

2-Way and 3-Way Valve

Owner's Manual

PNEG-2102

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PNEG-2102

All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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1. Introduction

General Information

InterSystems reserves the right to improve its product whenever possible and practical to do so. We reserve the right to change, improve and modify products at any time without obligation to make changes, improvements and modifications on equipment sold previously.

This manual covers the installation and operation for the 2-Way and 3-Way Valve Assembly. This manual provides guidelines for installing the product. You must retain a qualified contractor to provide on-site expertise. InterSystems is not responsible for the installation of this product.

General Safety Statements

1. The valve assemblies are designed and manufactured with operator safety in mind. However, residual hazards remain due to the nature of material handling, and specific material hazards. Use extreme caution at all times.
2. Modifications to equipment may cause extremely dangerous situations that could result in damage to the equipment as well as serious injury or death. Never modify the equipment.
3. InterSystems recommends that you contact the local power company to have a representative survey the installation to ensure wiring is compatible with their system and adequate power is supplied to the unit.

Receiving Inspection

1. Carefully inspect the shipment for damage as soon as it is received. Verify that the quantity of parts or packages actually received corresponds to the quantity shown on the packing slip. One or more cartons containing the fasteners required for assembly are included with the shipment. Report any damage or shortage to the delivering carrier as soon as possible.
2. InterSystems responsibility for damage to the equipment ended with acceptance by the delivering carrier. Refer to the bill of lading for more detailed information.
3. Save all paperwork and documentation furnished with any of the valve assembly components.

Pre-Installation Preparation

1. The MOST IMPORTANT preparations are retaining a licensed engineer to plan the installation and a qualified millwright or contractor to install the valve assembly and the accompanying equipment and structures. Before starting the valve assembly installation, review this manual, the drawing(s) furnished with the equipment and other applicable documents, including but not limited to, O.S.H.A. Regulations and the National Electrical Code and all other applicable federal, state and local codes and regulations.
2. InterSystems does not assume responsibility for the installation.
3. The installation recommendations contained within this manual are for consideration only. The user or installer will want to consult a civil or structural engineer regarding the design, construction and supervision of the entire installation.

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Save these safety guidelines for future reference.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY** or **DEATH**.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

ST-0001-3

Cautionary Symbols Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.



This symbol indicates an imminently hazardous situation which, if not avoided, **will result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **can result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **can result in minor or moderate injury.**



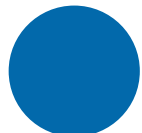
This symbol is used to address practices not related to personal injury.



This symbol indicates a general hazard.



This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection



Respiratory Protection



Foot Protection



Hearing Protection



Head Protection



Fall Protection



Hand Protection



- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0002-1

2. Safety

Install and Operate Electrical Equipment Properly

- Electrical controls must be installed by a qualified electrician and must meet the standards set by applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe).
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Make sure all equipment and bins are properly grounded.



ST-0027-3

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

Toxic Fume and Dust Hazard

- Remove paint before welding or heating.
- Avoid potentially toxic fumes and dust. Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.
- Do all work outside or in a well-ventilated area. Dispose of paint and solvent properly.
- Remove paint before welding or heating:
 - If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
 - If you use solvent or paint-stripper, remove stripper with soap and water before welding.
 - Remove solvent or stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.



ST-0043-1

Stay Clear of Moving Parts

- Stay clear — machine can start without warning.
- Entanglement in gate will cause serious injury.
- Keep all shields and covers in place at all times.
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.



ST-0070-1

Flying Material and High Pressure Air Hazard

- Flying material and/or high pressure air can cause severe eye injury or blindness.
- Wear safety glasses around operating equipment.



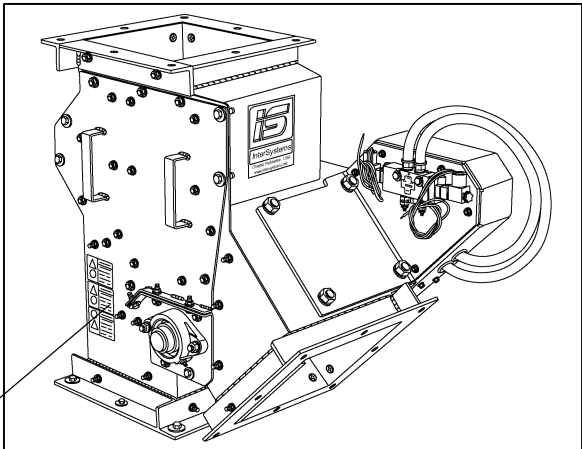
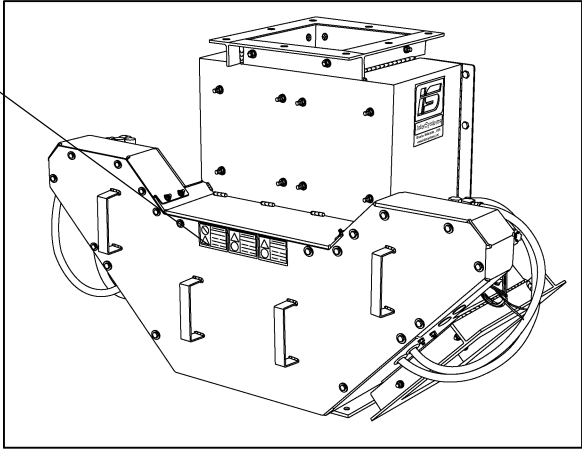






ST-0071-1

Safety decals are the safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service and maintenance of the Valve Assembly. These decals must never be removed, tampered with, painted over or obscured in any way.

NOTE:

1. The decals shown below are not shown in actual size.
2. Keep decals wiped clean at all times.
3. Decals must be replaced if they are destroyed, missing or no longer be read.

 	<div style="background-color: #FF8C00; color: white; padding: 2px;">! WARNING</div> <p>Avoid serious injury or death.</p> <p>This machine MUST be locked out in accordance with current OSHA requirements before any maintenance or service is performed.</p> <p style="font-size: small; text-align: right;">Reorder No. EMC 402 34</p>	 
 	<div style="background-color: #FF8C00; color: white; padding: 2px;">! WARNING</div> <p>Moving Parts can cut and crush.</p> <p>Lockout energy source before inspection or service.</p> <p style="font-size: small; text-align: right;">Reorder No. EMC 30 J3</p>	
 	<div style="background-color: #FF8C00; color: white; padding: 2px;">! WARNING</div> <p>Stay clear.</p> <p>Machine starts without warning.</p> <p style="font-size: small; text-align: right;">Reorder No. EMC 403 34</p>	

4. Installation

Installation Procedure

The InterSystems factory assembled 2-Way and 3-Way Valve can be shipped directly on a conventional truck trailer.

1. The top of this assembly should be level with the bin foundation.

NOTE: Make sure the correct orientation of the housing section.

2. Align the connecting holes so that bolts and nuts can be loosely inserted at this time.

NOTE: Use stainless steel bolts and nuts.

