3/4” & 1” Emergency Shutoff Valves

Emergency Shutoff Valves (ESV’s) are designed to provide rapid and positive shutdown of gas lines should a down stream rupture or piping break occur. Due to the presence of a built-in fusible element at the valve operating hub the ESV will automatically close when exposed to heat between 212° F. - 250° F. These valves are ideally suited for installation at direct fired vaporizer inlets for automatic emergency shutdown as a result of fire or at dispensing pump inlets to provide immediate and positive remote shutdown.

ME980C-6

Emergency Shutoff Valve Features

- Powder coated ductile iron body with cast hexagonal ends for maximum durability and ease of installation
- Integral swing away check valve with soft seat to promote maximum product flow and minimize product loss in the event of a line failure
- All stainless steel internal component construction provides maximum corrosion resistance
- Provides clear visual indication if valve is open / closed
- UL LISTED for use with LP Gas and Anhydrous Ammonia - 400 PSI WOG
- Integral fusible element for automatic closure when exposed to fire
- Durable Teflon® packing gland and resilient seals provide long lasting service life
- Available with pneumatic or cable style latch mechanism

Part No.	Description	Latch Type	OAL
ME980-6	3/4” FNPT Emergency Shutoff Valve (ESV)	Pneumatic	4-3/4”
ME980-8	1” FNPT Emergency Shutoff Valve (ESV)	Pneumatic	4-3/4”
ME980C-6	3/4” FNPT Emergency Shutoff Valve (ESV)	Cable	4-3/4”
ME980C-8	1” FNPT Emergency Shutoff Valve (ESV)	Cable	4-3/4”

3/4” & 1” Flow Indicating Swing Check Valves

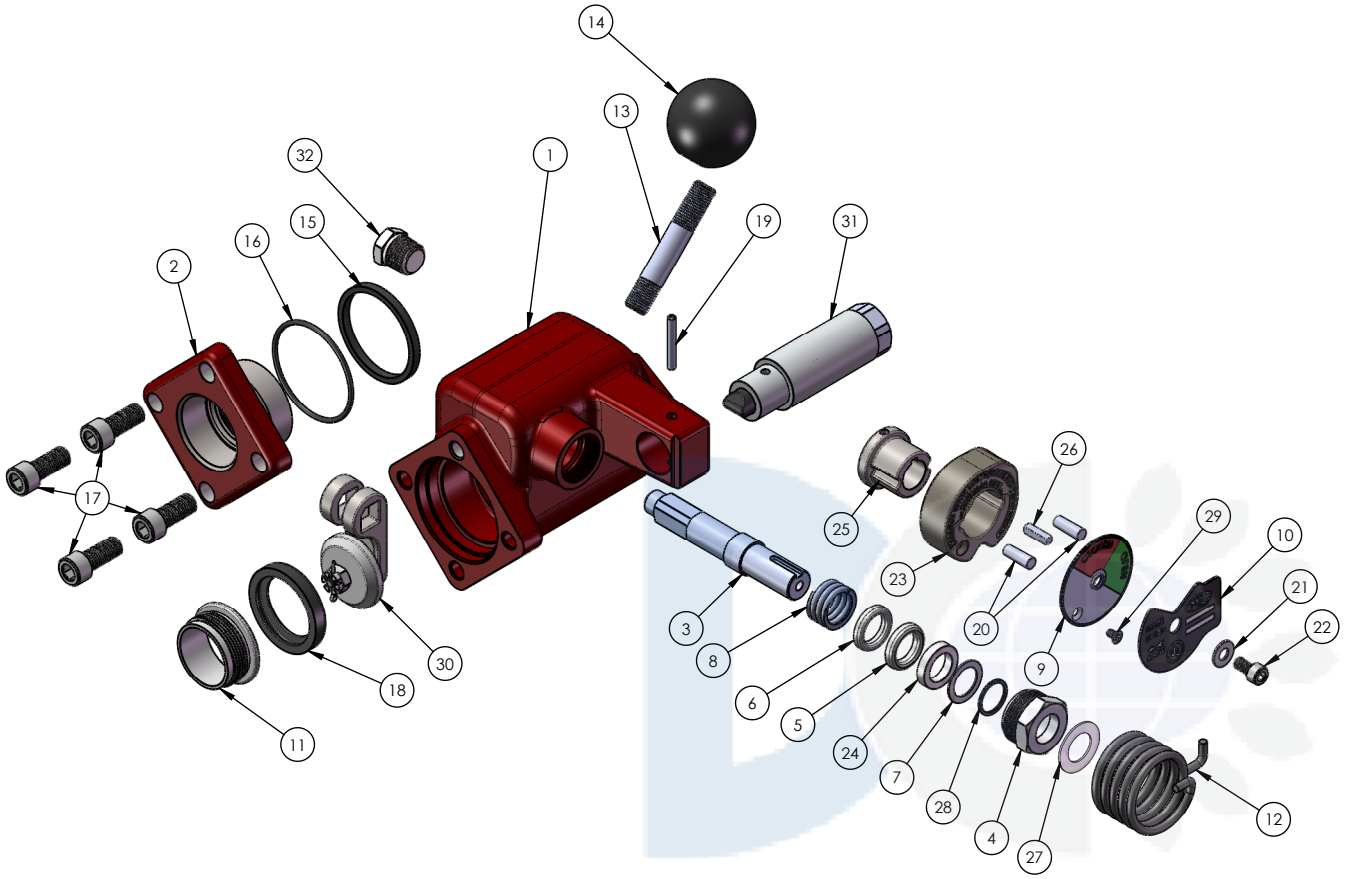
Promotes maximum pump efficiency by providing system operators with a visual inspection point for monitoring liquid flow conditions as well as providing a soft seat back check valve should product flow reverse for any reason. Installation of a flow indicating swing check valve upstream of the pump, allows the operator to observe product flow and make pump adjustments for maximum flow without cavitation. Suitable for stationary and mobile applications.

