

High-Pressure Control Valve

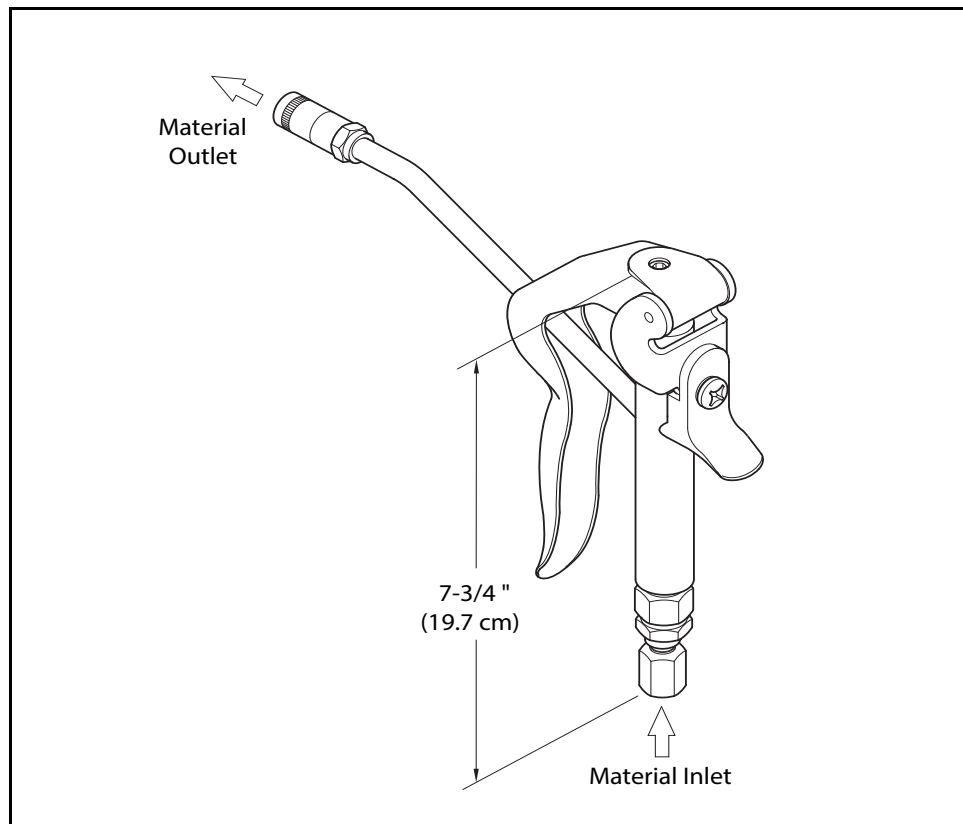


Figure 1 *High-Pressure Control Valve Model 6320-3*



WARNING

This control valve operates on high-pressure systems. Before attempting any service procedure, make sure all components within the system are at zero pressure.

Never point a control valve at any portion of your body or another person. Accidental discharge of pressure and/or material can result in personal injury.

Do not exceed the pressure rating of any component in the system.

Read each step of the instructions carefully. Make sure a proper understanding is achieved before proceeding.

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SER 6320-3
Revision (1-13)