3. With all holes aligned, tighten with power impact.

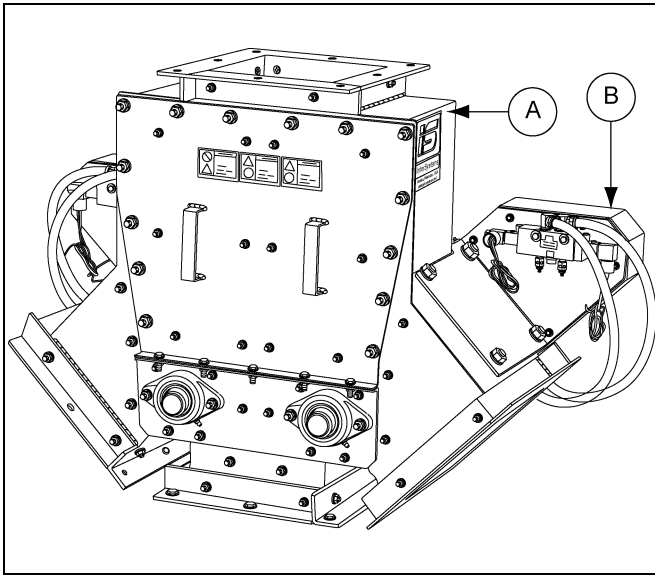


Figure 4A 3-Way Valve

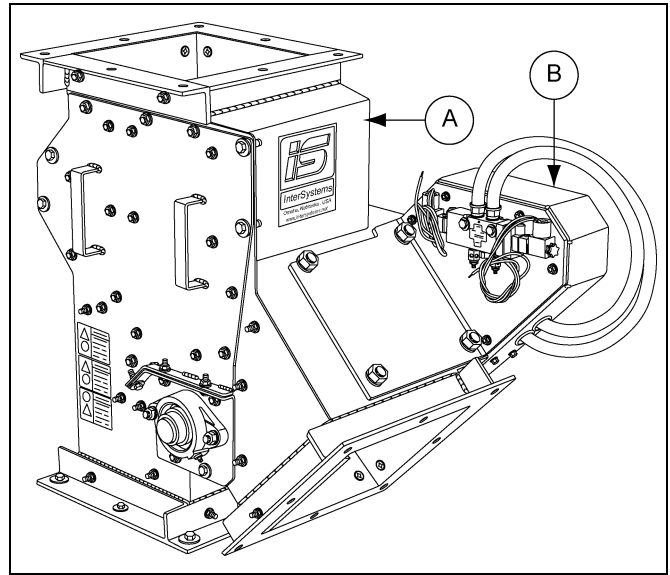


Figure 4B 2-Way Valve

Ref #	Description
A	Valve Housing Assembly
B	Control System

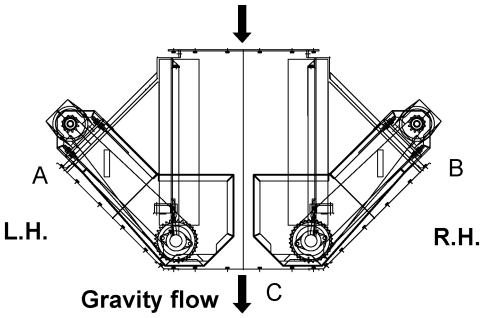
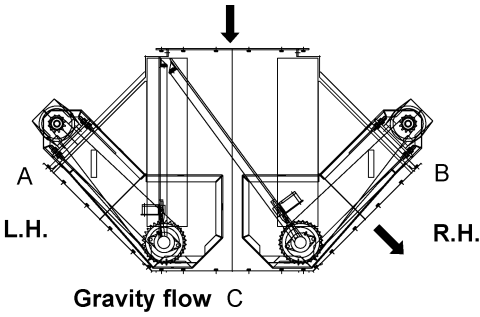
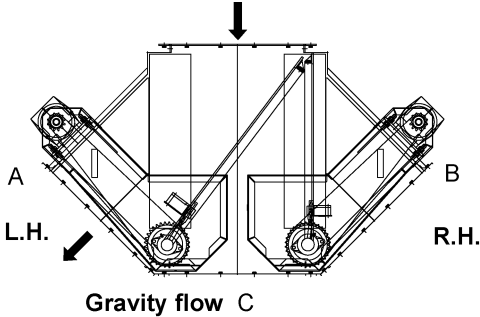
3-Way Valves

The 3-Way valves can be either electric or pneumatic used in InterSystems.

1. Electric 3-Way Valve
2. Pneumatic 3-Way Valve

Electrically Operated 3-Way Valve

Electric 3-Way Valve is controlled by a motor operated assembly unit. This 3-Way Valve is configured with one (1) inlet port and three (3) outlet ports which bypasses the material. There are two (2) diverter blades present in 3-Way Valve assembly connected with a chain sprocket unit, which in turn controlled by two (2) electric motor assembly. The flow of material through the ports are directed according to the position of the diverter blade. The diverter blade can set based on the condition whether the material should pass through R.H. outlet, L.H. outlet or gravity flow. The operational sequences of an electrically operated 3-Way Valve is shown *below*.

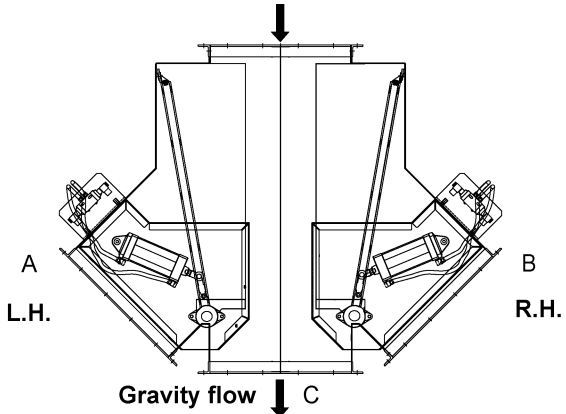
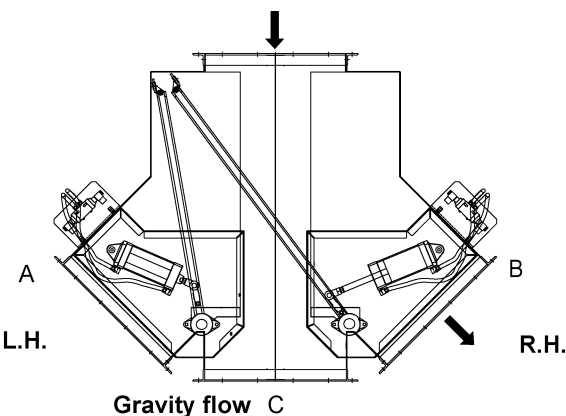
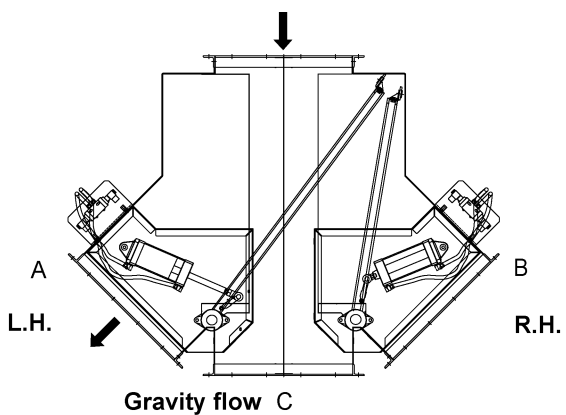
Diverter Blade Position	Description	Condition
	<p>When the diverter blade positions are idle.</p>	<p>The material flows through port "C".</p>
	<p>The R.H diverter blade must be rotated to left to close port "A".</p>	<p>The material flows through port "B".</p>
	<p>The L.H diverter blade must be rotated to right to close port "B".</p>	<p>The material flows through port "A".</p>

NOTE: Do not run the motor in the wrong direction. It may cause damage to the valve.

5. Operation

Pneumatically Operated 3-Way Valve

Pneumatic 3-Way Valve is controlled by two (2) double acting single cylinder assembly unit. This 3-Way Valve is configured with one (1) inlet port and three (3) outlet ports which bypasses the material. The valve system is equipped with two (2) double acting single cylinders connected to a drive arm, which controls the movement of the diverter blade. The flow of material through the ports are directed according to the position of the diverter blade. The diverter blade can set based on the condition whether the material should pass through R.H. outlet, L.H. outlet or gravity flow. The operational sequences of pneumatically operated 3-Way Valve is shown *below*.

