

Honeywell

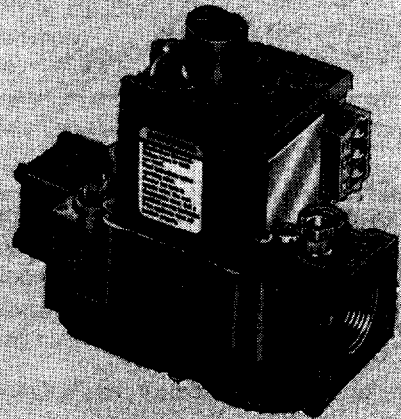
THE VR8304 INTERMITTENT PILOT DUAL AUTOMATIC VALVE COMBINATION GAS CONTROLS ARE USED IN GAS-FIRED, INTERMITTENT PILOT APPLIANCES. THE CONTROLS INCLUDE A MANUAL VALVE, TWO AUTOMATIC OPERATORS AND A PRESSURE REGULATOR.

- Used with S86F,H; S860D, S8600F,H and S90A,B Control Modules.
- For use with 24 Vac heating appliances that burn natural or manufactured gas, or liquefied petroleum (LP) gas.
- Capacity rated up to 300 feet³/hour at 1 inch wc pressure drop [8.5 meters³/hour at 0.25 kPa]. Maximum capacity rated up to 415 feet³/hour [11.8 meters³/hour]. Minimum capacity rated at 30 feet³/hour [0.8 meters³/hour].
- Solenoid-operated first automatic valve opens on thermostat call for heat and closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of the regulator and closes if gas or power supply is interrupted.
- Two-position gas control knob has ON and OFF positions.
- All adjustments and wiring connections are accessible from top of the control.
- Compact size.
- Straight-through body pattern; right angle adapters available for inlet and outlet.
- Available in 1/2 and 3/4 inch inlet and outlet. 1/2 and 3/4 inch straight and angle flanges available.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- Inlet screen included.
- Pilot filter included.
- Wiring terminal block color-coded orange to indicate intermittent pilot control.
- May be installed at any angle between 0 and 90 degrees from the upright position, including vertically.
- 1/4 inch male quick-connect terminals for electrical connections.
- 40° F to +175° F [-40° C to +79° C] temperature range standard (VR8304H: 0° F to +175° F [-18° C to +79° C]).
- Inlet and outlet pressure taps provided; both taps accessible from top of control.
- Standard, slow, and step-opening models available.
- Natural/LP gas conversion kits available for standard and slow-opening models.

D.T.
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INTERMITTENT PILOT DUAL AUTOMATIC VALVE COMBINATION GAS CONTROLS



VR8304

SPECIFICATIONS

IMPORTANT

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, THIS UNIT MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, THIS PRODUCT IS TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED.

SUPER TRADELINE MODELS

SUPER TRADELINE controls offer features not available on TRADELINE or standard models and are designed to replace a wide range of Honeywell and competitive controls.

SUPER TRADELINE Models Available:
VR8304M Combination Gas Control
3/4 inch inlet x 3/4 inch outlet

Additional Features:

- 393691 Natural to LP gas conversion kit
- Two 1/2 x 3/4 inch reducer bushings
- One Q340 Thermocouple (36 inch lead length)
- SUPER TRADELINE packaging with cross reference label and special instruction sheet

TRADELINE MODELS

TRADELINE controls offer features not available on standard models and are designed to replace a wide range of Honeywell and competitive controls.

TRADELINE Models Available:
VR8304M Combination Gas Control

Additional Features:

- 393691 Natural to LP gas conversion kit (not available for VR8300C models)
- One 1/2 x 3/4 inch reducer bushings
- TRADELINE packaging with cross reference label and special instructions sheet

STANDARD MODELS

MODELS: VR8304 Dual Automatic Valve Combination Gas Controls for use in Intermittent Pilot Systems with S86F,H; S860D, S8600F,H, and S90A,B modules. See Table 1 for model specifications.

SUPPLY VOLTAGE: 24 Vac, 50/60 Hz.

CURRENT DRAW: 0.7 A.

ELECTRICAL CONNECTIONS: 1/4 inch male quick-connects. Terminal block color-coded orange.

TYPE OF GAS: Separate models available for natural or LP gas. Natural/LP gas conversion kits are available for standard- and slow-opening models. See Accessories.

(continued on page 3)

ORDERING INFORMATION

WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR WHOLESALER OR YOUR DISTRIBUTOR, REFER TO THE PRICE SHEETS FOR COMPLETE ORDERING NUMBER, OR SPECIFY—

1. Order number.
2. Natural or LP gas.
3. Step pressure on VR8304P.
4. Accessories, if desired.
5. Order separately; pilot burner, igniter-sensor, transformer, limit controller, and thermostat or controller as required.