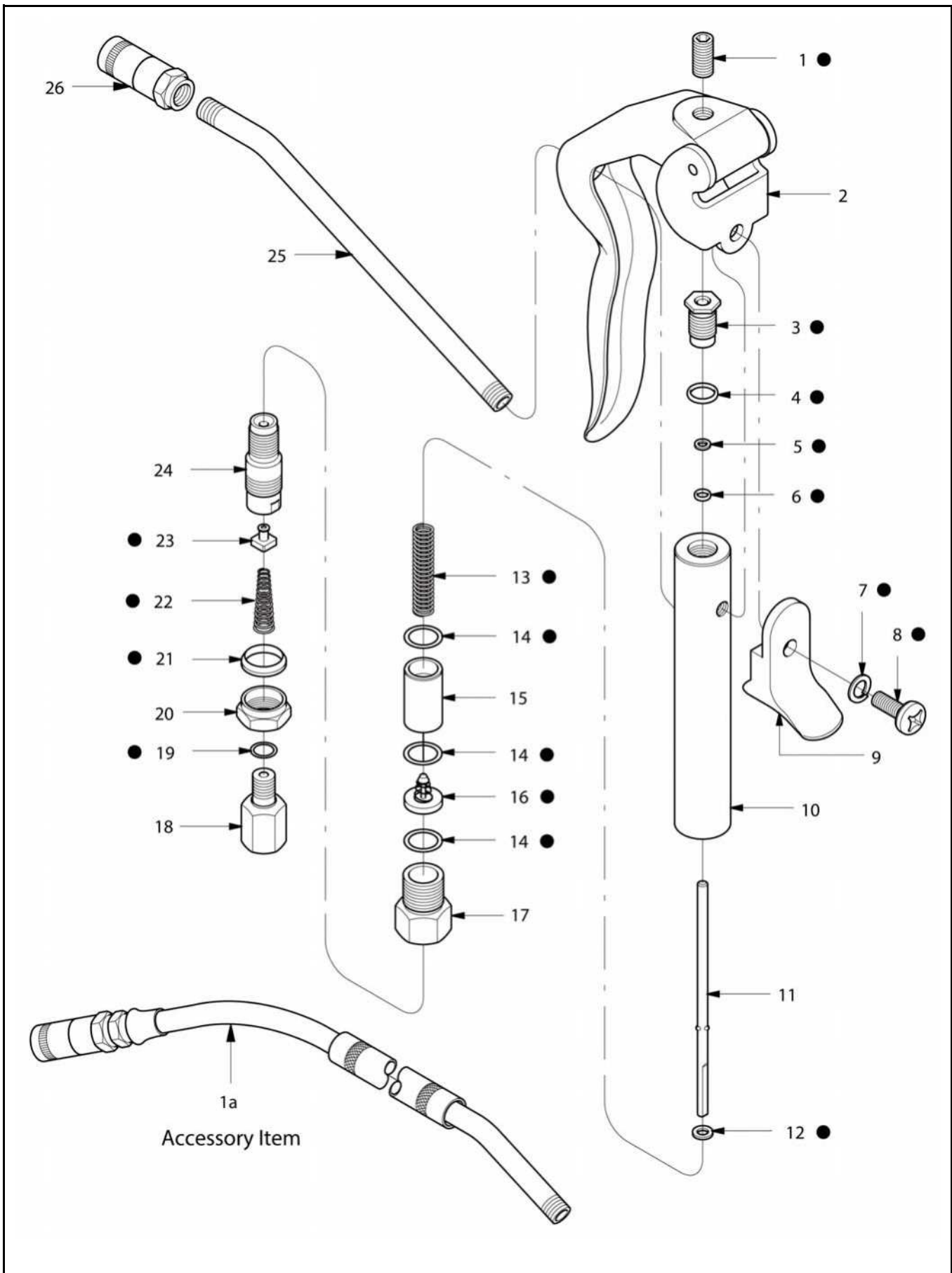


Figure 2 High-Pressure Control Valve Model 6320-3 - Exploded View

Item No.	Part No.	Description	Qty	Notes	Numeric Order Part # (Item #)
1		Setscrew, 3/8"-24 x 5/8 "	1	●	6304-B (26)
2		Lever and Bracket Assembly	1		6778 (1a)
3		Plug, Packing	1	●	47064 (14)
4		O-Ring, 1/2 " OD	1	●	47071 (23)
5		Washer, Back-Up, 3/16 " ID (Leather)	1	●	47073 (22)
6		O-Ring, 5/16 " OD	1	●	47074 (24)
7		Washer, Lock	1	●	47076 (21)
8		Screw, 5/16 "-18 x 5/8 "	1	●	47081 (13)
9		Support	1		47301 (16)
10		Body	1		49136 (25)
11	328087	Stem, Plunger	1		76856 (7)
12		Washer, 0.195 " ID	1	●	340510 (19)
13		Spring, 1-1/2 " Long	1	●	322897 (18)
14	47064	Gasket (Aluminum)	3	●	322952 (3)
15		Guide, Symmetrical	1		322953 (5)
16		Valve and Seat Assembly	1	●	322954 (1)
17		Bushing	1		322956 (2)
18	322897	Adapter, Inlet, 1/4 " NPTF (f)	1		322957-3 (10)
19		Gasket	1	●	328087 (11)
20		Locknut	1		170595 (8)
21		Ring, Packing, 0.69 " ID (Brass)	1	●	
22		Spring, 1-9/32 " Long	1	●	
23		Valve, Single-Shot	1	●	
24	47074	Adjuster, Single-Shot	1		
25	49136	Extension, Rigid	1		
26	6304-B	Coupler, Hydraulic	1		
Optional Equipment					
1a	6778	Extension, Rigid/Flexible	1		
Legend: Part numbers left blank (or in <i>italics</i>) are not available separately ● designates a repair kit item					

Repair Kit

Part No.	Kit Symbol	Description
398964-2	●	Kit, Major Repair

Description and Operation

The model 6320-3 high-pressure control valve is all steel construction. It is designed for high pressure applications up to 7500 psi (517 Bars). The valve dispenses a variety of lubricants from numerous types of power-operated equipment.

Modes-of-Operation

Single-Shot and Continuous Flow



WARNING

Connect the control valve to a fitting prior to operation. High velocity discharge can result in injury to personnel.

The valve has two modes-of-operation. When the lever is partially depressed, it delivers 1/2 of a preset measured amount of product. Release the lever to complete the preset delivery. Depress the valve lever completely and hold to provide a continuous flow of material.