Diverter Blade Position	Description	Condition
	<p>When the diverter blade positions are idle.</p>	<p>The material flows through port "C".</p>
	<p>The R.H diverter blade must be rotated to left to close port "A".</p>	<p>The material flows through port "B".</p>
	<p>The L.H diverter blade must be rotated to right to close port "B".</p>	<p>The material flows through port "A".</p>

NOTE: Front and rear ports of a cylinder may both be vented, but both will not be pressurized. Pressurization of both the port of a cylinder results in an unknown condition.

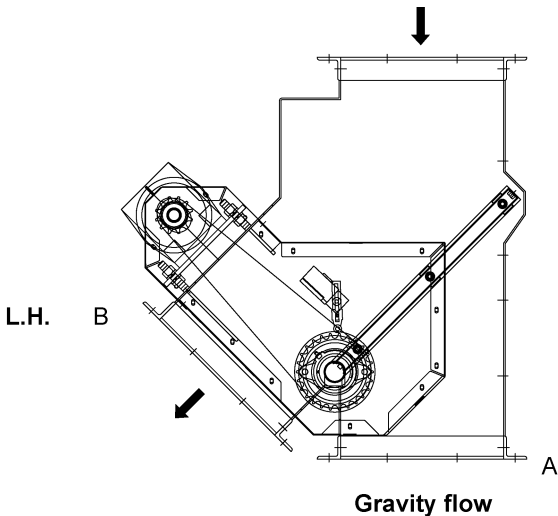
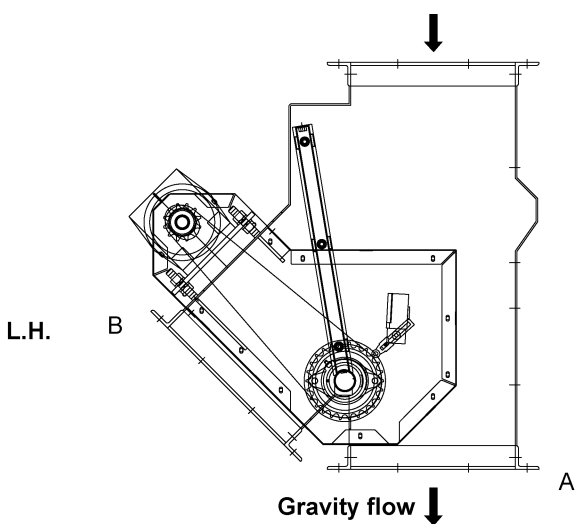
2-Way Valves

There are two (2) types of 2-Way Valves used in InterSystems:

1. K-Valve - Electric and Pneumatic
2. Y-Valve - Electric and Pneumatic

Electrically Operated K-Valve

Electric K-Valve is controlled by a motor operated assembly unit. K-Valve is configured with one (1) inlet port and two (2) outlet ports which bypasses the material. A diverter is present in K-Valve, connected with a chain sprocket unit, which in turn controlled by an electric motor assembly. The flow of material through the ports are directed according to the position of the diverter blade. The diverter blade can set based on the condition whether the material should pass through L.H. outlet or gravity flow. The operational sequences of an electrically operated K-Valve is shown [below](#).

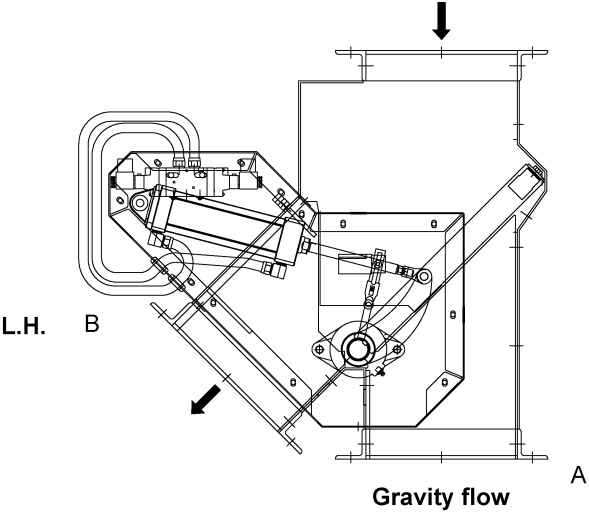
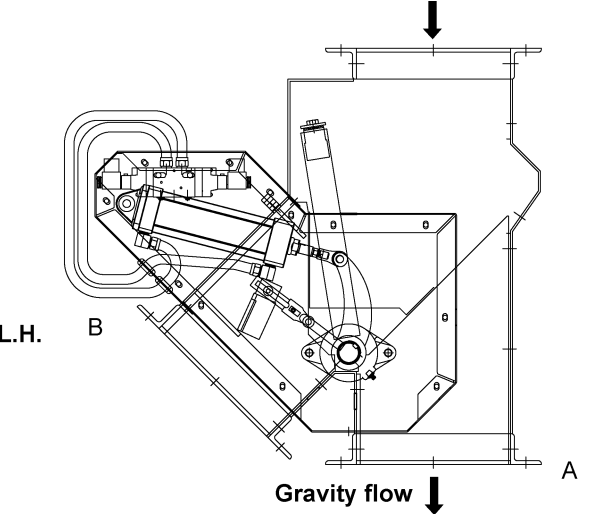
Diverter Blade Position	Description	Condition
	<p>The diverter blade must be rotated to right to close port "A".</p>	<p>The material flows through port "B".</p>
	<p>The diverter blade must be rotated to left to close port "B".</p>	<p>The material flows through port "A".</p>

NOTE: Do not run the motor in the wrong direction. It may cause damage to the valve.

5. Operation

Pneumatically Operated K-Valve

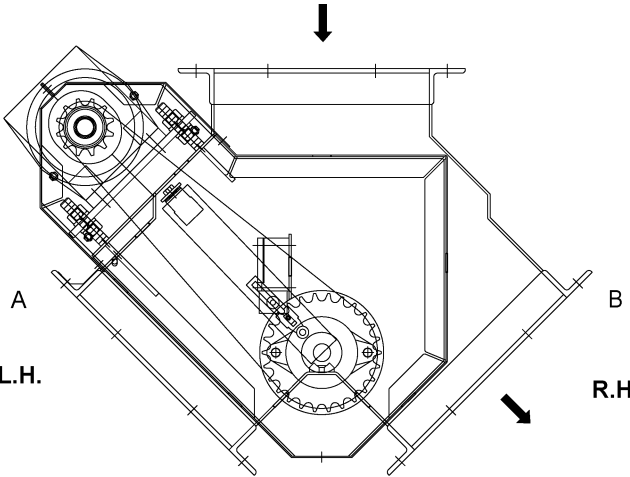
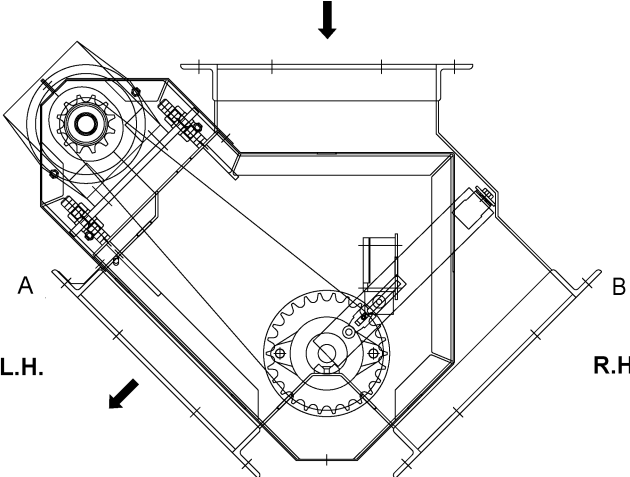
Pneumatic K-Valve is controlled by a double acting single cylinder assembly unit. K-Valve is configured with one (1) inlet port and two (2) outlet ports which bypasses the material. A diverter blade is present in K-Valve, connected with a drive arm, which in turn controlled by the cylinder assembly. The flow of material through the ports are directed according to the position of the diverter blade. The diverter blade can set based on the condition whether the material should pass through L.H. outlet or gravity flow. The operational sequences of pneumatically operated K-Valve is shown *below*.

