

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

10” to 16” Figure 626-D Drawing K-1255 Sewage Surge Relief Valve

TABLE OF CONTENTS

Introduction	1
Function	1
Receiving & Storage	1
Installation	1
Operation	1
Valve Construction	1
Start-Up	2
Preventive Maintenance	2
Trouble Shooting	2
Disassembly	2
Assembly	3
Replacement Parts List.....	3
Warranty	3
Assembly Drawing/Parts Location.....	4-5



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WARNING: Cancer and Reproductive Harm – www.Prop65Warnings.ca.gov

INSTALLATION, OPERATION and MAINTENANCE

10" to 16" Figure 626-D Sewage Surge Relief Valve

INTRODUCTION

This manual will provide the information to properly install, operate and maintain the valve to ensure a long service life. The Figure 626-D Sewage Surge Relief Valve is ruggedly constructed to provide years of trouble-free operation with minimal maintenance.

CAUTION

The valve is NOT recommended for use with toxic or highly corrosive fluids, fuels or fluids containing hazardous gases

The Shop Order (SO) Number, Figure Number, size and pressure rating are stamped on a nameplate attached to the valve. Please refer to the SO number when ordering parts.

FUNCTION

The Figure 626-D Sewage Surge Relief Valve is used to protect systems against damaging surges resulting from a sudden stoppage of flow. The valve is normally closed and opens when the inlet pressure increases to a pre-set pressure to discharge excess pressure out of the system. The valve opens as far and stays open for as long as needed to limit the pressure rise. It slowly closes as the pressure subsides below the opening pressure. The valve is designed to accommodate solids and other matter that may be present in sewage systems without clogging.

RECEIVING AND STORAGE

Inspect the valve upon receipt for damage during shipment. Carefully unload all valves to the ground without dropping.

The valves should remain in a clean, dry, and weather protected area until installed.

INSTALLATION

The Figure 626-D is a wye body valve with ANSI Class 125 flanged connections for installation in a horizontal pipe.

Consult the drawings of record to verify the configuration supplied and installed.

These valves are large, heavy, and awkward to handle, ensure proper handling techniques are

employed. Handle heavy valves using slings around the valve body and/or by the lifting eyes.

Prior to installation ensure all debris, packing material or other foreign material has been removed from both ports.

Install the valve in the proper flow direction. The discharge piping connected to the outlet of the valve must be unobstructed and unpressurized.

If installed outdoors, below ground in a vault or in an unheated area, adequate freeze protection must be provided.

An adequate isolating valve should be installed between the valve and the pipeline or system to facilitate maintenance.

The valve is not designed to support adjacent equipment, piping loads should not be imposed on the valve and large valves should be properly supported. Ensure mating flanges are square and parallel to the valve flanges before tightening flange bolts.

Flat-faced flanged valves should be mated with flat-faced flanges and full-face gaskets. If ring gaskets are used the bolt material shall be ASTM A307 Grade B (or equivalent). Higher strength bolting should only be used with full-face gaskets.

Lubricate the bolts or studs and insert around flange. Lightly tighten bolts until gaps are eliminated. Torque bolts in an alternating pattern in graduated steps. If leakage occurs wait 24 hours and re-torque the bolts but do not compress the gasket more than 50% or exceed bolt maximum torque rating.

OPERATION

The Figure 626-D surge relief valve is held closed by the compression of a spring. When the force of the system pressure acting on the face of the valve disc exceeds the spring force, the valve will lift off its seat permitting a discharge of fluid from the system. The valve will open as far as needed to discharge fluid at the rate necessary to prevent a further rise in pressure.

As the valve opens it freely draws oil from the reservoir into the piston chamber.

As the pressure subsides the spring force will push the valve closed, forcing oil back into the reservoir through a needle valve that controls the speed at which the valve closes.

VALVE CONSTRUCTION

The standard Figure 626-D surge relief valve has a cast iron body and cover, stainless steel body seat, stainless steel disc stem, resilient disc seat and an alloy steel spring housed in a fabricated steel spring chamber.

The valve incorporates a self-contained hydraulic system to control the speed at which the valve closes during pressure subsidence.

Refer to Pages 4 and 5 for standard construction and parts identification

Refer to the List of Materials submitted for the order if non-standard materials were provided.

