 11 - Design Sequence
A0 = First Design Sequence

Literature History

RRCA-SVX01B-EN (October 2001)

Revision of manual to include Electromechanical System section.

RRCA-SVX01A-EN (April 2001)

Original issue of manual. Describes the Installation, Operation, and Maintenance procedures for this unit.

General Information

Electrical Power Requirements

Recovery Main Components and Controls:

- 115 VAC, 50/60 Hz, 1-Phase, 20-Amperes, Min. Ckt Amp 17.5, Max Fuse 20 Amps
- 240 VAC, 50/60Hz, 1-Phase, 15-Amperes, Min. Ckt Amp 10.0, Max Fuse 15 Amps

Dimensions (approximate)

- 19” high x 14” wide x 18” deep

Weight

- 115-lbs (140-lbs shipping) — Microprocessor System
- 100-lbs (130-lbs shipping) — Electromechanical System

Notice

The Trane Company urges that all HVAC servicers working on Trane equipment, or any manufacturer’s products, make every effort to eliminate, if possible, or vigorously reduce the emission of CFC, HCFC and HFC refrigerants to the atmosphere resulting from installation, operation, routine maintenance, or major service on this equipment. Always act in a responsible manner to conserve refrigerants for continued use even when acceptable alternatives are available. Conservation and emission-reduction can be accomplished by following recom- mended Trane service and safety procedures published in Trane General Service Bulletin CTV-SB-81. The information and procedures provided in CTV-SB-81 supersedes those published in this manual. Copies of this bulletin may be obtained by contacting your local Trane commercial representative.

WARNING!

To avoid injury or death due to inhalation of, or skin exposure to refrigerant, closely follow all safety procedures described in the Material Safety Data Sheet for the refrigerant and to all labels on refrigerant containers. Certain procedures common to refrigeration system service may expose personnel to liquid or vaporous refrigerant.

Microprocessor
General Information

Product Description

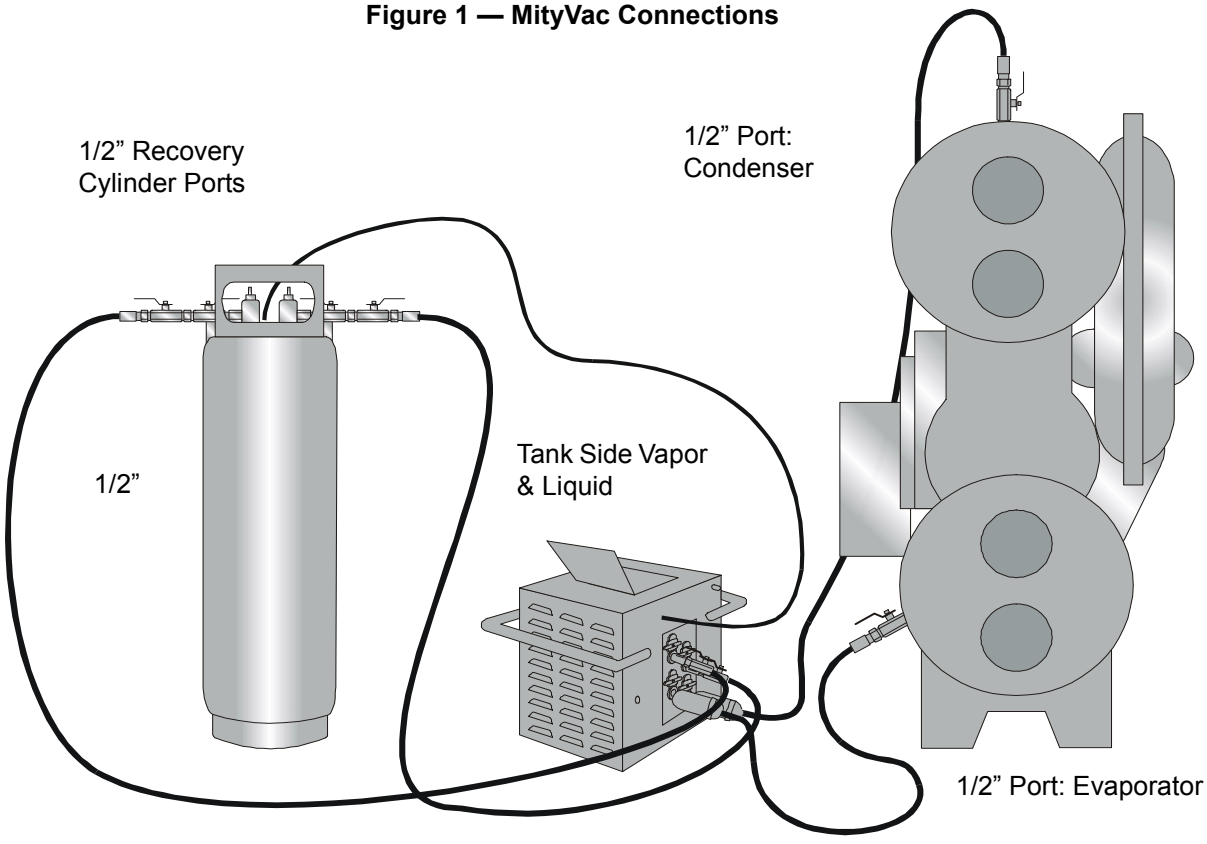
RefTec's MityVac recovery system provides automated recovery of most high pressure refrigerants and blends.

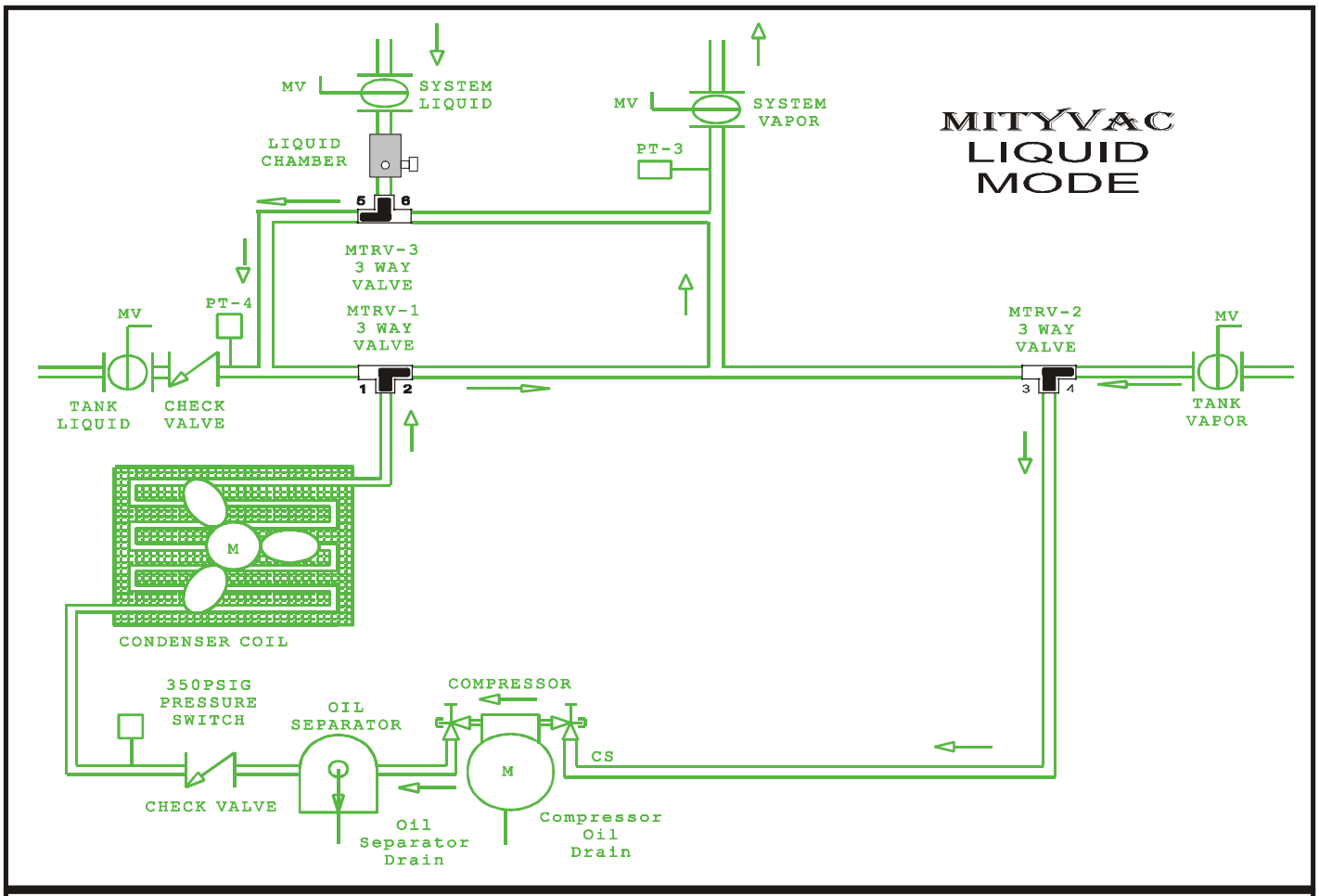
The unit consists of a 1.5-hp compressor with oil separator, disposable liquid & vapor prefilter driers, high capacity air cooled condenser, microprocessor control system, and actuated valving system. Unit connections are 1/2" male flare with isolation valves.

After hoses are connected and purged or evacuated, MityVac starts automated recovery by letting refrigerant migrate from the A/C system to the recovery tank. It then draws vapor off the recovery tank, heats it via compression, and injects it back into the A/C system high side, thus creating a pressure differential before commencing liquid transfer.

Two pressure transducers and a liquid prism switch determine when liquid transfer is complete, and MityVac's compressor begins moving vapor, which is first cleansed by a filter drier. Discharged hot refrigerant gas and oil pass through an oil separator, where oil is separated and sent back to compressor Refrigerant is then condensed by the air-cooled condenser and sent to the recovery tank.