Diverter Blade Position	Description	Condition
	<p>The diverter blade must be rotated to right to close port "A".</p>	<p>The material flows through port "B".</p>
	<p>The diverter blade must be rotated to left to close port "B".</p>	<p>The material flows through port "A".</p>

NOTE: *Front and rear ports of a cylinder may both be vented, but both will not be pressurized. Pressurization of both the port of a cylinder results in an unknown condition.*

Electrically Operated Y-Valve

Electric Y-Valve is controlled by a motor operated assembly unit. Y-Valve is configured with one (1) inlet port and two (2) outlet ports which bypasses the material. A diverter blade is present in Y-Valve, connected with a chain sprocket unit, which in turn controlled by an electric motor assembly. The flow of material through the ports are directed according to the position of the diverter blade. The diverter blade can set based on the condition whether the material should pass through R.H. outlet or L.H. outlet. The operational sequences of an electrically operated Y-Valve is shown *below*.

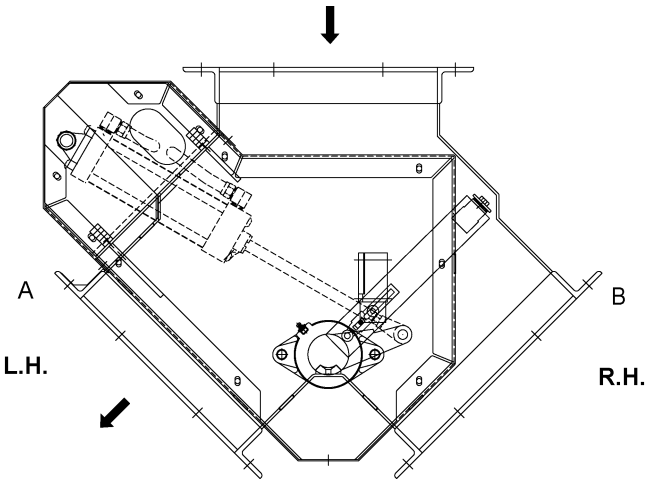
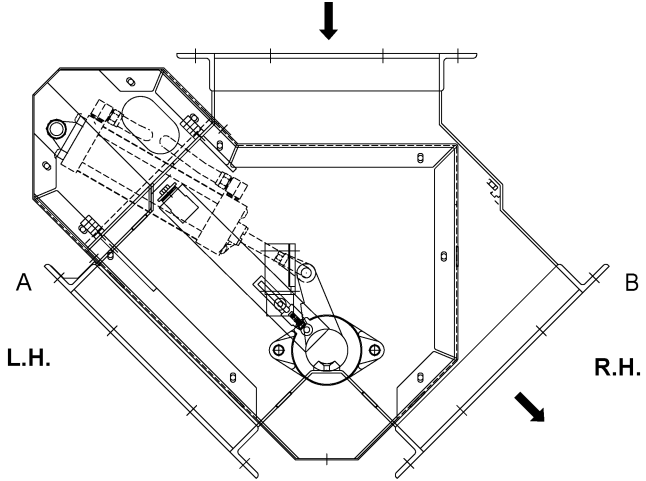
Diverter Blade Position	Description	Condition
	<p>The diverter blade must be rotated to left to close port "A".</p>	<p>The material flows through port "B".</p>
	<p>The diverter blade must be rotated to right to close port "B".</p>	<p>The material flows through port "A".</p>

NOTE: Do not run the motor in the wrong direction. It may cause damage to the valve.

5. Operation

Pneumatically Operated Y-Valve

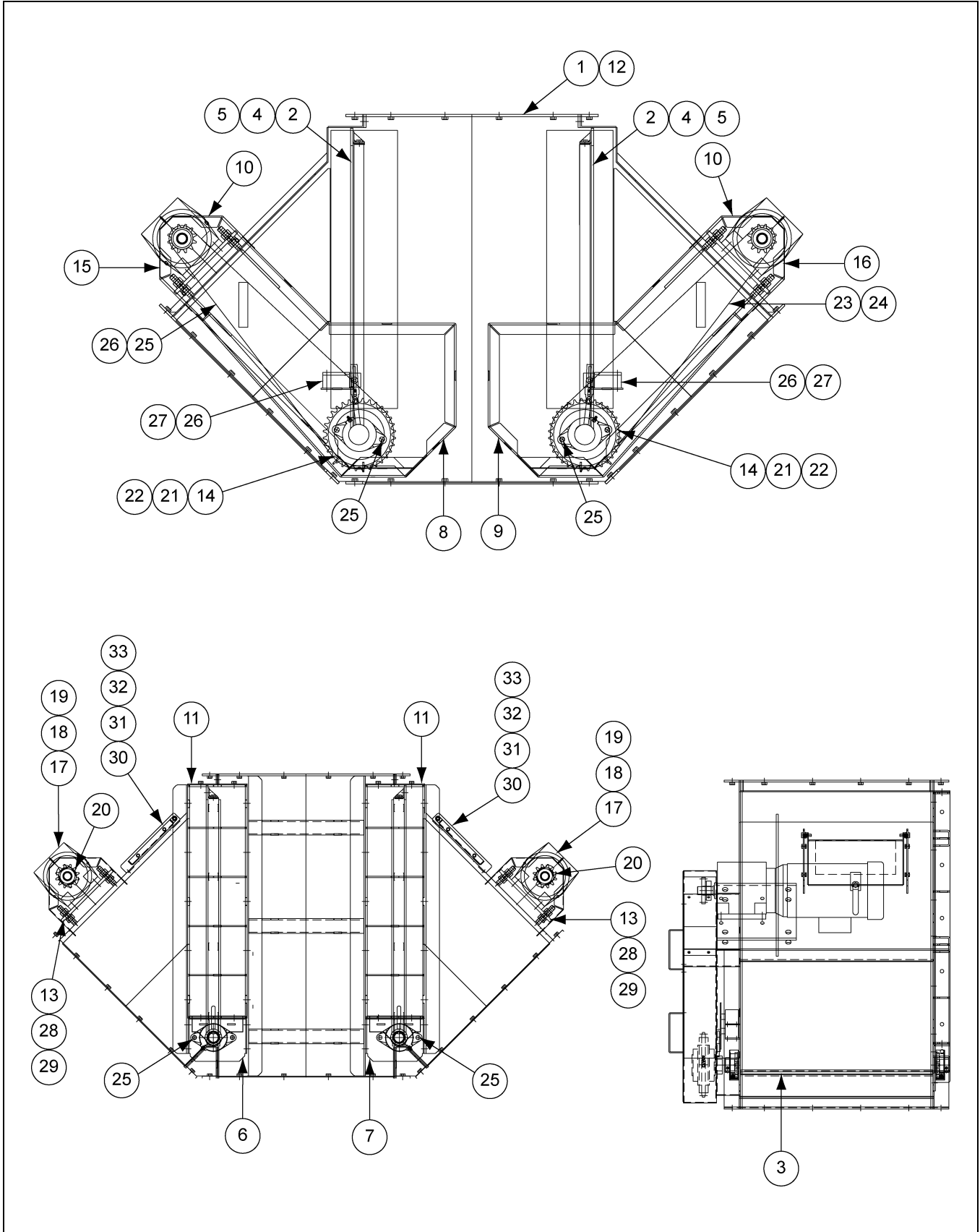
Pneumatic Y-Valve is controlled by a double acting single cylinder assembly unit. The Y-Valve is configured with one (1) inlet port and two (2) outlet ports which bypasses the material. A diverter blade is present in Y-Valve, connected with a drive arm, which in turn controlled by the cylinder assembly. The flow of material through the ports are directed according to the position of the diverter blade. The diverter blade can set based on the condition whether the material should pass through R.H. outlet or L.H. outlet. The operational sequences of pneumatically operated Y-Valve is shown *below*.

