



IOM7719 Rev(2/10)
Installation, Operating & Maintenance Instructions
2-WAY N.C. SOLENOID VALVE
VALVE TYPE: 7121Z033



READ GENERAL SAFETY INSTRUCTIONS BEFORE INSTALLATION IN BACK OF THIS IOM

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.



These valves are 2-way, direct-acting normally-closed models. The 7121Z033 is offered in stainless steel construction. Valves may be ordered with either NEMA 2, 4, 4X integrated coils for ordinary locations or 7, and 9 for hazardous locations: Divisions I and II; Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. Additional solenoid coils and enclosures are offered as described in our catalog.

De-energized: These valves utilize a plunger and piston assembly. Pressure is connected to the "IN" port and flows up through the pilot passageway of the piston, surrounding the plunger. The plunger seal blocks the main piston orifice and the piston blocks the body orifice.

Energized: The plunger accelerates upward, contacting the stop, lifting the plunger seal off the piston orifice and allowing flow to occur from "IN" port to "OUT" port. For pressures less than 350 PSI the piston lifts from the body orifice allowing increased flow.

Listed below are the codes utilized by Underwriters Laboratories (UL) and the Canadian Standards Association (CSA) for various common fluids. The codes for those fluids that are approved or certified by the agencies for use with each valve are printed on the outside of the individual packaging.

CODE	FLUID
A	Air or nontoxic, nonflammable gases
AC	Acetylene
F	Common refrigerants
G	City gas supplied by public utilities
GA	Gasoline
HO	Petroleum based hydraulic oils having viscosities not more than 40 SSU at 38°C
LP	Liquid Propane
O2	No. 2 through NO. 6 oil
W	Water or other aqueous nonflammable liquids

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Caution: Do not, at any time, make any alteration or modifications to any valve without the express and written approval of Parker's Fluid Control Division.



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For the maximum fluid temperatures, as well as valve ambient limitations, check the valve part number on the nameplate and refer to the catalog or the outside of the shipping package.

Installation Instructions

Mounting position and pressure limits: Valves can be mounted directly on piping or by using the two (2) #10-32 NF threaded holes in the bottom of the valve body.

The 7121Z033 valves are designed to be mounted vertically and upright for optimum life, performance, minimize wear and reduce the possibility of foreign matter accumulating inside the sleeve area.

Piping: Remove protective closures from the ports. Connect line pressure to the inlet port. Use of Teflon tape; thread compound or sealants is permissible, but should be applied sparingly to male pipe threads only, Loctite primer #764 and pipe sealant #567 are recommended when using stainless steel fittings with stainless steel valve bodies.

CAUTION: *Do not allow foreign particles, Teflon tape, or thread compound to enter valve. Tightening torque should not exceed the 230 in-Lb for SAE-6 pipe thread. Do not use the sleeve or enclosure as a lever when applying torque.*

Media filtration: Normally filtration is not required, but dirt or foreign material in the media may cause excessive leakage, wear, or in exceptional cases, malfunction. If filtration is used, install the filter on the inlet side as close to the valve as possible. Clean periodically depending on service conditions.

Lubrication: Lubrication is not required although air line lubrication will substantially increase valve life.

Electrical connection: Electrical supply must conform to nameplate rating. Connect coil leads to the electrical circuit using standard electrical practices in compliance with local authorities and the National Electrical Code.

WARNING: *Valves to be installed in Hazardous Locations must be outfitted with Hazardous Location coils only. Verify nameplate data and coil part number before installing the valve.*

WARNING: *Turn off electrical power before connecting the valve to the power source.*

If the coil assembly is located in an inconvenient orientation, it may be reoriented to facilitate installation. Loosen coil assembly nut, rotate coil assembly to desired position, then retighten the nut with an input torque of 43-53 in-lbs.

Coil/enclosure temperature: Standard valves are supplied with coils designed for continuous duty service. Normal free space must be provided for proper ventilation. When the coil is energized continuously for long periods of time, the coil assembly will become hot. The coil is designed to operate permanently under these conditions. Any excessive heating will be indicated by smoking and/or odor of burning coil insulation.

