

Installation & Maintenance Instructions

Kit No.'s

294986+VAR 296658+VAR
296657+VAR 296659+VAR
296663+VAR

**FLANGE ADAPTERS & CONNECTING HARDWARE KITS
FOR COMBUSTION INTEGRATED VALVE TRAIN
NORMALLY CLOSED OPERATION – 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" OR 3" NPT
FUEL GAS SERVICE**

I&M No.V9567R1

NOTICE: See separate installation and maintenance instructions for single V710 Series B Hydramotor® Valve and/or 8214 Series (200) and/or 8214G(200) solenoid valve for information on: Installation, Temperature Limitations, Piping, Cause of Improper Operation, etc.

DESCRIPTION

Connecting hardware kits are required to join two valves together. Kit Number 294986–001, 002 & 003 contain all the necessary parts for the direct mounting of two valves installed in a combustion train.

Valve combinations may be 8214 Series (200) and/or 8214G(200) and/or V710 Series B.

The following Inlet Flange Adapter Kits are available as options for easy installation and maintenance: 296657 – 001, 002, 003, 004, 005, 006, 007, 008, 009 & 010.

The following Outlet Flange Adapter Kits are available as options for easy installation and maintenance: 296658 – 001, 002, 003, 004, 005, 006, 007, 008, 009 & 010.

The following Inlet/Outlet Flange Adapter Hardware Kits are available as options for easy installation and maintenance of any discrete valve installation: 296659–001, 002, 003, 004, 005, 006, 007, 008, 009, & 010.

The aforementioned Inlet/Outlet Flange Adapter Hardware Kits and Connecting Hardware Kits enumerated in this section contain all the necessary parts to install two valves together in a combustion train offering. They allow for easy installation and maintenance without breaking NPT pipe connections.

Available Connecting Hardware Kits: 294986–001, 002, & 003.

The following replacement O–Ring Kits are available: 296663 – 001, 002 & 003.

OPERATION

Normally Closed:

- 8214 Series (200) and G(200) valves are closed when the solenoid is de–energized; open when energized.
- V710 Series B is a normally closed, push–to–open valve. It is open when the valve stem is depressed by an AH Hydramotor® Actuator. An internal return spring closes the valve when the actuator is retracted by its own internal return spring.

Positioning:

- 8214 Series (200) and G(200) valves must be mounted with the solenoid vertical and upright.
- V710 Series B valves can be mounted in any position.

Valve Specification Limitations:

When connecting different types of valves, the assembly specifications for Flow, Pressure, Fluid/Ambient Temperature and others, will be the lesser specifications of any of the individual valve in the assembly.

Piping:

Connect piping to valve or to flange adapters according to markings on valve body and flange adapters.

▲ WARNING: Each valve body has an o-ring groove on the outlet side of the body and only the inlet flange adapter has an o-ring groove. It is critical that bodies are assembled in the proper flow orientation and when used, the inlet flange adapter and outlet flange adapter are properly oriented. Failure to do so will cause external leakage in the valve train.

Apply pipe compound sparingly to male pipe threads only. If applied to valve or flange adapter threads, the compound may enter the valve and cause operational difficulty. The use of a filter at the inlet pipe is highly recommended.

▲ WARNING: It is necessary to avoid pipe strain by properly supporting and aligning piping.

When tightening the pipe, do not use the valve, solenoid or hydramotor as a lever. Locate wrenches on the valve body, flange adapter's hexagonal section or piping as close as possible to the pipe joint. The valve train assembly must be checked for external leakage at piping connections and at gasket (o–ring) seal face after installation. (See Figures 1, 2 & 3)

CAUTION: Never connect more than two valves in series.

NOTE: Valves may either be assembled together prior to piping or may be assembled after the piping.

Table 1 Torque and Lubrication Chart		
Catalog Number	Torque Value	
	Inch-pounds	Newton-meters
8214235 8214G236+	110±10 in-lb	14.4±1.1Nm
8214250 8214G251+		
8214260 8214G261+		
8214270 8214G271+		
V710EBS*		
V710FBS*		
8214265 8214G266+		
8214275 8214G276+		
8214280 8214G281+		
V710GBS*		
V710HBS*	160±10 in-lb	18.1±1.1Nm
V710JBS*		
8214285+		
8214290+		
8214240+		
V710MBS*		
V710KBS*	Parts to be lubricated	
V710LBS*		
Lubrication		
Dow Corning®200 Fluid Lubricant or equivalent high-grade silicon fluid	Gasket (o-ring) between valves or between valve and flange adapter	

