

E-STOP09

Gas Shutoff Timer

ASSEMBLY INSTRUCTIONS CARE, USE, AND SAFETY MANUAL



IMPORTANT

Please read these assembly instructions carefully before attempting to assemble, use, or service this product. Please keep this manual for your future reference. If you have any questions, please feel free to call us at 949-474-3070 Monday through Friday 7AM to 4PM Pacific Time.



General Hazard Warning:

Improper installation, adjustment, alteration, service or maintenance of this product can result in death or cause injury or property damage. Please read the installation, operation, and maintenance instructions thoroughly before installing or servicing this appliance.

Please read all operating instructions before using and operating this appliance. Please handle metal parts with care to avoid injury. Please follow all steps as outlined. Never allow children to use this product!

For your safety- If you smell gas:



1. Open windows
2. DO NOT try to light any appliances
3. DO NOT use electrical switches
4. DO NOT use any telephone in your building.
5. Leave the building **immediately**.
6. Immediately call your gas supplier after leaving the building. Follow their directions.
7. If you cannot reach your local gas supplier
Call the Fire Department.



1. The assembly and installation of this appliance must conform with local codes or in the absence of local codes, to the National Fuel Gas Code ANSI Z223.1-1988.
2. Test all fittings and connections with a soapy solution prior to use. Never use an open flame or open flame device.



WARNING-California Proposition 65-The burning of gas cooking or heating fuels (and certain components contained in this product) generates some by products which are on a list of substances known by the state of California to cause cancer or reproductive harm. California law requires businesses to warn customers of potential exposure to such substances. To minimize exposure to such substances always operate this appliance in accordance with our Use & Care Guide (Owner's Manual) ensuring you provide good ventilation when cooking with gas. For detailed information please see official California Proposition 65 website www.P65WARNINGS.CA.GOV

Please note the following very important safety precautions:

Children should be carefully supervised when near the gas timer shutoff. This timer is not a toy and children should not be allowed to push or climb on the timer. **THESE ACTIONS COULD CAUSE SERIOUS INJURY, PROPERTY DAMAGE, OR DEATH.**

Installation and repair of the gas timer shutoff should be done by a qualified service technician.



Any part, sub-assembly, or component removed for cleaning or maintenance must be properly re-installed before using the gas timer shutoff.

The preceding pages attempt to highlight only the most important safety aspects and guidelines for using your gas timer shutoff. We have made every effort to thoroughly address all safety, assembly, and use issues for this product in the manual to follow. We strongly encourage that you read and understand the materials contained in the manual before using your gas timer shutoff. If you have any questions, whatsoever, regarding the safe assembly, or use, of your gas timer shutoff, please call us directly at 949-474-3070, info@aeicorporation.com or www.aeicorporation.com.

Thank you very much for purchasing a *Gas Timer Shutoff*. This manual contains very important information detailing the proper assembly, operation, and maintenance of this product. This product has been designed with the latest in safety technology. Important safety information is presented throughout this manual for your safety and that of any users. We have designed this product to provide you with many years of convenience when operated and maintained properly. If you have questions as to the assembly or safe operation of the gas timer shutoff please call us directly, at 949 474-3070, Monday through Friday 7 AM to 4 PM Pacific Coast Time.

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Technical Data: Model ESTOP09

**This unit is designed and configured
for use with Natural Gas and Liquid
Propane.**

Assembly Tips

When starting the assembly process please take all of the parts out of the boxes and check if anything is missing. Please check the Timer box and Solenoid Valve with the following parts breakdown. Even though we exercise extreme quality control procedures, occasionally, we will have a missing part, or a part may have been damaged in transit. If anything is missing, please contact us directly at 949-474-3070. We will immediately help you. The same holds true for any questions you may have regarding assembly or operation. When in doubt, please ask. We're at your service.

Owner Notes:

You will need the following tools and materials to assemble the Gas Shutoff Timer:

Teflon tape or gas sealant/pipe compound
Adjustable crescent wrench or socket driver

Standard Phillips Head #3 screw driver
Channel Locks or Pliers-Minimum 1 ½" capacity
Soapy water solution for leak testing

All male pipe thread connections will require Teflon tape or other approved sealant. Teflon tape FOR NATURAL GAS AND PROPANE works the best and is the easiest to use.

PLEASE NOTE: The proper assembly of this gas timer shutoff requires a qualified gas appliance technician. Installation is the responsibility of the customer.

All repair or services should be done by a qualified gas appliance technician.



Warning

Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury or death. Read the assembly, installation, operating, and maintenance instructions thoroughly before use, installing or servicing the appliance.



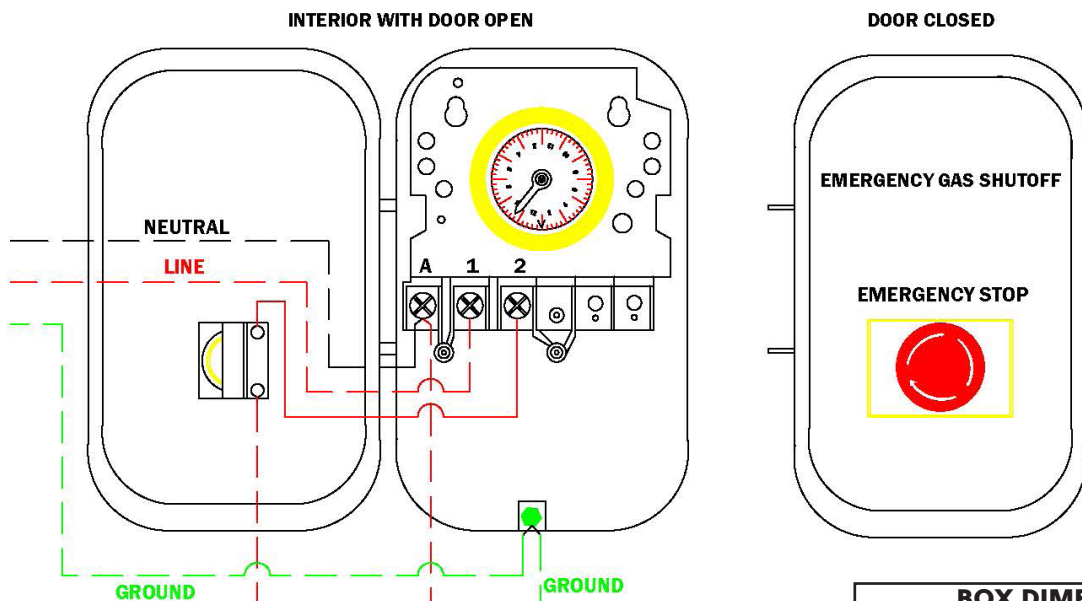
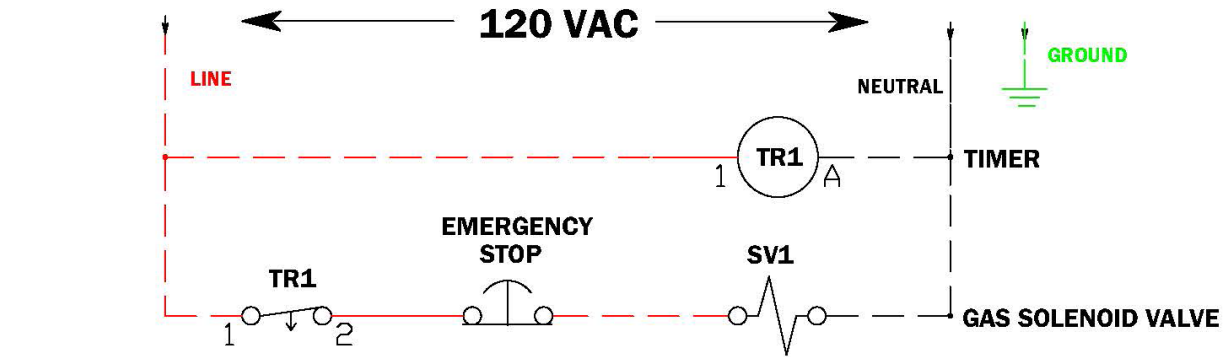
Warning

Do NOT store or use gasoline or any other flammable vapors and liquids in the vicinity of this or any other appliance.

FOR YOUR SAFETY: If you smell gas:



- 1. Shut off gas to the appliance**
- 2. Extinguish any open flames**
- 3. If odor continues, immediately call your gas supplier.**

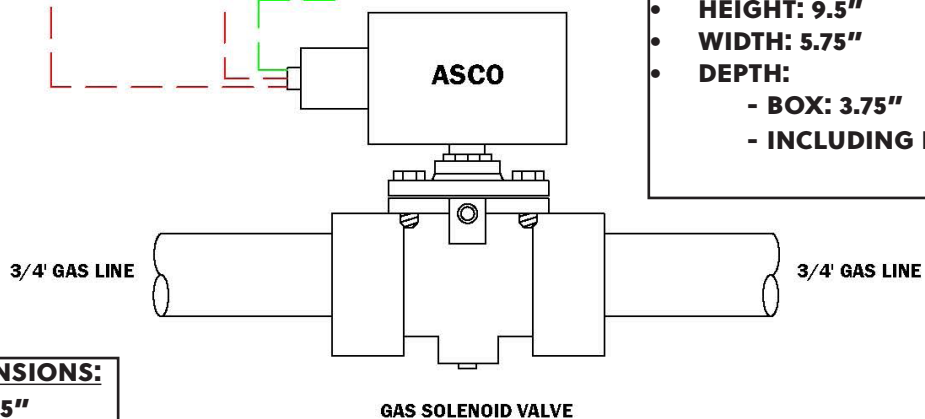


BOX DIMENSIONS:

- HEIGHT: 9.5"
- WIDTH: 5.75"
- DEPTH:
 - BOX: 3.75"
 - INCLUDING BUTTON: 5.5"

VALVE DIMENSIONS:

- HEIGHT: 4.5"
- WIDTH: 4"
- DEPTH: 2.25"



AEI CORPORATION
2641 DuBridge Avenue
Irvine, CA 92606

DRAWN BY: ID
DATE: ---
CHKD: JS
LST: ---

TITLE: EMERGENCY STOP
GAS TIMER ASSEMBLY
PART# ESTOP09

SHEET 1 OF 1
CAD No.: ---
DRAWING No.: 20120/AEI
REV: 1

MODEL: T101R

24 HR DIAL TIME SWITCH (SPST)

TYPE 3R RAINPROOF ENCLOSURE

SUITABLE FOR POOL EQUIPMENT CONTROL IF

INSTALLED 5FT. OR MORE FROM EDGE OF POOL.

40 A RESISTIVE, INDUCTIVE, TUNGSTEN

OR 1000 VA PILOT DUTY 120/208/240 VAC;

2 HP (24 FLA) - 120 VAC; 5 HP (28 FLA) - 240 VAC

16 A ELECTRONIC BALLAST, 277 VAC



UL
HOLOGRAM
LABEL

WARNING Risk of Fire or Electric Shock

- Disconnect power at the circuit breaker(s) or disconnect switch(es) before installing or servicing.
- Installation and/or wiring must be in accordance with national and local electrical code requirements.
- Use wires rated at least 90°C - COPPER conductors ONLY.
- For outdoor locations, raintight, or wet location, conduit hubs that comply with requirements of UL514B (standard for fittings for conduit and outlet boxes) are to be used.
- Replace plastic insulator covering terminals before powering ON.
- KEEP DOOR CLOSED AT ALL TIMES when not servicing.

AVERTISSEMENT Risque d'incendie ou de choc électrique

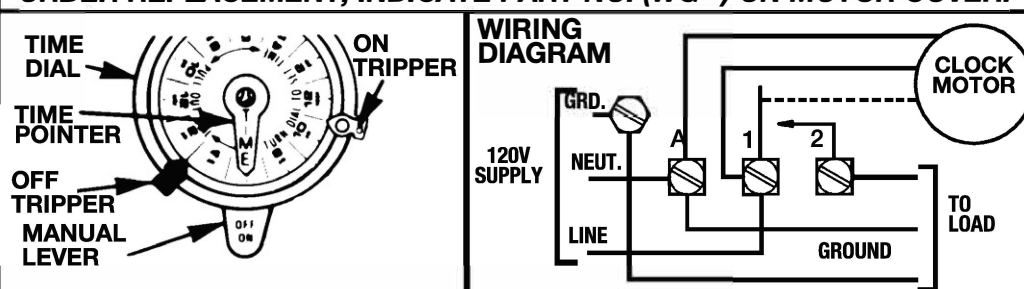
- Utiliser des fils classés 90 °C minimum - Conducteurs en CUIVRE UNIQUEMENT.
- Pour les emplacements extérieurs, étanches à la pluie ou les emplacements mouillés, des entrées de conduit qui sont conformes aux exigences de UL514B (norme pour les pièces de fixation pour conduit et boîtes de sortie) doivent être utilisées.

