

Honeywell

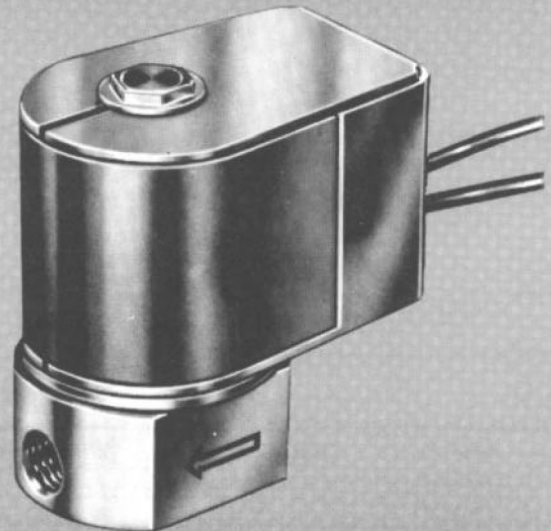
THE V4046 MAGNETIC VALVES PROVIDE ON-OFF CONTROL OF OIL FLOW TO DOMESTIC OIL BURNER EQUIPMENT.

- All models close in 1 sec. (maximum) on power failure.
- All models are for line voltage applications.
- Heavily loaded spring plunger maintains valve seating when the coil is de-energized, permitting the valve to be mounted in any position.
- Valve may be pipe-mounted or mounted on bracket support furnished by the installer.
- Powerhead assembly can be rotated 360 angular degrees.
- Solenoid coil is field-replaceable without removing the valve body from the piping connections.
- Integral thermistor in V4046A delays valve opening approximately 6 seconds.
- V4046B opens immediately when energized.

S.M.
REV. 12-84●

Form Number 60-2145—1
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MAGNETIC VALVE



V4046A,B

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.

TRADELINE MODELS

TRADELINE models are selected and packaged to provide ease of stocking, ease of handling, and maximum replacement value. TRADELINE model specifications are the same as those of standard models except as noted below.

TRADELINE MODEL AVAILABLE: V4046A.
VOLTAGE AND FREQUENCY: 120 V, 60 Hz.
PRESSURE RATING: 150 psi.

ADDITIONAL FEATURES: TRADELINE pack with cross reference label and special instruction sheet.

STANDARD MODELS

MODELS (also refer to Tables I and II).

V4046A Magnetic Valve for controlling oil flow to domestic oil equipment; with 3 to 8 second time delay on valve opening; for line voltage applications.

V4046B Magnetic Valve for controlling oil flow to domestic oil equipment; for line voltage applications. Valve opens immediately.

TABLE I—V4046A,B MODEL SPECIFICATIONS

MODEL	PRESSURE RATING		OIL FLOW CAPACITY		OPERATION ENERGIZED	VOLTAGES	
	psi	kPa	g/h	l/s		60 Hz	50 Hz
V4046A	150	1034.2	5-35	0.005-0.04	Open after 3-8 seconds.	120	120
	300	2068.4				220	240
V4046B	150	1034.2	5-35	0.005-0.04		120	220
	300	2068.4				240	

TABLE II—COIL RATINGS

MODEL	120 V, 50 Hz	120 V, 60 Hz	220 V, 50 Hz	240 V, 50 Hz	240 V, 60 Hz
V4046A	10.8	13.8	9.9	12.0	—
V4046B	—	13.8	12.1	—	13.7

VALVE MATERIAL: Aluminum.

VALVE PATTERN: Straight-through.

WIRING CONNECTION: Two 36 in. [914.4 mm] lead-wires; 1/2 inch conduit bushing.

POWER CONSUMPTION: 8 W maximum at rated voltage.

UNDERWRITERS LABORATORIES INC. LISTED: File No. MH1639; Guide No. YIOZ.

FACTORY MUTUAL LISTED: V4046A, Report No. 16960; V4046B, Report No. 16424.

(continued on page 3)

ORDERING INFORMATION

WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALE OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER.

SPECIFY—

1. Model.
2. Voltage and frequency.
3. Pressure rating.

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

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

CANADIAN STANDARDS COMPONENT LISTED: File No. LR41960, Guide No. 440-A-O.

VALVE ACTION ON POWER FAILURE: All models close in 1 second (maximum).

MOUNTING: Can be mounted in any position. Mounts directly in pipe line or on a support bracket. (See Fig. 2 for tapped holes provided in bottom of valve body.) Conduit outlet on powerhead can be rotated through 360 degrees with respect to valve body.

REPLACEMENT PARTS: Coil assemblies include coil, leadwire, insulator, and bobbin. V4046A assemblies also include thermistor (Table III).

AMBIENT TEMPERATURE RANGE: 32 F to 115 F [0 C to 46 C]. 125 F [54 C] maximum fluid temperature.

TYPES OF OIL: Use no heavier than No. 2 oil.