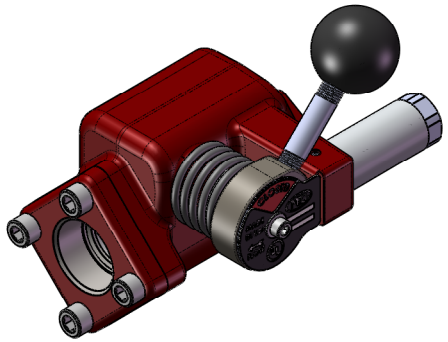
ME981-6

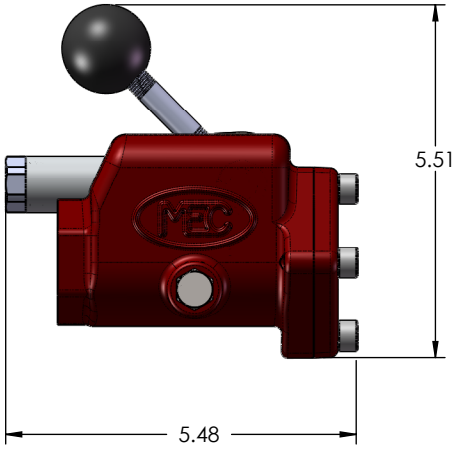
Flow Indicating Swing Check Valve Features

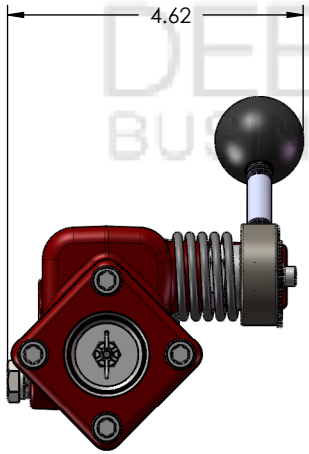
- Powder coated ductile iron body with cast hexagonal ends for maximum durability and ease of installation
- Integral swing away check valve with soft seat to promote maximum product flow and minimize product loss in the event of a line failure
- All stainless steel internal component construction provides maximum corrosion resistance
- Clear / Easy to read flow indicator allows the operator to easily see if the valve is open or closed
- UL LISTED for use with LP Gas and Anhydrous Ammonia - 400 PSI WOG

Part No.	Description	Material	OAL
ME981-6	3/4” FNPT Flow Indicating Check Valve	Ductile Iron	4-3/4”
ME981-8	1” FNPT Flow Indicating Check Valve	Ductile Iron	4-3/4”









#	QTY.	PART NUMBER	DESCRIPTION
1	1	SEE TABLE	BODY
2	1	SEE TABLE	FLANGE
3	1	ME980-6-103	STEM
4	1	ME980-6-109	GLAND
5	1	ME980-6-110	V-PACKING
6	1	ME980-6-111	V-PACKING MALE
7	1	ME980-6-112	PACKING WASHER
8	1	ME980-6-113	PACKING SPRING
9	1	ME980-6-114	NAMEPLATE DIAL
10	1	ME980-6-115	NAMEPLATE
11	1	ME980-6-116	VALVE SEAT RETAINER
12	1	ME980-6-117	HANDLE SPRING
13	1	ME980-6-118	HANDLE ROD
14	1	ME980-6-119	HANDLE KNOB
15	1	ME980-6-120	GRAPHITE SEAL
16	1	ME980-6-121	FLANGE O-RING
17	4	ME980-6-122	FLANGE SCREW
18	1	ME980-6-124	VALVE SEAT
19	1	ME980-6-131	RELEASE PIN
20	2	ME980-6-132	THERMAL PIN
21	1	ME980-6-133	HANDLE WASHER
22	1	ME980-6-134	HANDLE SCREW
23	1	ME980-6-135	HANDLE BODY
24	1	ME980-6-136	V-PACKING FEMALE
25	1	ME980-6-138	SPRING WINDER
26	1	ME980-6-139	SQUARE KEY MACHINED
27	1	ME980-6-140	STEM BEARING WASHER
28	1	ME980-6-141	GLAND BEARING
29	1	ME980-6-142	NAMEPLATE SCREW
30	1	ME980-6-901	CLAPPER ASSEMBLY
31	1	ME980-6-902	PNEUMATIC LATCH ASSEMBLY
32	1	ME449S-07	1/4" NPT VALVE PLUG