Figure 1 — MityVac Connections

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SYSTEM
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VAPOR
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6
MTRV-3
3 WAY
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MV
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COMPRESSOR
CS
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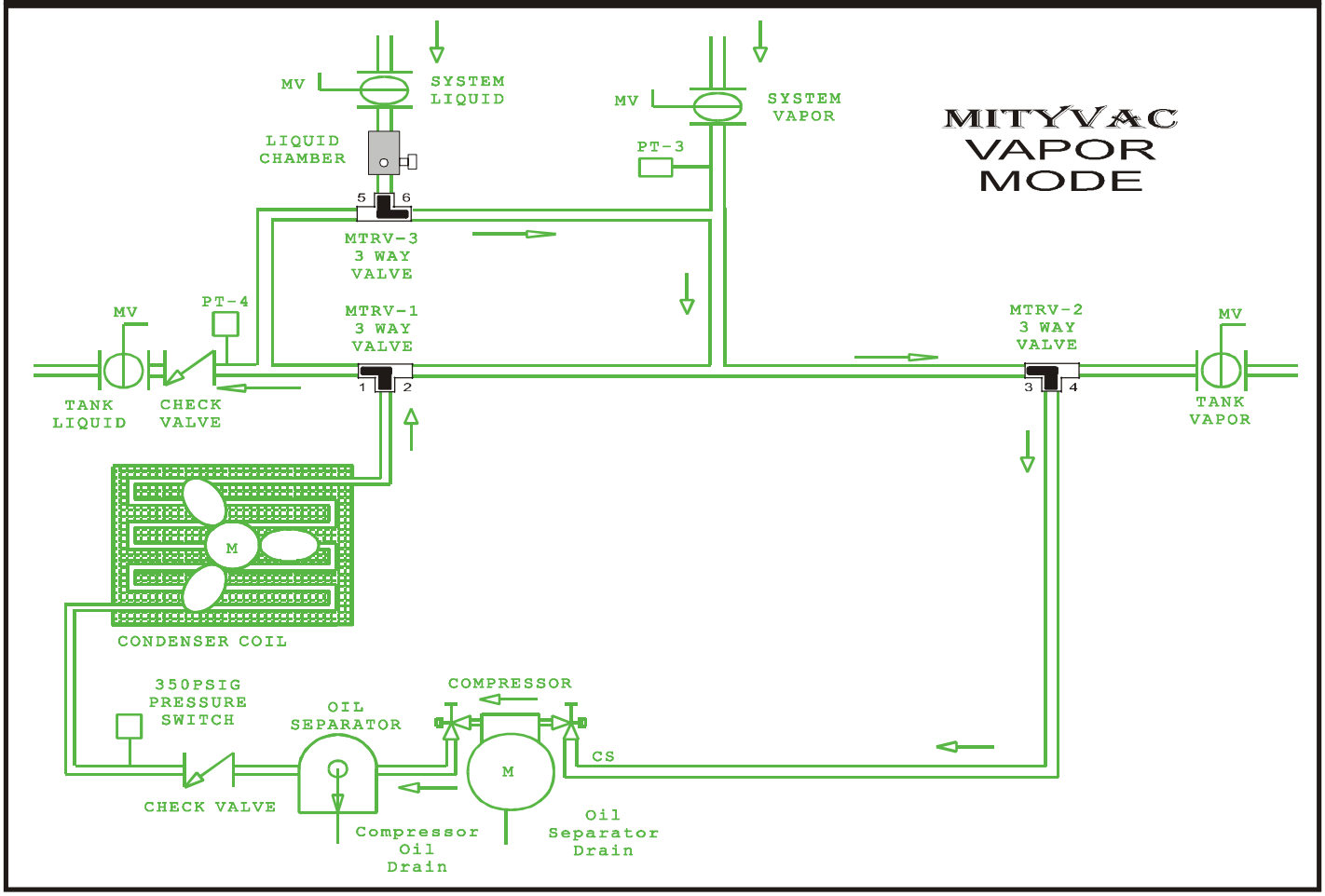
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350PSIG
PRESSURE
SWITCH
OIL
SEPARATOR
COMPRESSOR
CS
M
CHECK VALVE
Compressor
Oil
Drain
Oil
Separator
Drain

Microprocessor

General Information

Furnished with the MityVac are:

- Two 1/2” female flare unions
- Two 0.73-liter disposable in-line filter driers

Please follow the recommended procedures outlined in this manual for regular changing of compressor fluid. Before every recovery job install new liquid and vapor drier cores.

Peak Performance

To get the highest performance from your MityVac unit, we recommend that you:

- Connect to 1/2” evaporator and 1/2” condenser ports on the chiller or A/C system and to recovery cylinders with 1/2” ports whenever possible.

Microprocessor
Operation

Operating Procedures

To ensure your safety as well as others, before attempting to recover an A/C, refrigeration or chiller system, proper and thorough preparation must take place:

- Make sure you have a recovery cylinder with a minimum 1/2" male flare vapor port and a minimum 1/2" male flare liquid port. This tank or series of tanks have to be able to hold the entire charge and be rated for the correct pressure.

Reminder: Refrigerant full weight is 80% of water capacity weight determined as follows: Maximum allowable gross weight = 80% of water capacity weight + cylinder tare weight.

- In addition, a suitable scale should be used to weigh the refrigerant charge in case MityVac needs to be shut down to prevent overfilling tanks. If a scale is not available, the tanks can be equipped at time of purchase with a float switch that will shutdown MityVac.
- Finally, the recovery cylinder or cylinders must be pulled into a 29" vacuum before recovery commences. Failure to follow these above stated procedures will decrease the likelihood of MityVac performing at its highest possible effectiveness.

1. Turn the chiller, refrigeration or A/C system off; make sure that the system cannot restart.
2. Connect the proper power to MityVac's control box and a suitable 1-phase power outlet.
3. At this point, the display lights up indicating the unit has power and prompting you to press **Start**.

An additional feature can be accessed at this time, by pressing the " ← " key. This display will show you total compressor run time as well as give you a historical maintenance schedule. In addition, at every 10 hours of cumulative operating run time for the compressor, an automatic message will appear each time you start the MityVac until maintenance is performed. After changing oil, then press "Enter" key which records that maintenance has been performed. Message will then not appear until the next 10 hours of compressor run time is accumulated. The system will retain a log of each maintenance event recorded.

4. MityVac will prompt you to select either "Scale" or "Float Switch" by using the ←→ keys. If Scale is selected, then float cable will not be needed. If Float Switch is selected, connect the float safety cable to the MityVac and to the recovery tank.
5. Next the microprocessor will give you the option of selecting the shut-down pressure at either 0 Psig or 15" Hg. The MityVac will automatically shutdown after vapor recovery has finished and reached this pressure.

Microprocessor

Operation

6. MityVac then asks you to **"Connect all Refrigerant Hoses"** then press ***"Enter".*** Connect the two 1/2" hoses to MityVac's recovery side liquid and vapor ports and to liquid and vapor ports on the recovery cylinder. Connect other two 1/2" hoses to ports on the chiller evaporator and condenser or A/C system.
7. **"Open Vapor & Liquid Access Valves on A/C System Being Recovered"** then press ***"Enter".***
8. **"Open System Vapor & Liquid Hand Valves on MityVac Recovery Unit"** then press ***"Enter".***
9. **Next "Pendant Vapor & Liquid Valves on MityVac Recovery Unit" then press "Enter".**
10. MityVac then asks you to **"Purge Both Refrigerant Lines at the Recovery Tank"** then press ***"Enter".***
11. Next **"Open Vapor and Liquid Hand Valves on Recovery Tank"** then press ***"Enter".***
12. Next **"Changing Valve Sequence 45 Second Wait: 45"**.
13. MityVac then displays **"Liquid Transfer!"** and displays the A/C system and recovery tank pressures.
14. Once the liquid prism switch has determined that there is no more liquid present, the unit automatically switches to vapor recovery, displaying **"Changing Valve Sequence Wait 90 Second".** Then **"Vapor Recovery in Process"** and continues to display the A/C system and recovery tank pressures.

MityVac now begins automated recovery while continuously displaying A/C system and recovery tank pressures.

If MityVac does not switch to vapor recovery and you are absolutely sure that all of the liquid has been removed, it may be because lines to the recovery tank or to the cooling system are restricted. In this case, a bypass feature can be accessed that forces the unit to begin vapor recovery.

To perform this task press the enter key two times in a row during liquid recovery mode and vapor recovery will commence. It is absolutely imperative that all liquid has been transferred before using this override feature. Failure to do so may result in liquid slugging to the compressor and causing major damage.

Microprocessor

Operation

15. When a 15” vacuum or 0 Psig has been achieved in the A/C system, whichever was initially selected, the unit power shuts off and the display reads **“Vapor Recovery Finished! press Enter”**.
    Upon pressing “Enter”, MityVac prompts you to perform the following valve manipulations 16-22:
16. **“Close Access Valves on A/C System Being Recovered”** then press**”Enter”.**
17. **“Close Both Hand Valves on MityVac’s Unit A/C System Side”** press ***“Enter”.***
18. MityVac compressor then restarts and begins to force remaining liquid in MityVac as well as liquid in hose into the recovery tank. Displaying “**Liquid Refrigerant Clearing in Process”**.
19. **“Close Both Liquid & Vapor Hand Valves on Recovery Tank”** press **“*Enter”.***
20. MityVac then begins evacuating the recovery tank vapor hose, displaying **“Hose Evacuation in Process”.**
21. **“Close Both Liquid & Vapor Tank Hand Valves on MityVac unit”** then press ***“Enter”.***
22. Finally, the unit displays **“System Recovery Completed! Disconnect all Hoses and Power”**.

There will still be a small, residual amount of refrigerant in MityVac. This amount must be removed if you want to change to a different type of refrigerant. An explanation on how to remove this residual amount of refrigerant is described in the next section.

Microprocessor

Operation

Removing Remaining Residual Refrigerant

a) Connect the center tap of a manifold set to a suitable vacuum pump inlet and discharge side of pump to a 50 lb. evacuated recovery cylinder. Connect the low & high side of the manifold set to the 1/4” compressor suction and discharge access ports located on the side of MityVac unit.
b) Open valve on 50 lb. recovery tank and turn on the vacuum pump. Open the low & high side manifold valves and wait until a 29” vacuum has been achieved on your manifold gauge.
c) Close both manifold valves, shut down vacuum pump and close recovery tank valve. If you intend to use MityVac on a different type of refrigerant, make sure to change compressor fluid and disposable driers.

Changing Replaceable Cores

Make sure you replace filter cores after each recovery job. Simply unscrew bolts on drier shells and replace cores in the filter assembly.

Microprocessor

Maintenance

Changing Compressor Fluid

The compressor's charge of fluid should be regularly replaced with an identical fluid or, at a minimum, after these events to 3/4 sight glass:

1. After a maximum of 10 hours of run time.
2. When changing recovery jobs that involve different refrigerants.
3. After recovering a system with a burnt out compressor.

When changing oil, it is highly recommended that the same type of oil being used with the refrigerant being recovered, be used in the Industrial Evac compressor. this will help ensure that cross contamination does not occur.
To remove and change the oil in the compressor and the oil separator:

a) Make sure MityVac unit has no refrigerant in its internal parts.
b) Connect a manifold set to dry nitrogen and to the suction and discharge service 1/4" access ports located on the side of the MityVac.
c) Connect another 1/4" hose to the access fitting on the bottom of the Mity-Vac oil separator fitting and the other end to a suitable disposable oil container.
d) Gradually allow dry nitrogen to go into the discharge port on the MityVac unit until all oil has been forced out of the oil separator.

Note: 10 to 15 PSI will be more than adequate.

e) Connect another 1/4" hose to the access fitting on the bottom of the Mity-Vac compressor fitting and the other end to a suitable disposable oil container.
f) Gradually allow dry nitrogen to go into the suction port on the MityVac unit until all oil has been forced out of the compressor.
g) To add new oil to the MityVac compressor, connect a vacuum pump to the 1/4" access port on the suction side of the compressor. Pull down into a minimum 29" vacuum.