ORIFICE SIZE: 150 psi models—0.078 inch diameter; 300 psi models—0.043 inch diameter.

OIL PRESSURE DROP AT VARIOUS RATES OF FLOW: To compensate for pressure drop through the valve, add the appropriate correction from Table IV to the desired nozzle pressure. For example, if the normal

TABLE III—COIL ASSEMBLY PART NUMBERS

COIL ASSEMBLY FOR	PART NUMBER
V4046A — 120 Vac, 60 Hz	116649A
V4046A — 120 Vac, 50 Hz	116651A
V4046A — 220 Vac, 50 Hz	116652A
V4046A — 240 Vac, 50 Hz	116653A
V4046B — 120 Vac, 60 Hz	116671A
V4046B — 240 Vac, 60 Hz	116670A
V4046B — 220 Vac, 50 Hz	116669A

gauge setting for the pump is 100 pounds on a 25-gph oil burner, a V4046A (150 psi) would require a 106 pound setting (100 + 6 = 106).

TABLE IV—PRESSURE CORRECTIONS IN psi

NOZZLE GAUGE gph	5	10	15	20	25	30	35
150 psi model	1	2	3	4	6	9	12
300 psi model	4	13	28	48	73	103	140

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 make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

CAUTION

1. Disconnect power supply to prevent electrical shock or equipment damage.
2. Always loosen coil nut before attempting to rotate the powerhead.
3. Do not tighten valve on pipe using case as a handle.

LOCATION

Mount oil valves in a location between the oil pump and the nozzle where neither oil nor water will drip on the coil. Ambient temperatures at the valve location must be within 32 F to 115 F [0 C to 46 C]. Fluid temperatures must not exceed 125 F [54 C].

MOUNTING

The V4046 will operate in any mounting position required by the installation, as long as fuel flow is in the direction indicated by the arrow.

Use iron pipe for at least one of the valve connections to assure adequate support and to conform with recommendations of Underwriters Laboratories Inc. Use new, properly reamed pipe free from chips. If the installation does not support the valve adequately, a mounting bracket should be devised and installed.

CAUTION

- Do not tighten valve on pipe using case as a handle.

Be sure to check for oil leaks by inspecting pipe connections after putting installation into service.

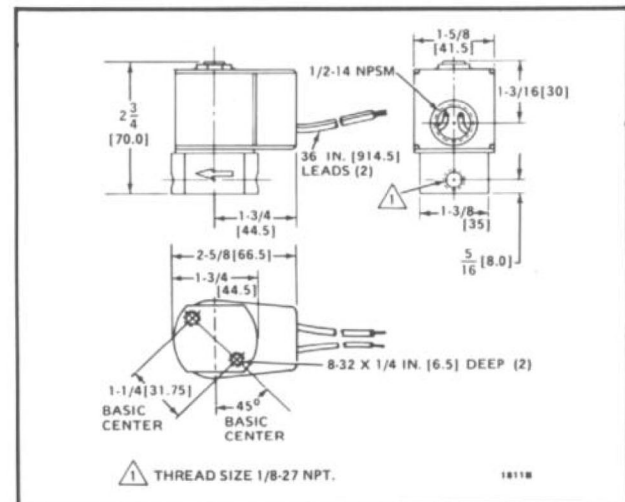


FIG. 1—APPROXIMATE INSTALLATION DIMENSIONS IN in. [mm IN BRACKETS].

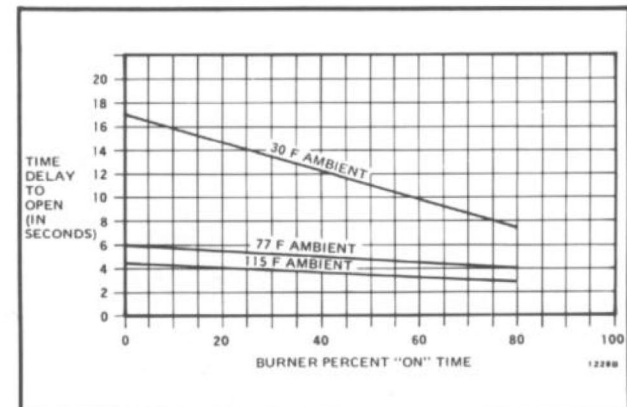


FIG. 2—THERMISTOR TIME DELAY FOR V4046A VALVE OPENING AS A FUNCTION OF BURNER PERCENT "ON" TIME.