ASSEMBLY #	NPT SIZE	BODY #	FLANGE #
ME980-6	3/4"	ME980-6-101	ME980-6-102
ME980-8	1"	ME980-8-101	ME980-8-102

TOLERANCES UNLESS OTHERWISE SPECIFIED
.XX ± .010
.XXX ± .005
FRACTIONS ± 1/64
ANG. ± .5°
MIN SURFACE 125

MATERIAL: N/A

DRAWN: ALH
DATE: 11/23/10
SCALE: 1:3
SHT: 1 of 1

Marshall Excelsior Company,
Marshall Michigan 49068

DESCRIPTION:
ASSEMBLY
EMERGENCY SHUT-OFF VALVE

PART NO: ME980-X

A

Installation Instructions
For: ME980-6, ME980C-6, ME980-8 and ME980C-8

!!!WARNING!!!

READ AND UNDERSTAND ALL INSTRUCTIONS INCLUDED WITH THIS INSTRUCTION MANUAL. RELIEVE ALL PRESSURE FROM SYSTEM BEFORE SERVICING VALVE

WARNING!

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

Marshall Excelsior equipment must be installed, operated, and maintained in accordance with federal, state, and local codes and MEC instructions. The installation in most states must also comply with NFPA 58 or ANSI K61.1 standards.

Only personnel trained in the proper procedures, codes, standards, and regulations of the LP-Gas or anhydrous ammonia industries should install and service this equipment.

Introduction

Scope of the Manual

This manual provides installation and maintenance instruction for the ME980-6, ME980C-6, ME980-8, and ME980C-8 Emergency Shutoff Valves and Cable Release or Pneumatic Release Assemblies.

Description

ME980 Series(Figure 1) emergency shutoff valves are intended for in-line use on LP-Gas or Anhydrous Ammonia (NH_3) service.

The valves may be installed at both ends of transfer hoses where the hose connects the bulk plant piping to the bobtail, transport, or tank car. They provide a quick way of shutting off gas flow in the event of a hose rupture and meet the requirements for such service when correctly installed with a remote release and proper piping support. The ME980 Series ESV valves are lever operated, latch-open, and quick closing valves. A fusible element in the stem assembly melts if the temperature reaches 212°F (100°C), allowing the valve to close.

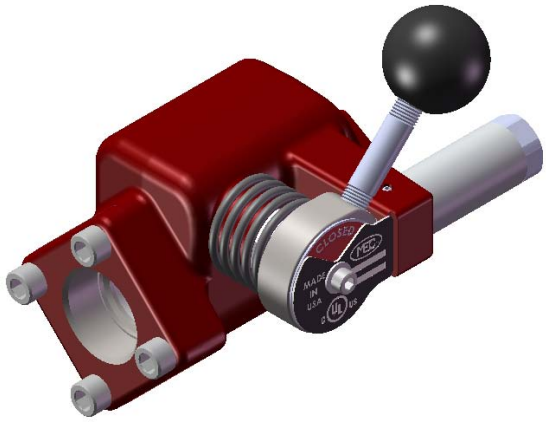


Figure 1 ME980-6 shown in closed position

Operation

CAUTION!

The ME980 handle and shaft may break if the valve is forced open against the gas flow and before pressure is equalized on each side of the main valve disk.

To Open a Closed Valve:

Close a shutoff valve downstream of the ME980. Pull the ME980 handle to the "open" position. There will be a delay in opening as inlet pressure helps hold the valve disk closed against the seat. The initial opening force on the handle opens a pilot valve in the main valve disk, permitting pressure to build-up downstream. When differential pressure across the main disk has been reduced, the ME980 can be opened without further difficulty by continuing to pull the handle to the open position. When the handle is fully open the latch engages to hold the valve open.

Marshall Excelsior Company
1506 George Brown Drive Marshall, MI 49068
Phone (269) 789-6700 Fax (269) 781-8340
www.marshallexcelsior.com

CAUTION!