Specifications

Material Inlet	Material Outlet	Maximum Operating Pressure	
		psi	Bars
1/4 " NPTF (f)	1/8 " NPTF (f)	7500	517

Table 1 *High-Pressure Control Valve Model 6320-3 Specifications*

Accessories



WARNING

Altering the control valve with the addition of a flexible hose extension is not recommended. Personal injury may occur. If a flexible extension is mandatory, use only Alemite Corporation extension hose number 6778.

Part Number	Description
6778	Rigid/Flexible Extension

Table 2 *High-Pressure Control Valve Model 6320-3 Accessory*

Preventive Maintenance

Refer to section entitled **Overhaul** for details on the procedures necessary to perform maintenance.

Daily	Weekly	Monthly	Yearly
Wipe Exterior with Clean Cloth	Inspect for Leakage	Adjust Lever	

Table 3 *High-Pressure Control Valve Model 6320-3 Preventive Maintenance Schedule*

Overhaul

NOTE: Refer to **Figure 2** and/or **Figure 3** for component identification on all overhaul procedures.

Prior to performing any maintenance procedure, the following safety precautions must be observed. Personal injury may occur.



WARNING

Release all pressure within the system prior to performing any overhaul procedure.

- Disconnect the air supply line from the pump motor.
- Into an appropriate container, operate the control valve to discharge remaining pressure within the system.

Never point a control valve at any portion of your body or another person. Accidental discharge of pressure and/or material can result in personal injury.

Read each step of the instructions carefully. Make sure a proper understanding is achieved before proceeding.

Removal

Remove Z-Swivel from control valve's Inlet Adapter (18).

Disassembly

◀▶ Remove or Unscrew:

1. Extension (25) and Coupler (26) from Body (10).
2. Bushing (17) from the Body.

NOTE: This separates the lower portion of the valve from the upper portion.

Lower Portion

3. Locknut (20) several turns from Single-Shot Adjuster (24).
4. Single-Shot Adjuster from Bushing (17).
5. Locknut from Single-Shot Adjuster.