NOTICE

- Rotate timer dial clockwise only.
- Do not move the clock hands on the timer. Moving the clock hands can damage the timer.

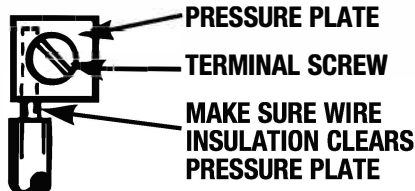
CLOCK MOTOR: 120 VAC, 60 HZ.

CLOCK MOTOR VOLTAGE AND CYCLE MUST BE AS SPECIFIED. TO ORDER REPLACEMENT, INDICATE PART NO. (WG--) ON MOTOR COVER.



WIRING INSTRUCTIONS: Remove 1/2 inch of insulation from wire ends. Tighten terminal screws firmly (2-18 in-lbs). Use solid or stranded COPPER conductors only. May use two wires of the same size and type.

MINIMUM COPPER WIRE SIZE (AWG)	MAX. LOAD (AMP)	MIN. INSUL- ATION TEMP(°C)	75°C INSULATION MAX. MOTOR LOAD (HP)			
			SINGLE PHASE		3 PHASE	
			120 V.	240 V.	208 V.	240 V.
14	15	90	1/2	2		
12	20	90	1	2 1/2	N/A	N/A
10	30	90	2	3		
8	40	90	-	5		



PROGRAMMING INSTRUCTIONS

1. **TO SET "ON" AND "OFF" TIMES:** Hold trippers against edge of **CLOCK-DIAL**, pointing to time (AM or PM) when ON and OFF operations are desired, tighten tripper screws firmly. For additional tripper pairs on **CLOCK-DIAL** order 156T1978A.
2. **TO SET TIME-OF-DAY:** Pull **CLOCK-DIAL** outward. Turn in either direction and align the exact time-of-day on the **CLOCK-DIAL** (the time now, when switch is being put into operation) to the pointer. **DO NOT MOVE POINTER.**

OPERATING INSTRUCTIONS

- **TO OPERATE SWITCH MANUALLY:** Move **MANUAL LEVER** below **CLOCK-DIAL** left or right as indicated by arrows. This will not effect next operation.
- **IN CASE OF POWER FAILURE,** reset **CLOCK-DIAL** to proper time-of-day. See programming instructions.

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SPRING GROVE, ILLINOIS 60081-9698

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E-STOP Function:

NFPA 79 requires that push-button emergency stops be of the “self-latching” type, which means that after an emergency stop actuator is depressed and the contacts open, the emergency stop device must remain in the actuated position until it is deliberately reset. If the E-STOP function has been activated, to turn off the gas supply, you must check for leaks, or reason for activation, before resetting.

Resetting Instructions

Resetting the E-STOP means a person manually intervenes and unlatches the button by rotating the button to the right.

Tamper Resistant:

The Emergency Stop Button is secure and is not easily removable from the enclosure.

Safeguarding:

Emergency Stop devices are not a replacement for proper safeguarding or automatic safety devices. Instead, it should be used as a backup measure. In addition, the activation of the emergency stop should not impair the effectiveness of the other safety devices.

Installation & Maintenance Instructions



OPEN-FRAME, GENERAL PURPOSE, WATERTIGHT/EXPLOSIONPROOF SOLENOIDS

SERIES
8003G/H
8007G/H
8202G/H

- SERVICE NOTICE-

ASCO® solenoid valves with design change letter “G” or “H” in the catalog number (ex. 821 0G I) have an epoxy encapsulated ASCO® Red Hat II® solenoid.

This solenoid replaces some of the solenoids with metal enclosures and openframe constructions. Follow these installation and maintenance instructions if your valve or operator uses this solenoid.

See separate instructions for basic valve.

DESCRIPTION

Catalog numbers 8003G/H, 8007G/H and 8202G/H are epoxy encapsulated pull-type solenoids. The green solenoid with lead wires and 1/2 conduit connection is designed to meet Enclosure Type 1-General Purpose, Type 2-Dripproof, Types 3 and 3S-Raintight, and Types 4 and 4X-Watertight. The black solenoid on catalog numbers prefixed “EF” or “EV” is designed to meet Enclosure Types 3 and 3S-Raintight, Types 4 and 4X-Watertight, Types 6 and 6P-Submersible, Type 7, Explosionproof Class I, Division 1 Groups A, B, C, & D and Type 9, -Dust-Ignitionproof-Class II, Division 1 Groups E, F & G. The Class II, Groups F & G Dust Locations designation is not applicable for solenoids or solenoid valves used for steam service or when a class “H” solenoid is used. See Temperature Limitations section for solenoid identification and nameplate/ retainer for service. When installed just as a solenoid and not attached to an ASCO valve, the core has a 0.250-28 UNF-2B tapped hole, 0.38 or 0.63 minimum full thread.

NOTE: Catalog number prefix “EV” denotes stainless steel construction.

Solenoid catalog numbers 8202G/HI, 8202G/H3, 8202G/H5 and 8202G/H7 are epoxy encapsulated push-type, reverse-acting solenoids having the same enclosure types as previously stated for Catalog numbers 8003G/HI and 8003G/H2. 8007G/H are 3-way solenoid operators with a pipe port or adapter, exhaust protector or vent at the top of the solenoid base sub-assembly.

Series 8003G/H, 8007G/H and 8202G/H solenoids are available in:

Open-Frame Construction: The green solenoid may be supplied with 1/4” spade, screw or DIN terminals. (Refer to Figure 4)

Panel Mounted Construction: These solenoids are specifically designed to be panel mounted by the customer. Refer to Figures specified in this I&M and the section on Installation of Panel Mounted Solenoid for details.

Optional Features For Type 1 • General Purpose Construction

Only Junction Box: This junction box construction meets Enclosure Types 2, 3, 3S, 4, and 4X. Only solenoids with 1/4” spade or screw terminals may have a junction box. The junction box provides a 1/2” conduit connection, grounding and spade or screw terminal connections within the junction box. (See Figure 5)

*** DIN Plug Connector Kit No. K236034:** Use this kit only for solenoids with DIN terminals. The DIN plug connector kit provides a two pole with grounding contact DIN Type 43650 construction (See Figure 6).

OPERATION

Series 8003G/H and 8007G/H - When the solenoid is energized, the core is drawn into the solenoid base sub-assembly.

IMPORTANT: When the solenoid is de-energized, the initial return force for the core, whether developed by spring, pressure, or weight, must exert a minimum force to overcome residual magnetism created by the solenoid. Minimum return force for AC construction is 11 ounces, and 5 ounces for DC construction.

Series 8202G/H - When the solenoid is energized, the disc holder assembly seats against the orifice. When the solenoid is de-energized, the disc holder assembly returns. **IMPORTANT:** Initial return force for the disc or disc holder assembly, whether developed by spring, pressure, or weight, must exert a minimum force to overcome residual magnetism created by the solenoid. Minimum return force is 1 pound, 5 ounces.

INSTALLATION

Check nameplate for correct catalog number, service, and wattage. Check front of solenoid for voltage and frequency.

A WARNING: Electrical hazard from the accessibility of live parts. To prevent the possibility of death, serious injury or property damage, install the open • frame solenoid in an enclosure.

FOR BLACK ENCLOSURE TYPES 7 AND 9 ONLY

CAUTION: To prevent fire or explosion, do not install solenoid and/or valve where ignition temperature of hazardous atmosphere is less than 165°C. On valves used for steam service or when a class “H” solenoid is used, do not install in hazardous atmosphere where ignition temperature is less than 180°C. See nameplate/ retainer for service.

NOTE: These solenoids have an internal non-resettable thermal fuse to limit solenoid temperature in the event that extraordinary conditions occur which could cause excessive temperatures. These conditions include high input voltage, a jammed core, excessive ambient temperature or a shorted solenoid, etc. This unique feature is a standard feature only in solenoids with black explosionproof/dust-ignitionproof enclosures (Types 7 & 9).

A CAUTION: To protect the solenoid valve or operator, install a strainer or filter, suitable for the service involved in the inlet side as close to the valve or operator as possible. Clean periodically depending on service conditions. See ASCO Series 8600 and 8601 for strainers.

Temperature Limitations

For maximum valve ambient temperatures, refer to chart. The temperature limitations listed, only indicate maximum application temperatures for field wiring rated at 90°C. Check catalog number prefix and watt rating on nameplate to determine maximum ambient temperature. See valve installation and maintenance instructions for maximum fluid temperature.

NOTE: For steam service, refer to Wiring section, Junction Box for temperature rating of supply wires.

Temperature Limitations For Series 8003G, 8007G, 8202G Solenoids for use on Valves Rated at 10.1, 11.6, 15.6, 17.1 or 22.6 Watts			
Watt Rating	Catalog Number Coil Prefix	Class of Insulation	Maximum Ambient Temp.
10.1 & 17.1	None, FB, KF, KP, SC, SD, SF, SP, VT, VB, ZT & ZB	F	125°F (52°C)
10.1 & 17.1	HB, HT, KB, KH, SS, ST, SU	H	140°F (60°C)
11.6 & 22.6	None, FB, KF, KP, SC, SD, SF, SP, VT, VB, ZT & ZB	F	104°F (40°C)
11.6 & 22.6	HP, HT, KB, KH, SS, ST, SU & SV	H	104°F (40°C)
15.6	None, KB, SS, SV	H	104°F (40°C)

§ Minimum ambient temperature 40°F (40°C).

Temperature Limitations for Series 8003H, 8007H, and 8202H solenoids						
		Watt Ratings			Maximum Ambient Temperature	
Prefix	Coil Class	AC		DC		
		60 Hz	50 Hz		°C	°F
EF, EV	FT	10.1	10.1	-	52	125
EF, EV	FB	17.1	17.1	-		
	FT	10.1	10.1	-	55	131
	FB	17.1	17.1	-		
	HT	-	-	11.6		
	HF	-	-	15.6		
	HB	-	-	22.6		
EF, EV	HT	-	-	11.6	40 ²	104 ²
EF, EV	HF	-	-	15.6		
EF, EV	HB	-	-	22.6		
	HT	10.1	10.1	-	60 ³	140 ³
	HB	17.1	17.1	-		
EF, EV	HT	10.1	10.1	-		
EF, EV	HB	17.1	17.1	-		

¹ = EF, EV data applies to Explosionproof coils only.

² = Some DC solenoid valves can be operated at maximum ambient temperature of 55°C/ 131°F with reduced pressure ratings. See valve I&M for maximum operating pressure differential ratings.

³ = Steam Service Valves have a maximum ambient temperature of 55°

C/ 131°F.

Positioning

This solenoid is designed to perform properly when mounted in any position. However, for optimum life and performance, the solenoid should be mounted vertically and upright to reduce the possibility of foreign matter accumulating in the solenoid base sub-assembly area.

Wiring

Wiring must comply with local codes and the National Electrical Code. All solenoids supplied with lead wires are provided with a grounding wire which is green or green with yellow stripes and a 1/2" conduit connection. To facilitate wiring) the solenoid may be rotated 360°. For the watertight and explosionproof solenoid, electrical fittings must be approved for use in the approved hazardous locations.

ii.CAUTION: Cryogenic Applications - Solenoid lead wire insulation should not be subjected to cryogenic temperatures. Adequate lead wire protection and routing must be provided.

Additional Wiring Instructions For Optional Features:

Open-Frame solenoid with 1/4" spade terminals, For solenoids supplied with screw terminal connections use #12- 18 AWG stranded copper wire rated at 90°C or greater. Torque terminal block screws to 10±2 in-lbs [1,0±1,2 Nm]. A tapped hole is provided in the solenoid for grounding, use a #10-32 machine screw. Torque grounding screw to 15-20 in-lbs [1,7- 2,3 Nm]. On solenoids with screw terminals, the socket head screw holding the terminal block to the solenoid is the grounding screw. Torque the screw to 15-20 in-lbs [1,7-2,3 Nm] with a 5/32" hex key wrench.

Junction Box

The junction box is used with spade or screw terminal solenoids only and is provided with a grounding screw and a 1/2" conduit connection. Connect #12-18 AWG standard copper wire only to the screw terminals. Within the junction box use field wire that is rated 90°C or greater for connections. For steam service use 105°C rated wire up to 50 psi or use 125°C rated wire above

50 psi. After electrical hookup, replace cover gasket, cover, and screws. Tighten screws evenly in a crisscross manner.

