

Installation & Maintenance Instructions

SERIES
**PIPE THREAD ADAPTERS FOR COMBUSTION VALVE TRAIN
NORMALLY CLOSED OPERATION - 3/4", 1", 1 1/4", 1 1/2", 2", 2" HF, 2 1/2"
OR 3" NPT/Rp FUEL GAS SERVICE**
_158A

⚠ WARNING READ THE INSTRUCTIONS BEFORE USAGE, this control must be installed in conformity with applying approvals.

⚠ AVERTISSEMENT LIRE LA NOTICE D'INSTRUCTIONS AVANT UTILISATION, cette commande doit être installée conformément aux certificats en vigueur.

NOTICE: See separate installation and maintenance instructions I&M V 9947 for _158A Series Actuator Valve for information on: Installation, Temperature Limitations, Piping, Cause of Improper Operation, etc.

DESCRIPTION

Adapter kits are required to join the _158A series valves to piping. Kit Numbers shown in Table 1 contain all the necessary parts for the mounting to pipe of the valves installed in a combustion train.

Table 1: Inlet/Outlet Pipe Thread Adapter Kits

Nominal Pipe Size (inches)	DN Pipe Size	Kit Number	
		NPT	Rp
3/4	20	M200687	M200688
1	25	M200685	M200686
1 1/4	32	M200683	M200684
1 1/2	40	M200681	M200682
2	50	M200679	M200680
2 HF*	50	M200836	M200694
2 1/2	65	M200835	M200692
3	80	M200834	M200690

NOTES:

- HF* = High Flow, to be used with large bodies
- Pairing valves with adaptor kits not listed on the table above nullifies EN-161 conformance.

The afore mentioned Inlet/Outlet Pipe Thread Adapter Kits enumerated in this section contain all the necessary parts to allow for easy installation and maintenance without breaking threaded pipe connections.

OPERATION

Normally Closed: _158A Series valve is a normally closed, push-to-open valve. It is open when the valve stem is depressed by a P159A Series Actuator. An internal return spring closes the valve when the actuator is retracted by its own internal return spring.

Positioning: _158A Series valves can be mounted in any position.

Piping

Connect piping to thread adapters according to markings on valve body and thread adapters. Apply pipe compound sparingly to male pipe threads only. If applied to pipe thread 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.

⚠ AVERTISSEMENT Il est nécessaire d'éviter toute contrainte sur les tuyaux en soutenant et en alignant correctement les tuyaux.

When tightening the pipe, do not use the valve or actuator as a lever. Locate wrenches on the valve body, pipe thread 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 Figure 1).

ORDERING INFORMATION FOR HARDWARE KITS

When ordering kits, refer to gas shutoff valves catalog for the correct kit number. Each kit must be ordered separately.

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, pipe thread 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 pipe thread 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 re-secured. External leakage testing should be performed once all valves, hardware and pipes are re-secured.
3. Measure the end to end length of the valve being installed in the application including the inlet and outlet pipe thread adapters. The distance between pipe nipple ends must equal the entire length of the valve, plus the pipe thread adapters, minus the required length for the pipe nipple engagement in the thread adapters. Space pipe nipple ends accordingly.
4. Sparingly apply pipe sealant to the pipe nipple threads. If applied to pipe adapter threads, the compound may enter the valve and cause operational difficulty. If strainer is to be installed/replaced, install prior to adaptor installation.
5. Sparingly apply the specified gasket lubricant or equivalent to the o-ring according to Table 2. Install o-rings in upstream thread adapter and valve outlet adapter. O-ring should be pressed into groove as shown in Figure 2.
6. Thread upstream pipe thread adapter onto upstream pipe nipple end and torque to wrench tight engagement so that the pipe thread adapter bolt pattern is in a corresponding orientation with the required pipe thread bolt pattern orientation. Use hex profile of pipe thread

Table 2: Torque and Lubrication Chart

Catalog Number	Adapter Reference Nominal Pipe Size (inches)	DN (mm)	Body Type	Torque Value	
				Inch-pounds	Newton-meters
_158A_00X_X_00	(3/4, 1, 1 1/4, 1 1/2, 2)	(20, 25, 32, 40, 50)	Medium	11.8±1.1 ft-lb	16±1.6 N-m
_158A_11X_X_00	(3/4)	(20)			
_158A_12X_X_00	(1)	(25)			
_158A_130X_X_00	(1 1/4)	(32)			
_158A_14X_X_00	(1 1/2)	(40)			
_158A_16X_X_00	(2)	(50)			
_158A_01X_X_00	(2 1/2, 3, 2 HF*)	(65, 80, 50)	Large	25±2.5 ft-lb	34±3.4 N-m
_158A_18X_X_00	(2 1/2)	(65)			
_158A_20X_X_00	(3)	(80)			
_158A_36X_X_00	(2 HF*)	(50)			
Lubrication			Parts to be lubricated		
Xiameter® PMX 200 Silicone Fluid or equivalent high-grade silicon fluid			Gasket (O-ring) between valves or between valve and thread adapter		