START-UP

The valve generally does not require any calibration or adjustment prior to start-up. The pressure at which the valve opens is set at the factory per the Engineer's specification and indicated on a tag wired to the valve. This pressure is typically 10 to 15% higher than the highest pressure that would be present at the valve's inlet under normal operation.

The valve is shipped from the factory with the oil reservoir full of oil and a pipe plug in the fill port to prevent spillage during transit and installation.

IMPORTANT: Prior to start-up remove the pipe plug, check to make sure reservoir is ¾" full and replace with the blue plastic vented plug that is wired to the reservoir.

If additional oil is needed, use non-foaming AW32 hydraulic fluid.

The closing speed needle valve (30) should be initially opened ¼ turn.

Since the relief valve's opening pressure is always higher than the "normal" pressure, an abnormally high pressure is needed to test the valve's operation.

This may be accomplished by throttling valve but most of the time the pumping system is started then shut down and the reaction of the relief valve is noted.

Small adjustments to the closing speed may be made if needed. Loosen lock nut on closing speed control valve and turn screw clockwise to slow closing speed, counterclockwise to increase closing speed.

CAUTION: Do not completely close the needle valve as this will prevent the relief valve from closing once it has opened.

PREVENTIVE MAINTENANCE

Figure 626-D sewage surge relief valves require no routine lubrication, adjustment, or preventive maintenance.

A monthly inspection should be performed for the first 6 months of operation to ensure there is no external fluid leakage or audible evidence of water leaking through the closed valve.

Thereafter, a quarterly visual inspection should be performed.

TROUBLESHOOTING

- Valve Fails to Open at Desired Pressure
 - Set pressure too high – adjust spring
 - Inlet isolating valve closed – open valve
- Valve Fails to Close
 - Set pressure too low – adjust spring
 - Closing speed valve closed – adjust ¼ turn open
 - Closing speed hydraulic tubing kinked or clogged – repair/replace/clean tubing
- Leakage Through Valve When Closed
 - Debris lodged under seat – inspect/clear
 - Damaged disc seat – inspect/replace
- Valve Closes Erratically
 - Low or no oil in reservoir – fill ¾ full
 - Air in hydraulic line/dashpot chamber- bleed air
- Leakage from Weep Hole in Cover
 - Worn stem seals (19) - Replace

WARNING

Removing the valve from the line or disassembling the valve while there is pressure in the valve body may result in injury or damage to the valve

WARNING

Follow all applicable safety regulations and codes and read and understand all instructions before undertaking disassembly.

DISASSEMBLY

Figure 626-D surge relief valves can be serviced while the body remains connected to the pipeline. A skilled technician should perform all work. No special tools are required but given the size and weight of the valve's components overhead lifting capability is necessary

First ensure there is no pressure within the valve and operating equipment is tagged and locked out. Refer to Pages 4 and 5 for parts identification and location.

Ensure all necessary replacement parts are on hand before commencing service. Disassemble only as far as needed to inspect/replace worn parts.

1. Ensure there is no pressure within the valve and operating equipment is locked out.

2. Loosen a fitting and drain the oil from the reservoir into a clean container for re-use after re-assembly. Note position of closing speed control valve. Remove the tubing between the valve cover and reservoir. Remove the reservoir mounting bolts (24A) and the reservoir (24).
3. Mark the position of the adjusting stem (26) or measure its height above the top of the spring chamber (22).
4. Loosen the adjusting stem lock nut (25) and turn the adjusting stem counterclockwise to de-compress the spring until all tension is removed. Re-tighten the stem lock nut (25).
5. Mark the cover (2) and body (1) to ensure proper alignment during re-assembly.
6. Place a strap/sling around the adjusting stem (26) near the top of the spring chamber (22) and around the cover (2) and simultaneously support both with overhead lifting.
7. Remove the cover bolts (29) and carefully extract the cover (2) from the body (1). All the remaining components except the body seat (6) will come out with the cover.
8. Move the cover assembly to a convenient work area and support on blocks so the spring chamber is vertical to facilitate further disassembly.
9. Remove the spring chamber bolts (28) and lift off the spring chamber (22), spring (23) and spring guide (27).
10. Using a chain/strap wrench, grasp the disc (3) around its outside diameter, loosen and remove the disc stem nut (7A). DO NOT GRASP THE STEM (7) as any scoring will damage the rod wiper (21).
11. Remove the disc stem washer (7C), piston follower (15), the piston ID seal (16) and the piston (12).
12. Remove the gland screws (11A) and gland (11).
13. Extract the stem/disc assembly from the cover.
14. Remove the disc seat ring screws (9), disc seat ring follower (5) and disc seat ring (4).
15. Remove the two stem seals (19), lantern ring (10) and rod wiper (21).
16. Typically, the piston bushing (14), upper bushing (8) and lower bushing (8A) do not need to be removed as the associated seals can be replaced without removing these components.
17. Inspect all parts for wear and damage. Replace worn and/or damaged parts.