DIN Plug Connector Kit No. K236034

1. The open-frame solenoid is provided with DIN terminals to accommodate the plug connector kit.
2. Remove center screw from plug connector. Using a small screwdriver) pry terminal block from connector cover.
3. Use #12-18'AWG stranded copper wire rated at 90°C or greater for connections. Strip wire leads back approximately 1/4" for installation in socket terminals. The use of wire-end sleeves is also recommended for these socket terminals. Maximum length of wire-end sleeves to be approximately 1/4". Tinning of the ends of the lead wires is not recommended.
4. Thread wire through gland nut, gland gasket, washer and connection cover.

I&M V 6584 R16 sec1

NOTE: Connector housing may be rotated in 90° increments from position shown for alternate positioning of cable entry.

5. Check DIN connector terminal block for electrical markings. Then make electrical hookup to terminal block according to markings on it. Snap terminal block into connector cover and install center screw.
6. Position connector gasket on solenoid and install plug connector. Torque center screw to 5 ± 1 in-lbs [$0,6\pm 1,1$ Nm].

NOTE: Alternating current (AC) and direct current (DC) solenoids are built differently and cannot be converted from one to the other by changing the coil.

Installation of Solenoid

Solenoids may be assembled as a complete unit. Tightening is accomplished by means of a hex flange at the base of the solenoid.

Installation of Panel Mounted Solenoid (See Figures 1 and 2)

1. Disassemble solenoid following instruction under *Solenoid Replacement* then proceed.
2. Install solenoid base sub-assembly through customer panel. 8202H panel mounted solenoids include a retainer to adapt the solenoid base sub-assembly to the customer panel. (See Figure 2)
3. Position finger washer on opposite side of panel over solenoid base sub-assembly.
4. Replace solenoid, nameplate/retainer and red cap.
5. Make electrical hookup, see Wiring section.

Solenoid Temperature

Standard solenoids are designed for continuous duty service. When the solenoid is energized for a long period, the solenoid becomes hot and can be touched by hand only for an instant. This is a safe operating temperature.

MAINTENANCE

A WARNING: To prevent the possibility of death, serious injury or property damage, turnoff electrical power, depressurize solenoid operator and/or valve, and vent fluid to a safe area before servicing.

Cleaning

All solenoid operators and valves should be cleaned periodically. The time between cleaning will vary depending on medium and service conditions. In general, if the voltage to the solenoid is correct, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. Clean strainer or filter when cleaning the valve.

Preventive Maintenance

- Keep the medium flowing through the solenoid operator or valve. as free from dirt and foreign material as possible.
- Periodic exercise of the valve should be considered if ambient or fluid conditions are such that corrosion, elastomer degradation, fluid contamination build up, or other conditions that could impede solenoid valve shifting are possible. The actual frequency of exercise necessary will depend on specific operating conditions. A successful operating history is the best indication of a proper interval between exercise cycles.
- Depending on the medium and service conditions, periodic inspection of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. Replace any worn or damaged parts.

Causes of Improper Operation

- **Faulty Control Circuit:** Check the electrical system by energizing the solenoid. A metallic click signifies that the solenoid is operating. Absence of the click indicates loss of power supply. Check for loose or blown fuses, open-circuited or grounded solenoid, broken leadwires or splice connections.
- **Burned-Out Solenoid:** Check for open-circuited solenoid. Replace if necessary. Check supply voltage; it must be the same as specified on nameplate/retainer and marked on the solenoid. Check ambient temperature and check that the core is not jammed.
- **Low Voltage:** Check voltage across the solenoid leads. Voltage must be at least 85% of rated voltage.

Solenoid Replacement

1. Disconnect conduit, coil leads, and grounding wire.
NOTE: Any optional parts attached to the old solenoid must be reinstalled on the new solenoid. For 3-way construction, piping or tubing must be removed from pipe adapter.

2. Disassemble solenoids with optional features as follows:

- **Spade or Screw Terminals**
Remove terminal connections, grounding screw, grounding wire, and terminal block (screw terminal type only).

NOTE: For screw terminals, the socket head screw holding the terminal block serves as a grounding screw.

- **Junction Box**
Remove conduit and socket head screw (use 5/32" hex key wrench) from center of junction box. Disconnect junction box from solenoid.
- **DIN Plug Connector**
Remove center screw from DIN plug connector. Disconnect DIN plug connector from adapter. Remove socket head screw (use 5/32" hex key wrench), DIN terminal adapter, and gasket from solenoid.

3. Remove red cap or retainer from top of solenoid base sub-assembly. For 3-way construction with pipe adapter (Figure 3), remove pipe adapter, nameplate and solenoid. Omit steps 4 and 5.
4. Push down on solenoid: Then using a suitable screwdriver, insert blade between solenoid and nameplate/retainer. Pry up slightly and push to remove. NOTE: Series 8202O/H solenoids have a spacer between the nameplate/retainer and solenoid.
5. Remove solenoid from solenoid base sub-assembly.
6. Reassemble in reverse order of disassembly. Use exploded views for identification and placement of parts.
7. Torque pipe adapter to 90 inch-pounds maximum [10,2 Nm maximum]. Then make up piping or tubing to pipe adapter on solenoid.

Disassembly and Reassembly of Solenoids

1. Remove solenoid, see *Solenoid Replacement*.
2. Remove spring washer from solenoid base sub-assembly. For 3-way construction, remove pipe adapter and plugnut gasket.

3. Unscrew solenoid base sub-assembly from valve body.
4. Remove internal solenoid parts for cleaning or replacement. Use exploded views for identification and placement of parts.
5. If the solenoid is part of a valve, refer to basic valve installation and maintenance instructions for further disassembly.
6. Torque solenoid base sub-assembly and adapter to 175±25 in-lbs [19,8±2,8 Nm].

ORDERING INFORMATION FOR ASCO SOLENOIDS

When Ordering Solenoids for ASCO Solenoid Operators or Valves, order the number stamped on the solenoid. Also specify voltage and frequency.

Installation & Maintenance Instructions


SERIES
8003G/H
8202G/H
OPEN-FRAME, GENERAL PURPOSE, WATERTIGHT/EXPLOSIONPROOF SOLENOIDS
NOTICE: See Installation and Maintenance Instructions, I&M No. V6584R12 – Section 1 of 2 for detailed instructions.

Torque Chart

Part Name	Torque Value in Inch-Pounds	Torque Value in Newton-Meters
solenoid base sub-assembly	175 ± 25	19,8 ± 2,8
pipe adapter	90 maximum	10,2 maximum