NOTE: HF* = High Flow

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E318857 - 11/2021

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I&M V 9948 AF

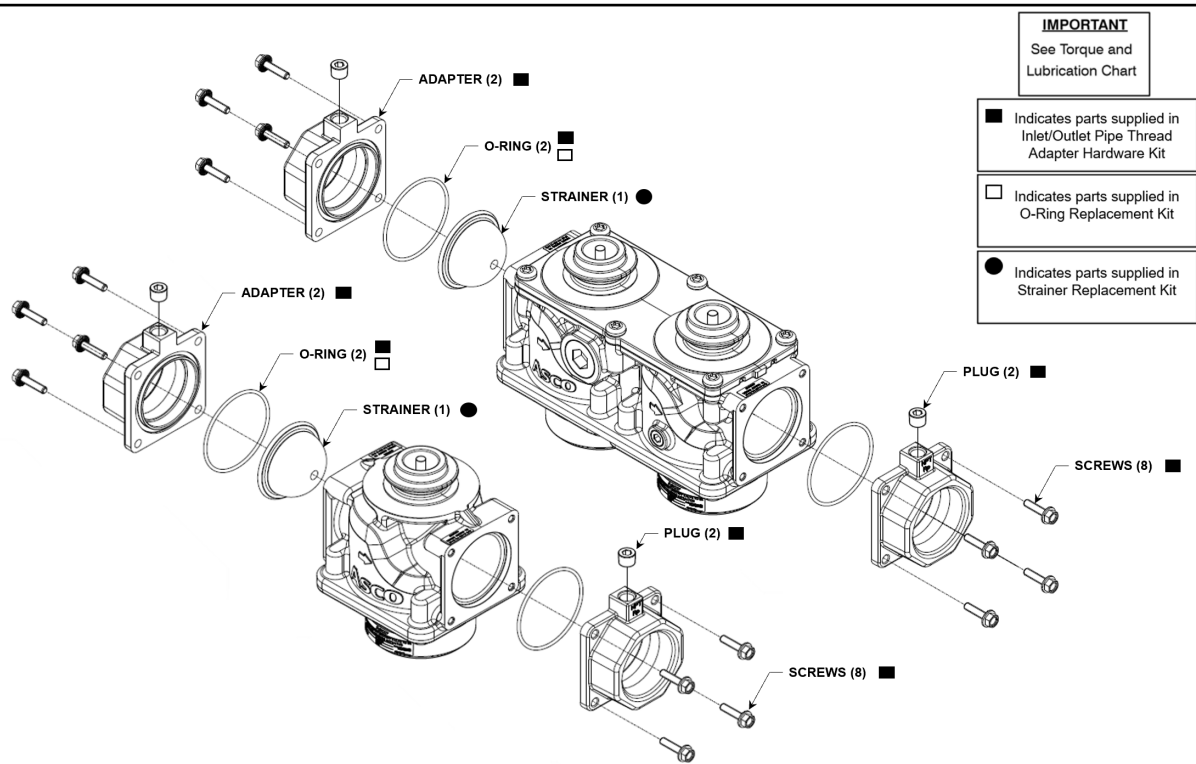


Figure 1. Inlet/Outlet Pipe Thread Adapter Hardware Kits

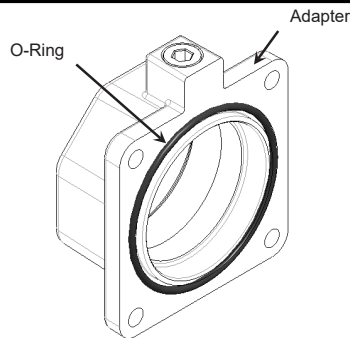


Figure 2. View of Adapter and O-ring Assembly Showing Proper Installation of Gasket

adapter to apply torque with wrench. Consult valve Installation and Maintenance Instructions for allowable orientation.

7. Thread downstream pipe thread adapter onto downstream pipe nipple end and torque to hand tight engagement.
8. Noting valve flow direction, install valve between the upstream and downstream thread adapters while ensuring that the o-rings are properly seated in the upstream adapter and in the outlet adapter. It may be necessary to spread the pipe nipples and installed thread adapters to be able to gain adequate clearance to install the valve. Install the required hardware in Figure 1 in the upstream thread adapter to valve inlet only and make hand tight. Adjust upstream thread adapter and valve to ensure that the exterior edges of the valve and thread adapter are parallel and flush one another. Use hex profile of thread adapter to apply torque with wrench. Torque hardware in an alternating manner to the specified torque requirement based on hardware size (See Table 2).
9. With the valve in place, make outlet thread adapter wrench tight and continue to tighten until holes in the outlet adapter of the downstream valve and downstream thread adapter are aligned. Ensure that exterior edges of the valve and thread adapter are parallel and flush to one another. Install the required hardware and torque in a crisscross manner to the specified torque requirement based on hardware size.

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

⚠ AVERTISSEMENT Placez la clef sur le corps de la vanne, la section hexagonale de l'adaptateur fileté ou la tuyauterie aussi près que possible du raccord de tuyau. N'utilisez pas l'actionneur ou de la vanne comme levier.

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

VALVE SERVICE OR REPLACEMENT

⚠ WARNING To reduce the risk of death, serious injury, or property damage. Before installing or maintaining the valve, 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.

⚠ AVERTISSEMENT Pour réduire les risques de décès, de blessures graves ou de dommages matériels: Avant d'installer ou d'intervenir sur la vanne, couper le courant, dépressuriser la vanne, éteindre toutes les flammes nues et éviter tout type d'étincelle ou d'ignition. Évacuer les liquides dangereux ou combustibles vers un endroit sûr.

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 thread adapters. Once thread 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 the spare o-rings and strainers available in kits identified in this Installation and Maintenance Instruction sheet on Tables 1 & 3. O-ring and hardware installation steps should be followed from the steps above.

Table 3: O-Ring and Strainer Replacement Kits		
Body Type (Adapter Reference Pipe Size)	O-Ring Kit #	Strainer Kit #
Medium (¾ - 2)	M200832	M200830
Large (2 HF* - 3)	M200833	M200831

NOTE: HF* = High Flow