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For the maximum valve ambient conditions, as well as the fluid temperatures, check the valve part number on the nameplate and refer to the catalog.

Note: Depending on service conditions, fluid being used, filtration, and lubrication, it may be required to periodically clean and/or replace worn components. See Disassembly Instructions.

CAUTION: *Do not expose plastic or elastomeric materials to any type of commercial cleaning fluid. Parts should be cleaned with a mild soap and water solution.*

Disassembly Instructions

WARNING: *Depressurize system and turn off electrical power to the valve before attempting repair.*

To remove the coil assembly:

For both ordinary and hazardous location constructions, unscrew the nut on the top of the coil assembly. The wave washer and coil assembly can now be removed.

To disassemble the pressure vessel:

CAUTION: *If the sleeve assembly does not have a hex style flange, do not use a pipe wrench directly on the sleeve. Instead, use a Skinner U99-011 wrench nut to remove and install the sleeve assembly.*

Slide the Skinner U99-011 wrench nut over the sleeve tube. To unscrew the sleeve assembly, mate the wrench nut to the sleeve flange and turn the wrench nut. The plunger, return spring, and flange seal may now be removed.

Reassembly Instructions

WARNING: *When replacing coils, valves equipped with Hazardous Location coils must use Hazardous Location replacement coils only. Verify nameplate data and coil part number before installing the replacement coil.*

To reassemble the pressure vessel:

Refer to exploded view drawings. Parts must be replaced in the order shown.

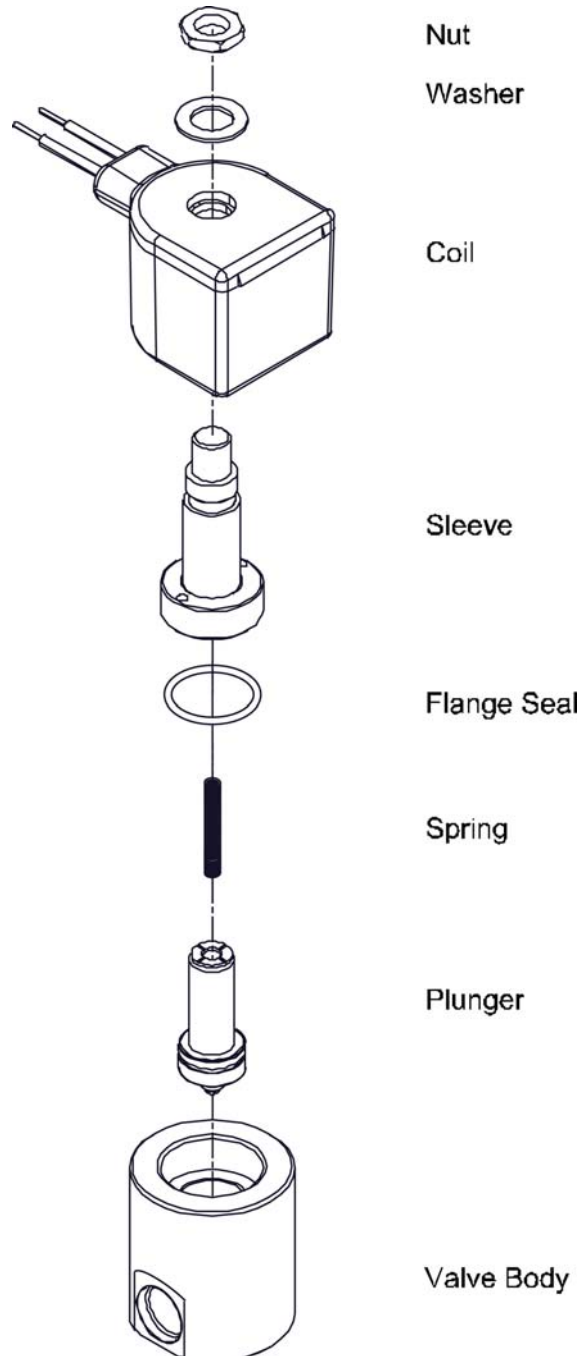
With coil assembly repositioned on the sleeve, slide the wave washer over the sleeve and tighten coil assembly nut with an input torque of 43-53 in-Lbs.