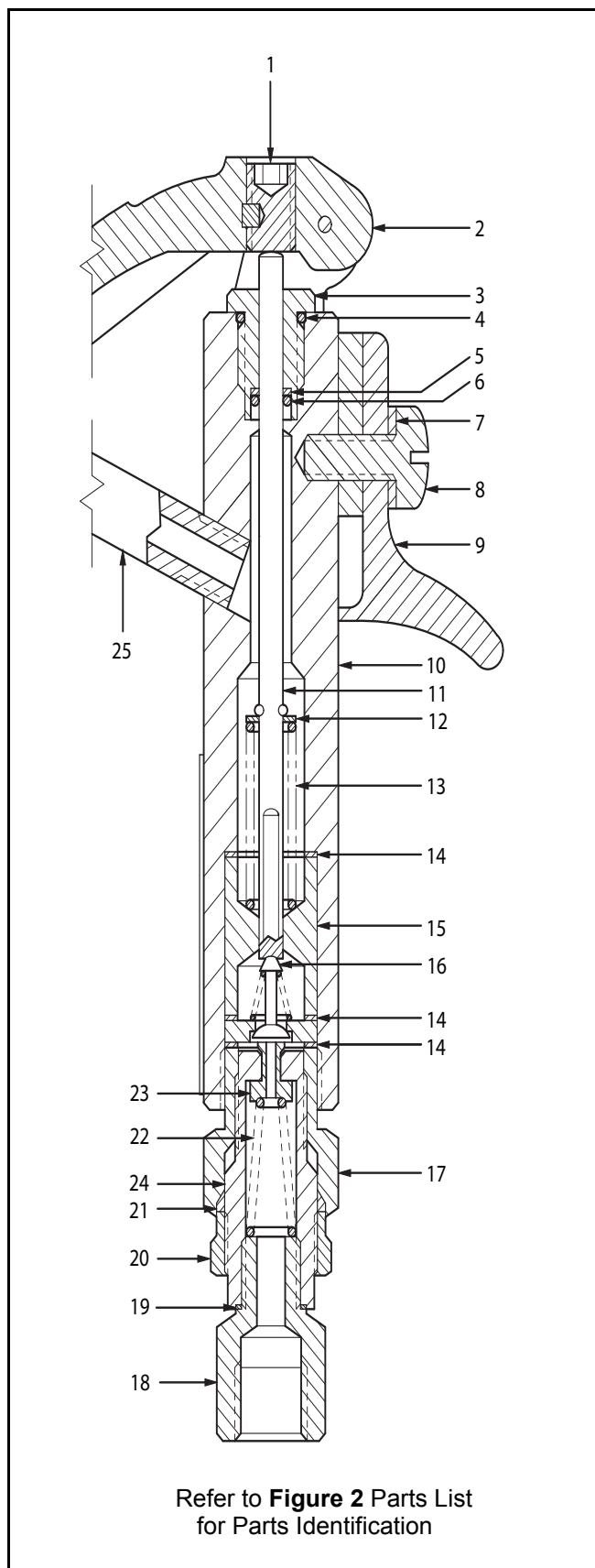


Figure 3 High-Pressure Control Valve Model 6320-3
Section View

CAUTION

Do not damage any portion of Single-Shot Adjuster (24) during removal of Packing Ring (21).

6. Packing Ring (21) from Single-Shot Adjuster (24).
7. Single-Shot Adjuster from Inlet Adapter (18). The Single-Shot Adjuster is under slight spring pressure.
8. Gasket (19), Spring (22), and Single-Shot Valve (23) from Single-Shot Adjuster.

