

ECOsaver V240 SP OPERATION MANUAL

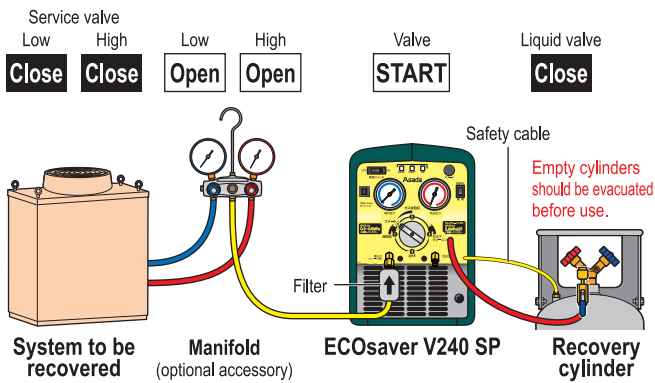
CAUTION

This manual shows the outline of the operation. Read through the instruction manual carefully before using the machine for your safety.

REFRIGERANT RECOVER OPERATION

Standard liquid recovery procedure

1 CONNECTION OF THE HOSES AND EVACUATION



1. Set the hoses, cords and valves as above.
* **Make sure the installing direction of the filter is correct. Replace the filter every recovery of 90kg or when it is clogged.**

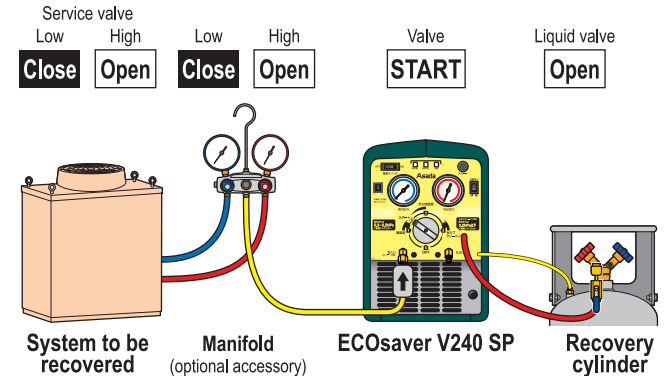
2. Open the ball valve of the hose (red).
Disconnect (red hose) **Open** (ball valve)

3. Set the Auto stop/run switch to the "Run" position.
4. Set the Power switch to the "ON" position.
5. Push the Start switch.
6. Set the valve of the recovery machine to the "VAPOR RECOVERY" position.

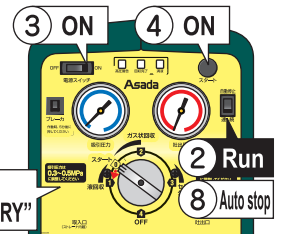
7. When the suction pressure reaches vacuum, set the valve of the recovery machine to the "PURGE" position.

8. When the suction pressure reaches vacuum again, connect the hose to the liquid port of the cylinder.
9. Set the Power switch to the "OFF" position.
10. Set the valve of the recovery machine to the "START" position.

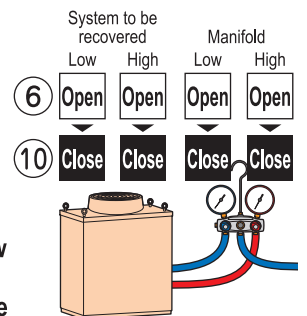
2 RECOVERY OPERATION



1. Set each valve as above.
* Set the valve of the recovery machine to the "START".
Open the high pressure side valve of the system and manifold.
2. Set the Auto stop/run switch to the "Run" position.
3. Set the Power switch to the "ON" position.

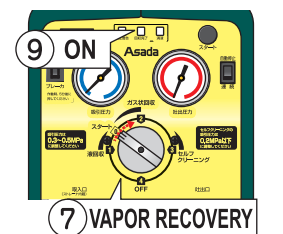


4. Push the Start switch.
5. Turn the valve of the recovery machine slowly to the "LIQUID RECOVERY" position.
Adjust suction pressure to 3~5 kg/cm² / 43.5~72.5psi.

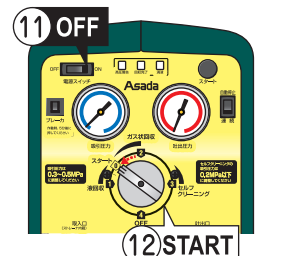


6. When liquid recovery is completed and vapor recovery starts, open the valve of the low pressure side of the manifold and the port of the low pressure side of the system to be recovered.

7. Set the valve of the recovery machine to the "VAPOR RECOVERY" position.
Adjust suction pressure to 3~5 kg/cm² / 43.5~72.5psi.
8. Set the Auto stop/run switch to the "Auto stop" position.