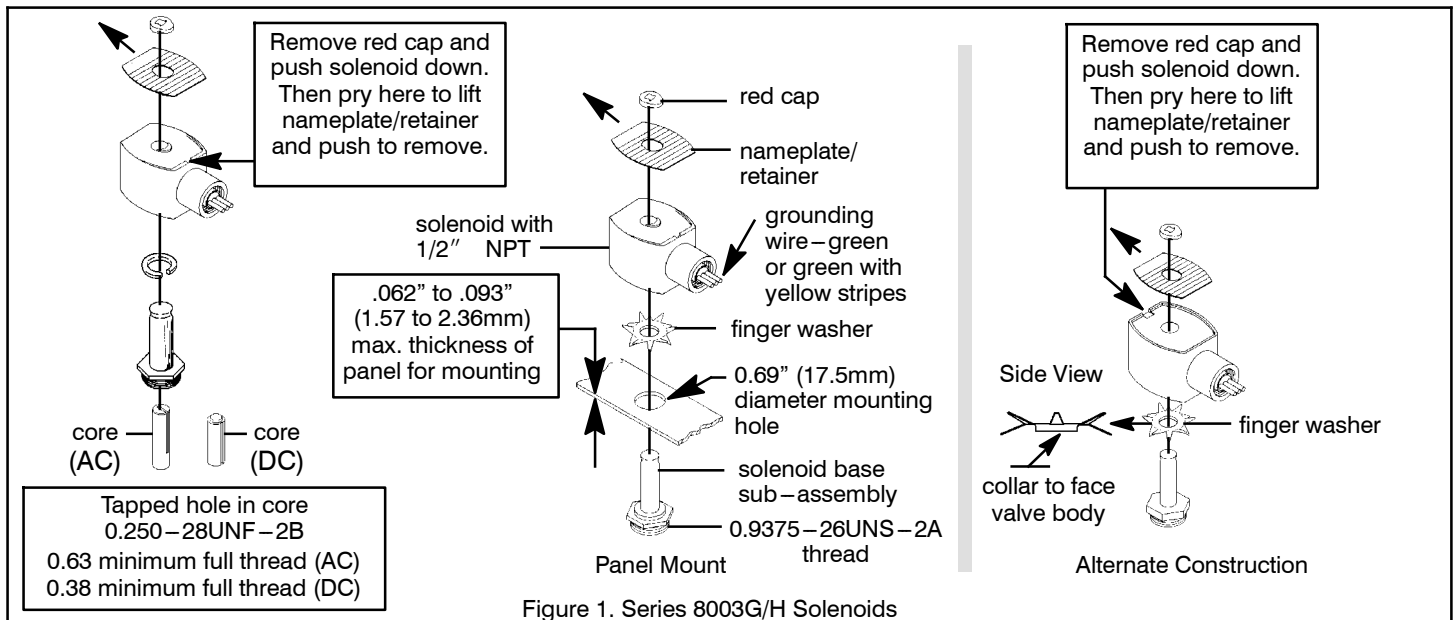


Figure 1. Series 8003G/H Solenoids

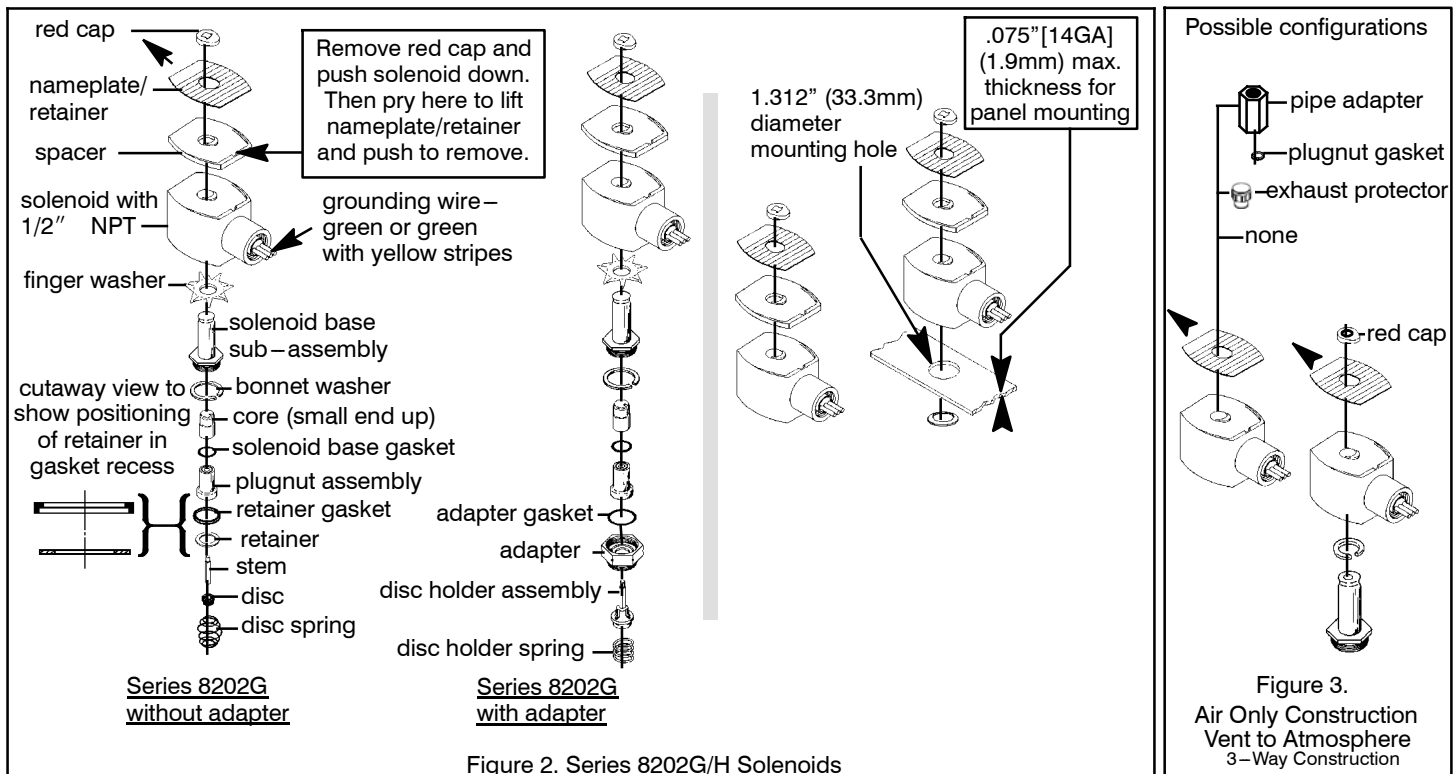
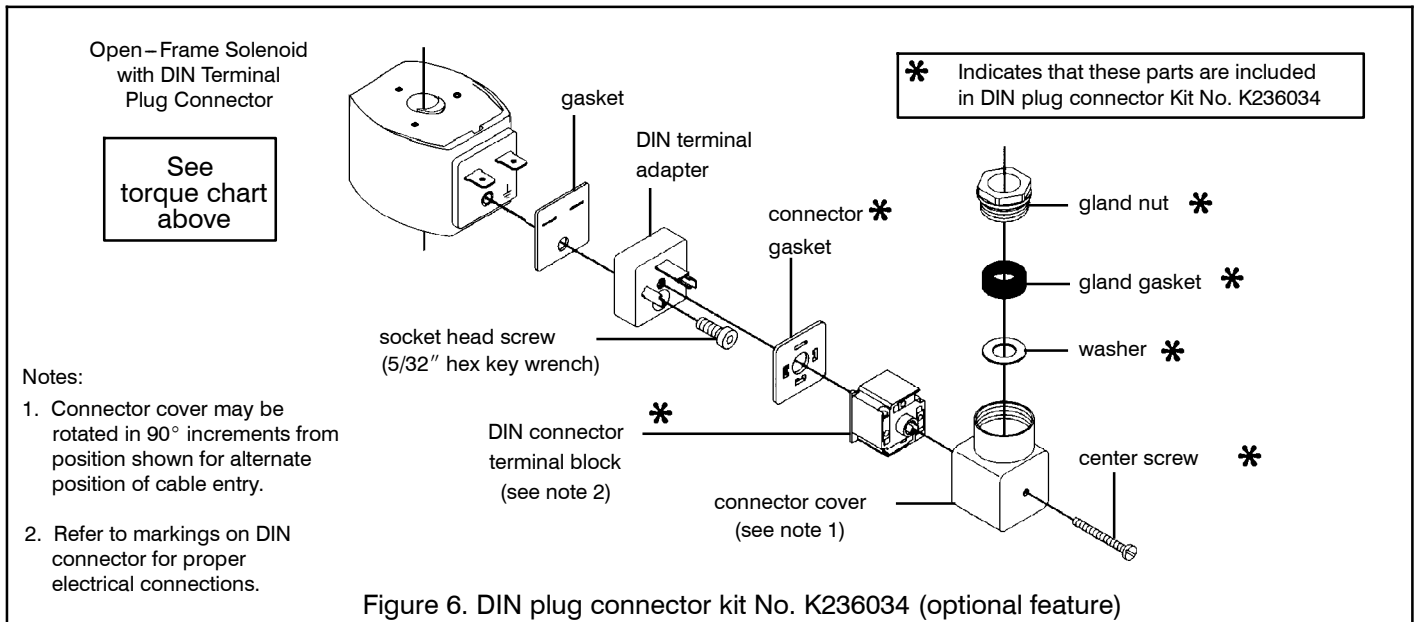
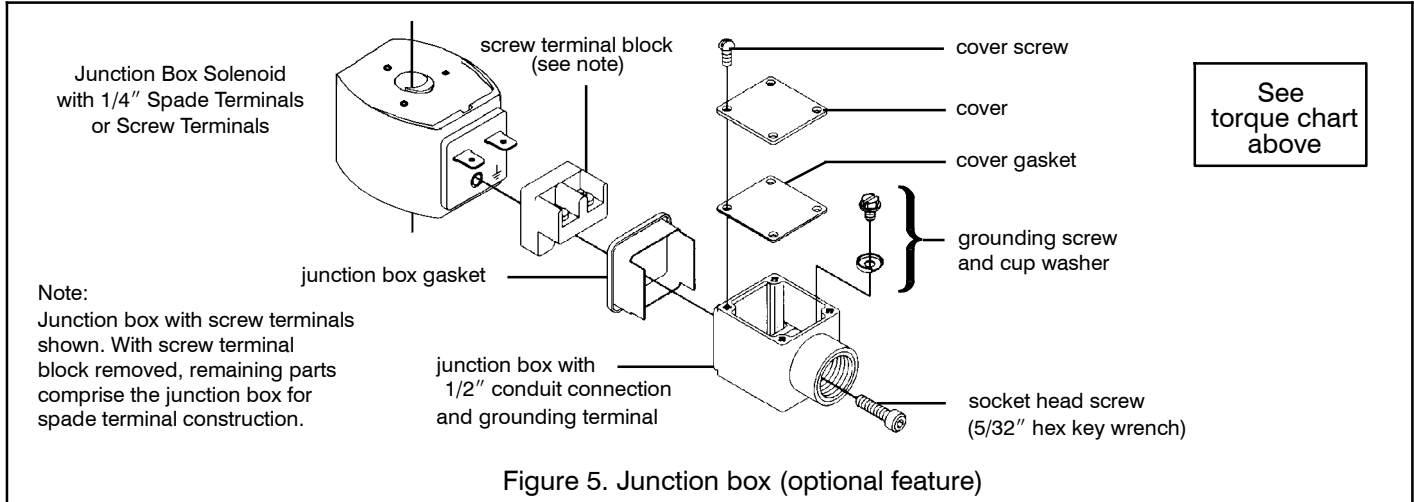
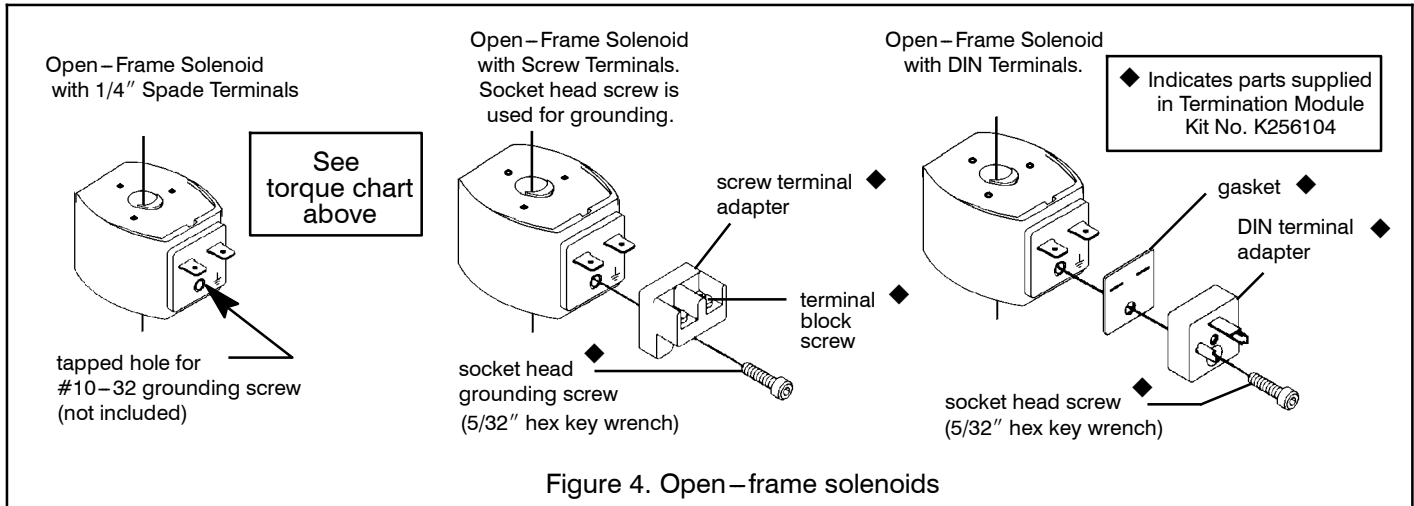


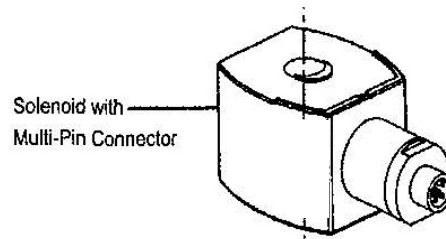
Figure 2. Series 8202G/H Solenoids

Figure 3. Air Only Construction Vent to Atmosphere 3-Way Construction

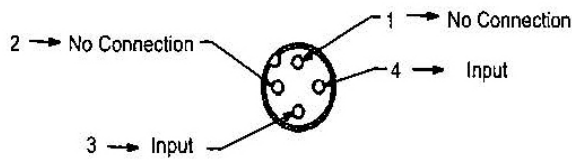
Torque Chart

Part Name	Torque Value in Inch-Pounds	Torque Value in Newton-Meters
terminal block screws	10 ± 2	1,1 ± 0,2
socket head screw	15 – 20	1,7 – 2,3
center screw	5 ± 1	0,6 ± 0,1





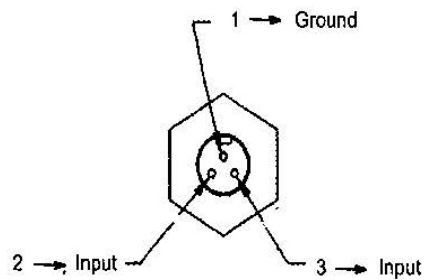
DC: For mating connector, use 4-pin M12 x 1 threaded female connector.



Electrical Connection Size:

DC: Single keyway M12 x 1 (*Not polarity sensitive*)
AC: Dual keyway 1/2-20UNF Thread

Figure 7.
4-Pin Anodized Aluminum Electrical Termination
(VT/VB)



Electrical Connection Size:

DC/AC: 7/8-16 UNS-2A

Figure 8.
Mini 3-pin Epoxy Coated Zinc Electrical Termination
(ZT/ZB)

Installation & Maintenance Instructions

2-WAY DIRECT-ACTING SOLENOID VALVES
NORMALLY CLOSED OPERATION — 3/8" , 1/2" , 3/4" , 1" OR 1 1/4" NPT
AIR OR FUEL GAS SERVICE

SERIES
8040
8041

NOTICE: See separate solenoid installation and maintenance instructions for information on: **Wiring, Solenoid Temperature, Causes of Improper Operation, Coil or Solenoid Replacement.**

DESCRIPTION

Series 8040 valves are 2-way normally closed direct-acting solenoid valves designed for air or fuel gas service. Valve bodies are made of rugged aluminum with trim and internal parts made of steel and stainless steel. Series 8040 valves are provided with a general purpose solenoid enclosure.

Series 8041 and EF8040 valves are the same as Series 8040 except they are provided with an explosionproof or explosionproof/watertight solenoid enclosure.

Provisions for Pressure and Seat Leakage Testing

(See Figure 2)

Series 8040G valves are provided with two 1/8" tapped and plugged holes. One upstream for pressure testing; one downstream for seat leakage testing. Leakage testing frequency shall be at least annually in accordance with NFPA-86 or original equipment manufacturer recommendations. Testing is also required after valve disassembly and reassembly for inspection, cleaning or rebuilding.

OPERATION

Normally Closed: Valve is closed when solenoid is de-energized; open when energized.

NOTE: No minimum operating pressure differential required.

INSTALLATION

Check nameplate for correct catalog number, pressure, voltage, frequency, and service. Never apply incompatible fluids or exceed pressure rating of the valve. Installation and valve maintenance to be performed by qualified personnel.

Temperature Limitations

For valve ambient and fluid temperatures, refer to chart below.