Note:

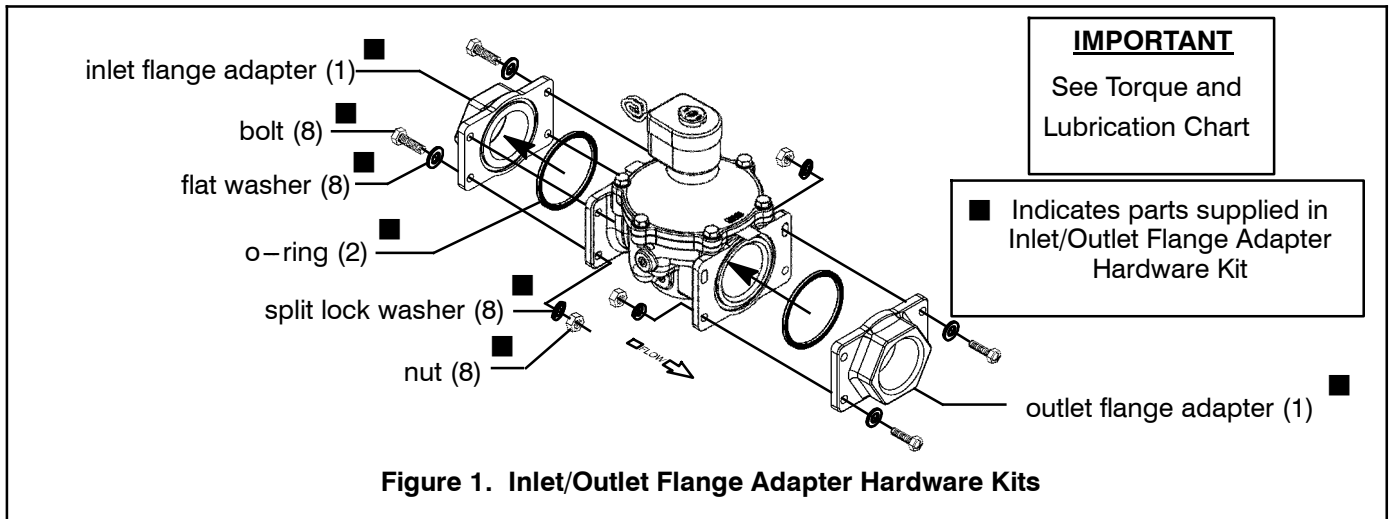
+ Includes catalog numbers with or without Suffixes C or VI.

* Includes catalog numbers with or without Suffixes V15, V22 or V25.

ORDERING INFORMATION FOR HARDWARE KITS

When ordering kits, refer to Double Gas Shutoff Valves Catalog for the correct kit number. Each kit must be ordered separately. For valve rebuild kits, see Installation and Maintenance Instructions for the individual valve.

NOTE: Before assembling any valve train, please check that the kits have the correct parts and the correct quantity. If any parts are incorrect or missing, please contact ASCO for replacement.



1. Inspect the supplied o-rings, flange adapters and valve to ensure that they are undamaged and free from nicks or cuts. If any damage is present on the sealing surfaces of the above components, do not use these components as external leakage may result. Please contact ASCO for parts replacement.
2. When installing valves and/or flange adapters in a valve train, pipe supports and clamps should be loosened to allow pipe nipples to move freely during the installation process to prevent binding. Once assembly is complete, pipe supports and clamps should be resecured. External leakage testing should be performed once all valves, hardware and pipes are resecured.
3. Measure the end to end length of the valve being installed in the application including the inlet and outlet flange adapters. The distance between pipe nipple ends must equal the entire length of the valve, plus the flange adapters, minus the required length for the pipe nipple engagement in the flange adapters. Space pipe nipple ends accordingly.
4. Sparingly apply pipe sealant to the pipe nipple threads. If applied to valve or flange threads, the compound may enter the valve and cause operational difficulty.
5. Thread upstream flange adapter onto upstream pipe nipple end and torque to wrench tight engagement so that the flange adapter bolt pattern is in a corresponding orientation with the required flange bolt pattern orientation. Use hex profile of flange adapter to apply torque with wrench. Consult valve Installation and Maintenance Instructions for allowable orientation.
6. Thread downstream flange adapter onto downstream pipe nipple end and torque to handtight engagement.
7. Sparingly apply the specified gasket lubricant or equivalent to the o-ring according to the kit type (See Table 1). Install o-rings in upstream flange adapter and valve outlet flange.
8. Noting valve flow direction, install valve between the upstream and downstream flange adapters (according to the case) while ensuring that the o-rings are properly seated in the upstream flange and in the valve outlet flange. It may be necessary to spread the pipe

nipples and installed flange adapters to be able to gain adequate clearance to install the valve. Install the required hardware in Figure 1 in the upstream flange adapter to valve inlet only and make handtight. Adjust upstream flange adapter and valve to ensure that the exterior edges of the valve flange and flange adapter are parallel and flush one another. Use hex profile of flange adapter to apply torque with wrench. Torque hardware in an alternating manner to the specified torque requirement based on hardware size (See Table 1).