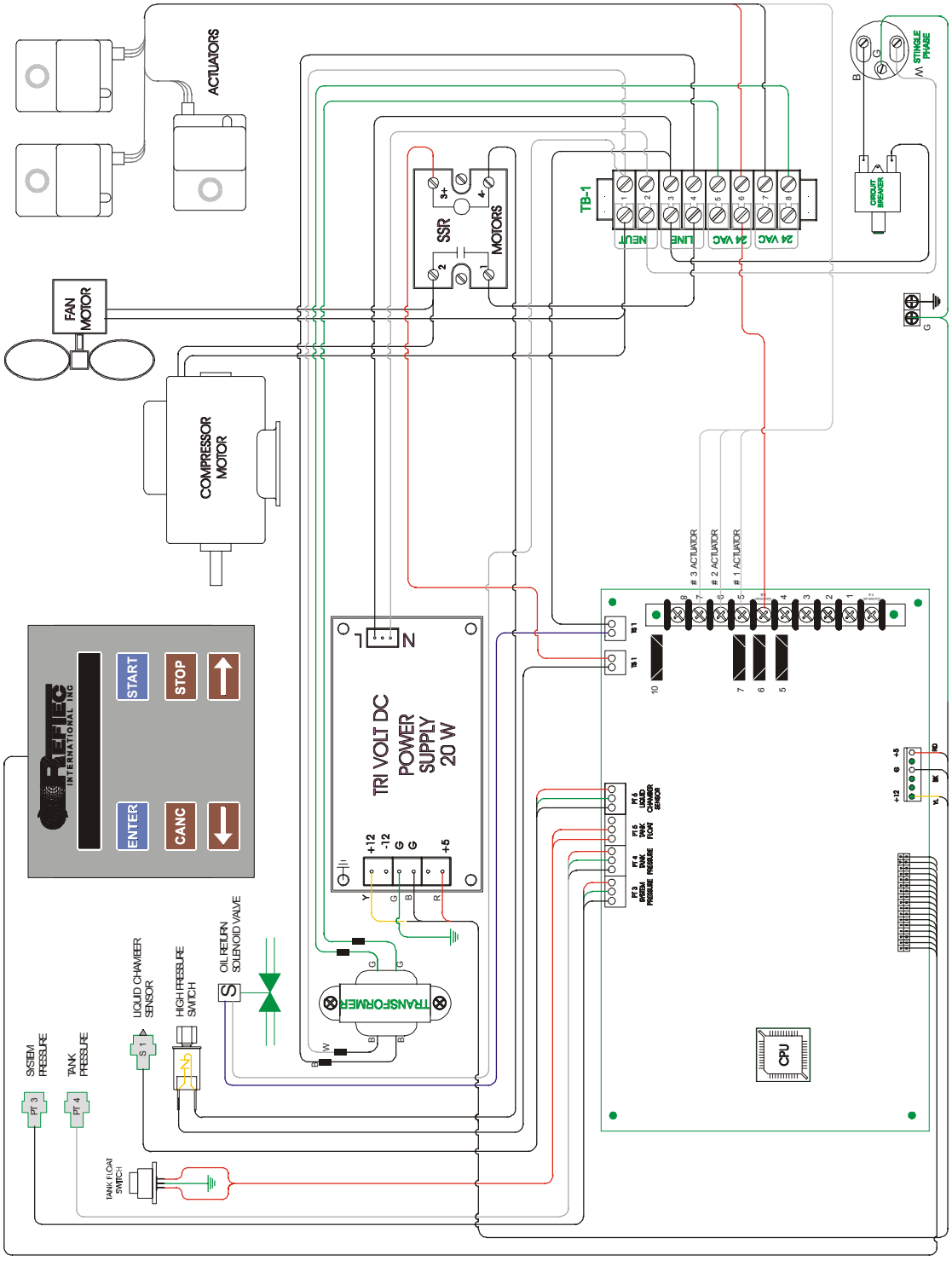
Failure to follow above procedures for recharging oil in compressor with the exact amount of oil may result in major damage to the compressor.

h) Connect the other hose to the 1/4" access port on the bottom of the compressor and into the new oil container.
Note: Fill compressor with exactly 14 oz. of oil or 3/4 sight glass.
i) Once this procedure is finished, remove all hoses and pull entire MityVac into a 29" vacuum. Dispose of old oil properly.

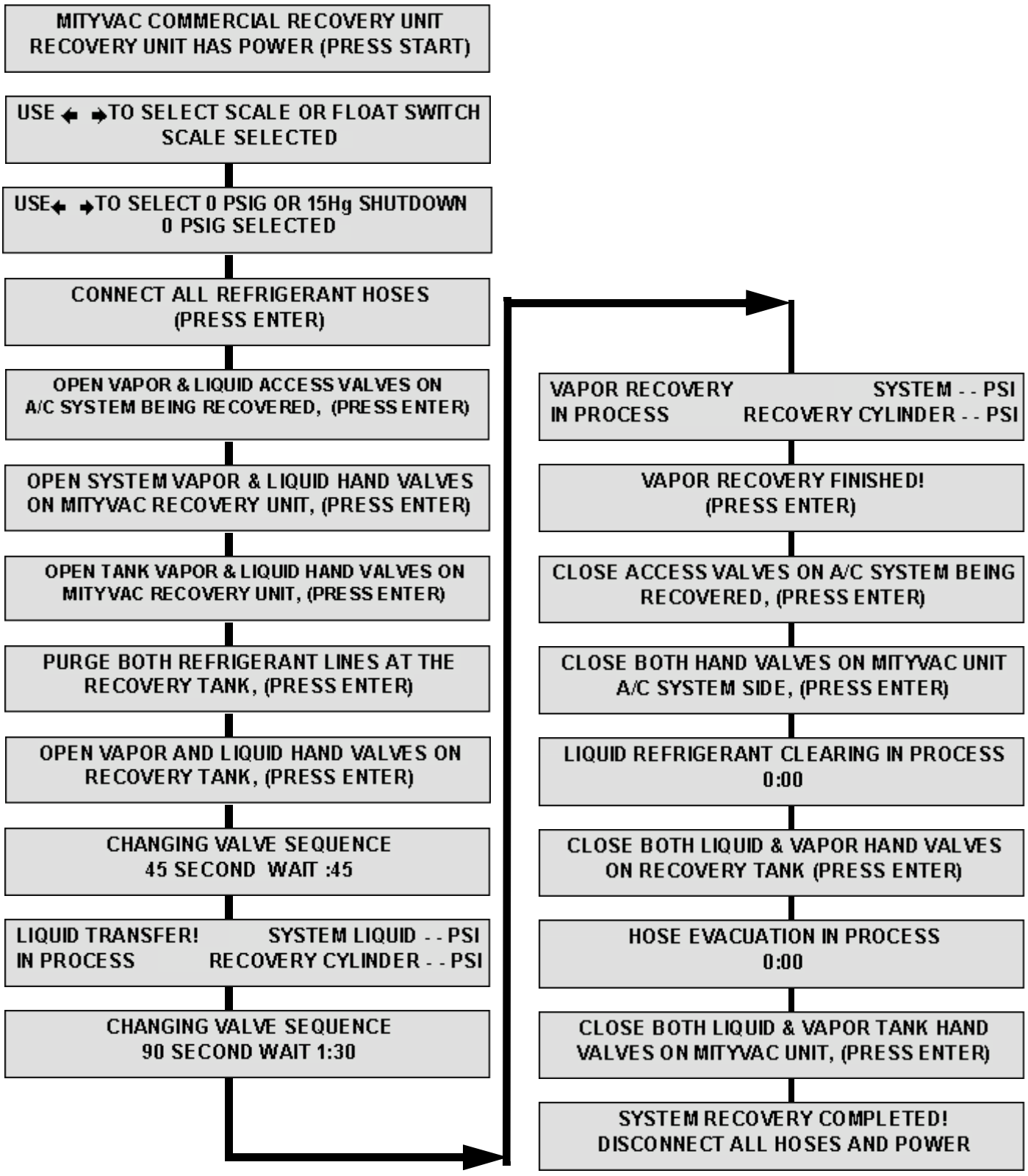
⚠ WARNING

Hazardous Voltage!
Disconnect all electric power including remote disconnects before servicing.
Failure to disconnect power before servicing can cause severe personal injury or death.

Figure 2 — Microprocessor Model, Block Wiring Diagram



Microprocessor Display Sequence



Microprocessor
Electrical Parts Breakdown

2 — 1.5 HP,120 VAC, 50/60 Hz, 1Ph, 3450 RPM, 2.0 HP,240 VAC, 50/60 Hz, 1Ph 3450 RPM

3 — Condenser Fan Motor; 35W, 115V, 60 Hz, 35W, 230V, 50/60Hz

14 — High Pressure Switch

17 — (2) Pressure Transducer

20 — (3) 3-Way Actuator Ball Valve Assembly; 22-26 VAC/ 2-32 VDC

25 — Male Inlet; 20A,125V, 2 P, 3W GRD

27 — Terminal Block

28 — Power Supply; 20W, 115V, 1A / 230V, 0.6A

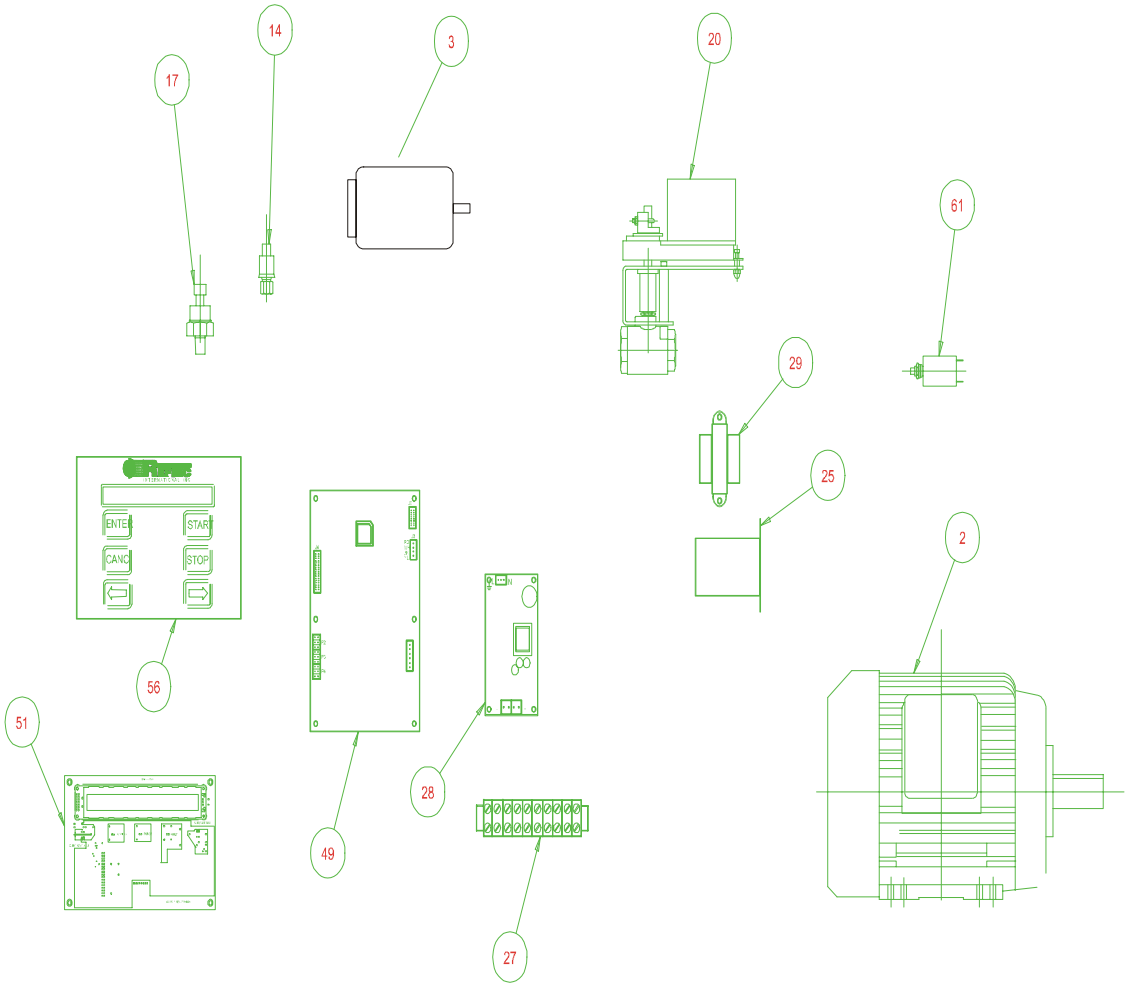
29 — Control Transformer; PRI 120/208/240V; SEC 24V 40 VA