Diverter Blade Position	Description	Condition
	<p>The diverter blade must be rotated to right to close port "B".</p>	<p>The material flows through port "A".</p>
	<p>The diverter blade must be rotated to left to close port "A".</p>	<p>The material flows through port "B".</p>

NOTE: *Front and rear ports of a cylinder may both be vented, but both will not be pressurized. Pressurization of both the port of a cylinder results in an unknown condition.*

1. **3-Way Valve Electric** - *(See Pages 20 and 21.)*
2. **3-Way Valve Pneumatic** - *(See Pages 22 and 23.)*
3. **2-Way K-Valve Electric** - *(See Pages 24 and 25.)*
4. **2-Way K-Valve Pneumatic** - *(See Pages 26 and 27.)*
5. **2-Way Y-Valve Electric** - *(See Pages 28 and 29.)*
6. **2-Way Y-Valve Pneumatic** - *(See Pages 30 and 31.)*

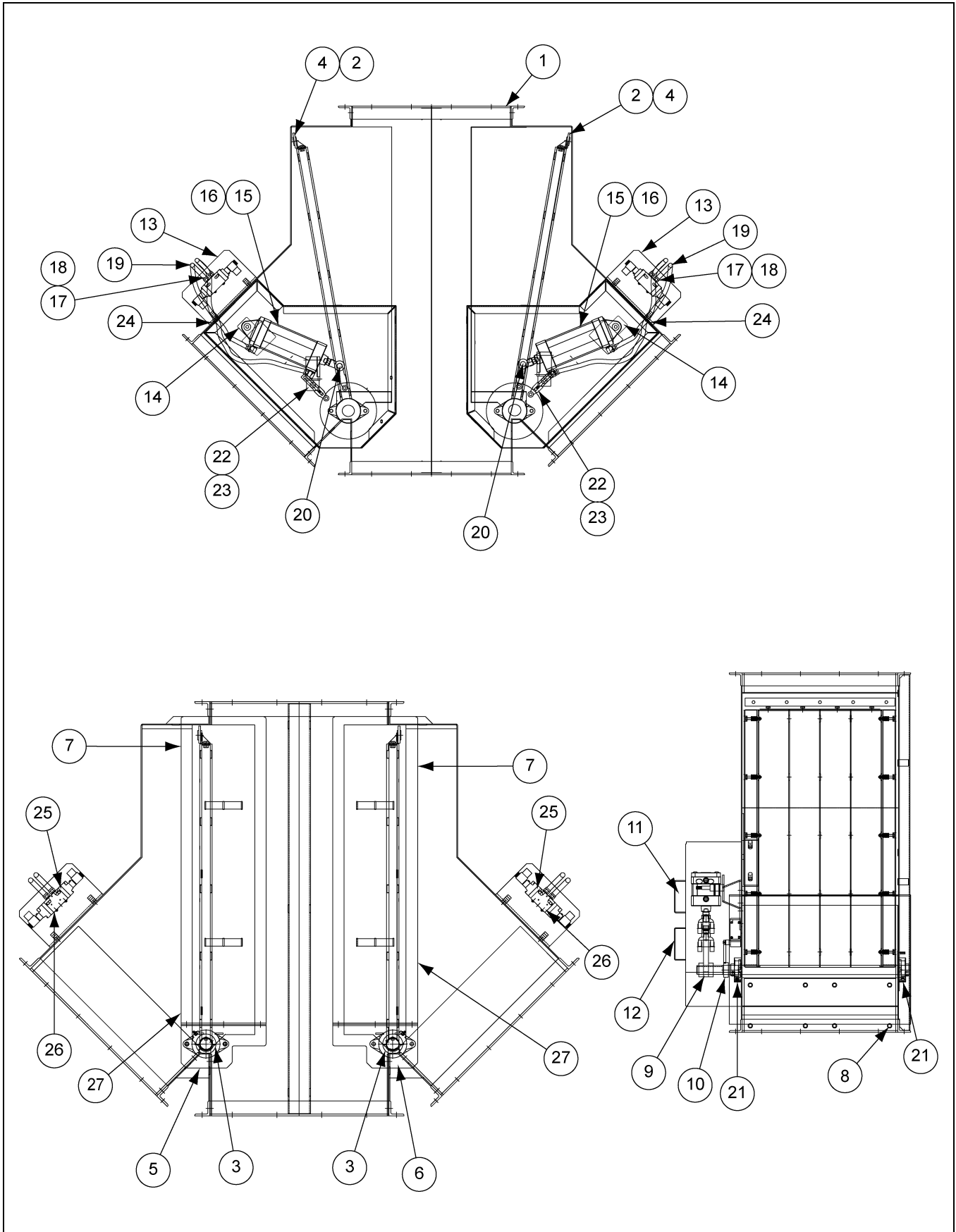
3-Way Valve Electric



3-Way Valve Electric Parts List

Ref #	Description
1	3-Way Valve Weldment
2	3-Way Valve Flop Assembly
3	Valve Seal
4	Flop Retainer End Panel
5	Flop WPR 3-Way Valve
6	Bearing Cover L.H.
7	Bearing Cover R.H.
8	Guard Valve Extension Bolt L.H.
9	Guard Valve Extension Bolt R.H.
10	Guard Valve Reducer
11	Side Panel Valve Opening
12	3-Way Linear Valve
13	Reducer Mount Valve
14	Cam Limit Switch
15	Inspection Door L.H.
16	Inspection Door R.H.
17	Motor
18	Gear Reducer
19	Oil Worm Gear
20	Motor Sprocket
21	Sprocket
22	Torque Tamer
23	Chain Roller
24	Chain Link Connector
25	Bearing Flange Bolt
26	Limit Switch
27	Limit Switch Arm Roller
28	Jam Nut
29	Lock Washer
30	Bolt Pin
31	Inspection Door
32	Inspection Door Clip
33	Seal