ASSEMBLY

The valve is reassembled by reversing the disassembly sequence with consideration of the following:

- 1a. Clean and polish all machined bearing and sealing surfaces. Remove burrs and sharp

edges. Apply a light coat of lubricant to assist in the assembly.

- 2a. Make sure the hole in the piston follower (15) aligns with the pipe plug in the top of the piston (12).
- 3a. After the spring (23), spring guide (27) and spring chamber bolts (28) have been re-assembled, turn adjusting stem (26) clockwise until the spring (22) is slightly compressed to stabilize it during final assembly.
- 4a. Due to the angle at which it is installed, be especially careful when inserting the cover assembly into the body to make sure the cover seal (20) is not damaged.
- 8a. Loosen the stem lock nut (25). Turn adjusting stem (27) clockwise until it is at original position, tighten adjusting stem lock nut (25).
- 9a. Install reservoir (24) and re-connect control piping. Threaded connections should be sealed with oil-compatible pipe sealant, not Teflon tape. Open speed control valve fully and slowly add oil to reservoir until it is ¾ full. If additional oil is needed, use AW32 hydraulic fluid.
- 10a. Reset closing speed control to original position. Tighten locknut.

REPLACEMENT PARTS

Genuine replacement parts are available from your local VAG/GA Industries representative or from the factory:

VAG USA, LLC
 234 Clay Avenue
 Mars, PA 16046 USA
 Telephone: 724-776-1020
 Fax: 724-776-1254
 E-mail: quotes-ga@vag-usa.com

Please have the nameplate data available when ordering parts. Identify needed part(s) by Shop Order (SO) Number, Figure Number, valve size and individual part number.

REPAIR KITS

Soft Goods Kit includes Items 4, 12A, 13A, 14A, 16, 17, 18, 19, 20, 21, 33 and 35

Size	Kit Number	Part Number
10"	K10	2-80-25000-436
12"	K12	2-80-25000-437
14"	K14	
16"	K16	