9. With the valve in place, make outlet flange adapter wrench tight and continue to tighten until holes in the outlet flange of the downstream valve and downstream flange adapter are aligned. Ensure that exterior edges of the valve flange and flange adapter are parallel and flush to one another. Install the required hardware and torque in an alternating manner to the specified torque requirement based on hardware size.

⚠ WARNING: Locate wrenches on the valve body, flange adapter hexagonal section or piping as close as possible to the pipe joint. Do not use the valve or solenoid or hydramotor as lever.

10. Valve and flange or flange adapters must be checked for external leakage at all connection points after installation with seam test or an equipment for detecting external leakage.

VALVE SERVICE OR REPLACEMENT

To service or replace the valve, loosen pipe supports and clamps to allow pipe nipples to move freely and to prevent binding. Remove hardware and remove valve from between flange adapters. Once flange adapters are installed, they do not need to be removed and reinstalled when removing the valve for service or replacement, ASCO strongly recommends replacing the o-ring seals and hardware with new o-rings and hardware available in kits identified in the Installation and Maintenance Instruction sheet. O-ring and hardware installation steps should be followed from the steps above.

IMPORTANT

See Torque and
Lubrication Chart

* Indicates parts supplied in
Connecting Hardware Kit

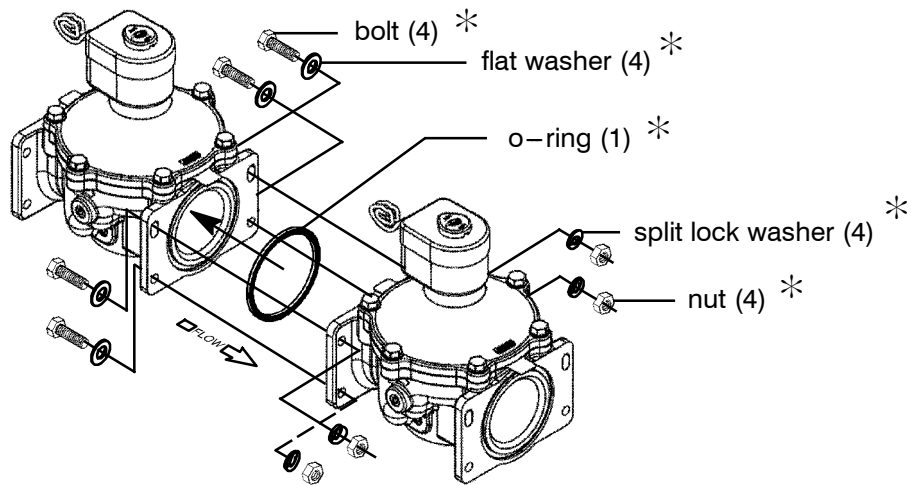


Figure 2. Connecting Hardware Kit

1. Inspect the supplied o-ring and valve to ensure that they are undamaged and free from nicks or cuts. If any damage is present on the sealing surfaces of the above components, do not use these components as external leakage may result. Please contact ASCO for parts replacement.
2. When installing valves, pipe supports and clamps should be loosened to allow pipe nipples to move freely during the installation process to prevent binding. Once assembly is complete, pipe supports and clamps should be resecured. External leakage testing should be performed once all valves, hardware and pipes are resecured.
3. When no flange adapters are used in the installation of a double valve, the distance between pipe nipples must equal the entire length of the valve minus the required length for the pipe nipple thread engagement in the valve bodies. Space pipe nipple ends accordingly.
4. Sparingly apply pipe sealant to the pipe nipple threads. If applied to valve or flange threads, the compound may enter the valve and cause operational difficulty.
5. Noting which valve will be first in sequence for a double valve installation, install the required o-ring in the upstream valve outlet flange. Carefully place the outlet flange of the upstream valve and the inlet flange of the downstream valve together while ensuring that the o-ring seal is seated properly in the groove. Install the required hardware in the flanges to fasten the two valves together while and make handtight while ensuring that the exterior edges of the valve flanges are parallel and flush to one another. Torque hardware in an alternating manner to the specified torque requirement based on hardware size (See Table 1).
6. Sparingly apply pipe sealant to upstream pipe nipple threads. Thread upstream valve of valve assembly onto upstream pipe nipple end and torque to wrench tight engagement so that the valve is in the optimum orientation. Consult Installation and Maintenance Instruction Sheets for allowable orientation of valves. Use the large wrench flat areas on the upstream valve body for tightening.
7. Sparingly apply pipe sealant to downstream pipe nipple threads. Thread the downstream pipe nipple end and torque to wrench tight while using the large wrench for the flat areas on the downstream valve body for tightening.
8. Valves must be checked for external leakage at all connection points after installation with seam test or an equipment for detecting external leakage.