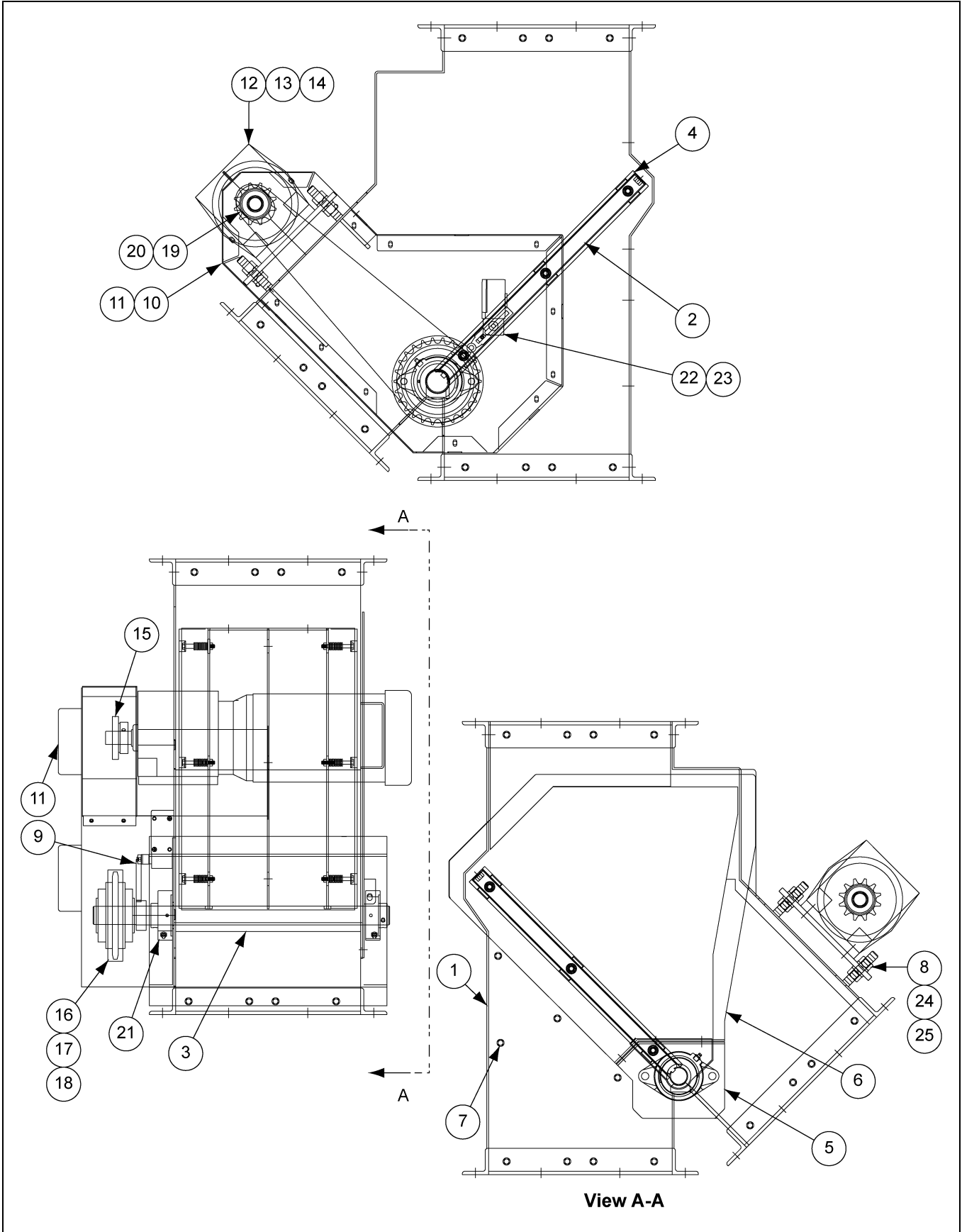
3-Way Valve Pneumatic



3-Way Valve Pneumatic Parts List

Ref #	Description
1	3-Way Valve Weld
2	3-Way Valve Flop Assembly
3	Valve Seal
4	Flop Retainer End Panel
5	Bearing Cover L.H.
6	Bearing Cover R.H.
7	Side Panel
8	3-Way Linear Valve
9	Valve Cylinder Arm
10	Cam Limit Switch
11	Inspection Door L.H.
12	Inspection Door R.H.
13	Air Valve Mount
14	Cylinder Mount
15	Air Cylinder
16	Cylinder Clevis Rod
17	Fit Air Push
18	Brass Pipe Street Elbow
19	Push Lock Air Hose
20	Pivot Pin
21	Bearing Flange Bolt
22	Limit Switch
23	Limit Switch Arm Roller
24	Grommet Groove
25	Air Valve
26	Speed Control
27	Seal

2-Way K-Valve Electric



2-Way K-Valve Electric Parts List

Ref #	Description
1	Valve Weld Linear
2	Valve Flop Assembly
3	Valve Seal
4	Flop Retainer End Panel
5	Bearing Cover
6	Side Panel
7	Linear Valve
8	Reducer Mount Valve
9	Cam Limit Switch
10	Guard Valve Reducer
11	Inspection Door
12	Motor
13	Gear Reducer
14	Oil Worm Gear
15	Motor Sprocket
16	Sprocket
17	Torque Tamer Clutch
18	Torque Tamer Bushing and Spring
19	Chain Roller
20	Chain Link Connector
21	Bearing Flange Bolt
22	Limit Switch
23	Limit Switch Arm Roller
24	Jam Nut
25	Lock Washer

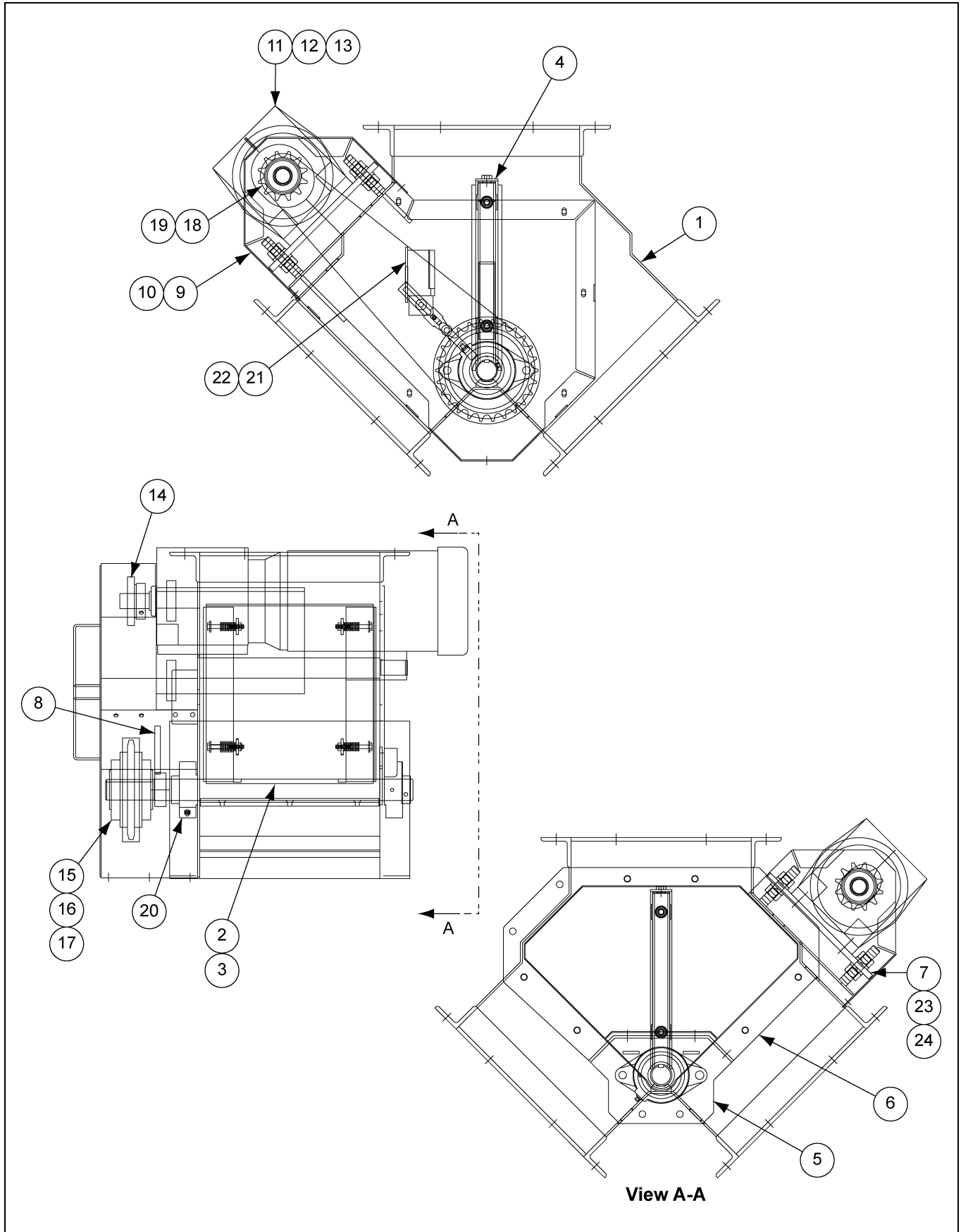
2-Way K-Valve Pneumatic



2-Way K-Valve Pneumatic Parts List

Ref #	Description
1	Valve Weld
2	Valve Flop Assembly
3	Valve Seal
4	Flop Retainer End Panel
5	Bearing Cover
6	Side Panel
7	Linear Valve
8	Valve Cylinder Arm
9	Cam Limit Switch
10	Valve Guard
11	Inspection Door
12	Cylinder Mount
13	Air Cylinder
14	Cylinder Clevis Rod
15	Air Push Lock
16	Brass Pipe Street Elbow
17	Push Lock Air Hose
18	Pivot Pin
19	Bearing Flange Bolt
20	Limit Switch
21	Limit Switch Arm Roller
22	Grommet Groove
23	Air Valve
24	Speed Control