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Parker Safety Guide for Selecting and Using Fluid Control Division Products including Valves, Assemblies and Related Accessories

WARNING: Failure or improper selection or improper use of Parker Fluid Control Division Products, including valves, assemblies or related accessories (“Products”) can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Gas leakage leading to explosion or rupture of a pressure vessel.
- Leakage or other release of toxic or otherwise hazardous liquids or gases.
- Unintended or mistimed cycling or motion of machine members. Or failure of machine members to cycle.
- Sudden moving or falling objects.
- Work piece or component parts being thrown off at high speeds.
- Failure of a device to function properly. For example, failure to clamp or unclamp an associated item or device.
- Electrical shorts, burns, burn out of equipment or fires.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1.0 GENERAL INSTRUCTIONS

1.1. Scope: This safety guide is designed to cover general guidelines on the selection, installation, operation, and maintenance of these Products. This safety guide is a supplement to and is to be used with the specific Parker publication for the valve, assembly or related accessory being considered for use. Parker publications are available at www.parker.com or by calling 1-800-CPARKER.

1.2. Fail-Safe: All Products can and do fail without warning for many reasons. Design all systems in a fail-safe mode so that failure of the Products will not endanger persons or property.

1.3 Distribution: Provide a copy of this safety guide to each person that is responsible for installation, operation, and maintenance of these Products. Do not select or use these Products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the Products considered or selected.

1.4 User Responsibility: Due to the wide variety of operating conditions and applications for these Products, Parker and its distributors do not represent or warrant that any particular Parker Fluid Control Product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a Product. The user, through its own analysis and testing, is solely responsible for:

- Making the final selection of the Product;
- Assuring that the user's requirements are met and that the application presents no health or safety hazards;
- Providing all appropriate health and safety warnings on the equipment on which the Products are used; and
- Assuring compliance with all applicable government and industry standards.

1.5 Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the Product being considered or used, or call 1-800-CPARKER, or go to www.parker.com for telephone numbers of the appropriate technical service department.

2.0 PRODUCT SELECTION INSTRUCTIONS

2.1 Selection: Consult the specific Parker Fluid Control publication for the Product being considered for use. Confirm the choice of Product with Parker Fluid Control's technical consultants prior to placing orders for the Product or installing and using the Product.

2.2 Chemical Compatibility: Elastomer seal material used in the Products must be properly selected based on compatibility with the gases, liquids or additives being conveyed in the Product. Any exposure to non-compatible gases, liquids or additives may result in failure or degradation of the seals and leakage from the Product. Such failure or degradation could happen immediately or at any time over the life of the Product.

3.0 PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1 Inspection: Prior to assembly, all components must be checked for correct style, part number, and physical properties such as size or the presence of physical damage. Do NOT use any component that displays any signs of nonconformance.

3.1.1 A careful examination of the Unit Valve and Unit Solenoid must be performed. If you purchase a Unit Valve and a Unit Solenoid, be sure that the last two digits of the Unit Valve match the first two digits of the Unit Solenoid. If they do not match then do not install.

3.1.2 Check nameplate for correct catalog number, pressure, voltage and service. Do not install if unsuitable.

3.1.3 Valves to be installed in Hazardous Locations must be outfitted with Hazardous Location coils only. Verify nameplate data and coil part number before installing the valve.

3.2 Product Assembly: Do not assemble, install or use a Parker Fluid Control Division Product in any end use or application that exceeds the specified operating parameters as listed by Parker such as but not limited to, pressure, voltage and frequency, and medium. Do not mix components or solenoids from a Parker valve with valves or solenoids from another manufacturer. Do not mix components or solenoids from one Parker valve with components or solenoids from another Parker valve.

3.2.1 Threaded Connections: Proper procedures for the application of tape or liquid pipe sealant or thread compound must be followed so these contaminants do not enter the Product.

