# LG Multi-V Key Take Aways

- LG Multi-V units can be installed as either traditional heat pump units or as Heat Recovery units allowing for simultaneous heating and cooling.

  Heat Pump units utilize 2 pipes.

  Heat Recovery units utilize 3 pipes.

### Setting Outdoor Units to Heat Pump or Heat Recovery Systems

Outdoor units are factory set to heat recovery operation—all switches on DIP Switch bank SW01 are set to OFF. **All outdoor unit(s) (master and slave[s]) MUST be manually set to a heat pump system.** To change the factory set heat recovery system to a heat pump system:

- Flip switch No. 4 on the DIP-SW01 bank to ON. Display will show "HR" (heat recovery).
- Push the ▶ (SW03C) button to change "HR" (heat recovery) to "HP" (heat pump), then press the confirm (SW01C) button.
- Flip switch No. 4 on the DIP-SW01 bank to OFF, and push the reset (SW01D) button to restart the system. If No. 4 on the DIP-SW01 bank is switched to ON again, "HR" (heat recovery) or "HP" (heat pump) can be verified by reading the display later.

Figure 131: Heat Recovery System DIP Switch Setting on Outdoor Units (Factory Set).

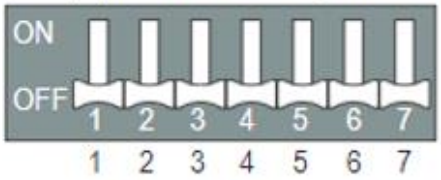
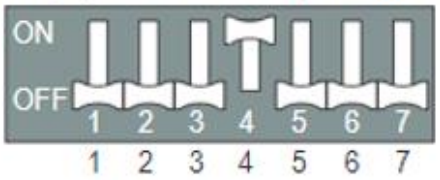



Figure 132: Heat Pump System DIP Switch Setting on Outdoor Units (Manually Set).




- EEV is in the IDU with solenoids in the HRU to direct the refrigerant for heating and cooling modes.
- Any system change requires a full power recycle of the unit – this includes the ODU, all IDU's and HRU's.
- Air Handler is currently only available as vertical or horizontal left.
- Multi V has longer line set lengths than the Single/Multi DFS units.
- On Multi-V units you must start at #1 on the branch box, this is different than residential DFS.

- On Multi-V units the indoor units are powered directly from the electrical panel, this is different than DFS where the indoor units are powered from the outdoor unit.
- It is possible to “twin” lines off the HRU for larger indoor units.
- IDU’s do not come with thermostats or remotes!
- Coil Temps. For heating and relative fan speed example:

  100°F = Low | 110°F = Med. | 120°F = High

- Optional float switch use jumper on “CN-Float”. When float error occurs, it will show error code ‘CH-04’
- Branch Boxes are horizontal mount only – service access is from the bottom.
- On Branch Boxes remember the ‘20” rule’ – you must have 20” of straight pipe going into and out of the BDU.
- It is recommended that you make a braze connection to the HRU because the HRU uses metric pipe. Once a section of copper is attached to the HRU by brazing it is okay to complete the installation using ZoomLock fittings.

- Do not power up any of the Multi-V equipment prior to commissioning/start-up. ALL the valves are shipped in a manual “open” position, once powered they will close. This will require additional steps to properly leak test and evacuate the new refrigerant piping system!

- If the equipment has been powered up prior to evacuation (or if a repair has been made requiring the system to be “opened”) you will need to use the “vacuum mode”

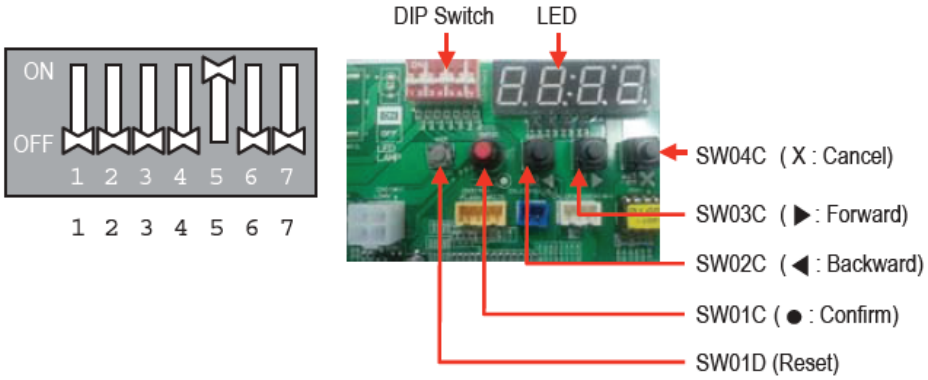
- To place the system in vacuum mode:

## Vacuum Mode (Option) (Se3)

The vacuum mode can be used as an option for creating vacuum in the system when the outdoor unit is first installed if power is available, and if the system has already been auto addressed. Vacuum mode enables the system to fully open all valves, and can help speed up the evacuation process.