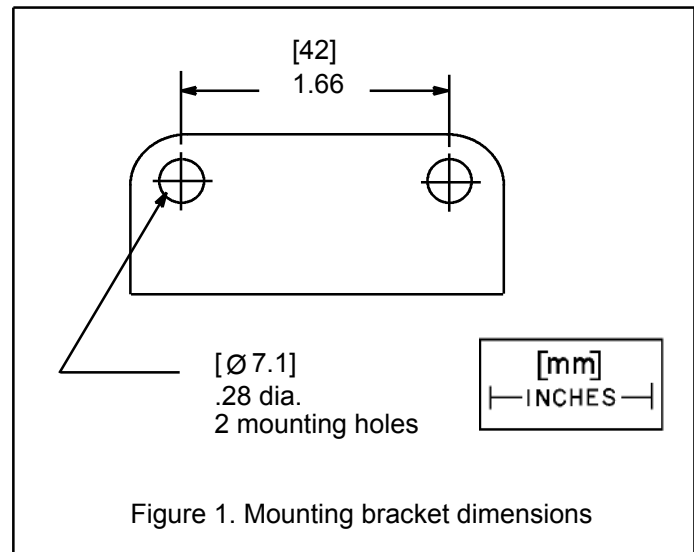
Catalog Number	Catalog Number Prefix	Min. and Max. Ambient Temperatures	Min. and Max. Fluid Temperatures
8040G21 8040G22 8040G23	None, KF, SF, SC or EF	-40°F (-40°C) to 125°F (52°C)	-40°F (-40°C) to 125°F (52°C)
	HT, KH, ST, SU or EFHT	-40°F (-40°C) to 140°F (60°C)	-40°F (-40°C) to 140°F (60°C)
8040A021 8040A022 8040A023	U, MU	32°F (0°C) to 125°F (52°C)	32°F (0°C) to 125°F (52°C)

Positioning

This valve is designed to perform properly when mounted in any position. However, for optimum life and performance, the solenoid should be mounted vertically and upright to reduce the possibility of foreign matter accumulating in the solenoid base sub-assembly area.

Mounting

For mounting bracket (optional feature) dimensions, refer to Figure 1.



Piping

Connect piping to valve according to markings on valve body. Apply pipe compound sparingly to male pipe threads only. If applied to valve threads, the compound may enter the valve and cause operational difficulty. Avoid pipe strain by properly supporting and aligning piping. When tightening the pipe, do not use valve or solenoid as a lever. Locate wrenches applied to valve body or piping as close as possible to connection point. Valves should be checked for external leakage at piping connections after installation, *see Testing for External Leakage* section.

⚠ CAUTION: To avoid damage to the valve body, **DO NOT OVERTIGHTEN PIPE CONNECTIONS.** If PTFE tape, paste, spray or similar lubricant is used, use extra care when tightening due to reduced friction.

⚠ CAUTION: To protect the solenoid valve, install a strainer or filter suitable for the service involved in the inlet side as close to the valve as possible. Clean periodically depending on service conditions. See ASCO Series 8600 and 8601 for strainers.

Testing for External Leakage

▲ WARNING: To prevent the possibility of severe personal injury or property damage, extinguish all open flames and avoid any type of sparking or ignition.

1. Block gas flow on downstream side of valve.
2. Apply pressure to valve within nameplate rating and energize solenoid.
3. Apply a soapy solution or a commercially available leak detecting solution to the pipe connections and check for bubbles. If the valve has been tested for seat leakage or disassembled and reassembled for inspecting, cleaning, or rebuilding apply the solution around solenoid base sub-assembly, bonnet/body joint and pipe plugs.
4. If leakage exists, depressurize valve and turn off electrical power supply. Tighten connections as required and retest following the above steps.

MAINTENANCE

▲ WARNING: To prevent the possibility of severe personal injury or property damage, turn off electrical power, depressurize valve, extinguish all open flames, and avoid any type of sparking or ignition. Vent hazardous or combustible fluid to a safe area before servicing the valve.

NOTE: It is not necessary to remove the valve from the pipeline for repairs.

Cleaning

All solenoid valves should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. In the extreme case, faulty valve operation will occur and the valve may fail to open or close. Clean strainer or filter when cleaning the valve.

Preventive Maintenance

- Keep the medium flowing through the valve as free from dirt and foreign material as possible.
- While in service, the valve should be operated at least once a month to insure proper opening and closing.
- Depending on the medium and service conditions, periodic inspection of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Causes of Improper Operation

- **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within range specified on nameplate.
- **Excessive Leakage:** Disassemble valve and clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Valve Disassembly(Refer to Figure 3)

1. Disassemble valve in an orderly fashion using exploded view for identification and placement of parts.
2. Remove solenoid enclosure. See separate instructions.
3. Unscrew solenoid base sub-assembly from valve bonnet.
4. Remove bonnet screws, valve bonnet, solenoid base gasket, core assembly (with core spring, rider ring and core guide) and body gasket from valve body.
5. All parts are now accessible for cleaning or replacement. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Valve Reassembly

1. Lubricate body gasket and solenoid base gasket with DOW CORNING® 200 Fluid lubricant or an equivalent high-grade silicone fluid.
2. Position body gasket and core assembly in valve body.
3. Replace valve bonnet, solenoid base gasket and bonnet screws.
4. Install bonnet screws and hand thread screws as far as possible, then torque bonnet screws in a crisscross manner to 110 ± 10 in-lbs [12 ± 1 Nm].
5. Install solenoid base sub-assembly and torque to 175 ± 25 in-lbs [$19,8 \pm 2,8$ Nm].
6. Install solenoid. See separate instructions.

▲WARNING: To prevent the possibility of personal injury or property damage, check valve for proper operation before returning to service. Also perform internal seat and external leakage tests (with a nonhazardous, noncombustible fluid if practical).

7. Check valve for external leakage as indicated under the *Piping* section, and for internal (seat)leakage as follows.

Testing for Internal (Seat) Leakage

⚠ CAUTION: Be sure valve can be tested without affecting other equipment.

1. Using a 3/16 hex key wrench, remove the 1/8" pipe plug from the downstream side of the valve body. Then install suitable test piping (e.g.; two short nipples and an elbow or tubing) to check for leakage.
2. Block flow downstream of valve.
3. Restore electrical power supply and pressurize valve to nameplate rating.
4. With valve de-energized, immerse end of test piping in a cup of water for 20-30 seconds and look for bubbles, which would be indicative of seat leakage. Repeat this procedure at several progressively lower pressures, down to approximately 1/4 psi. Between each test, remove cup of water and operate valve.
5. If seat leakage is detected, turn off electrical power and depressurize valve. Disassemble and check for proper placement of parts, or any foreign matter that may have entered the valve. Clean as necessary, reassemble and re-test valve for both external and internal leakage.
6. If no seat leakage is detected, remove test piping. Apply a small amount of Loctite Corporation's PST Pipe Sealant 567 (or equivalent) to the pipe plug threads. Reinstall the pipe plug and tighten securely.
7. Test for external leakage as described in **Piping** section.
8. When maintenance is complete, operate the valve a few times to be sure of proper operation. A metallic click indicates the solenoid is operating.

ORDERING INFORMATION FOR ASCO REBUILD KITS

Parts marked with an asterisk(*) in the exploded view are supplied in Rebuild Kits. When Ordering Rebuild Kits for ASCO Valves, order the Rebuild Kit number stamped on the valve nameplate. If the number of the kit is not visible, order by indicating the number of kits required, and the Catalog Number and Serial Number of the valve(s) for which they are intended.

Partial side view of valve body showing location of tapped and plugged holes for pressure and seat leakage testing

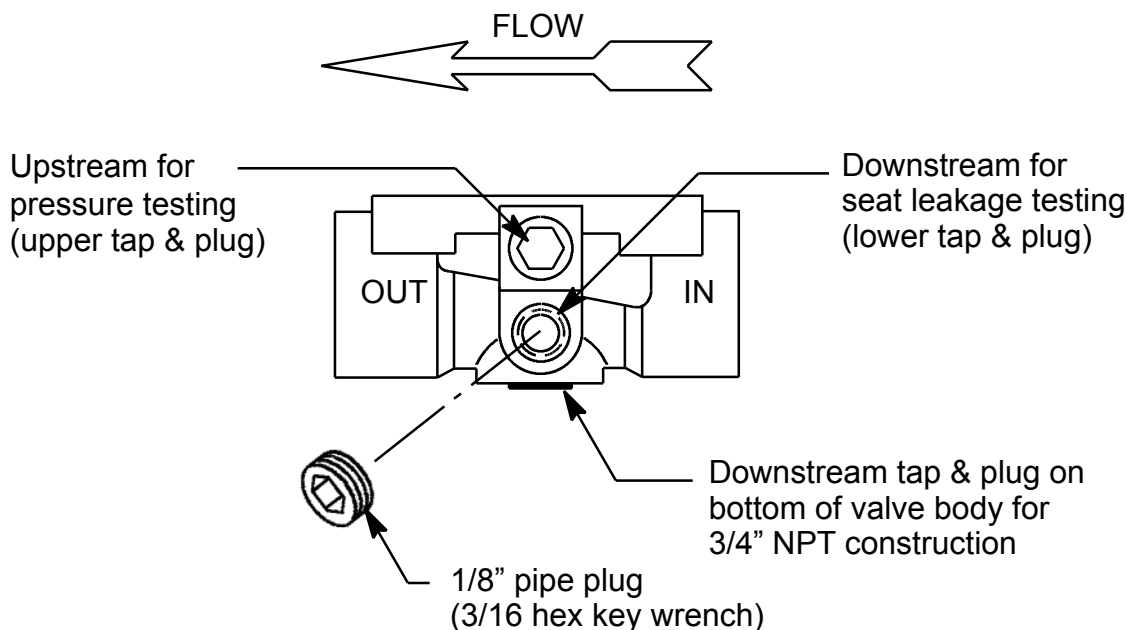
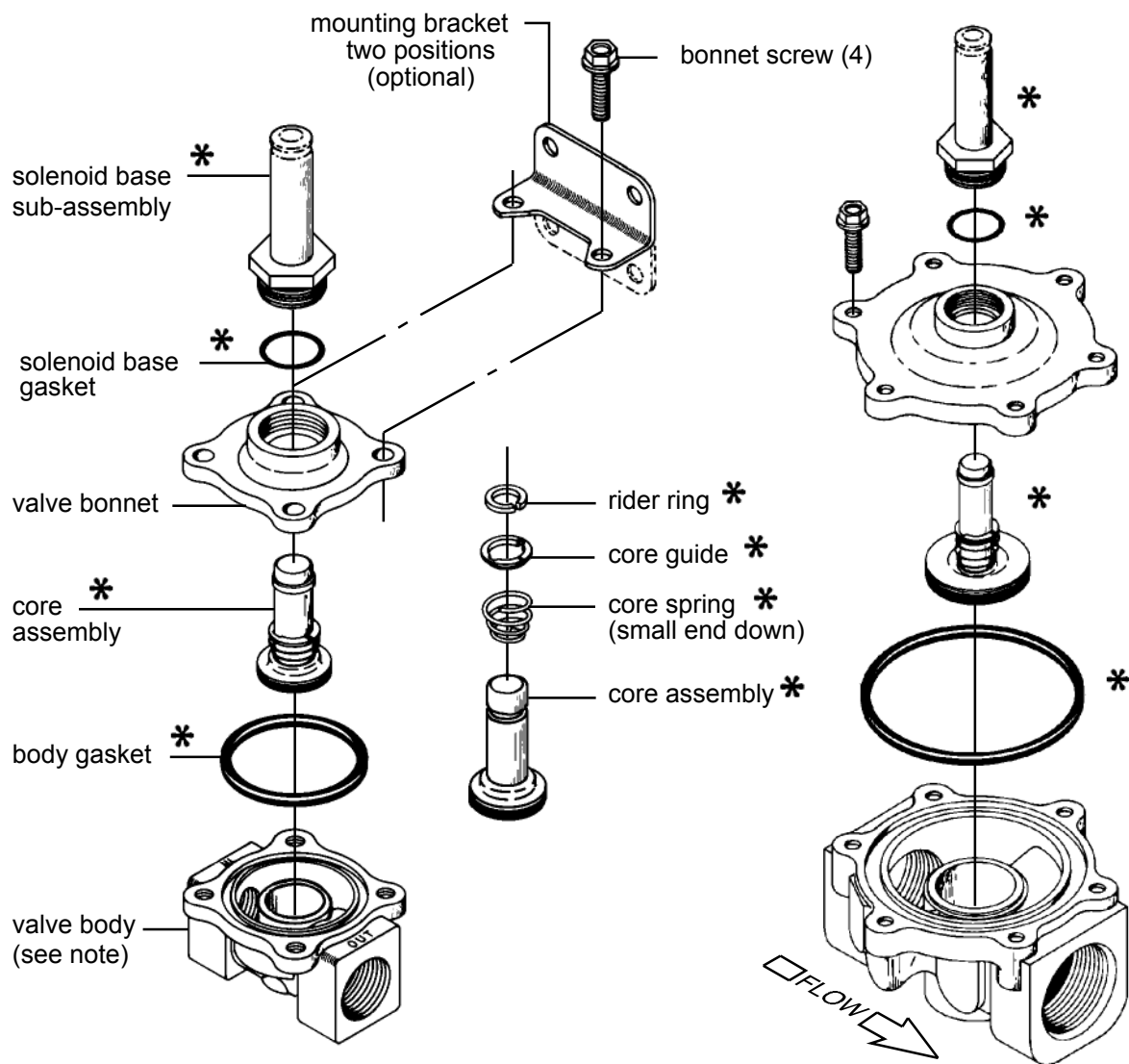


Figure 2. Provisions for pressure and seat leakage testing.