49 — CPU Mother Board Assembly

51 — Display Board Assembly

56 — Keypad

61 — Circuit Breakers; 20 Amp, 250 VAC,28 VDC



Microprocessor
Replacement Parts

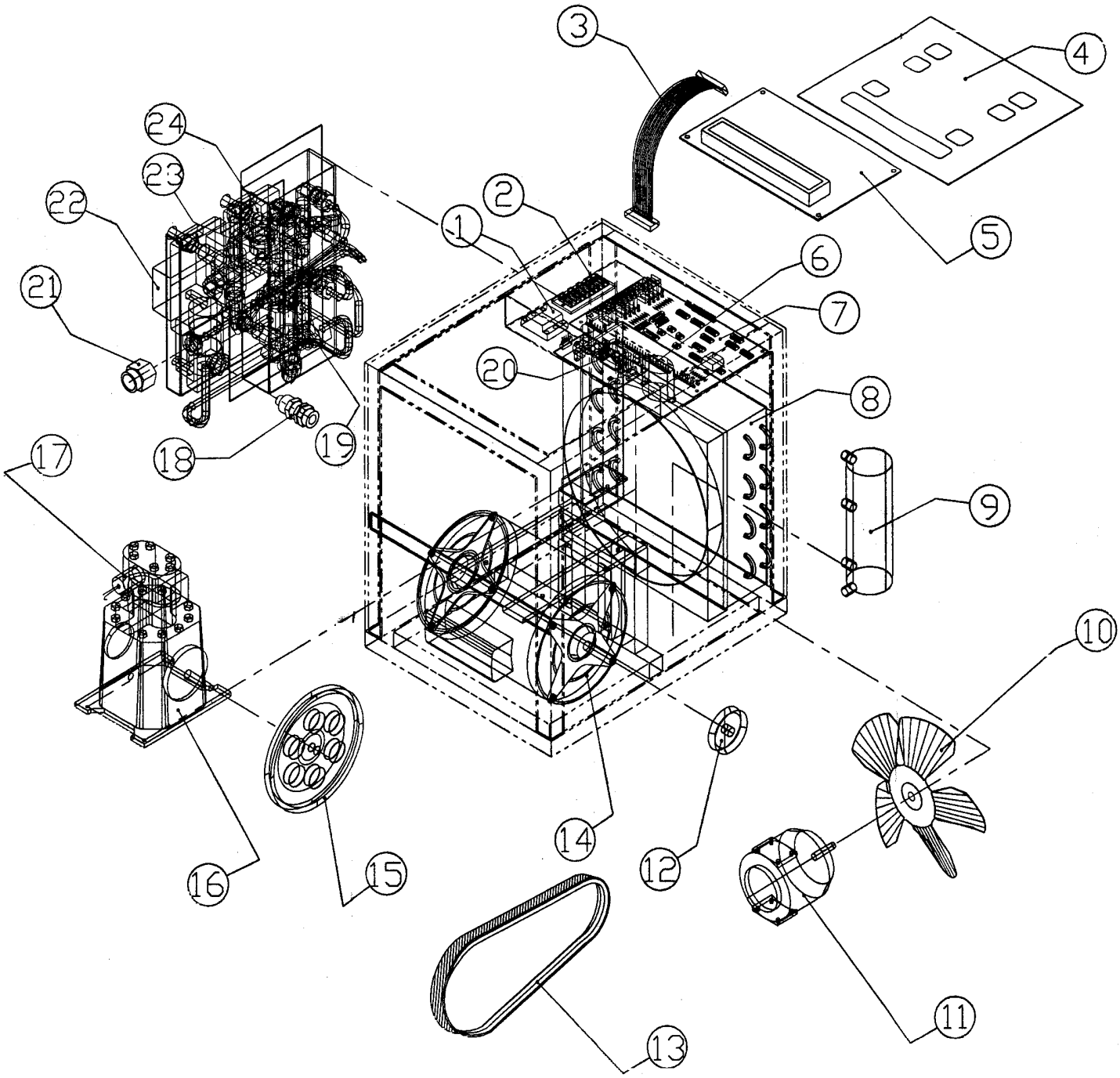
Table 1 — MityVac Replacement Parts List

Reference Number	Manufacturer Description
1	Solid State Relay
2	8 Position Terminal Strip
3	CPU Interconnect Cable Assembly
4	Key Pad
5	Display Board
6	Transformer
7	Mother Board New Bd
8	Condenser Coil
9	Vapor Comp Oil Separator
10	Cond Fan Blade
11	Cond Fan Motor 115 V
11	Cond Fan Motor 230 VAC
12	Compress Motor Drive Pulley
13	Compressor Drive Belt
14	Compressor Drive Motor
14	Compressor Drive Motor 230 VAC
15	Comes With Compressor--Compressor Pulley
16	Vapor Recovery Compressor
17	High Pressure Switch
18	Liquid Level Sensor
19	Check Valve
19	Check Valve
20	Power Supply (Electronics)
21	Sight Glass
22	Valve Actuators
23	Pressure Transducer
24	Hand Ball Valves Tank & System

Microprocessor

Replacement Parts

Figure 3 — MityVac Replacement Parts



Electromechanical
General Information

Product Description

RefTec's MityVac recovery system provides efficient and safe recovery of most high pressure refrigerants and blends.

The unit consists of a 1.5-up open drive compressor, high capacity 700 cough air cooled condenser, system pressure gauge, tank pressure gauge, a valving system consisting of three manually operated 3-way valves. Unit connections are 1/2" male flare with isolation valves. After four hoses are connected and purged or evacuated, user simply turns three 3-way valves to the liquid mode position, opens all lines at system being recovered, purges lines and turns MityVac on. MityVac starts recovery by letting refrigerant migrate from the A/C system to the recovery tank. It then draws vapor off the recovery tank, heats it via compression, and injects it back into the A/C system high side, thus creating a pressure differential for a push/pull liquid transfer.

Two on board gauges display system pressure and recovery tank pressure. When liquid has finished transferring and sight glass on side of MityVac is clear of liquid refrigerant, user turns all three 3-way valves to vapor recovery mode, allowing MityVac to pull vapor from both sides of the A/C system being recovered. MityVac compressor begins recovering vapor which is first cleansed by an external filter drier, discharged hot refrigerant gas is then condensed by the air-cooled condenser and sent to the recovery tank as a liquid.

Transfer stops when an internal pressure switch indicates the A/C system is under a 15" vacuum. If pressure should again rise above 0 psig, the MityVac will restart to pull all remaining gas from A/C system.

Safe Operations And Tips

To ensure your safety as well as others, before attempting to recover an A/C or refrigeration system, proper and thorough preparation must take place:

Make sure you have a recovery cylinder with a minimum 1/2" male flare vapor port and a minimum 1/2" male flare liquid port with 1/2" internal dip tube, or larger ports if possible. This tank or series of tanks must be able to hold the entire refrigerant charge at 80% full.

Reminder: Refrigerant full weight is 80% of water capacity weight determined as follows: Maximum allowable gross weight = 80% of water capacity weight + cylinder tare weight.

- In addition, a suitable scale should be used to weigh the refrigerant charge in case MityVac needs to be shut down to prevent overfilling tanks. If a scale is not available, the tanks can be equipped at time of purchase with a float switch that will deactivate MityVac's control circuit. All MityVac units come with safety float connection and cable.

Electromechanical

General Information

- Finally, the recovery cylinder or cylinders must be pulled into a 29“vacuum before recovery commences. Failure to follow these above stated procedures will decrease the likelihood of MityVac performing at its highest possible effectiveness.

Furnished With MityVac

- Two 1/2” female flare unions
- Two 0.73-liter disposable in-line filter driers
- Safety 80% Tank Float Cable

Peak Performance

To get the highest performance from your MityVac unit, we recommend that you:

- Connect to 1/2” evaporator and 1/2” condenser ports on the A/C system and to recovery cylinders with 1/2” ports and dip tubes whenever possible.

Microprocessor
Operation

Procedures For Liquid Push Pull Method

1 Turn the **Refrigeration or A/C System** off; make sure that the system cannot restart.

2. Connect power cord to MityVac's control box and a suitable power supply, rated for proper voltage and amperage.
3. Connect all refrigerant hoses**",** as shown in (Figure 4) on page 22. Connect two 1/2" hoses to MityVac's recovery tank side liquid and vapor ports and to liquid and vapor ports on the recovery cylinder. Connect the other two 1/2" hoses to ports on the A/C system or refrigeration unit evaporator and condenser as well as on the MityVac system liquid and vapor ports. At this time connect safety float cable from MityVac to recovery tank or use a suitable scale. If a scale is to be used instead of float safety cut out, the 80% full bypass switch will need to be set to the on position for MityVac to run.
4. Turn all three 3-way valves on MityVac to **Liquid Mode.**
5. Open Vapor & Liquid Access Valves on A/C System Being Recovered.
6. Next Open System Vapor & Liquid Hand Valves On MITYVAC Recovery Unit.
7. Next Open Tank Vapor & Liquid Valves On MityVac Recovery Unit.
8. Turn upper left hand three way valve to **Purge Mode**.
9. Purge both refrigerant lines at recovery tank, then turn upper left hand three way valve back to **Liquid Mode**.
10. Next Open Vapor & Liquid Hand Valves On Recovery Tank.
11. Turn MityVac power switch on and MityVac will automatically start drawing vapor off of recovery tank and forcing higher compressed gas back into the condenser of the A/C system. Liquid push/pull is now in process.
12. Continue to monitor liquid sight glass on side of the MityVac. Once all of the liquid has been completely removed and you are absolutely sure that all of the liquid has been removed, proceed to next section.