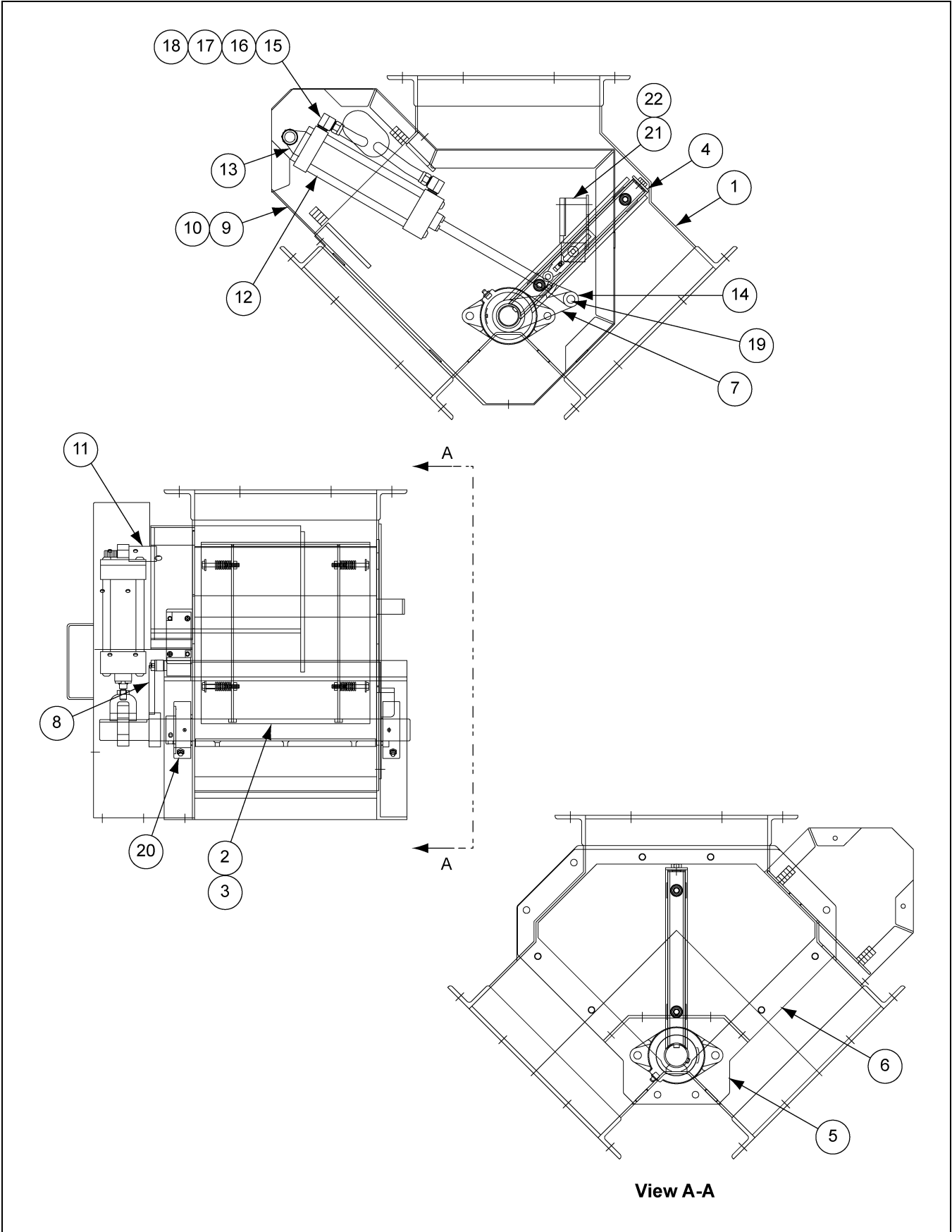
2-Way Y-Valve Electric



2-Way Y-Valve Electric Parts List

Ref #	Description
1	Valve Weld
2	Valve Flop Assembly
3	Valve Seal
4	Flop Retainer End Panel
5	Bearing Cover
6	Side Panel
7	Reducer Mount Valve
8	Cam Limit Switch
9	Guard Valve Reducer
10	Inspection Door
11	Motor
12	Gear Reducer
13	Oil Worm Gear
14	Motor Sprocket
15	Sprocket
16	Torque Tamer Clutch
17	Torque Tamer Bushing
18	Chain Roller
19	Chain Link Connector
20	Bearing Flange Bolt
21	Limit Switch
22	Limit Switch Arm Roller
23	Jam Nut
24	Lock Washer

2-Way Y-Valve Pneumatic



2-Way Y-Valve Pneumatic Parts List

Ref #	Description
1	Valve Weldment
2	Valve Flop Assembly
3	Valve Seal
4	Flop Retainer End Panel
5	Bearing Cover
6	Side Panel
7	Valve Cylinder Arm
8	Cam Limit Switch
9	Valve Guard
10	Inspection Door
11	Cylinder Mount
12	Air Cylinder
13	Cylinder Mounting Plate
14	Cylinder Clevis Rod
15	Air Push Lock
16	Brass Pipe Street Elbow
17	Pipe Nipple
18	Push Lock Air Hose
19	Pivot Pin
20	Bearing Flange Bolt
21	Limit Switch
22	Limit Switch Arm Roller

7. Troubleshooting Guide

Electric

Problem	Possible Cause	Corrective Action
Material leaks from the valve.	Diverter blade is not closed properly.	Check for the proper functioning of the diverter blade.
Slow working of the diverter.	Material or debris jammed inside the diverter blade.	Remove the lodged material or debris.
	Jammed bearing.	Lubricate/replace the bearing.
	May need lubrication.	Lubricate the drive sprocket and shaft.
If the motor stops frequently.	Armature windings are shorted.	Use the proper voltage for the motor. Re-wind the motor by consulting a licensed Electrician.
	The motor is not receiving full voltage.	A light gauge wire can cause a voltage drop-consult a licensed electrician.
If the gear reducer is excessively hot.	The gear reducer is not properly lubricated.	Lubricate the gear reducer properly.
	The chain may be too tight.	Adjust the chain by adding a few links as directed.

Pneumatic

Problem	Possible Cause	Corrective Action
Material leaks from the valve.	Diverter blade is not closed properly.	Check for the proper functioning of the diverter blade.
Slow working of the diverter.	Material or debris jammed inside the diverter valve.	Remove the lodged material or debris.
	O-ring/seal worn out in cylinder.	Replace the seal/O-ring.
	Leakage in pneumatic lines.	Repair/replace the lines.
	Air pressure is OFF, too low or interrupted.	Check for pinched airline, or cut airline.
	Pneumatic actuator is in-operative.	Check for the damage of pneumatic actuator.
Slow or inconsistent cylinder speed.	Air leaks in pneumatic lines.	Repair/replace lines.