Upper Portion

9. Aluminum Gasket (14) and Seat assembly (16) from Body (10).
10. Additional Gaskets (14), Symmetrical Guide (15), and Spring (13) from the Body.
11. Screw (8), Lock Washer (7), and Support (9) from Body.
12. Lever and Bracket assembly (2).
13. Setscrew (1) from Lever and Bracket assembly.
14. Packing Plug (3) from the Body.
15. Plunger Stem (11) and Washer (12) from the Body.
16. O-Rings (4 and 6) and Back-Up Washer (5) from the Packing Plug.

Clean and Inspect

NOTE: Use a repair kit for replacement parts. Make sure all the components are included in the kit before discarding used parts.

WARNING

Do not use halogenated hydrocarbon solvents such as methylene chloride or 1,1,1-trichloroethane in this valve. An explosion can result when aluminum and/or zinc-plated parts come in contact with halogenated hydrocarbon solvents.

1. Clean all metal parts in a modified petroleum-based solvent. The solvent should be environmentally safe.
2. Inspect all parts for wear and/or damage.
 - Replace as necessary.
3. Closely inspect the mating surfaces of all components for any imperfections. Ensure a smooth and clean contact is obtained when assembled.

EXAMPLE: Make sure Valve and Seat Assembly (16) seats properly.

4. Inspect Valve and Seat assembly (16), Single-Shot Valve (23), and Single-Shot Adjuster (24) closely. Use a magnifying glass to detect any wire draw marks.

Assembly

NOTE: Prior to assembly, certain components require lubrication. Refer to **Table 4** for details.

►◄ Install or Screw:

1. Lubricated Back-Up Washer (5) small O-Ring (6) into Packing Plug (3).
2. Lubricated O-Ring (4) onto the Packing Plug.
3. Washer (12) onto flats end of Plunger Stem (11).
4. Stem and Washer assembly into the Body.
 - Make sure the Washer seats properly.
5. Packing Plug assembly over the Stem and screw into the Body.

Part # (Item #)*	Description	Lubricant
171001-3 (6)	O-Ring, 5/16 " OD	SAE 30 Oil
171001-7 (4)	O-Ring, 1/2 " OD	SAE 30 Oil
322953 (5)	Washer, Back-Up, 3/16 " ID (Leather)	Soak 8 hours at room temperature in SAE 30 Oil
* Refer to Figure 2 Parts List for Parts Identification		

Table 4 Lubrication Specifications

6. Spring (13) onto the Stem.
 7. Aluminum crush Gasket (14) into the Body.
 8. Symmetrical Guide (15) and additional Gasket (14).
 9. Valve and Seat Assembly (16) and final Gasket (14) into the Body.
 10. Bushing (17) into the Body.
 - While retaining Packing Plug (3), tighten Bushing (17) securely into the Body. Tighten sufficiently to properly crush Gaskets (14).
- NOTE:** Make sure Plunger Stem (11) extends approximately 3/8 " (9.5 mm) from top of Body (10) and has spring pressure. If no pressure is felt, Washer (12) is installed incorrectly. Refer to steps 3 and 4.
11. Setscrew (1) into Lever and Bracket assembly (2).
 12. Position the top of the Setscrew so one full thread on the Lever and Bracket assembly is present. See **Figure 2**.
 13. Lever and Bracket assembly and Support (9) onto the Body.
 14. Lock Washer (7) and Screw (8).
 - Tighten screw securely.
 15. Extension (25) and Coupler (26) into the Body.
 - Tighten the extension in the proper position.

CAUTION

Do not use excessive force when installing Single-Shot Adjuster (24) into Bushing (17). Component damage can occur.

16. Single-Shot Adjuster (24) into Bushing (17) until it seats against the Spring and Plunger Seat assembly (16).

IMPORTANT: Turn the Single-Shot Adjuster counterclockwise 1-1/4 turns. This adjustment approximates the setting required for the single-shot mode-of-operation.

17. Packing Ring (21) into Bushing (17).
18. Locknut (20) onto Single-Shot Adjuster (24) firmly.
 - Make sure the Single-Shot Adjuster does not move from initial setting of 1-1/4 turns.