⚠ WARNING

It is absolutely imperative that all of the liquid has been removed before switching into the vapor recovery mode. Failure to do so may result in liquid slugging to the compressor and causing major damage to the compressor.

Microprocessor

Operation

Vapor Recovery Method

13. Once liquid site glass is completely clear of all liquid, turn all three, 3-way valves to **Vapor Recovery Mode** as shown in (Figure 5) on page 23. MityVac will now recover all of the remaining gas and vapor from both sides of the A/C system and pull entire system into a 15” vacuum.
14. Once A/C system has been completely recovered to a 15” vacuum, MityVac will shut down and “recovery complete” light will illuminate. Should pressure in A/C system again rise above 0 psig, MityVac will restart and pull A/C system back into a 15” vacuum.
15. When recovery is finished, close both condenser and evaporator isolation valves on A/C system as well as system vapor and liquid isolation valves on MityVac recovery unit. To clear remaining refrigerant from recovery tank hoses and MityVac recovery unit, proceed to **Refrigerant Clearing Procedures** on page 24.

Figure 4 — Electromechanical Liquid Push/Pull Mode

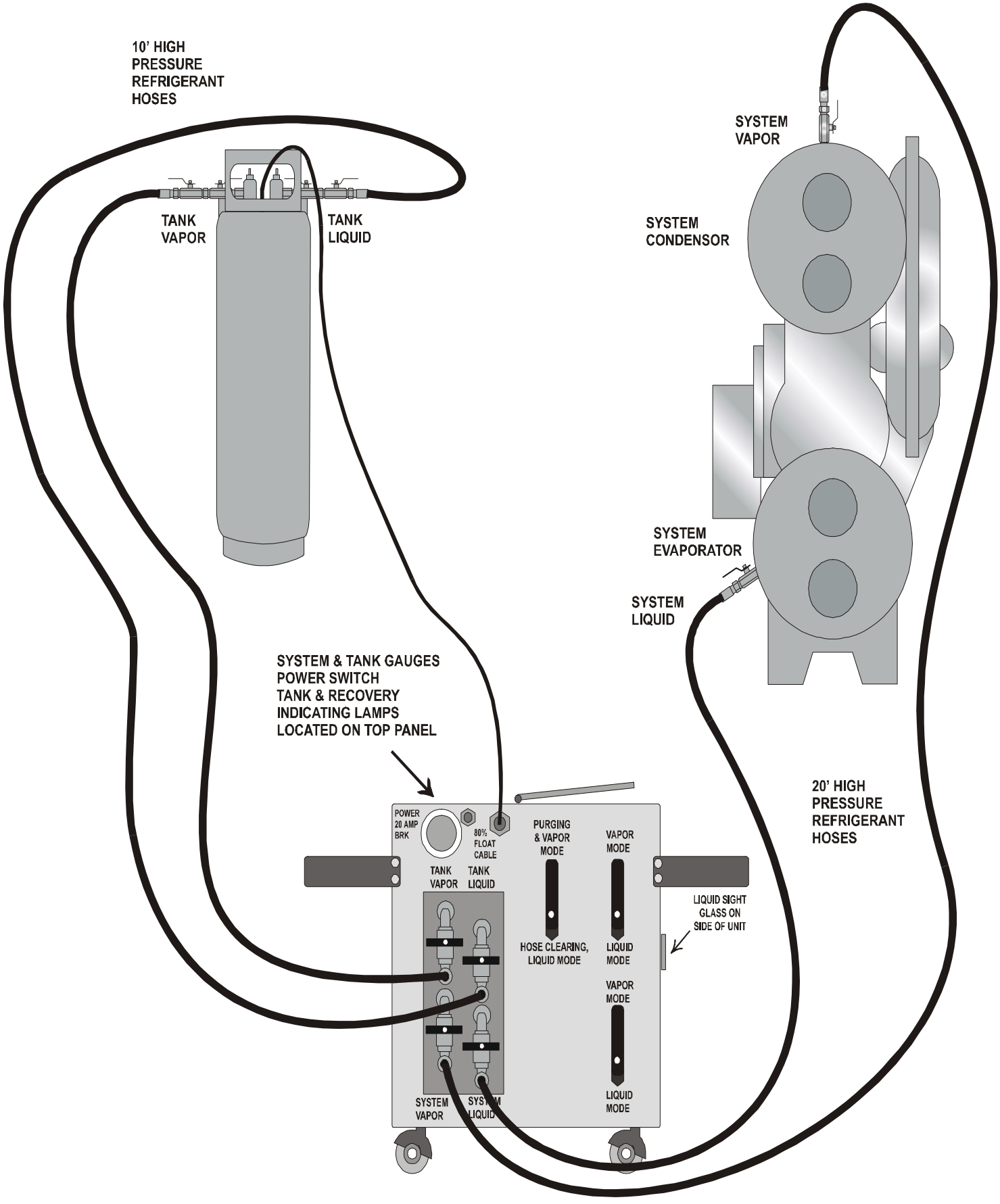
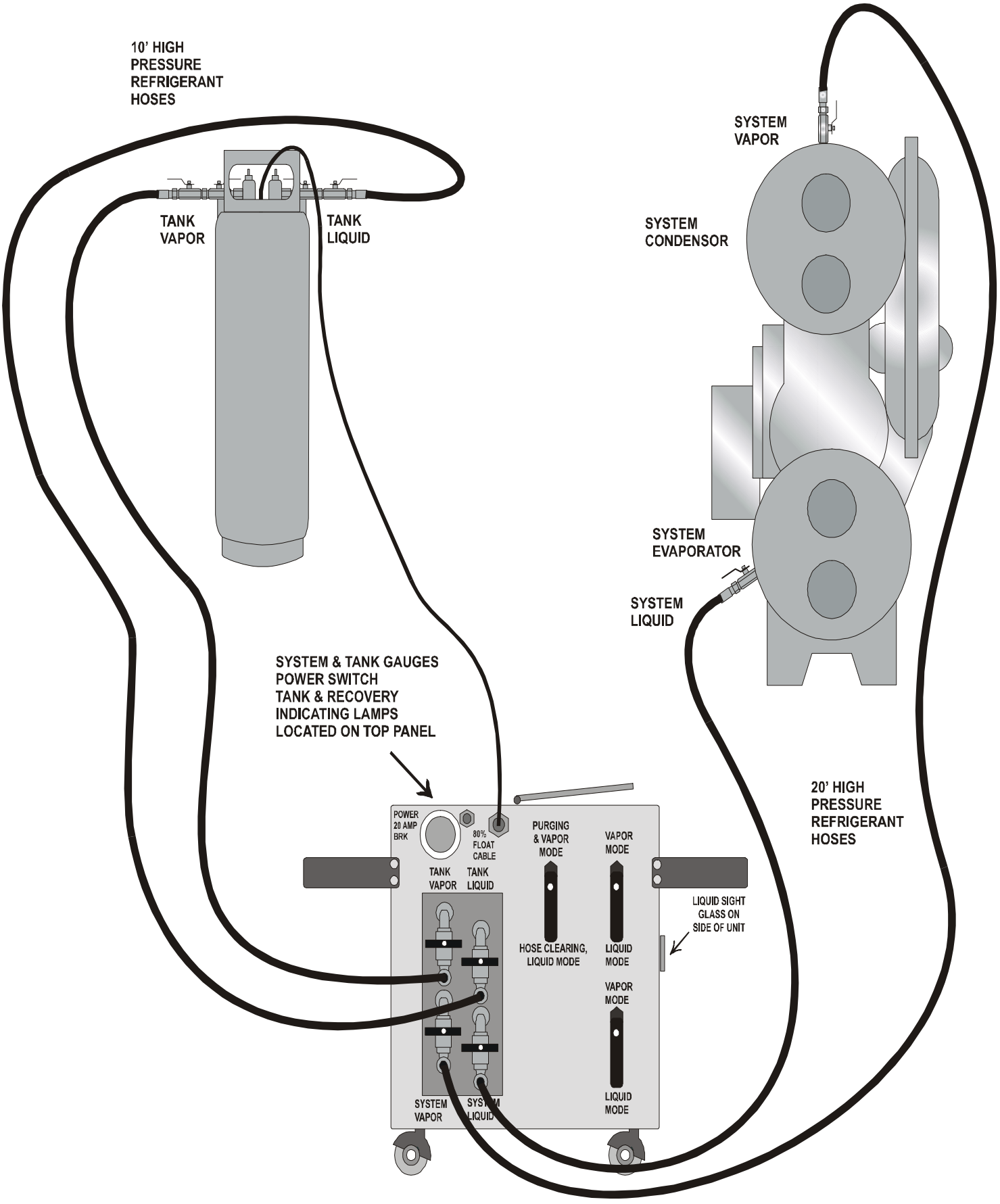


Figure 5 — Electromechanical Vapor Mode



Electromechanical
Maintenance

There will still be a small, residual amount of refrigerant in MityVac. This amount must be removed if you want to change to a different type of refrigerant. An explanation on how to remove this residual amount of refrigerant is explained in next section.

Refrigerant Clearing Procedures

a) Make sure that the A/C system side isolation valves are closed and that the recovery tank vapor and liquid side isolation valves on MityVac and recovery tank are still open.
b) Turn 3-way valve marked “hose clearing” to its hose clearing position.The MityVac unit will automatically restart.
c) Close vapor valve on recovery tank. Watch both tank gauge and system gauge on MityVac unit. The system gauge will pull all the way to a 15” vacuum and shut unit down. Once MityVac shuts down, immediately close liquid valve on recovery tank.
d) Disconnect tank vapor hose, then slowly disconnect tank liquid hose. There will still be a minute amount of refrigerant left in this hose. Purge off and unit will be ready for next recovery job.

Note: After recovery is complete and all refrigerant has been removed or purged from hoses, MityVac may still have a residual amount of refrigerant in the unit. To remove this refrigerant, connect an evacuated recovery cylinder to the compressor suction and discharge 1/4” Schrader valves on side of unit. Allow remaining refrigerant to be pulled into cylinder. This procedure needs to be performed whenever a different type of refrigerant is going to be recovered.

Changing Replaceable Cores

Make sure you replace disposable filter driers after each recovery job. Simply unscrew used filter drier assembly and replace. Driers should be used on the system vapor and liquid inlet ports located on the MityVac. Failure to use driers on each and every recovery may result in damage to the open drive compressor.

Electromechanical

Maintenance

Changing Compressor Fluid

The compressor's charge of Polyol Ester oil should be regularly replaced with an identical oil or, at a minimum with an oil compatible with refrigerant being recovered and after any of the following events:

1 After a maximum of 10 hours of run time.
2. When changing recovery jobs that involve different refrigerants.
3. After a recovering a system with a burnt out compressor.

