

HOT GAS BYPASS ACCESSORY INSTALLATION INSTRUCTIONS

MODEL 2HG04700224

FOR SPLIT-SYSTEM COOLING ONLY INDOOR UNITS

25T THROUGH 50T, LA300 & LB360/480/600, LF-25 & LL-30/-40/-50, J25LA & J30/40/50LB MODELS

WHEN MATCHED WITH

HA300 & HB360/480/600 & HF-25 & HL-30/-40/-50, J25HA & J30/40/50HB
CONDENSING UNIT MODELS ONLY

GENERAL

A Hot Gas Bypass Valve is a fully modulating control that will provide a metered flow of compressor discharge gas to the system's evaporator coil during reduced load operation to prevent condensate from freezing on the surface of the evaporator coil. Accessory components are listed in Table 1.

TABLE 1: ACCESSORY COMPONENTS

ITEM	QTY.	PART NO.	DESCRIPTION
1	1 ea.	6144	R-22 Discharge Bypass Valve ADRPE-3
2	1 ea.	8175	5/8" Solenoid Valve
3	1 ea.	6310	1-3/8" x 1-3/8" x 7/8" Sweat Tee
4	1 ea.	6309	1-1/8" x 1-1/8" x 7/8" Sweat Tee
5	1 ea.	6356	7/8" x 5/8" Reducing Coupling

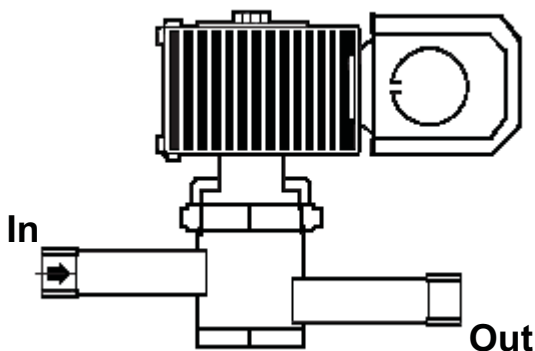


FIGURE 1 - SOLENOID VALVE

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.

NOTE: This Hot Gas Bypass accessory is intended for a single system. If a second system requires Hot Gas Bypass an additional accessory will be needed. See the appropriate price pages for exact quantities and model numbers. For line length over 50' consult Unitary Products Application Engineering for proper sizing, 1-877-874-7378.

1. Disconnect electrical power to the unit. The unit may have more than one power source.
2. Recover refrigerant charge from the system, which the Hot Gas Bypass accessory is being installed on.
3. Install the proper size copper tee in the compressor discharge line. Point the tee out in the direction of the liquid and suction lines leaving the condensing unit.
4. Install a 2 In. piece of 7/8" copper (field supplied) in the 7/8" branch of the discharge line tee.
5. Install the 7/8 X 5/8 reducing coupling (provided).
6. Install a 2 In. piece of 5/8" copper (field supplied) in the 7/8 X 5/8 reducing coupling.
7. Install the solenoid valve on the 2 In. piece of 5/8 copper installed in Step 6.
 - The valve is unidirectional. Because of this, it **MUST** be installed with the "IN" port (marked on the valve body) toward the compressor discharge line and the arrow (marked on the valve body) toward the indoor coil.
 - Because of the extended copper connections on the solenoid valve, disassembly of the valve is not required when brazing. However, it **IS REQUIRED** that a wet rag be wrapped around the body of the valve when brazing to prevent overheating on internal seals. Refer to the manufacturers

installation instructions for additional information (Sporlan Bulletin 30-11).

8. Install a 2 In. piece of 5/8" copper (field supplied) in other end of the solenoid valve.
9. Install the ADRPE-3 onto the 2 In. piece of 5/8 copper. See Figure 2.
 - The valve is preset at the manufacturer.
 - The valve is unidirectional. Because of this, it **MUST** be installed with the "IN" port (marked on the valve body) toward the compressor discharge line and the arrow (marked on the valve body) toward the indoor coil.
 - The valve can be installed in horizontal or vertical lines. However, consideration should be given to locating these valves so they do not act as oil traps. Use industry-accepted practices for piping. Refer to the manufacturers installation instructions for additional information (Sporlan Bulletin 90-41/41).
10. From the ADRPE-3 valve run 5/8" line to the side connection on the TXV distributor in the indoor unit. Run new line adjacent to the liquid and suction lines. See Figure 3.

NOTE: For line length over 50' consult application engineering for proper sizing.

NOTE: The 5/8" line must be insulated.

11. Install external equalizer line 1/4" ID (field supplied) from the valve to suction line near the compressor by drilling a small hole and brazing the line in the hole. See Figure 3.
12. Leak check, evacuate and charge the unit.
13. Remove the outdoor unit control box access panel.