Torque Chart

Part Name	Torque Value in Inch-Pounds	Torque Value in Newton-Meters
bonnet screws	110 ± 10	12 ± 1
solenoid base sub-assembly	175 ± 25	19,8 ± 2,8

* Indicates Parts Supplied
In ASCO Rebuild Kits



3/8" , 1/2" & 3/4" NPT Construction

1" & 1 1/4" NPT Construction

Note:

Provisions (tapped & plugged holes) for pressure and seat leakage testing not shown in this view, see Figure 2.

Figure 3. Series 8040 valve without solenoid.

GENERAL INSTALLATION AND MAINTENANCE INSTRUCTIONS

Note: These general Installation and Maintenance Instructions must be read in conjunction with the Instruction Sheet for the specific product.

INSTALLATION

ASCO Numatics components are intended to be used only within the technical characteristics as specified on the nameplate. Changes to the equipment are only allowed after consulting the manufacturer or its representative. Before installation, depressurize the piping system and clean internally.

The equipment may be mounted in any position if not otherwise indicated on the product by means of an arrow.

The flow direction and pipe connection of valves are indicated on the body.

The pipe connections have to be in accordance with the size indicated on the nameplate and fitted accordingly.

Caution:

- Reducing the connections may cause improper operation or malfunctioning.
- For the protection of the equipment install a strainer or filter suitable for the service involved in the inlet side as close to the product as possible.
- If tape, paste, spray or a similar lubricant is used when tightening, avoid particles entering the system.
- Use proper tools and locate wrenches as close as possible to the connection point.
- To avoid damage to the equipment. DO NOT OVERTIGHTEN pipe connections
- Do not use valve or solenoid as lever.
- The pipe connections should not apply any force, torque or strain to the product.

ELECTRICAL CONNECTION

In case of electrical connections, they are only to be made by trained personnel and have to be in accordance with the local regulations and standards.

Caution:

- Turn off electrical power supply and de-energize the electrical circuit and voltage carrying parts before starting work.
- All electrical screw terminals must be properly tightened according to the standards before putting into service.
- Dependent upon the voltage electrical components must be provided with an earth connection and satisfy local regulations and standards.

The equipment can have one of the following electrical terminals:

- Spade plug connections according to ISO-4400 or 3 x DIN-46244 (when correctly installed, this connection provides IP-65 protection).
- Embedded screw terminals in metal enclosure with "Pg" cable gland
- Spade terminals (AMP type).
- Flying leads or cables.

PUTTING INTO SERVICE

Before pressurizing the system, first carry-out an electrical test. In case of solenoid valves, energize the coil a few times and notice a metal click signifying the solenoid operation.

SERVICE

Most of the solenoid valves are equipped with coils for continuous duty service. To prevent the possibility of personal or property damage, do not touch the solenoid which can become hot under normal operating conditions.

SOUND EMISSION

The emission of sound depends on the application, medium and nature of the equipment used. The exact determination of the sound level can only be carried out by the user having the valve installed in his system

MAINTENANCE

Maintenance of ASCO Numatics products is dependent on service conditions. Periodic cleaning is recommended, the timing of which will depend on the media and service conditions. During servicing, components should be examined for excessive wear. A complete set of internal parts is available as spare parts or rebuild kit. If a problem occurs during installation/maintenance or in case of doubt please contact ASCO Numatics or authorized representatives.

*A separate Declaration of Incorporation relating to EU-Directive 2006/42/EC Annex II B is available on request for applicable products. Please provide product identification number and serial numbers of products concerned.

The product, when marked CE, complies with the essential requirements of the EMC 2004/108/EC (until April 20th 2016) and EMC 2014/30/EU (from April 20th 2016) and LVD 2006/95/EC (until April 20th 2016) and LVD 2014/35/EU (from April 20th 2016). A separate Declaration of Conformity is available on request. Please provide product identification number and serial numbers of the products concerned.

INSTRUCTIONS GÉNÉRALES D'INSTALLATION ET D'ENTRETIEN

Note: Ces instructions générales d'installation et d'entretien complètent la notice spécifique du produit.

MONTAGE

Les composants ASCO Numatics sont conçus pour les domaines de fonctionnement indiqués sur la plaque signalétique ou la documentation. Aucune modification ne peut être réalisée sur le matériel sans l'accord préalable du fabricant ou de son représentant. Avant de procéder au montage, dépressuriser les canalisations et effectuer un nettoyage interne.

A moins qu'une flèche ou la notice n'indique un sens de montage spécifique de la tête magnétique, le produit peut être monté dans n'importe quelle position

Le sens de circulation du fluide est indiqué par repères sur le corps et dans la documentation.

La dimension des tuyauteries doit correspondre au raccordement indiqué sur le corps, l'étiquette ou la notice.

Attention:

- Une restriction des tuyauteries peut entraîner des dysfonctionnements.
- Afin de protéger le matériel, installer une crépine ou un filtre adéquat en amont, aussi près que possible du produit.
- En cas d'utilisation de ruban; pâte, aérosol ou autre lubrifiant lors du serrage, veiller à ce qu'aucun corps étranger ne pénètre dans le circuit.
- Utiliser un outillage approprié et placer les clés aussi près que possible du point de raccordement.
- Afin d'éviter toute détérioration, NE PAS TROP SERRER les raccords des tuyauteries.
- Ne pas se servir de la vanne ou de tête magnétique comme d'un levier.
- The pipe connections should not apply any force, torque or strain to the product.

RACCORDEMENT ÉLECTRIQUE

Le raccordement électrique doit être réalisé par un personnel qualifié et selon les normes et règlements locaux.

Attention:

- Avant toute intervention, couper l'alimentation électrique pour mettre hors tension les composants.
- Toutes les bornes à vis doivent être serrées correctement avant la mise en service.
- Selon la tension, les composants électrique doivent être mis à la terre conformément aux normes et règlements locaux.

Selon les cas, le raccordement électrique s'effectue par:

- Déconnecteur débrochable ISO-4400 ou 3 x DIN-46244 avec degré de protection IP-65 lorsque le raccordement est correctement effectué.
- Bornes à vis solidaires du bobinage, sous boîtier métallique avec presse-étoupe "Pg--".
- Cosses (type AMP).
- Fils ou câbles solidaires de la bobine.

MISE EN SERVICE

Avant de mettre le circuit sous pression, effectuer un essai électrique. Dans le cas d'une électrovanne, mettre la bobine sous tension plusieurs fois et écouter le "clac" métallique qui signale le fonctionnement de la tête magnétique.

FONCTIONNEMENT

La plupart des électrovannes comportant des bobinages prévus pour mise sous tension permanente. Pour éviter toute brûlure, ne pas toucher la tête magnétique qui, en fonctionnement normal et en permanence sous tension, peut atteindre une température élevée.

BRUIT DE FONCTIONNEMENT

Le bruit de fonctionnement varie selon l'utilisation, le fluide et le type de matériel employé. L'utilisateur ne pourra déterminer avec précision le niveau sonore émis qu'après avoir monté le composant sur l'installation.

ENTRETIEN

L'entretien nécessaire aux produits ASCO Numatics varie avec leurs conditions d'utilisation. Il est souhaitable de procéder à un nettoyage périodique dont l'intervalle varie suivant la nature du fluide, les conditions de fonctionnement et le milieu ambiant. Lors de l'intervention. Les composants doivent être examinés pour détecter toute usure excessive. Un ensemble de pièces internes est proposé en pièces de rechange pour procéder à la réparation. En cas de problème lors du montage/entretien ou en cas de doute, veuillez contacter ASCO Numatics ou ses représentants officiels.

*Une déclaration d'incorporation relative à la directive UE 2006/42/CE Annexe II B est disponible sur demande pour les produits applicables. Veuillez fournir le numéro d'identification du produit et les numéros de série des produits concernés.

Lorsqu'il est marqué du label CE, le produit est conforme aux exigences essentielles des directives CEM 2004/108/CE (jusqu'au 20 avril 2016) et CEM 2014/30/UE (à partir du 20 avril 2016) et des directives Basse tension 2006/95/CE (jusqu'au 20 avril 2016) et 2014/35/UE (à partir du 20 avril 2016). Une déclaration de conformité peut être fournie sur simple demande. Veuillez fournir le numéro d'identification du produit et les numéros de série des produits concernés.

ALLGEMEINE BETRIEBSANLEITUNG

Achtung: Diese Allgemeine Betriebsanleitung gilt in Zusammenhang mit der jeweiligen Betriebsanleitung für die speziellen Produkte.

EINBAU

Die ASCO Numatics-Komponenten dürfen nur innerhalb der auf den Typenschildern angegebenen Daten eingesetzt werden, Veränderungen an den Produkten sind nur nach Rücksprache mit ASCO Numatics zulässig.

Vor dem Einbau der Ventile muß das Rohrleitungssystem drucklos geschaltet und innen gereinigt werden.

Die Einbaulage der Produkte ist generell beliebig. Ausnahme: Die mit einem Pfeil gekennzeichneten Produkte müssen entsprechend der Pfeilrichtung montiert werden.

Die Durchflußrichtung und der Eingang von Ventilen sind gekennzeichnet.

Die Rohranschlüsse sollten entsprechend den Größenangaben auf den Typenschildern mit handelsüblichen Verschraubungen durchgeführt werden. Dabei ist folgendes zu beachten:

- Eine Reduzierung der Anschlüsse kann zu Leistungs- und Funktionsminderungen führen.
- Zum Schutz der Ventile sollten Schmutzfänger oder Filter so dicht wie möglich in den Ventileingang integriert werden.
- Bei Abdichtung am Gewinde ist darauf zu achten, daß kein Dichtungsmaterial in die Rohrleitung oder das Ventil gelangt.
- Zur Montage darf nur geeignetes Werkzeug verwendet werden.
- Konische Verschraubungen sind sorgfältig anzuziehen. Es ist darauf zu achten, daß beim Anziehen das Gehäuse nicht beschädigt wird.
- Spule und Führungsrohr von Ventilen dürfen nicht als Gegenhalter benutzt werden.
- Die Rohrleitungsanschlüsse sollen fluchten und dürfen keine Spannungen auf das Ventil übertragen.

ELECTRISCHER ANSCHLUß

Der elektrische Anschluß ist von Fachpersonal entsprechend den geltenden VDE- und CEE Richtlinien auszuführen. Es ist besonders auf folgendes zu achten:

- Vor Beginn der Arbeiten ist sicherzustellen, daß alle elektrischen Leitungen und Netzteile spannungslos geschaltet sind.
- Alle Anschlußklemmen sind nach Beendigung der Arbeiten vorschriftsmäßig entsprechend den geltenden Regeln anzuziehen.
- Je nach Spannungsbereich muß das Ventil nach den geltenden Regeln einen Schutzleiterschlüssel erhalten.

Der Magnetantrieb kann je nach Bauart folgende Anschlüsse haben:

- Anschluß für Geräteresteckdose nach DIN 43650 Form A/ISO 4400 oder 3 x DIN 46244 (durch ordnungsgemäße Montage der Geräteresteckdose wird Schutzklasse IP 65 erreicht).
- Anschlüsse innerhalb eines Blechgehäuses mittels Schraubklemmen. Kabeleinführung ins Gehäuse mit PG-Verschraubung.
- Offene Spulen mit Flachsteckern (AMP-Fahnen) oder mit eingegossenen Kabelenden.

INBETRIEBNAHME

Vor Druckbeaufschlagung des Produktes sollte eine elektrische Funktionsprüfung erfolgen:

Bei Ventilen Spannung an der Magnetspule mehrmals ein- und ausschalten. Es muß ein Klicken zu hören sein.

BETRIEB

Die meisten Ventile sind mit Spulen für Dauerbetrieb ausgerüstet. Zur Vermeidung von Personen- und Sachschäden sollte jede Berührung mit dem Ventil vermieden werden, da die Magnetspule bei längerem Betrieb sehr heiß werden kann.

GERÄUSCHEMISSION

Diese hängt sehr stark vom Anwendungsfall, den Betriebsdaten und dem Medium, mit denen das Produkt beaufschlagt wird, ab. Eine Aussage über die Geräuschemission des Produktes muß deshalb von demjenigen getroffen werden, der das Produkt innerhalb einer Maschine in Betrieb nimmt.