⚠ CAUTION

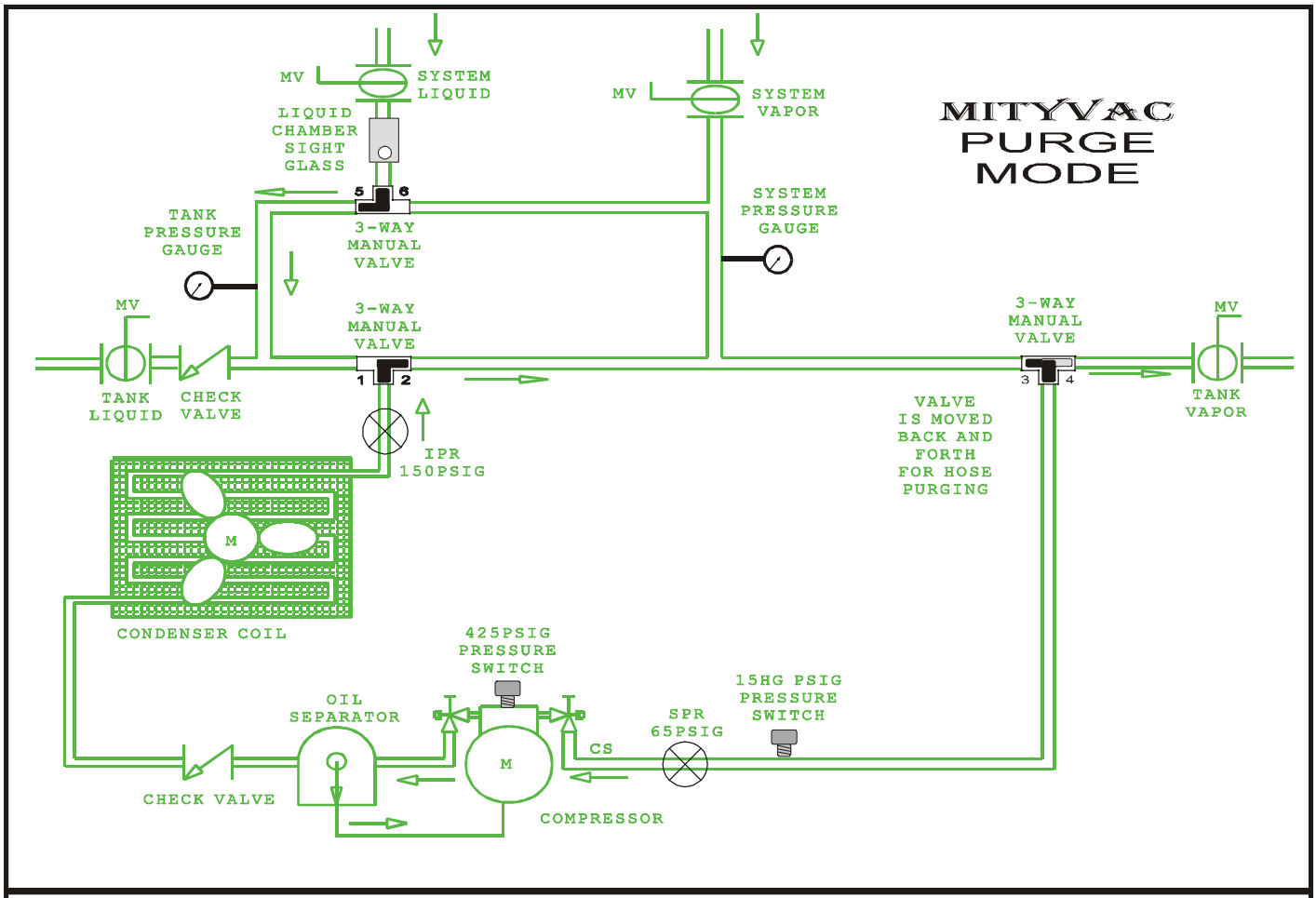
When changing oil, it is highly recommended that the same type of oil being used with the refrigerant being recovered be used in the Mityvac compressor. This will help ensure that cross-contamination does not occur.

To remove and change the oil in the compressor and the oil separator

a) Make sure MityVac unit has no refrigerant in its internal parts.
b) Connect a manifold set to dry nitrogen and to the suction and discharge service 1/4" access ports located on the side of the MityVac.
c) Connect another 1/4" hose to the access fitting on the bottom of the MityVac oil separator fitting and the other end to a suitable disposable oil container.
d) Gradually allow dry nitrogen to go into the discharge port on the MityVac unit until all oil has been forced out of the oil separator. ***Note: 10 to 15 psi will be more than adequate.***
e) Connect another 1/4" hose to the access fitting on the bottom of the MityVac compressor fitting and the other end to a suitable disposable oil container.
f) Gradually allow dry nitrogen to go into the suction port on the MityVac unit until all oil has been forced out of the compressor.
g) To add new oil to the MityVac compressor, connect a vacuum pump to the 1/4" access port on the suction side of the compressor. Pull down into a minimum 29" vacuum.
h) Connect the other hose to the 1/4" access port on the bottom of the compressor and into the new oil container. Note: fill compressor with exactly 14 oz. of oil.
i) After compressor has been filled, connect the other hose to the 1/4" access port on the bottom of the oil separator and into the new oil container. Note: fill oil separator with exactly 15 oz. of oil.
j) Once this procedure is finished, remove all hoses and pull entire MityVac into a 29" vacuum. Dispose of old oil properly.