NOTE: All Wiring must comply with prevailing Local and National wiring codes and ordinances.
14. Run flex conduit from the solenoid valve conduit boss to the knockout in the bottom of the control box.
15. Run two 18 ga. wires to the valve solenoid and terminate in the conduit boss.
16. Connect to terminals (S1) or (S3) and (C) on terminal block (TB2), located in the condensing unit control box. See Wiring Diagrams Figure 4.
17. Secure wiring in the unit control box in a neat workman like manner using wire ties.
18. Close unit control box, replace unit access panel and restore power to the unit.
19. Verify proper unit operation. On a call for cooling, the compressor, O.D. fans, and I.D. fan start and run. The pumpout solenoid valve remains closed until the low pressure switch opens. When the low pressure switch opens, both the pumpout solenoid valve and the hot gas bypass valve will open and allow the unit to run properly.
20. Contact Unitary Products Technical Service for questions regarding installation, 1-877-874-7378.

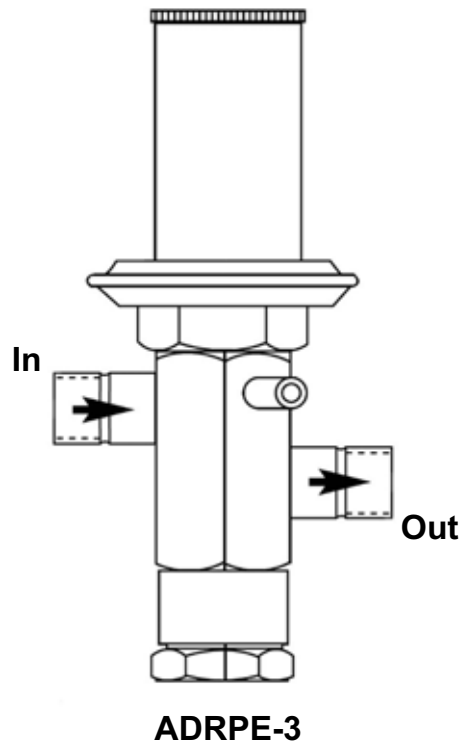


FIGURE 2 - HOT GAS BYPASS VALVE

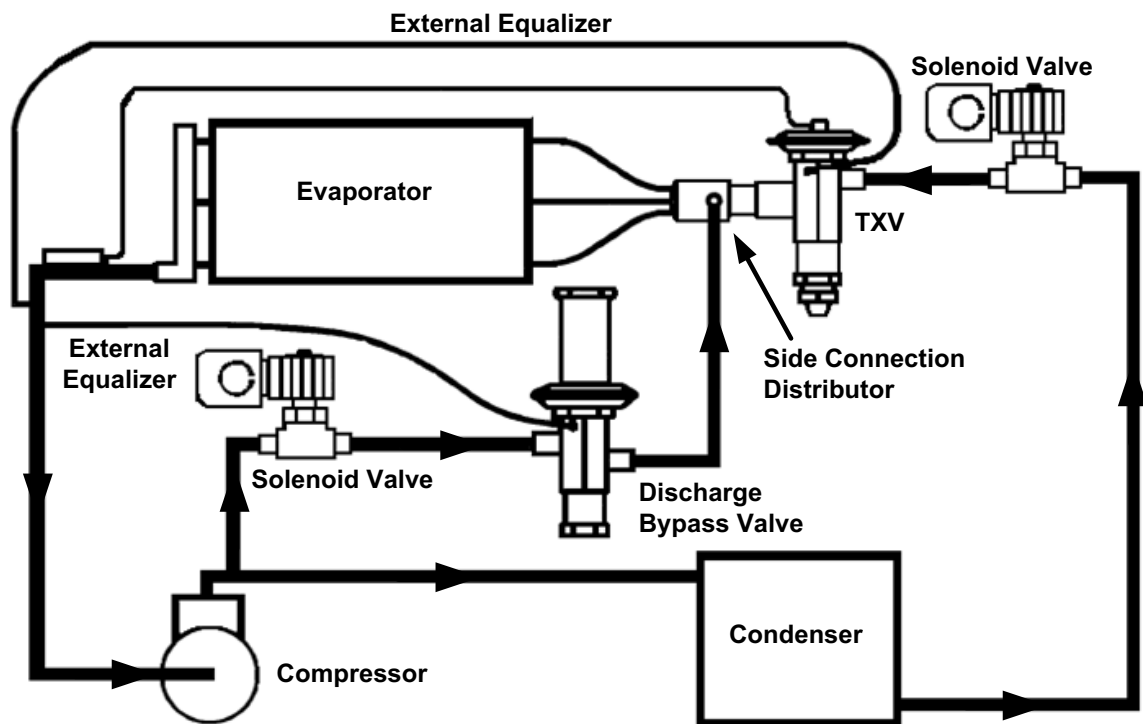


FIGURE 3 - SIMPLIFIED PIPING DIAGRAM

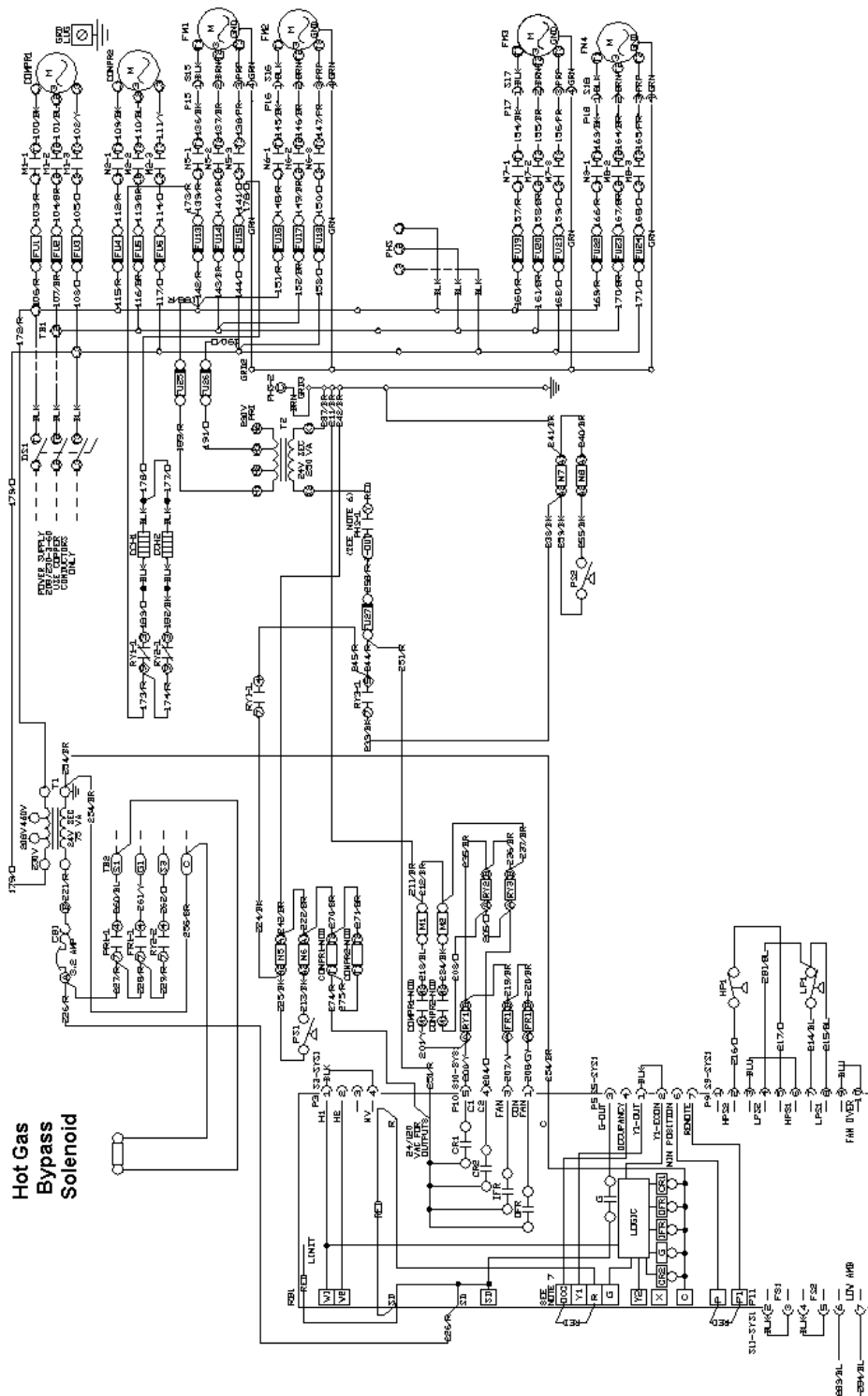


FIGURE 4 - TYPICAL WIRING DIAGRAM

Subject to change without notice. Printed in U.S.A.
 Copyright © 2008 by Johnson Controls, Inc. All rights reserved.

392975-UAI-A-0508
 Supersedes: Nothing

Johnson Controls Unitary Products
 5005 York Drive
 Norman, OK 73069