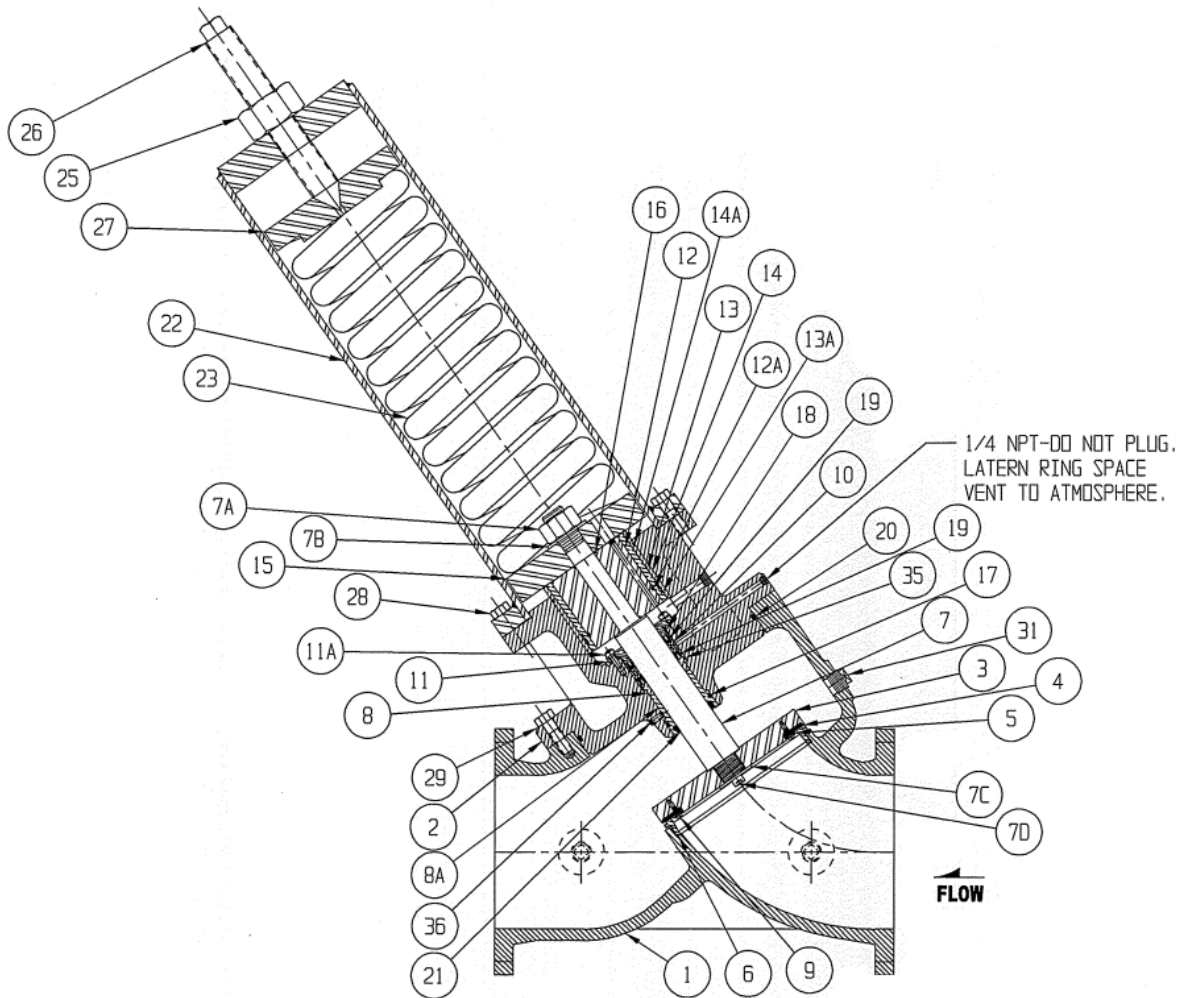
All other parts ordered individually. Consult factory for larger sizes.

WARRANTY:

The Warranty for GA Industries valves is included in our Terms and Conditions which can be found here: <https://gaindustries.com/terms>

Part No.	Part Name	Std. Material
1	Body	Cast Iron
2	Cover	Cast Iron
3	Disc	Ductile Iron
4	Disc Seat Ring	Thiokol
5	Disc Seat Ring Follower	Stainless Steel
6	Body Seat	Stainless Steel
7	Disc Stem	Stainless Steel
7A	Disc Stem Nut	Steel
7B	Disc Stem Washer	Steel
7C	Disc Stem Lock Washer	Stainless Steel
7D	Disc Stem Lock Screw	Stainless Steel
8	Upper Bushing	Bronze
9	Lower Bushing	Bronze
10	Lantern Ring	Bronze
11	Gland	Bronze
11A	Gland Screws	Steel
12	Piston	Steel
12A	Piston Seal	Buna N Rubber
13	Piston Liner	Bronze
13A	Piston Liner Seal	Buna-N Rubber
14	Piston Bushing	Bronze

Part No.	Part Name	Std. Material
14A	Piston Bushing Seal	Buna-N Rubber
15	Piston Follower	Steel
16	Piston ID Seal	Buna-N Rubber
17	Liner Bushing Seal	Buna-N Rubber
18	Gland Seal	Buna-N Rubber
19	Stem Seal (2)	Buna-N Rubber
20	Cover Seal	Buna-N Rubber
21	Lower Bushing Wiper	Buna-N Rubber
22	Spring Chamber	Steel
23	Spring	Alloy Steel
24	Oil Reservoir	Steel
25	Adjusting Stem Lock Nut	Steel
26	Adjusting Stem	Aluminum Bronze
27	Spring Guide	Steel
28	Spring Chamber Bolts	Steel
29	Cover Bolts	Steel
30	Flow Control Valve	Commercial
31	Inspection Plug	Malleable Iron
34	Vented Plug	Plastic
35	Upper Bushing Seal	Buna-N Rubber
36	Lower Bushing Set Screw	Steel
42	Reservoir Mounting Screws	Steel



NOTE: OIL RESERVOIR MUST BE MOUNTED VERTICALLY