⚠ CAUTION

Failure to follow above procedures for recharging oil in compressor with the exact amount of oil may result in major damage to the compressor.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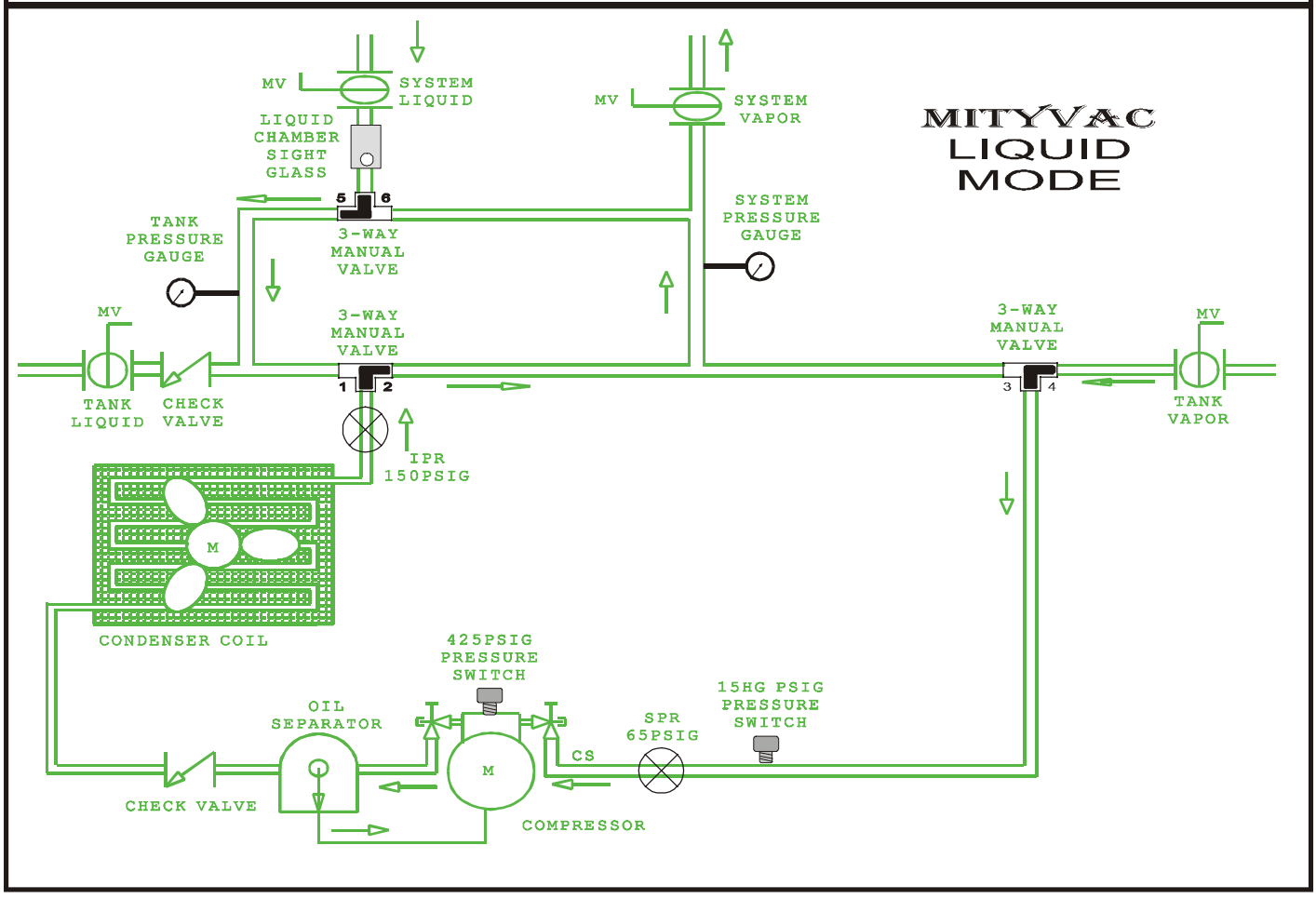
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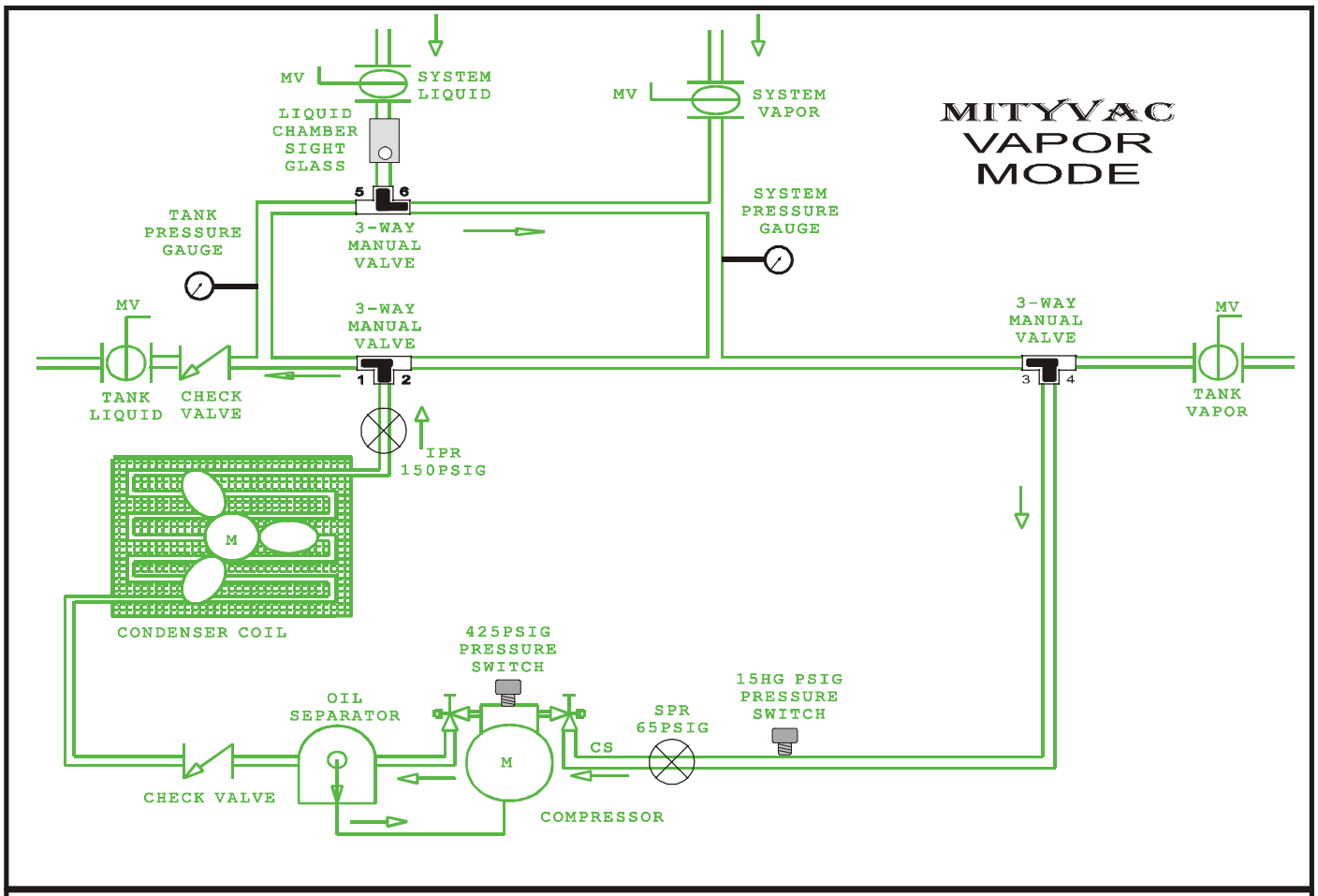
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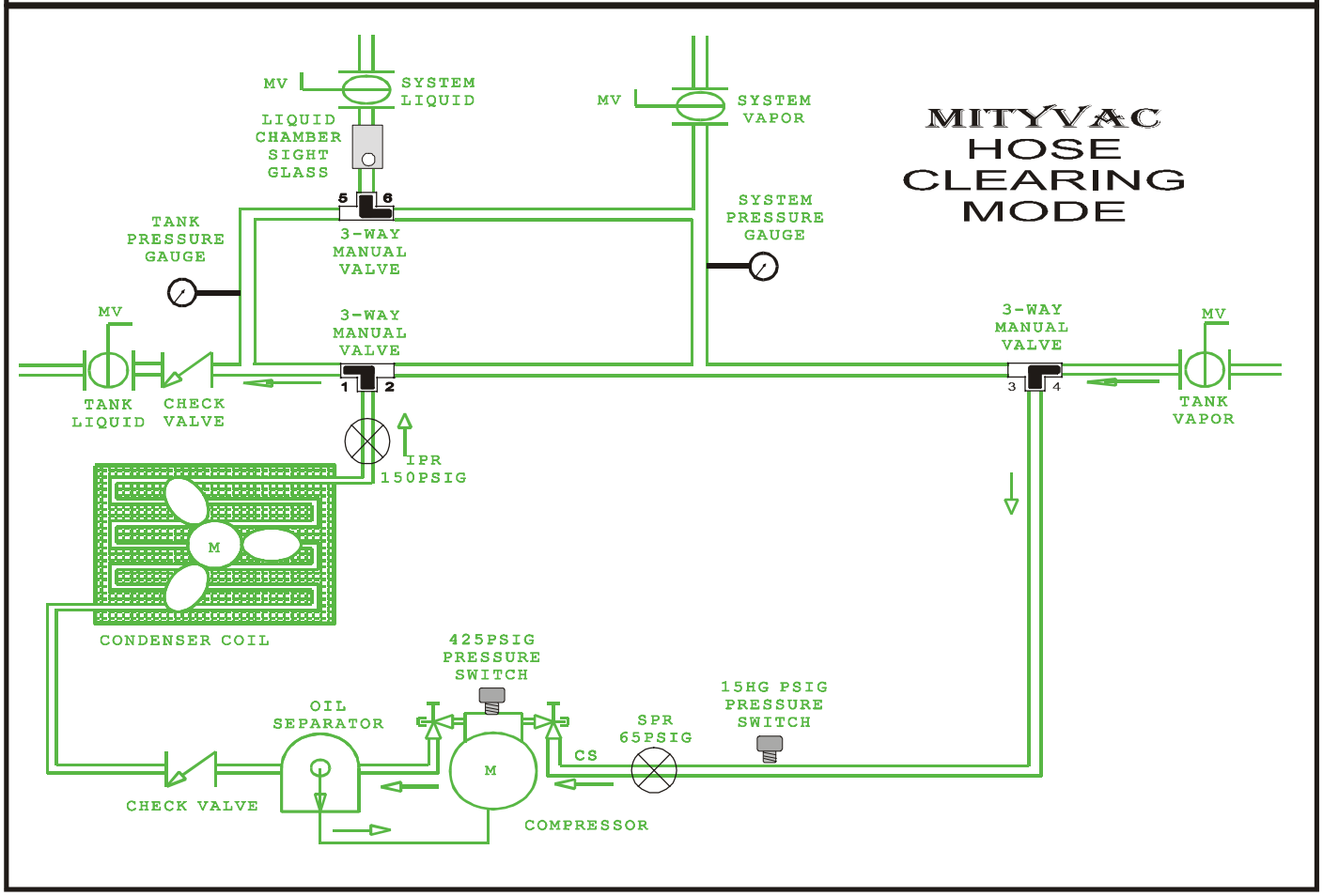
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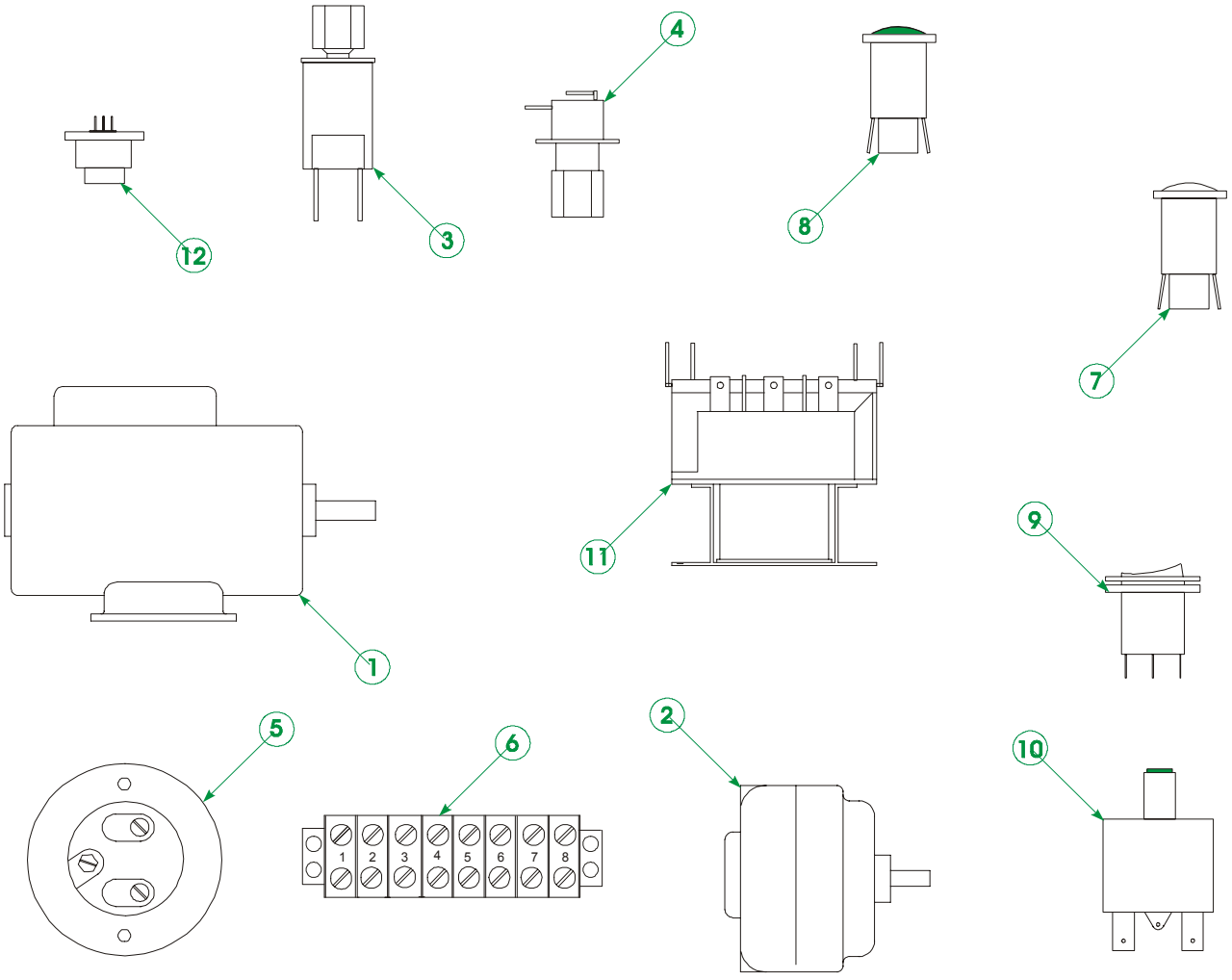
CS
CHECK VALVE
COMPRESSOR