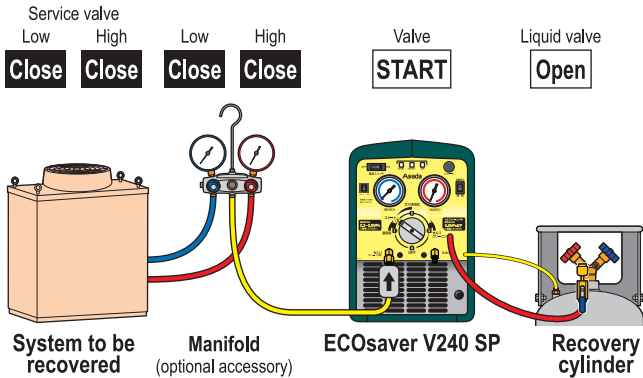


9. The Recovery complete lamp is on and the recovery machine stops automatically.
10. Close the low and high pressure side valves of the system and the manifold.
11. Set the Power switch to the "OFF" position.
12. Set the valve of the recovery machine to the "START" position.



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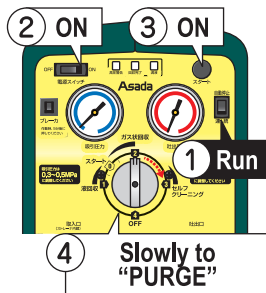
REFRIGERANT CLEARING (PURGE) PROCEDURE



1. Set the Auto stop/run switch to the "Run" position.
2. Set the Power switch to the "ON" position.

3. Push the Start switch.

* If the recovery machine dose not start, turn the valve of recovery machine slowly clockwise twice and set the valve to "0 START" position.



4. Turn the valve of the recovery machine slowly to the "PURGE" position.

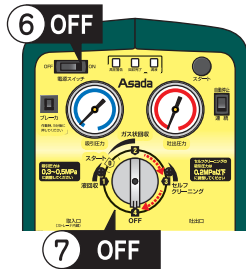
Adjust suction pressure under $2\text{kg/cm}^2 / 29\text{psi}$.

5. Close the liquid port of the cylinder when the suction pressure gauge indicates vacuum.



6. Set the Power switch to the "OFF" position.

7. Set the valve of the recovery machine to the "OFF" position.



8. Close the ball valve of the hose (red).

* There is vapor refrigerant left in the recovery machine and the hose of the discharge side. Connect the hose of the discharge side to an evacuated cylinder to recover the refrigerant left in the recovery machine and the hose.

9. Disconnect the hoses.

ALL THE RECOVERY OPERATION IS COMPLETED

CAUTION

- Avoid voltage drop.

How to prevent

- Connect to the original power source or do not use the power source with other equipments.
- When you have no choice but to use an extension cord or a cable reel, use a cord with larger wire diameter.
- Do not use an extension cord wrapped on a reel.
- Use a step-up transformer.
- Use a generator.

- Be careful about increase in temperature and in pressure in the cylinder when the ambient temperature is high.

How to deal with

- Replace the cylinder with an evacuated spare cylinder.
- Cool down the cylinder by sub-cooling.
- Reduce the suction pressure of the recovery machine.
- Use a 120L cylinder.
- Use Cooling Unit (optional accessory).

HOW TO SHORTEN THE RECOVERY TIME

- How to avoid rise in pressure in the cylinder (recovery in summer / efficient setup)

- Put the recovery machine in a well-ventilated shady area.
- Do not put the recovery machine and the cylinder directly on the floor but approximately 1m above the floor.
- Prepare some spare cylinders in the shade.
- Send air to the condenser of the recovery machine by an electric fan and so on to improve the efficiency.
- Cool down the cylinder with wet cloths.
- Send air to the cylinder by an electric fan and so on to cool it down.
- Use Cooling Unit or follow the sub-cooling procedure.
- Recover in liquid as much as possible.
- Throttle the suction valve not to increase the discharge pressure too much.

- How to prevent efficiency reduction due to the pressure drop in the system (low temperature, condensed to liquid / efficient setup)

- After liquid recovery is completed, recover from both the liquid and the vapor ports.
- Recover refrigerant while operating the crank case heater of the system.
- Heat up and vibrate the accumulator and so on when they are frosted.
- Suspend recovery operation and wait for pressure increase if the recovery speed is slow when the suction pressure is around $1.0\text{kg/cm}^2 / 14.5\text{psi}$.
- Recover from multiple systems in one time.
- When the vertical piping is long, recover from the bottom of piping or heat up and vibrate the bottom of piping to speed up evaporation.

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