3.2.2 Sweating or Brazing: Products requiring the sweating or brazing of pipe connections must have precautions taken to protect the internal product components from excessive heat during the sweating or brazing operation. Follow the directions in the specific Parker Fluid Control Division publication for the Product in question.

3.2.3 Mounting: Check the specific Parker Fluid Control Division publication for the Product in question for limitations on mounting prior to mounting the Product.

3.2.4 Electrical Connection: Turn off electrical power before connecting or disconnecting the Product to the power source. Wiring must comply with local and national electrical codes.

3.2.5 Voltage: Some coils contain solid state components that can be damaged by voltage spikes, transient voltage, over temperature, over voltage, or improper assembly. To protect against premature failure, please read the instructions in the specific Parker Fluid Control Division publication for the Product in question.

3.2.6 Port Connection: Parker Product operating parameters assume that the user connects the fluid to the proper inlet, outlet and exhaust ports. Connecting to the wrong ports may result in a complete failure or degraded performance. Use caution when applying and activating the fluid connection. Take the necessary precautions to protect personnel and property from injury and damage when turning on the fluid to the Product. Make sure the voltage is in the correct state (on or off) to control the applied pressure as required for the application in question.

3.2.7 Screw Terminal Coil and Terminal Box Assembly: When the DIN or screw terminal coils are used with the terminal box assembly, be sure to apply a wrench to the wrench flats on the conduit hub when installing electrical conduit.

3.2.8 Pressure: Turn off line pressure and bleed off trapped pressure from the lines before installing, removing or disassembling the Product.

4.0 PRODUCT AND SYSTEM OPERATION INSTRUCTIONS

4.1 Pressure Differential: Pressure differential dependent Products require a minimum pressure differential to operate properly. Make sure the chosen Product is sized properly for the application to maintain the required pressure differential across the Product.

4.2 System Check-out: Once installed, the Product installation must be tested to insure proper operation and that no external leakage exists. All safety equipment must be in place including but not limited to safety glasses, helmets, ear protection, splash guards, coveralls and any shields on the equipment. All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Product maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potentially hazardous areas while testing and using.

5.0 PRODUCT MAINTENANCE AND REPLACEMENT INSTRUCTIONS

5.1 Maintenance: Even with proper selection and installation, Product life or performance may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Product failure, and experience with any Product failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 5.1.1 through 5.1.3.

5.1.1 Product Lubrication and filtration: Almost all products require filtration. Consult the specific Parker Fluid Control Division publication for the Product in question. Note, too, that some Products require lubrication or filtration or both as a regular maintenance item due to the nature of the application's environment. Consult the specific Fluid Control Division publication for the Product in question to determine this. Other Products, such as proportional valves, do not require any maintenance if the fluid is properly filtered. If a failure should occur, then these proportional valves should not be repaired but replaced.

5.1.2 Cleaning: Do not expose plastic or elastomeric materials to any type of commercial cleaning fluid. Parts should be cleaned with a mild soap and water solution.

5.1.3 Fluid Spills: Necessary precautions should be taken during maintenance to avoid exposing personnel or the surrounding area to any spilled fluid if the fluid is regulated, harmful, or damaging when exposed to or in contact with personnel or the surrounding environment.

5.2 Service and Repair:

5.2.1 General: Do not repair Products unless the specific Fluid Control Division publication for the Product in question allows this procedure. Not all Products can be safely repaired in the field. Repair and replacement must be in accordance with the specific Parker Fluid Control Division publication for the Product in question and any Parker replacement kit instructions.

5.2.2 Replacement Parts: If you purchase any replacement parts they must be original equipment manufactured by Parker Fluid Control Division.

5.2.3 Lock-Out / Tag-Out: Follow all lock-out and tag-out procedures before undertaking service or repairs. This includes de-energizing all electrical, fluid and mechanical energy sources.

5.2.4 Hazardous Location Coils - When replacing coils, Products equipped with Hazardous Location coils must use Hazardous Location replacement coils only. Verify nameplate data and coil part number before installing the replacement coil.