

ACCESSORY KIT INSTALLATION INSTRUCTION

HOT GAS BYPASS ACCESSORY MODEL 2HG04700424

For Commercial Split-System 10 Ton R-410A Cooling Only Indoor Units
Models: ND120, NJ-10, and J10ND

When Matched With 10 Ton R-410A Condensing Units
Models: YD120, YJ-10 and J10YD Only

GENERAL

A discharge bypass valve (DBV) is a fully modulating control valve that provides metered compressor discharge gas to a system's evaporator coil during low load operation. A DBV responds to changes in suction pressure by opening as the pressure drops below the valve's setting. As the valve opens, discharge gas is released to the evaporator coil. The heat applied to the coil prevents icing as well as undesirable compressor cycling. Once the suction pressure rises above the valve's setting the valve closes.

The HGBE-5 discharge bypass valve is suitable for R-410A refrigeration systems. It has an adjustment range of 95-115 PSI and a factory setting of 105 PSI and can be set to automatically maintain a desired minimum suction pressure regardless of the decrease in evaporator load. Accessory Components are listed in Table 1.

TABLE 1: ACCESSORY COMPONENTS

ITEM	QTY.	PART NO.	DESCRIPTION
1	1 ea	543163	Discharge ByPass Valve HGBE-5
2	1 ea	6335	1/4" Flare Nut
3	1 ea	566332	5/8" x 1/2" Reducer Coupling
4	1 ea	543166	Accessory Installation Instruction

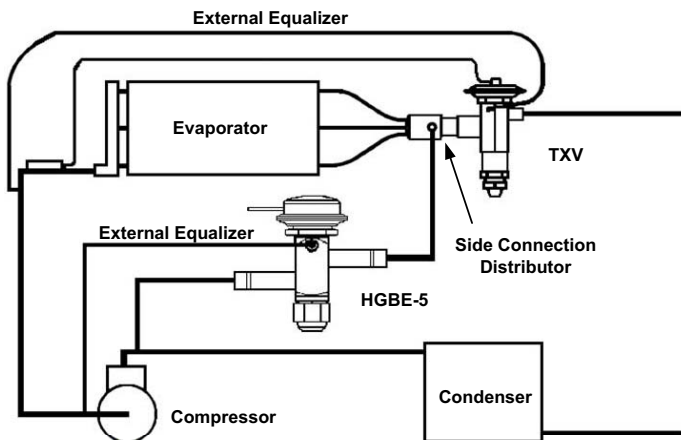


FIGURE 1: SIMPLIFIED PIPING DIAGRAM

NOTE: Only one refrigeration system may be served by a single DBV. If another system requires hot gas a second valve is required.

The HGBE-5 DBV may be installed in either a horizontal or vertical orientation. The valve should be located so that it does not act as an oil trap. Use industry accepted practices for piping.

INSTALLATION

WARNING

Improper installation, adjustment, service or maintenance can cause injury or property damage. Therefore, only a qualified installer or qualified service personnel should perform this conversion.

WARNING

If the unit is connected to power sources, make sure that all electrical power to the unit has been disconnected prior to servicing.

1. Disconnect electrical power to the unit. The unit may have more than one power source.
2. Recover the system refrigerant charge.
3. Locate the discharge line tees provided for hot gas bypass. Each tee will have a copper stub, approximately 2" in length. Remove copper disc on the end of stub.
4. Install the HGBE-5 DBV. The inlet side of the valve is marked "IN". See Figure 2.

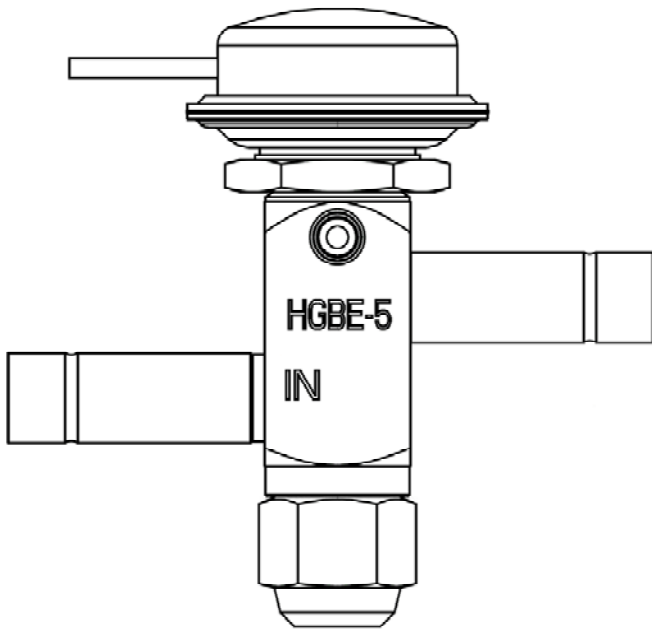


FIGURE 2: DISCHARGE BYPASS VALVE

⚠ CAUTION

Internal parts must be protected by wrapping the valve with a wet cloth to keep the body temperature below 300° F. Refer to the manufacturer's installation instructions for additional information (Sporlan Bulletin 90-41-1). Use industry accepted practices for brazing, evacuation and charging the unit.

5. Install 5/8" x 1/2" reducer coupling.
6. Run bypass line to indoor unit. Connect to the auxiliary side connection of the distributor. A knockout is provided in the unit's service valve box for use with this kit.

Note: The bypass line must be insulated.
7. Remove the core from the valve stem located on the suction line near the compressor. Attach the 1/4" external equalizer line from the DBV to the valve stem. Use the flare nut provided.
8. Leak check, evacuate and recharge the unit.

OPERATION

Adjust the valve by turning the pilot valve screw. Clockwise rotation increases the valve's setting while counterclockwise rotation decreases the setting.

NOTE: The evaporator load must be varied for proper valve adjustment. First reduce the load to decrease suction pressure. Adjust the valve to maintain the desired pressure. Next increase the load to increase suction pressure thus closing the valve. Once complete, check the setting by slowly decreasing the load until the valve begins to open.

Contact UPG Technical Services/Application Engineering for questions regarding installation, 1-877-874-7378.