Vacuum mode can also be used when compressor and / or outdoor unit parts are replaced, or when an indoor unit is added or replaced.

Figure 108: Multi V S Outdoor Unit DIP Switch Vacuum Mode Setting and PCB Location.




**Vacuum Mode On**

Turn No. 5 on Outdoor Unit DIP Switch to ON.

↓

Select the mode using the ▶ and ◀ buttons.
Choose “SVC” by pushing the ● button.

↓

Select the function using the ▶ and ◀ buttons.
Choose “Se3” by pushing the ● button.

↓

Start the vacuum mode “VACC”.
Outdoor Unit Valve is Open.
Outdoor Unit EEV is Open.
Indoor Units EEVs are open.
Heat Recovery Unit(s) Valves and EEVs are Open.

**Canceling Vacuum Mode**

Set DIP Switch No. 5 to Off

<AND>

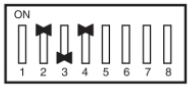
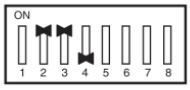
Push the Reset Button on the Outdoor Unit PCB.
Power cycle the Outdoor Unit.

***Note:***

- *Outdoor unit operation stops during Vacuum Mode, so the compressor cannot operate.*
- *Limit vacuum mode to less than 48 hours of continuous operation. If vacuum mode is not stopped, the system will continue to operate with all EEVs and valves open on the non-vacuum mode terminated slave outdoor units. The refrigerant will flood back to the compressors on those non-vacuum mode terminated slave outdoor units, which will result in poor operation, equipment malfunction and / or compressor damage.*

# *HRU Addressing:

**Heat Recovery Box dip switch settings:**

| | | | |
|---|---|---|---|
| 1 branch Connected |  | 5 branch Connected |  |
| 2 branches Connected |  | 6 branch Connected |  |
| 3 branches Connected |  | 7 branch Connected |  |
| 4 branches Connected |  | 8 branch Connected |  |

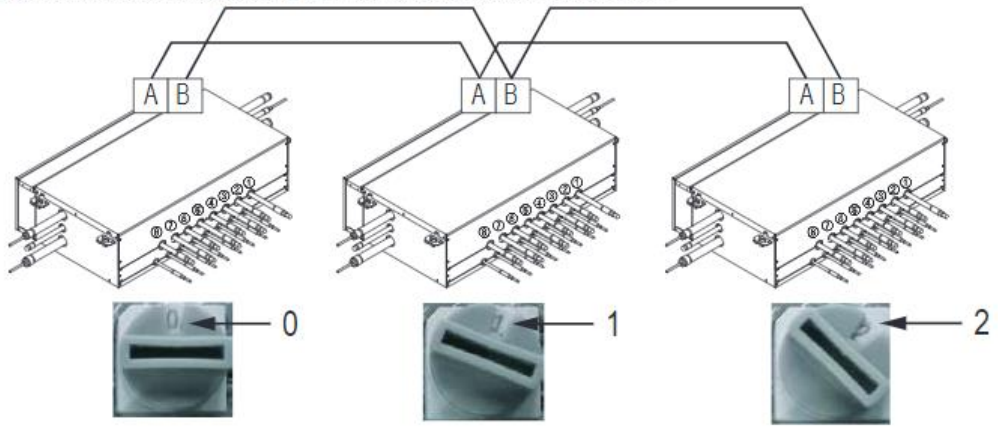
**Heat Recovery Box dial settings:**

**SW01C Rotary Dial Settings**

Use rotary switch SW01C to set the heat recovery unit addresses. There can be up to sixteen (16) heat recovery units per system. Possible settings in order of lowest to highest are: 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. The addresses must be set sequentially. For example, if there are three (3) heat recovery units in a system, use addresses 0, 1, and 2. Set the heat recovery unit addresses as required for each system.

If there is only one (1) heat recovery unit in a system, its address must be set to 0.

Figure 168: Example of Manual Addressing with Three (3) Units Heat Recovery Units on a System.




---

***EVERY time a dipswitch is changed equipment must be power cycled!