19. Single-Shot Valve (23) and Spring (22) into the Single-Shot Adjuster.

- Make sure the Single-Shot Valve is centered properly.

20. Gasket (19) into the Single-Shot Adjuster.

IMPORTANT: Press downward on Inlet Adapter (18) during installation to overcome Spring pressure. Cross threading can occur.

21. Inlet Adapter (18) into the Single-Shot Adjuster.
 - Tighten sufficiently to properly crush the Gasket.

Setscrew Adjustment (Lever Free-Play)

IMPORTANT: This setting establishes the amount of lever travel before the single-shot mode-of-operation takes effect.

If the clearance is too great, the continuous mode-of-operation can be lost. Not enough clearance can prevent the valve from shutting off.

The setscrew should be adjusted so a 1/16 " (1.5 mm) clearance between the bottom of the hole on Lever (2) and the surface of Extension (25) is achieved. See **Figure 4**.

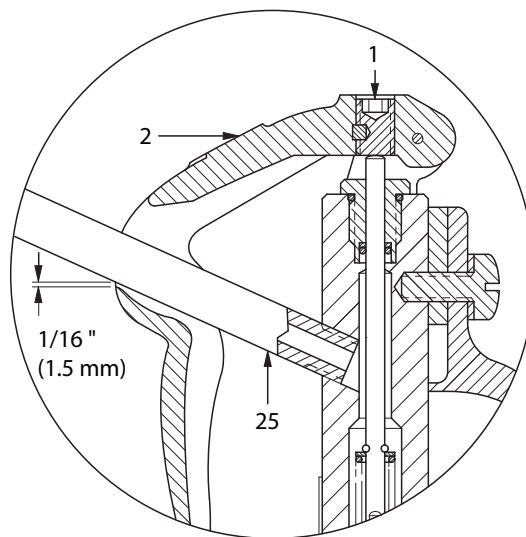


Figure 4 Lever Free-Play

This setting is the amount of lever free-play before product begins to flow.

To set the clearance, adjust Setscrew (1) clockwise to increase the amount of free-play or counterclockwise to decrease the gap.

Installation

Attach the Z-Swivel to the control valve's Inlet Adapter (18). Tighten connection securely.

Operation and Adjustments

WARNING

 Should leakage occur anywhere within the system, disconnect power to the motor. Personal injury can occur.

Prime and Test

NOTE: Perform the following procedures at a pressure not to exceed 3000 psi (207 Bars). Should valve leakage occur at anytime, refer to the **Troubleshooting Chart**.

1. Place the pump in the product to be dispensed.
2. Point the control valve into an appropriate collection container.
3. Connect the air line to the pump motor.
 - The control valve should show no leakage or dispense the product.
4. Depress the control valve Lever (2) fully.
 - Product should flow continuously once air is eliminated from the control valve (and system).

If the control valve does not dispense the product, refer to the **Troubleshooting Chart**.

5. Release the Lever.

If product appears at Coupler (26):

6. Turn Setscrew (1) counterclockwise until the product discontinues to flow.

Product Delivery Adjustment (Single-Shot)

IMPORTANT: The adjustment for the single-shot mode-of-operation effects the continuous mode-of-operation. If the single-shot adjustment is set too great, the continuous mode-of-operation may be lost.

1. Depress the control valve Lever (2) partially to initiate the single-shot mode of operation.

If product does not begin to flow or too great (or too little) an amount is produced, adjustment is necessary.

2. Make sure to read the following warning.

WARNING

 Release all pressure within the system prior to valve adjustment.

- Disconnect the air supply line from the pump motor.
- Into an appropriate container, operate the control valve to discharge remaining pressure within the system.

Personal injury can occur.

3. Loosen Locknut (20) 1/8 turn. See **Figure 5**.
 - Do not allow the Locknut to completely disengage Single-Shot Adjuster (24).