WARTUNG

Die Wartung hängt von den Einsatzbedingungen ab. In entsprechenden Zeitabständen muß das Produkt geöffnet und gereinigt werden. Für die Überholung der ASCO Numatics-Produkte können Ersatzteilsätze geliefert werden. Treten Schwierigkeiten bei Einbau, Betrieb oder Wartung auf, sowie bei Unklarheiten, ist mit ASCO Numatics Rücksprache zu halten.

ASCO Numatics Produkte sind entsprechend der EG-Richtlinie 89/392/EWG gefertigt.

*Eine separate Herstellererklärung im Sinne der Richtlinie 2006/42/EWG Anhang II B ist auf Anfrage für die entsprechenden Produkte erhältlich. Geben Sie bitte die Kennnummer sowie die Seriennummer der betreffenden Produkte an.

Das Produkt, wenn mit CE gekennzeichnet, erfüllt die Anforderungen von EMV 2004/108/EWG (bis 20. April 2016) und EMV 2014/30/EU (vom 20. April 2016) und LVD 2006/95/EWG (bis 20. April 2016) und LVD 2014/35/EU (vom 20. April 2016). Eine separate Konformitätserklärung ist auf Anfrage erhältlich. Geben Sie bitte die Kennnummer sowie die Seriennummer der betreffenden Produkte an.

INSTRUCCIONES GENERALES DE INSTALACION Y MANTENIMIENTO

Nota: Estas instrucciones Generales de Instalación y Mantenimiento deben considerarse en conjunción con la Hoja de instrucciones de cada producto.

INSTALLACION

Los componentes ASCO Numatics sólo deben utilizarse dentro de las especificaciones técnicas que se especifican en su placa de características o catálogo. Los cambios en el equipo sólo estarán permitidos después de consultar al fabricante o a su representante. Antes de la instalación despresurice el sistema de tuberías y limpie internamente. El equipo puede utilizarse en cualquier posición si no estuviera indicado lo contrario sobre el mismo mediante una flecha o en el catálogo.

En el cuerpo o en el catálogo se indican el sentido del fluido y la conexión de las válvulas a la tubería. Las conexiones a la tubería deben corresponder al tamaño indicado en la placa de características la etiqueta o el catálogo y ajustarse adecuadamente.

Precaución:

- La reducción de las conexiones puede causar operaciones incorrectas o defectos de funcionamiento.
- Para la protección de equipo se debe instalar, en el parte de la entrada y tan cerca como sea posible del producto, un filtro adecuado.
- Si se utilizara cinta, pasta, spray u otros lubricantes en el ajuste, se debe evitar que entren partículas en el producto.
- Se debe utilizar las herramientas adecuadas y colocar llaves inglesas lo mas cerca posible del punto de conexión.
- Para evitar daños al equipo, NO FORZAR las conexiones a la tubería.
- No utilizar la válvula o el solenoide como palanca.
- Las conexiones a la tubería no producirán ninguna fuerza, par o tensión sobre el producto.

CONEXION ELECTRICA

Las conexiones eléctricas serán realizadas por personal cualificado y deberán adaptarse a las normas y regulaciones locales.

Precaución:

- Antes de comenzar el trabajo, desconecte el suministro de energía eléctrica y desenergice el circuito eléctrico y los elementos portadores de tensión.
- Todos los terminales eléctricos deben estar apretados adecuadamente según normas antes de su puesta en servicio.
- Según el voltaje, los componentes eléctricos deben disponer de una conexión a tierra y satisfacer las normas y regulaciones locales.

El equipo puede tener uno de los siguientes terminales eléctricos:

- Conexiones desenchufables según ISO-4400 or 3 x DIN-46244 (cuando se instala correctamente esta conexión proporciona una protección IP-65).
- Terminales de tornillo con carcasa metálica con entrada de cable de conexión roscada "PG".
- Conector desenchufable (tipo AMP).
- Salida de cables.

PUESTA EN MARCHA

Se debe efectuar una prueba eléctrica antes de someter a presión el sistema. En el caso de las válvulas solenoides, se debe energizar varias veces la bobina y comprobar que se produce un sonido metálico que indica el funcionamiento del solenoide.

SERVICIO

La mayor parte de las válvulas solenoides se suministran con bobinas para un servicio continuo. Con el fin de evitar la posibilidad de daños personales o materiales no se debe tocar el solenoide, ya que puede haberse calentado en condiciones normales de trabajo.

EMISION DE RUIDOS

La emisión de ruidos depende de las aplicación, medio y naturaleza del equipo utilizado. Una determinación exacta del nivel de ruido solamente se puede llevar a cabo por el usuario que disponga la válvula instalada en su sistema.

MANTENIMIENTO

El mantenimiento de los productos ASCO Numatics depende de las condiciones de servicio. Se recomienda una limpieza periódica, dependiendo de las condiciones del medio y del servicio. Durante el servicio, los componentes deben ser examinados por si hubieran desgastes excesivos. Se dispone de un juego completo de partes internas como recambio o kit de montaje. Si ocurriera un problema durante las instalaciones/mantenimiento o en caso de duda contactar con ASCO Numatics o representantes autorizados.

*Se dispone, por separado y bajo demanda, de una Declaración de Incorporación conforme a la Directiva 2006/42/CE Anexo II B. Por favor proporcione el número de identificación del producto y los números de serie de los productos correspondientes.

Cuando tiene la marca CE, el producto cumple los requisitos básicos de las directivas EMC 2004/108/CE (hasta el 20 de abril de 2016) y CEM 2014/30/UE (desde el 20 de abril de 2016) y las directivas DBT 2006/95/CE (hasta el 20 de abril de 2016) y DBT 2014/35/UE (desde el 20 de abril de 2016). Si lo desea, podemos facilitar una Declaración de Conformidad bajo demanda. Por favor proporcione el número de identificación del producto y los números de serie de los productos correspondientes.

ISTRUZIONI DI INSTALLAZIONE E DI MANUTENZIONE GENERALE

Nota: Queste istruzioni devono essere lette in congiunzione con il manuale specifico del prodotto.

INSTALLAZIONE

Le elettrovalvole devono essere utilizzate esclusivamente rispettando le caratteristiche tecniche specificate sulla targhetta. Variazioni sulle valvole o sul piloti sono possibili solo dopo aver consultato il costruttore o i suoi rappresentanti. Prima dell'installazione depressurizzare i tubi e pulire internamente.

Le elettrovalvole possono essere montate in tutte le posizioni. Diversamente, una freccia posta sulla valvola indica che deve essere montata in posizione verticale e dritta. La direzione del flusso e' indicata sul corpo della valvola per mezzo di una freccia oppure con l'etichetta "IN", "1" "A" o "P". I raccordi devono essere conformi alla misura indicata sulla targhetta apposta.

Attenzione:

- Ridurre i raccordi può causare operazioni sbagliate o malfunzionamento.
- Per proteggere il componente installare, il più vicino possibile al lato ingresso, un filtro adatto al servizio.
- Se si usano nastro, pasta, spray o lubrificanti simili durante il serraggio, evitare che delle particelle entrino nel corpo della valvola.
- Usare un'attrezzatura appropriata e utilizzare le chiavi solo sul corpo della valvola.
- Per evitare danni al corpo della valvola, NON SERRARE ECCESSIVAMENTE i tubi.
- Non usare la valvola o il pilota come una leva.
- I raccordi non devono esercitare pressione, torsione o sollecitazione sull'elettrovalvola.

ALLACCIAMENTO ELETTRICO

L'allacciamento elettrico deve essere effettuato esclusivamente dal personale specializzato e deve essere conforme alle Norme locali.

Attenzione:

- Prima di mettere in funzione togliere l'alimentazione elettrica, disaccettare il circuito elettrico e le parti sotto tensione.
- I morsetti elettrici devono essere correttamente avvitati, secondo le Norme, prima della messa in servizio.
- Le elettrovalvole devono essere provviste di morsetti di terra a seconda della tensione e delle Norme di sicurezza locali.

I piloti possono avere una delle seguenti caratteristiche elettriche:

- Connettore ISO-4400 o 3 x DIN-46244 (se installato correttamente è IP-65).
- Morsetteria racchiusa in custodia metallica. Entrata cavi con pressacavi tipo "PG".
- Bobina con attacchi FASTON (tipo AMP).
- Bobine con fili o cavo.

MESSA IN FUNZIONE

Prima di dare pressione alla valvola, eseguire un test elettrico. Eccitare la bobina diverse volte fino a notare uno scatto metallico che dimostra il funzionamento del pilota.

SERVIZIO

Molte elettrovalvole sono provviste di bobine per funzionamento continuo. Per prevenire la possibilità di danneggiare cose o persone, non toccare il pilota.

La custodia della bobina o del pilota può scaldarsi anche in normali condizioni di funzionamento.

EMISSIONE SUONI

L'emissione di suoni dipende dall'applicazione e dal tipo di elettrovalvola. L'utente può stabilire esattamente il livello del suono solo dopo aver installato la valvola sul suo impianto.

MANUTENZIONE

Generalmente questi componenti non necessitano spesso di manutenzione. Comunque, in alcuni casi è necessario fare attenzione a depositi o ad eccessiva usura. Questi componenti devono essere puliti periodicamente, il tempo che intercorre tra una pulizia e l'altra varia a seconda delle condizioni di funzionamento. Il ciclo di durata dei componenti dipende dalle condizioni di funzionamento. In caso di usura è disponibile un set completo di parti interne per la revisione.

Se si incontrano problemi durante l'installazione e la manutenzione o se si hanno dei dubbi, consultare ASCO Numatics o i suoi rappresentanti.

*L'utente può richiedere al costruttore una Dichiarazione di Incorporazione separata, relativa alla Direttiva 2006/42/CE Allegato II B per i prodotti applicabili. Fornire il numero identificativo del prodotto e i relativi numeri di serie.

Il prodotto che reca il contrassegno CE è conforme ai requisiti essenziali della EMC 2004/108/CE (fino al 20 aprile 2016) e della EMC 2014/30/UE (a partire dal 20 aprile 2016) e della LVD 2006/95/CE (fino al 20 aprile 2016) e della LVD 2014/35/UE (a partire dal 20 aprile 2016). È disponibile a richiesta una Dichiarazione di Conformità separata. Fornire il numero identificativo del prodotto e i relativi numeri di serie.

ALGEMENE INSTALLATIE-EN ONDERHOUDSINSTRUCTIES

N.B.: Deze algemene instructies t.a.v. installatie en onderhoud moeten in acht worden genomen tezamen met de specifieke voorschriften van het product.

INSTALLATIE

ASCO Numatics producten mogen uitsluitend toegepast worden binnen de op de naamplaat aangegeven specificaties. Wijzigingen, zowel elektrisch als mechanisch, zijn alleen toegestaan na overleg met de fabrikant of haar vertegenwoordiger. Voor het inbouwen dient het leidingstelsysteem drukloos gemaakt te worden en inwendig gereinigd.

De positie van de afsluiter is naar keuze te bepalen, behalve in die gevallen waarbij het tegendeel door pijlen wordt aangegeven.

De doorstroomrichting wordt bij afsluiters aangegeven op het afsluiterhuis.

De pijp aansluiting moet overeenkomstig de naamplaatgegevens plaatsvinden.

Hierbij moet men letten op:

- Een reductie van de aansluitingen kan tot prestatie-en functiestoornissen leiden.
- Ter bescherming van de interne delen wordt een filter in het leidingnet aanbevolen.
- Bij het gebruik van draadafdichtingspasta of tape mogen er geen deeltjes in het leidingwerk geraken.
- Men dient uitsluitend geschikt gereedschap voor de montage te gebruiken.
- Bij konische/tapse koppelingen moet met een zodanig koppel worden gewerkt dat het product niet wordt beschadigd.
- Het product, de behuizing of de spoel mag niet als hefboom worden gebruikt.
- De pijp aansluitingen mogen geen krachten of momenten op het product overdragen.

ELEKTRISCHE AANSLUITING

In geval van elektrische aansluiting dient dit door vakkundig personeel te worden uitgevoerd volgens de door de plaatselijke overheid bepaalde richtlijnen.

Men dient in het bijzonder te letten op:

- Voordat men aan het werk begint moeten alle spanningsvoerende delen spanningsloos worden gemaakt.
- Alle aansluitklemmen moeten na het beëindigen van het werk volgens de juiste normen worden aangedraaid.
- Al naar gelang het spanningsbereik, moet het product volgens de geldende normen van een aarding worden voorzien.

