

Valve Series 2B16

High Pressure Ball Valve Operation and Maintenance Manual

Catalog: 02-9281ME

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aerospace
climate control
electromechanical
filtration
fluid & gas handling
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Model # _____
 Serial # _____
 Drawing # _____

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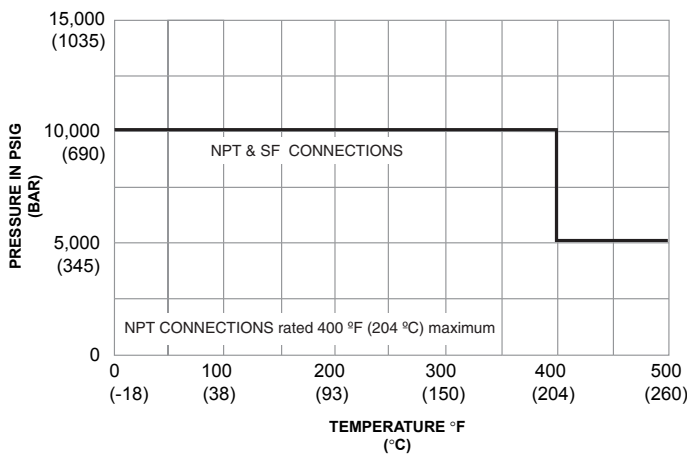
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Section 1.0 Introduction

The PAE high pressure ball valve can be used at pressure up to 10,000 psi (690 bar) depending on the tubing connections and operating temperatures. The maximum operating media pressure at room temperature is etched on the valve body. The curve shown below can be used to find the maximum operating pressure at various media temperatures.

PRESSURE TEMPERATURE RATINGS



Section 2.0 Installation

The ball valve can be installed with the flow in either direction.

Refer to the instruction section of the Parker Autoclave Engineers' Valve, Fitting and Tubing Catalog for proper tubing connection installation.

Refer to the manufacturer's literature when using air or electric operators.

CAUTION

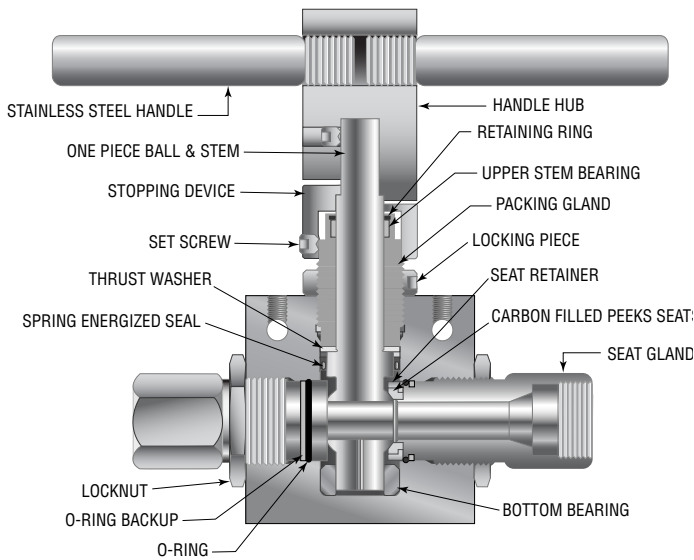
While testing has shown O-rings to provide satisfactory service life, both cyclic and shelf life may vary widely with differing service conditions, properties of reactants, pressure and temperature cycling, and age of the O-ring. Frequent inspection should be made to detect any deterioration and O-rings replaced as required.

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Section 5.0 Assembly

General Assembly Procedure 1" Port 2-Way Ball Valve

1. Insert the bottom bearing into the bottom of the body.
2. Assemble PEEK bearing into packing gland and secure by installing retaining ring.
3. Using packing gland, delicately slide the stem seal and backup onto the upper shoulder of stem and lubricate the seal with o-ring grease.
4. Generously lubricate both sides of the thrust washer with Jet Lube MP-50¹ and assemble the washer onto the stem behind the stem seals backup ring.
5. Lubricate the packing gland threads with Jet Lube MP-50¹ and slip the packing gland over the stem.
6. Lubricate the bottom bearing area and ball of the stem with o-ring grease.
7. With the ball hole parallel to the side ports, insert the stem assembly into the body center opening.
8. Screw the packing gland into the body until the opening of the ball is aligned properly. Note: Stem is free to move downward so be careful not to push stem itself.
9. When ball is aligned, back the packing gland out two complete turns while holding the stem in place, making sure the stem does not rotate.
10. Assemble locknuts onto the seat glands and lubricate the seat gland threads with Jet Lube MP-50¹.
11. Assemble the o-ring backup ring onto the seat gland groove.
12. Assemble the o-ring onto the seat gland groove in front of the backup.
13. Lubricate both the seal and backup outside the diameters with o-ring grease.
14. Set aside seat glands.
15. Place the seat assemblies that have already been pre-compressed inside the retainers over the nose of the seat gland.
16. Screw the seat glands into the body hand tight on both sides.
17. Keeping the ball in the full open position, torque seat glands to 80 in-lb in 10 in-lb alternating increments.
18. While holding seat glands in place with a wrench, securely tighten locknuts on the seat glands against the body.
19. Screw packing gland snug into body with a small wrench. **DO NOT OVER TIGHTEN. STOP WHEN YOU FEEL PACKING GLAND STOP ON STEM/THRUST WASHER.**
20. Assemble locking piece onto packing gland against the body using a spanner wrench.
21. Position stopping device loosely on top of packing gland



Section 3.0 Precautions

Hold the seat glands and bottom gland with a wrench when tightening or loosening the tubing connections.



WARNING

DO NOT OPERATE the valve with more than 80 in-lbs. (9.03 Nm) applied to the seat glands.

Ball valves can trap pressurized media inside the valve. Relieve this pressure by turning the handle to the "half-open" position before disassembling the valve.

Section 4.0 Maintenance

Routine maintenance consists of tightening the seat glands periodically to compensate for seat wear. With no pressure in the valve, use the following procedures:

- 4.1 Seat Glands
 - 4.1.1 Remove lock device from seat glands
 - 4.1.2 While holding the seat glands and the body secure, loosen the tubing connections
 - 4.1.3 With the handle in the "Full Open" position, gradually tighten the glands alternating from one gland to the other in increments of 10 in. lbs. (1.12 Nm) until 80 in. lbs. (9.03 Nm) has been reached.

Do Not Apply More Than 80 In. Lbs. (9.03 Nm)

- 4.1.4 While holding seat gland secure with a wrench, tighten seat gland locknuts to the valve body.

and attach the hub and flat screw onto the flat of the stem.
 Turn stopping device clockwise until it hits the flat on the hub.
 Tighten the (2) set screws on the stopping device onto the packing gland.

22. Screw the two handles into the hub.

¹ MP-50 is a registered trademark of Jet-Lube Corporation

Section 6.0 Installation Summary Chart

Valve Series	Connection	Seat gland Hex Size in (mm)	Locknut Hex Size in (mm)	O-Ring Part Number			Seat PEEK (qty)	Tube Gland Hex Size in (mm)	Tube Gland Torque ft-lbs. (Nm)
				Viton (qty)	-EPR (qty)	Kal-Rez Comp. 3018 (qty)			
2B16	SF1500CX10	2.5 (63.5)	#	90566 (2)	90591 (2)	-	101F-1426 (2)	1.88 (47.8)	200 (271.2)
	1" FNPT	1.88 (47.8)	##	90566 (2)	90591 (2)	-	101F-1426 (2)	-	-

Using locking device
 ## Using locking piece

WARNING

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

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