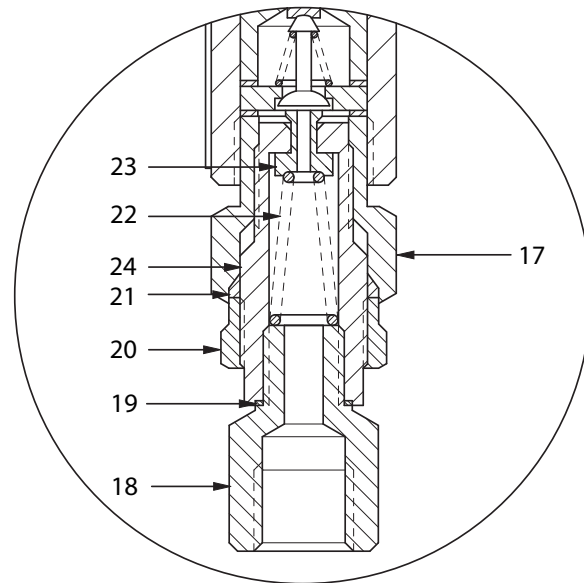


Figure 5 Single-Shot Adjustment Components

WARNING

 Do not turn the Single-Shot Adjuster counterclockwise more than a total of four turns. Personal injury can occur.

4. Turn the Single-Shot Adjuster 1/8 turn clockwise to decrease delivery or counterclockwise to increase delivery.
5. Tighten Locknut (20).
6. Connect the air line to the pump motor.
7. Depress the lever partially and observe the amount of product dispensed.
8. If readjustment is necessary, repeat steps 2 through 5.
9. Depress the lever fully to ensure that the continuous mode-of-operation is available.

Troubleshooting Chart

Control Valve in Static Condition or in Unattached Operation		
Control Valve Indications	Possible Problems	Solution
Continuous product flow	1. Foreign material under Valve and Seat Assembly (16) and/or Single-Shot Valve (23) 2. Lever adjustment incorrect	1. Disassemble, clean, and inspect seat areas. Check mating surfaces and replace parts as necessary. Locate and eliminate source of foreign material. 2. Adjust lever free-play
No product flow Continuous mode does not function	Valve not adjusted properly	Adjust setting.
Single-Shot mode does not function	Single-Shot Adjuster (24) not set correctly	Adjust setting
Leakage at top and/or bottom of Body (10)	1. Initial tightening not sufficient 2. O-Ring (4) not sealing 3. Crush Gaskets (14) not sealing	1. Tighten Packing Plug (3) and Bushing (17) 2. Replace O-Ring (4) 3. Replace Gaskets (14)
Leakage at Extension (25)	Initial tightening not sufficient	1. Tighten Extension into Body (10) 2. Apply PTFE tape* to Extension threads
Leakage at rear end of Coupler (26)	Initial tightening not sufficient	1. Tighten Coupler into Extension (25) 2. Apply PTFE tape* to Extension threads
Leakage around Locknut (20)	1. Initial tightening not sufficient 2. Packing Ring (21) not sealing	1. Tighten Locknut (20) 2. Replace Packing Ring (21)
Leakage at top or bottom of Inlet Adapter (18)	1. Initial tightening not sufficient 2. Crush Gasket (19) not sealing	1. Tighten Inlet Adapter (18) 2. Replace Gasket (19)
Leakage at Stem (11)	1. O-Ring (6) not sealing 2. Plunger Stem (11) damaged	1. Replace O-Ring (6) 2. Replace Plunger Stem (11)
Control Valve Connected to Fitting		
Control Valve Indications	Possible Problems	Solution
Leakage at front end of Coupler (26)	1. Coupler damaged 2. Coupler to fitting mismatch 3. Foreign or damaged fitting	1. Replace Coupler (26) 2. Replace fitting and/or Coupler (26) 3. Replace with Alemite fitting
* Do not apply PTFE tape to the first two (2) threads. Contamination can occur.		

Changes Since Last Printing

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