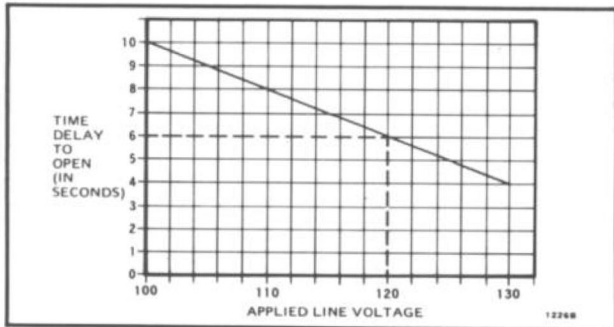


FIG. 3—THERMISTOR TIME DELAY FOR V4046A VALVE OPENING AS A FUNCTION OF APPLIED VOLTAGE.

SUGGESTIONS

- Use care in applying pipe compounds to joints to prevent clogging of the valve seat. Apply pipe compound to all but the first two threads.
- Tighten nut on top of valve if powerhead is loose or turned.

WIRING

CAUTION

Disconnect power supply before wiring to prevent electrical shock or equipment damage.

Leadwires on these devices are long enough to reach the junction box on most burner installations. The powerhead on all models rotates 360 degrees, permitting the electrical service to be brought to it from any convenient direction.

CAUTION

Always loosen coil nut before attempting to rotate the powerhead. Retighten nut after powerhead is positioned.

Solenoid coil is easily replaced without removing the valve from the installation.

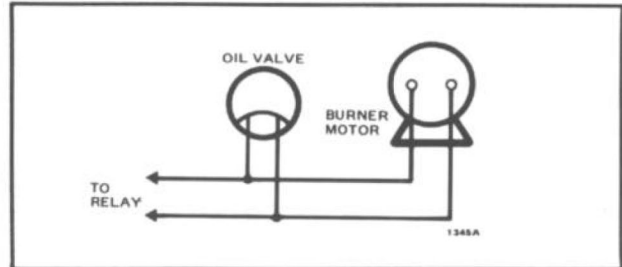


FIG. 4—TYPICAL CONNECTION OF THE V4046A AND B.

SERVICE AND CHECKOUT

CHECKOUT

Put the system into operation and observe through at least one cycle to be sure valve functions as described.

NOTE: Valve clicks audibly when it opens and when it closes. Listen for clicks to make sure valve is opening and closing properly. To check thermistor timing, energize valve and note time which elapses before opening click is heard.

SERVICE

DO NOT ASSUME THAT THE VALVE NEEDS REPLACING UNTIL ALL OTHER SOURCES OF TROUBLE HAVE BEEN ELIMINATED.

IF THE VALVE WILL NOT OPEN WHEN THE THERMOSTAT AND LIMIT CONTROL ARE CALLING FOR HEAT:

1. Make sure that the limit control contacts are closed.
2. Make sure that normal fuel pressure is available at the valve.
3. Make sure that the bleed line is unobstructed.
4. Check power supply at the valve. If no voltage is indicated, check power source (transformer or line source) and circuit controls. If proper voltage at valve, but valve does not pull in, replace valve coil.

IF VALVE WILL NOT CLOSE WITH ONE OR MORE OF THE CONTROL CONTACTS OPEN:

1. Make sure that the fuel flow is in the direction of the arrow on the valve body.
2. Check for a short in the circuit.

MAINTENANCE

The V4046 Magnetic Valves are built to give long and reliable service without attention. If necessary, solenoid

coil is replaced as follows:

1. Remove nut on top of valve (turn counterclockwise).
2. Lift the powerhead assembly off the spindle.
3. Disconnect and remove the solenoid coil.
4. Connect the replacement coil and reassemble.

NOTE: The valve need *not* be removed from the pipe installation to change the solenoid coil.

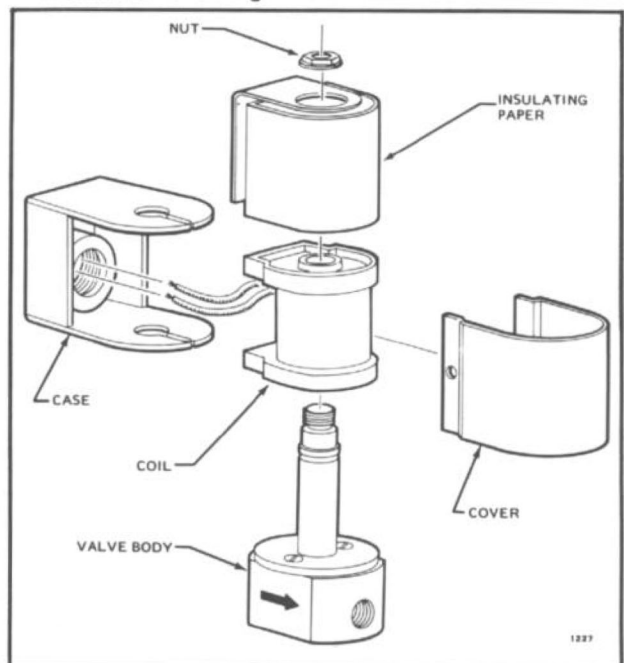


FIG. 5—REMOVING SOLENOID COIL.