⚠ WARNING: Locate wrenches on the valve body, flange adapter hexagonal section or piping as close as possible to the pipe joint. Do not use the valve or solenoid or hydramotor as lever.

VALVE SERVICE OR REPLACEMENT

To service or replace the valves, it is necessary to remove or unpipe the upstream or downstream piping. Remove hardware from between valves. Slightly loosen pipe supports and clamps to allow pipe nipples to move freely. Unthread valve or valves to be serviced or replaced from pipe nipple and remove. ASCO strongly recommends replacing the o-ring seals and hardware with new o-rings and hardware available in kits identified in this Installation and Maintenance Instruction sheet. O-ring and hardware installation steps should be followed from the steps above.

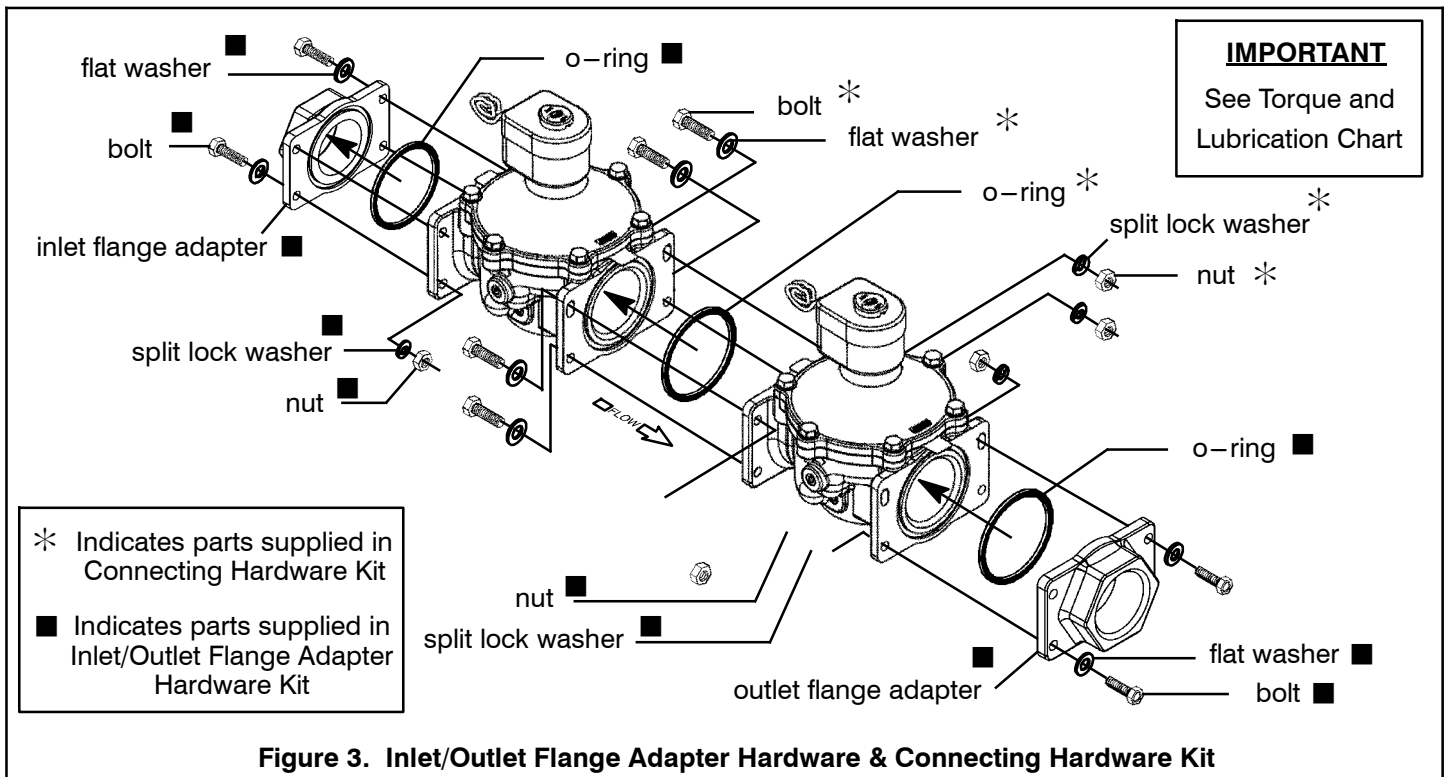


Figure 3. Inlet/Outlet Flange Adapter Hardware & Connecting Hardware Kit

1. Inspect the supplied o-ring, flange adapters and valves to ensure that they are undamaged and free from nicks or cuts. If any damage is present on the sealing surfaces of the above components, do not use these components as external leakage may result. Please contact ASCO for replacement of parts.
2. When installing valves and flange adapters in a valve train, pipe supports and clamps should be loosened to allow pipe nipples to move freely during the installation process to prevent binding. Once assembly is complete, pipe supports and clamps should be resecured. External leakage testing should be performed once all valves, hardware and pipes are resecured.
3. Measure the entire end to end length of the valve train being installed in the application including the inlet and outlet flange adapters. The distance between pipe nipple ends must equal the entire length of the two valves, plus the flange adapters minus the required length for pipe nipple engagement in the adapter flanges. Space pipe nipple ends accordingly.
4. Sparingly apply pipe sealant to the pipe nipple threads. If applied to valve or flange threads, the compound may enter the valve and cause operational difficulty.
5. Noting which valve will be the first in sequence for a double valve installation, install the required o-ring in the upstream valve outlet flange. Carefully place the outlet flange of the upstream valve and the inlet flange of the downstream valve together while ensuring the o-ring seal is seated properly in the groove. Install the required hardware in the flanges to fasten the two valves together and make hand tight while ensuring that the exterior edges of the valve flanges are parallel and flush to one another. Torque hardware in an alternating manner to the specified torque requirement based on hardware size (See Table 1). Install the required o-ring in the downstream valve outlet flange. Set assembly aside and move to next step.