Electromechanical

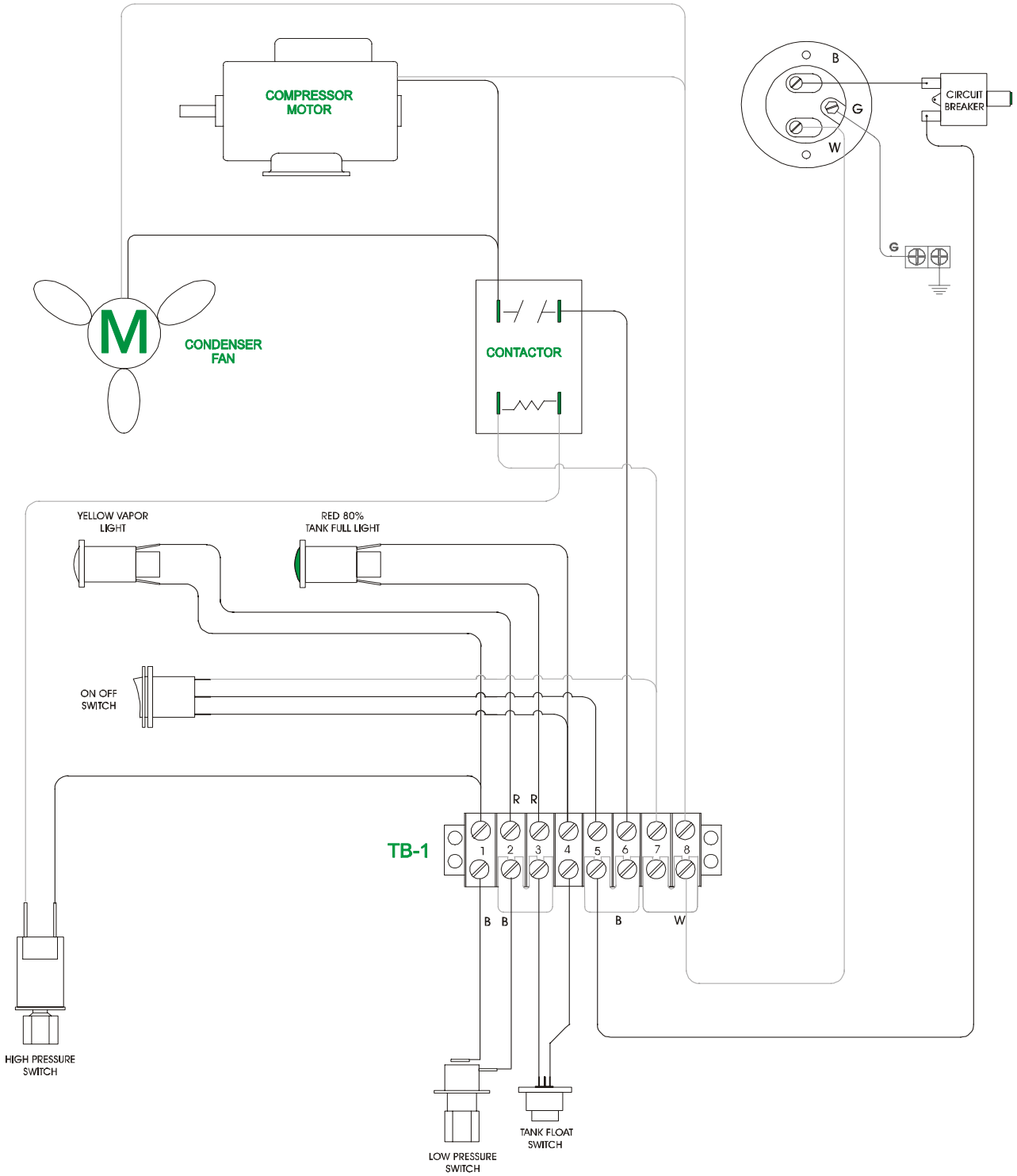
Electrical Parts Breakdown

1 — Compressor Motor; 1.5 HP,120 VAC, 50/60 Hz, 1Ph, 3450 RPM, 2.0 HP,240 VAC, 50/60 Hz, 1Ph 3450 RPM
2 — Condenser Fan Motor; 35W, 115V, 50/60 Hz, 35W, 230V, 50/60Hz
3 — High Pressure Switch 350 Psig
4 — Low Pressure Switch 15 Hg
5 — Male Inlet - 20A,125V, 2 P, 3W GRD
Male Inlet - 20A,250V, 2 P, 3W GRD
6 — Terminal Block
7 — Yellow Indicating Lamps 120 VAC
8 — Red Indicating Lamps 120 VAC or 220VAC
9 — Power Switch 250 VAC
10 — Circuit Breakers- 20 Amp, 250 VAC,28 VDC
11 — 120 VAC Contactor or 240 VAC Contactor
12 — Tank Safety Float Connector



Electromechanical
Electrical

Figure 6 — Electrical Block Wiring Diagram



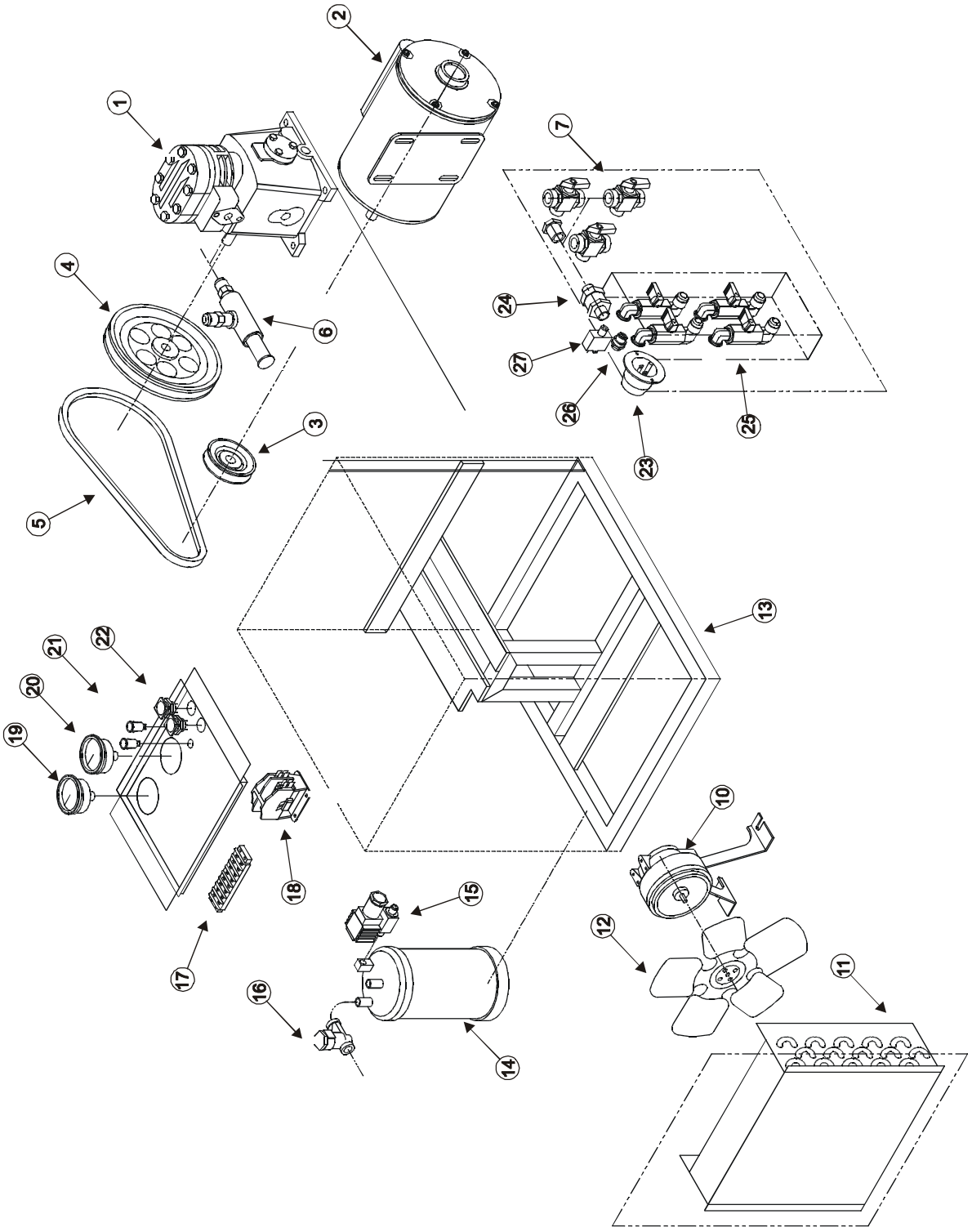
Electromechanical
Parts List

Table 2 — Electromechanical Replacement Parts List

Reference Number	Manufacturer Description
1	Vapor Recovery Compressor
2	Compressor Drive Motor
2	Compressor Drive Motor
3	Compressor Drive Motor Pulley
4	Compressor Pulley
5	Compressor Belt
6	Constant Pressure Regulator
7	3-way Valves
8	High Pressure Switch
9	Low Pressure Switch
10	Cond Fan Motor
10	Cond Fan Motor
11	Condenser Coil
12	Cond Fan Blade
13	Unit Frame
14	Vapor Comp Oil Separator
15	Oil Return Solenoid 120 Volt
15	Oil Return Solenoid 220 Volt
16	Check Valve
17	Terminal Block
18	Contactor
18	Contactor
19	System Guage
20	Tank Gauge
21	Lamp 120 Volt
21	Lamp 250 Volt
22	Power Switch
23	Male Inlet 120v
23	Male Inlet 250v
24	Check Valve
25	Hand Ball Valves Tank & System
26	Float Cable Connector
27	Breaker

Electromechanical
Replacement Parts

Figure 7 — MityVac Replacement Parts



Electromechanical
Troubleshooting

⚠ WARNING

To avoid injury or death due to inhalation of, or skin exposure to refrigerant, closely follow all safety procedures described in the Material Safety Data Sheet for the refrigerant and to all labels on refrigerant containers. Certain procedures common to refrigeration system service may expose personnel to liquid or vaporous refrigerant.

Troubleshooting Procedures

If functional difficulties are experienced and the preceding maintenance checks do not resolve the problem, refer to the following troubleshooting chart for assistance.

Troubleshooting Guide

The following guide is provided to assist in analyzing problems that could occur.

- **Symptom:** Describes what is happening;
- **Cause:** Suggests possible sources;
- **Solution:** Describes what might be done.

Symptom	Cause	Solution
Pressure differential between system and recovery tank becomes too high - greater than 50 psig.	Restrictions in recovery line	Remove restriction in liquid recovery lines or tank. Tank needs to have minimum 1/4” ID valves and dip tube.
Slow liquid transfer.	Restriction in flow.	Replace restrictive fittings and hoses with appropriate size to expedite transfer.
MityVac running high head pressure back to recovery tank.	Restriction in hoses going to tank.	Replace with appropriately sized hoses and fittings. Run water over tank or add secondary water cooled condensor on liquid return line going to recovery tank. (RefTec has available secondary water cooled and air cooled condensors.)
	Capacity of recovery tank is too small or tank is overfilled.	Replace with appropriately sized tanks.
	High concentration of noncondensibles	Remove noncondensibles.
	Condenser fan not working	Replace fan.

Electromechanical

Troubleshooting

Symptom	Cause	Solution
MityVac compressor won't restart	Compressor thermal overload open.	Let unit cool down.
	High head pressure	Open bypass valve and close after restart.
MityVac slugging with liquid during liquid push/pull	Recovery hose incorrectly connected, this may cause liquid to be injected into compressor	Verify that the system vapor and liquid lines are properly connected and that the vapor and liquid lines on recovery tank are connected correctly.
	Improper valves on recovery tank allowing liquid to be injected into compressor	Verify that the liquid and vapor valves on the recovery tank are separate and that the recovery tank is no more than 80% full

Literature Order Number	RRCA-SVX01B-EN
File Number	SV-CAP-RR-RRCA-SVX01B-EN-1001
Supersedes	RRCA-SVX01A-EN-401
Stocking Location	La Crosse

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