Het product kan de volgende aansluitingen hebben:

- Stekeraansluiting volgens ISO-4400 of 3x DIN 46244 (bij juiste montage wordt de dichtheidsklasse IP-65 verkregen).
- Aansluiting binnen in het metalen huis d.m.v. schroefaansluiting. De kabeldoorvoer heeft een "PG" aansluiting.
- Spoelen met platte stekker (AMP type).
- Losse of aangegoten kabels.

IN GEBRUIK STELLEN

Voordat de druk aangesloten wordt dient een elektrische test te worden uitgevoerd. Ingeval van magneetafsluiters, legt men meerdere malen spanning op de spoel aan waarbij een duidelijk "klikken" hoorbaar moet zijn bij juist functioneren.

GEBRUIK

De meeste magneetafsluiters zijn uitgevoerd met spoelen voor continu gebruik. Omdat persoonlijke of zakelijke schade kan ontstaan bij aanraking dient men dit te vermijden, daar bij langdurige inschakeling de spoel of het spoelhuis heet kan worden.

GELUIDSEMISSIE

Dit hangt sterk af van de toepassing en het gebruikte medium. De bepaling van het geluidsniveau kan pas uitgevoerd worden nadat het ventiel is ingebouwd.

ONDERHOUD

Het onderhoud aan de afsluiters is afhankelijk van de bedrijfsomstandigheden.

In bepaalde gevallen moet men bedacht zijn op media welke sterke vervuiling binnen in het product kunnen veroorzaken.

Men dient dan regelmatig inspecties uit te voeren door de afsluiter te openen en te reinigen. Indien ongewone slijtage optreedt dan zijn reserve onderdelen beschikbaar op een inwendige revisie uit te voeren.

Ingeval problemen of onduidelijkheden tijdens montage, gebruik of onderhoud optreden dan dient men zich tot ASCO of haar vertegenwoordiger te wenden.

*Een aparte fabriekantenverklaring van inbouw, in de zin van EU-richtlijn 2006/42/EG aanhangsel II B, is op aanvraag verkrijgbaar voor van toepassing zijnde producten. Vermeld bij aanvraag a.u.b. het identificatienummer van het product en de betreffende serienummers.

Het product, indien gemarkeerd met CE, voldoet aan de essentiële vereisten van EMC 2004/108/EG (tot 20 april 2016) en EMC 2014/30/UE (vanaf 20 april 2016) en LVD 2006/95/EG (tot 20 april 2016) en LVD 2014/35/UE (vanaf 20 april 2016). Een afzonderlijke conformiteitsverklaring is op verzoek verkrijgbaar. Vermeld bij aanvraag a.u.b. het identificatienummer van het product en de betreffende serienummers.

If you have any questions about the final assembly, connections to the fuel source, leak testing the fittings and connections, operation, or function of this appliance please contact a qualified gas service technician or local natural gas public utility before attempting to operate this appliance.

We have tried to make the assembly of your Gas Shutoff Timer as simple as possible while maintaining the highest levels of safety and performance.

The installation of this product must comply with local codes or authority having jurisdiction. In the absence of local codes the installation must comply with the ANSI Z223.1 1984 entitled the "National Fuel Gas Code."

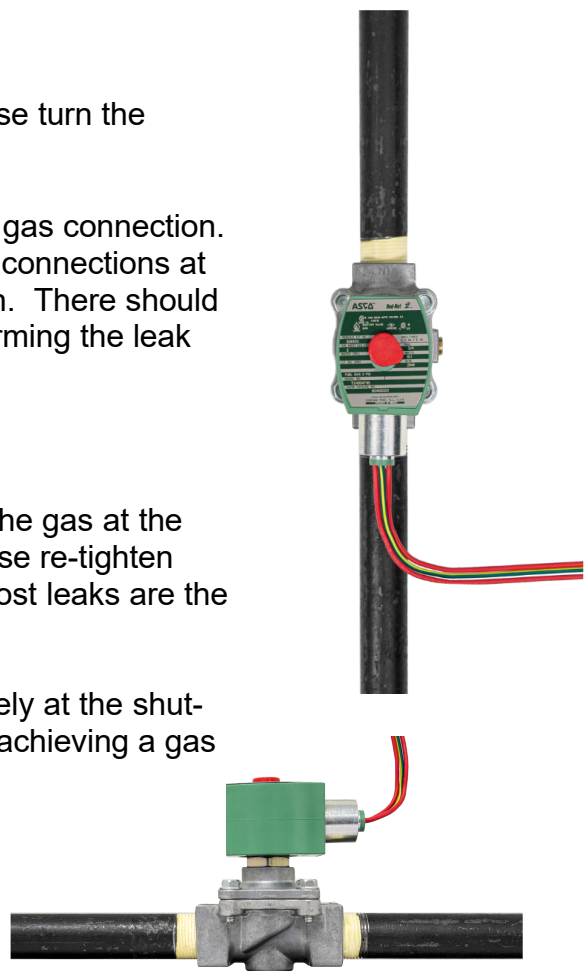
Testing For Gas Leaks

- 1) The valve should be properly installed at the gas feed line. Please turn the supply of gas ON.
- 2) Using a soapy solution carefully check each and every threaded gas connection. Perform the leak test from the valve to your gas supply for all of the connections at the installation point. You should do this with a soapy water solution. There should be no open flames or other sources of ignition near you when performing the leak test.
- 3) Never do the gas leak test with an open flame!
- 4) If you see bubbles at any connection, you have a leak. Shut off the gas at the source. This leak must be remedied before going any further. Please re-tighten leaking fitting and once again check with a soapy water solution. Most leaks are the result of not tightening the fittings adequately.
- 5) If you cannot stop the leak you should shut off the gas immediately at the shut-off valve and re-check your assembly. If you are still having trouble achieving a gas tight connection you should call a qualified gas technician.

** If your unit passes the gas leak test 100%, you can now set the timer.



If you are not comfortable either hooking up the valve at the gas supply line or leak testing the unit you should contact a licensed plumber, gas technician, gas fitter, or public utility.



This gas timer and shut-off valve assembly comply with all UL standards. DO NOT attempt any modifications to this hook-up.

You have now finished the assembly of the gas shutoff timer. We have tried to design your ESTOP09 with the finest materials and safety systems available. Please do not modify any part of the product, as it will void any warranty.

These are high quality components designed to provide you with the maximum convenience and flexibility and more importantly to maximize the safety to your environment.



WARNING: Never operate Gas Shutoff Timer in an explosive atmosphere and be sure to keep unit away from where gasoline or other flammable liquids or vapors are stored or used.

Important Warnings and Safety Points

For Your Safety:

If you smell gas:

1. Shut off gas to the appliance
2. Extinguish any open flame near the appliance
3. If odor continues please call your gas supplier



For Your Safety:

Do not store or use gasoline or other Flammable vapor and liquids in the vicinity of this or any other appliance.



Warning

Improper installation, adjustment, alteration, service, or maintenance can cause physical injury or property damage. Read the instructions thoroughly before installing, operating, or attempting to service this appliance.



Danger!!!

Some Important Safety and Use Precautions:

Failure to comply with the precautions and instructions provided with this gas shutoff timer can result in death, serious bodily injury, and property loss or damage from hazards of fire, explosion, burn, or asphyxiation. Please be sure you understand all operating instructions before attempting to operate or service this or any appliance.

- All leak tests should be done with a soapy solution and **NEVER with a match or open flame device.**
- The gas shutoff timer is equipped specifically for use with Natural Gas or Propane.
- Do not use in a combustible atmosphere. Keep the gas shut off timer away from areas that have flammable liquids, gasoline, vapors, or explosives stored or used.
- Do not attempt to alter the gas shut off timer in any manner whatsoever. The unit has been designed to provide you with many years of trouble-free service if maintained per our recommendations.
- The purchaser assumes all risk in the assembly and operation of this appliance. Failure to follow these warnings and instructions can result in severe personal injury, property damage, or death.
- Use this appliance in accordance with local codes and safety ordinances. In the absence of local codes refer to ANSI standard Z223.1
- If you have any questions whatsoever about the assembly or operation of this product please contact AEI Corporation or call us directly at 949-474-3070 or E-mail info@aeicorporation.com.

This product has been designed and constructed to provide many years of safe, convenient, control of propane or natural gas feed lines.



WARNING: Prop 65 Carbon Monoxide Warning!

If not installed, operated, and maintained in accordance with manufacturer's instructions, this product could expose you to substances in the fuel or from combustion, including Carbon Monoxide, which can cause serious illness, and which are known by the State of California to cause cancer, birth defects, or reproductive harm.

SERVICE AND WARRANTY INFORMATION

To learn how to service and acquire replacement parts, first contact your selling dealer/distributor or call us directly at 949-474-3070 or e-mail us at info@aeicorporation.com for assistance. Please provide us with the model number for best possible service and support. Please be sure to fill-out your Warranty card so that we can have you on file. We will not use this information for any marketing activities.

Our company has been in the quality leisure gas appliance business since 1966 and we want to be sure that you are happy with our products and support services.

Use of unauthorized parts or modification of our parts will void the warranty and can result in personal injury or property damage.

Warranty

AEI will cover:

Each gas shutoff timer is warranted against any defects in parts for a period of **1 year** from the date of purchase with original purchase receipt.

This warranty is valid from the original date of purchase and is transferable. Please keep your original sales receipt or invoice. Proof of purchase is required to obtain warranty replacement. Retail dealers or distributors do NOT have the authority to modify, alter, or in any way change the product or the terms and conditions of this warranty.

We will NOT cover the following:

- Freight charges to our facility in Irvine, California (We will pay all return freight costs)
- Assembly or installation costs
- Improper assembly or improper hook-up
- Damage due to weather conditions or lack of proper maintenance and cleaning
- Cleaning or periodic general maintenance
- Shipping or freight damage
- Labor
- Service visits to correct improper assembly or installation.
- Damages caused by abuse, lack of normal cleaning and maintenance procedures, improper assembly, accident, acts of nature, vandalism, transportation, or alteration.

Your Legal Rights

- **CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, OR EXPENSES INCLUDING DAMAGES TO PROPERTY. SOME STATES/PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. WE WILL NOT BE RESPONSIBLE FOR ANY COSTS RELATING TO LOST REVENUE, BUSINESS INTERRUPTION, OR ANY LEGAL THEORY UPON WHICH ANY CLAIM MAY BE BASED.**
- **PURCHASER ASSUMES ALL RISK IN THE ASSEMBLY AND OPERATION OF THIS APPLIANCE. FAILURE TO FOLLOW THIS MANUAL'S WARNINGS AND INSTRUCTIONS CAN RESULT IN SEVERE PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE**

This warranty is for each *Gas Timer Shutoff* purchased and used in the 50 US states and the District of Columbia. You may also have other rights that vary from state to state.

How to obtain service:

We exercise extreme care in the assembly and manufacturing process, but we know errors can be made and we want to take care of them as quickly and painlessly as possible. Should you have a problem with missing parts please contact your selling dealer or contact us directly at 949-474-3070.

Since product improvement is an ongoing process, we reserve the right to change this product's materials, internal components, specifications, or design without notice.

ESTOP09 Gas Shutoff Timer Warranty Registration Form

Please return this warranty registration card within 10 days

Congratulations on purchasing a **Gas Shutoff Timer ESTOP09**. To ensure that you'll get all of the warranty protection that comes with the purchase of this fine product please fill out the Warranty Registration Form and send it back to us **within 10 days of purchase**.

Rest assured that your registration information is for our information and tracking only and will NOT be used by any other company or organization. Appliance manufacturers are required to keep detailed design, component, production, testing, and manufacturing information in the event there is ever a defective part or we need to quickly contact our customers regarding any added safety information regarding our products. Your cooperation in this tracking system is extremely important. Please fill out the information below as completely as possible.

Last Name _____ **First Name** _____ **Middle Initial** _____

Date Of Purchase Month _____ **Day** _____ **Year** _____

Model of shut off _____ **Fuel Type** NATURAL GAS or PROPANE

UL Number of Gas Shutoff Timers Purchased:

Name Of Selling Dealer _____

Address Of Selling Dealer _____

Your Home
Address _____ **State** _____ **Zip** _____

E-mail address
(optional) _____

Thanks again for your purchase please mail this today so that we can activate your warranty information.

Please mail to:
AEI Corporation
C/O Warranty Registration Department-Patio Comfort
PO Box 16097 Irvine, California 92623-6097
www.aeicorporation.com
email: info@aeicorporation.com

Phone 1-949-474-3070 (FAX 1-949-474-0559)