Failure to perform any or all of these pre-start checks may cause damage to the equipment and/or cause **SERIOUS INJURY** or **DEATH** to those in the work area.

Failure to perform any or all of these pre-start checks may also be a misuse of the equipment. Any misuse of the equipment may void the warranty.

Once you are sure that all installations, safety checks, adjustments and lubrications have been completed:

1. Ensure all connections are securely fitted.
2. Check the valve for any leakage.
3. Look and listen for any irregularities before running any material through the unit.
4. Monitor the pressure level before operating the valve.
5. Properly vent all systems before starting work.

Normal Shut Down

1. Before shutting down the unit, make certain that the valves are closed.
2. Turn OFF all control valves and lock out the power source before leaving the work area.

Emergency Shut Down

1. Turn OFF all control valves and lock out the power source.

Lock Out

1. Always turn OFF control valves and lock out the power source before leaving the work area or before performing any maintenance or service.

9. Care and Maintenance



ALWAYS shut down and disconnect the power supply before adjusting, servicing or cleaning the equipment.

The care and maintenance section is provided to help extend the life of the unit. Like all equipment, the useful life of the valve assemblies are greatly reduced if not used properly and well-maintained.

The *below* steps to ensure the safety and longevity of the equipment:

1. Make sure that ALL components are in good working condition before use.
2. Check all bearings and moving parts daily, during use.
3. Verify the pressure ratings of hoses, fittings, gaskets and other manifold materials.
4. Check for any structural damage, rust or corrosion.

Welding



Remove paint before welding or heating. Toxic fumes can be generated when paint is heated by welding, soldering, or using a torch. Always wear an approved respirator and work in well-ventilated area.

1. Welding on or to the valve may cause damage to both the valve assembly and its systems.
2. If welding is necessary, measures should be taken to protect the valve assembly. Should it be necessary to fasten anything to the valve permanently, careful consideration should be given to methods of maintenance, removal and replacement of the assembly and/or its parts.

Limit Switch Adjustment

Loosen and adjust the limit switch arm if required. The limit switch should trip and remove power from the motor/cylinder thus stopping the rotation.

Inspection Door



ALWAYS shut down the machine and disconnect the power supply before opening the inspection door to avoid serious injury.

- 1. A removable access door allows internal inspection or maintenance of the valve without having to take it out of place.
- 2. The inspection door allows for quicker access to the interior of the valve for inspection, cleaning or maintenance purposes.

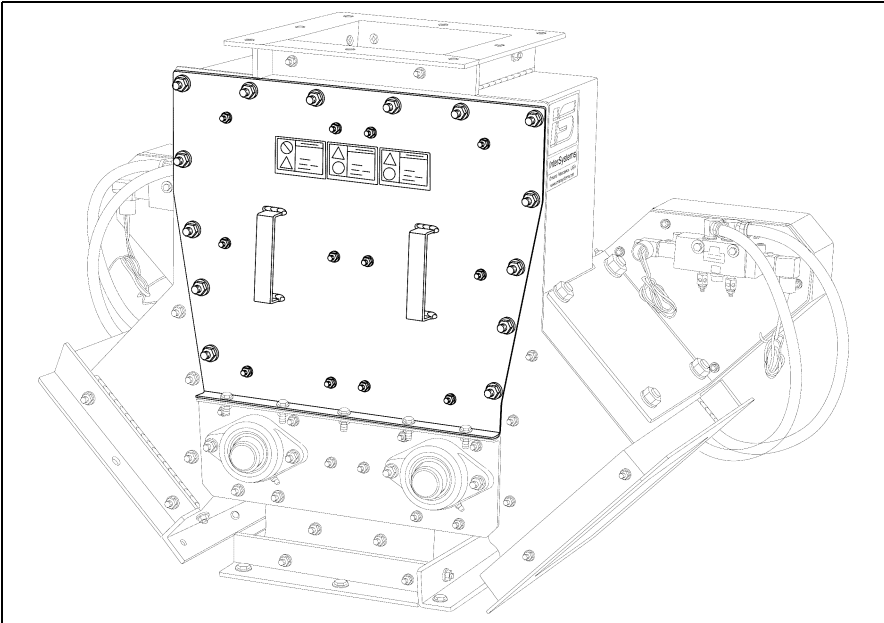


Figure 9A Block Head Inspection Door

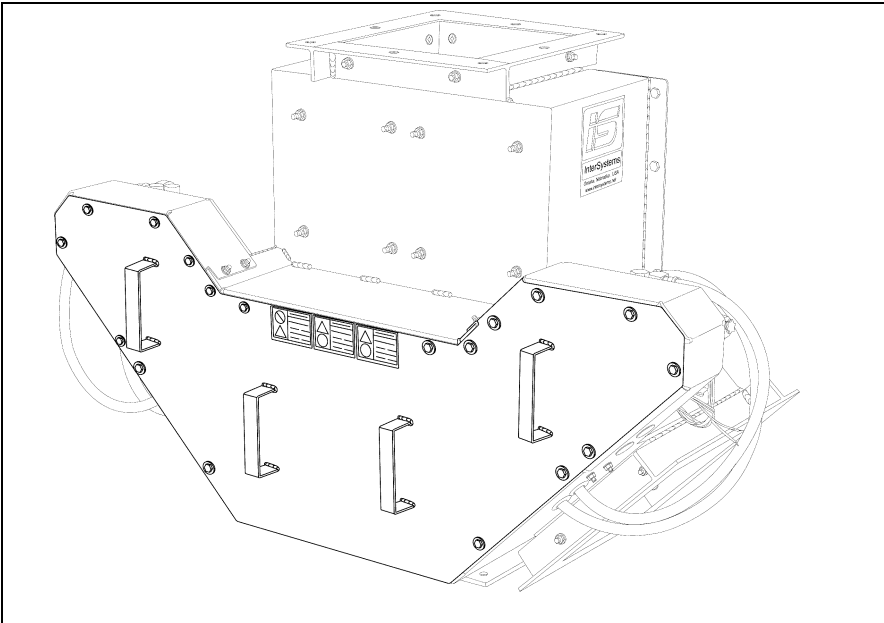


Figure 9B Control System Inspection Door

NOTES

InterSystems, Inc. reserves the right to make changes in design or in construction of equipment and components without obligation to incorporate such changes in equipment and components previously ordered.

WARRANTY, LIMITATION OF LIABILITY, DISCLAIMER OF IMPLIED WARRANTIES: InterSystems, Inc. manufactured equipment and components are guaranteed against defects in workmanship or materials for one year from date of shipment. The obligation of InterSystems, Inc. with respect to any goods is limited to replacement or repair of defective parts and equipment provided those parts are returned, shipping costs prepaid, to InterSystems' factory and provided the product has not been subject to misuse, negligence, or accident, or repaired or altered outside of our factory, or other than by an Authorized Service Representative. This warranty does not cover the replacement of parts inoperative because of wear occasioned by use, the cost of replacing parts by a person other than an InterSystems employee or an Authorized Service Representative, or the adjustment of a product where the product was improperly adjusted by the purchaser. In addition, this warranty does not cover components manufactured by others such as motors, drives, clutches, cylinders, valves, blowers, and the like. On those components the standard Manufacturers' warranty applies. In any event, liability is limited to the purchase price paid, and InterSystems, Inc. will, under no circumstances, be responsible for special or consequential damages, or for incidental damages.

INTERSYSTEMS, INC. NEITHER MAKES NOR AUTHORIZES ANY WARRANTY OTHER THAN AS HEREIN CONTAINED. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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