6. Sparingly apply pipe sealant to upstream pipe nipple threads. Thread upstream flange adapter onto upstream pipe nipple end and torque to wrench tight engagement so that the flange adapter bolt pattern is in the corresponding orientation with the required valve flange bolt pattern orientation. Consult the valve Installation and Maintenance Instruction Sheets for allowable orientation.
7. Sparingly apply pipe sealant to downstream pipe nipple threads.

Thread downstream flange adapter onto downstream pipe nipple end and torque to hand tight engagement.

8. Install the double valve assembly between the upstream and downstream flange adapters while ensuring that the o-ring is properly seated in upstream flange and in downstream valve outlet flange. It may be necessary to spread the pipe nipples and install the flange adapters to gain adequate clearance for the valve assembly installation. Install the required hardware in Figure 3 in the upstream flange adapter to valve inlet only and make hand tight. Adjust upstream flange adapter and valve to ensure that the exterior edges of the valve flange and flange adapter are parallel and flush to one another. Apply torque to hardware in an alternating manner to the specified torque called for based on hardware size (See. Table 1).
9. Make outlet flange adapter wrench tight and continue to tighten until holes in the outlet flange of the downstream valve and downstream flange adapter are aligned. Ensure that exterior edges of the valve flange and flange adapter are parallel and flush to one another. Install the required hardware and torque in an alternating manner to the specified torque requirement based on hardware size.

⚠ WARNING: Locate wrenches on the valve body, flange adapter hexagonal section or piping as close as possible to the pipe joint. Do not use the valve or solenoid or hydramotor as lever.

10. Valve and flange or flange adapters must be checked for external leakage at all connection points after installation with seam test or an equipment for detecting external leakage.

VALVE SERVICE OR REPLACEMENT

To service or replace the valves, it is not necessary to remove or unpipe the upstream or downstream piping. Remove hardware and then remove valve from between the flange adapters. Slightly loosen pipe supports and clamps to allow pipe nipples to move freely. Once flange adapters are installed, they do not need to be removed and reinstalled when removing the valve for service or replacement. ASCO strongly recommends replacing the o-ring seals and hardware with new o-rings and hardware available in kits identified in this Installation and Maintenance Instruction sheet. O-ring and hardware installation steps should be followed from the steps above.