IF YOU HAVE ADDITIONAL QUESTIONS, NEED FURTHER INFORMATION, OR WOULD LIKE TO COMMENT ON OUR PRODUCTS OR SERVICES, PLEASE WRITE OR PHONE:

1. YOUR LOCAL HONEYWELL RESIDENTIAL AND BUILDING CONTROLS DIVISION SALES OFFICE (CHECK WHITE PAGES OF YOUR PHONE DIRECTORY).
2. RESIDENTIAL AND BUILDING CONTROLS DIVISION CUSTOMER SATISFACTION
HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH
GOLDEN VALLEY, MINNESOTA 55422-4386 (612) 542-7500

IN CANADA—HONEYWELL LIMITED/HONEYWELL LIMITEE, 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO M1P 2V9. INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

PRESSURE RATING. A.G.A. rating 1/2 psi [3.5 kPa] inlet pressure.

PRESSURE REGULATION: See Table 1. Regulator adjustment accessible from top of gas control.

MOUNTING: Can be mounted 0 to 90 degrees in any direction from the upright position of the gas control knob including vertically.

TEMPERATURE RATING:

VR8304M,P: -40° F to +175° F [-40° C to +79° C].

VR8304H: 0° F to +175° F [-18 C to +79° C].

DIMENSIONS: See Fig. 1.

APPROVALS:

AMERICAN GAS ASSOCIATION DESIGN CERTIFICATE: UP-70-69A.

CANADIAN GAS ASSOCIATION DESIGN CERTIFICATE: UP-70-69A.

AUSTRALIAN GAS ASSOCIATION: Not available.

DELTA C: Not available .

ACCESSORIES:

- Flanges, see Table 3.
- 394349 9/64 inch hex tool for flange assembly screws.
- 393691 Natural to LP gas conversion kit.
- 394588 LP to Natural gas conversion kit.

INSTALLATION

WHEN INSTALLING THIS PRODUCT...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to ensure the product is suitable for your application.
3. Ensure installer is a trained, experienced service technician.
4. After installation is complete, use these instructions to check out product operation.

WARNING

**FIRE OR EXPLOSION HAZARD
CAN CAUSE PROPERTY DAMAGE, SEVERE
INJURY, OR DEATH**

Follow these warnings exactly.

1. **Disconnect power supply before wiring to prevent electrical shock or equipment damage.**
2. **To avoid dangerous accumulation of fuel gas, turn off gas supply at the appliance service valve before starting installation, and perform Gas Leak Test after completion of installation.**
3. **Do not bend pilot tubing at gas control or pilot burner after compression fitting has been tightened, or gas leakage at the connection may result.**
4. **Always install sediment trap in gas supply line to prevent contamination of gas control.**
5. **Do not force the gas control knob. Use only your hand to turn the gas control knob. Never use any tools. If the gas control knob will not operate by hand, the gas control should be replaced by a qualified service technician. Force or attempted repair may result in fire or explosion.**

CAUTION

Never apply a jumper across or short the valve coil terminals. This may burn out the heat anticipator in the thermostat or damage the electronic intermittent pilot (IP) module.

IMPORTANT

These gas controls are shipped with protective seals over inlet and outlet tapings. Do not remove seals until ready to connect piping.

Follow the appliance manufacturer's instructions if available; otherwise, use the instructions provided below.

CONVERTING BETWEEN NATURAL AND LP GAS

WARNING

**FIRE OR EXPLOSION HAZARD
CAN CAUSE PROPERTY DAMAGE, SEVERE
INJURY, OR DEATH**

Do not attempt to use a gas control set for natural gas on LP gas or a gas control set for LP gas on natural gas.

To convert a gas control from natural gas to LP gas or from LP gas to natural gas, contact your Honeywell representative.

Standard- or slow-opening gas controls are converted from one gas to another with a conversion kit (order separately). Order Part Number 393691 to convert from natural to LP gas. Order Part Number 394588 to convert from LP to natural gas. Step-opening gas controls can not be converted.

INSTALL ADAPTERS TO GAS CONTROL

Install adapters to gas control as follows:

Flanges

1. Choose the appropriate flange for your application.
2. Remove seal over gas control inlet or outlet.
3. Ensure the O-ring is fitted in the groove of flange. If the O-ring is not attached or is missing, do not use flange.
4. With O-ring facing gas control, align the screw holes on the gas control with the holes in the flange. Insert and tighten the screws provided with the flange. See Fig. 2. Tighten the screws to 25 inch pounds of torque to provide a gas-tight seal.

Bushings:

1. Remove seal over gas control inlet or outlet.
2. Apply moderate amount of good quality pipe compound to bushing, leaving two end threads bare. On LP installation, use compound resistant to LP gas. Do NOT use Teflon tape.
3. Insert bushing in gas control and thread pipe carefully into bushing until tight.

USING ADAPTERS TO SOLVE SWING RADIUS PROBLEMS

In some field service applications, it is difficult or impossible to thread the gas control onto the gas supply pipe because of space limitations. This problem can be resolved in many instances by using an adapter. The adapter is installed on the end of the supply pipe in place of the gas