Because the valve is spring closed (aided by pressure), the handle can snap down with considerable force when closing. Keep hands and fingers away from the handle as it closes.

To Close an Open Valve:

Manually pushing the handle to the "closed" position will close the valve.

From a remote location, pulling on the remote cable release or exhausting pneumatic pressure from the ME980 latch will retract the latch plunger allowing the ME980 to close. If emergency conditions cause the fusible element to reach a temperature of 212°F (100°C), the fusible element, which attaches the handle to the shaft, melts and allows the valve to close automatically.

Installation

Shutoff Direction

The valves can be placed in a line used either for filling or withdrawing from the storage tank (or both). The valve shall be installed in the fixed piping between a storage tank and the transfer hose connection to shut off flow from the tank towards the hose.

WARNING!

The ME980 valves are spring closed (aided by pressure) and shutoff flow in one direction only. THE NAMEPLATE FLOW ARROW SHOWS FLOW DIRECTION FOR VALVE SHUTOFF. The arrow shall point to the hose connection. Improper flow direction will not shutoff flow through the line.

The valve can be installed in vertical piping with the flow arrow pointing in the desired flow direction for valve shutoff. In some cases the normal flow through the valve may be opposite the shutoff direction (like a back check valve).

Fusible Element Location

A fusible element that will close the ME980 shall be located within five feet of the hose connection. If the ME980 is placed within five feet of the hose connection, this requirement is met. If not, an additional fusible element must be provided near the hose coupling which will activate a remote release.

Remote Release Installation

In all installations a remote release shall be connected to the latch on all emergency valves at the bulkhead. The remote release has to extend to a place where it can be easily reached to close the ME980 valve(s) in the event that an emergency makes the valve(s) inaccessible. The remote release shall shutdown all emergency valves when activated. Remote release activation may be by cable or pneumatic actuation.

PNEUMATIC RELEASE CONNECTION

1. Attach the remote air source to the cylinder end with appropriate supply tubing and valving. A regulated air supply of **30 to 70 PSIG** to the ME980 pneumatic release cylinder is required for proper operation. **NOTE:** Nitrogen may be used as a pressure source.

CAUTION

Possible hand and finger pinch points between closing ME980 handle and latch block. Handle closes quickly and with extreme force. Keep hands and fingers away from handle as it closes.

2. Test the remote release and ME980 operation. Open the valve. Valve must engage latch and stay open. **HANDLE AND VALVE MUST QUICKLY "SNAP" CLOSED** when (a) air pressure is exhausted from ME980 latch (b)remote cable release is pulled (if applicable), and (c) the handle is manually pushed closed from the open position.

WARNING!

All open ME980 Emergency Valve(s) attached to the remote pneumatic release system must properly close when air pressure is exhausted from the system. Remote release controls must quickly exhaust pressure from the supply line to close emergency valves.

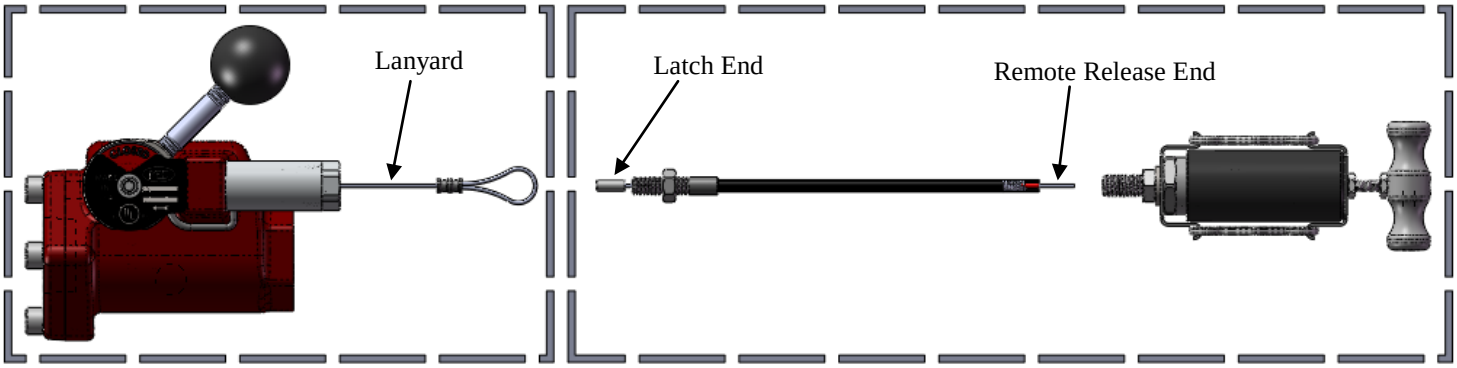
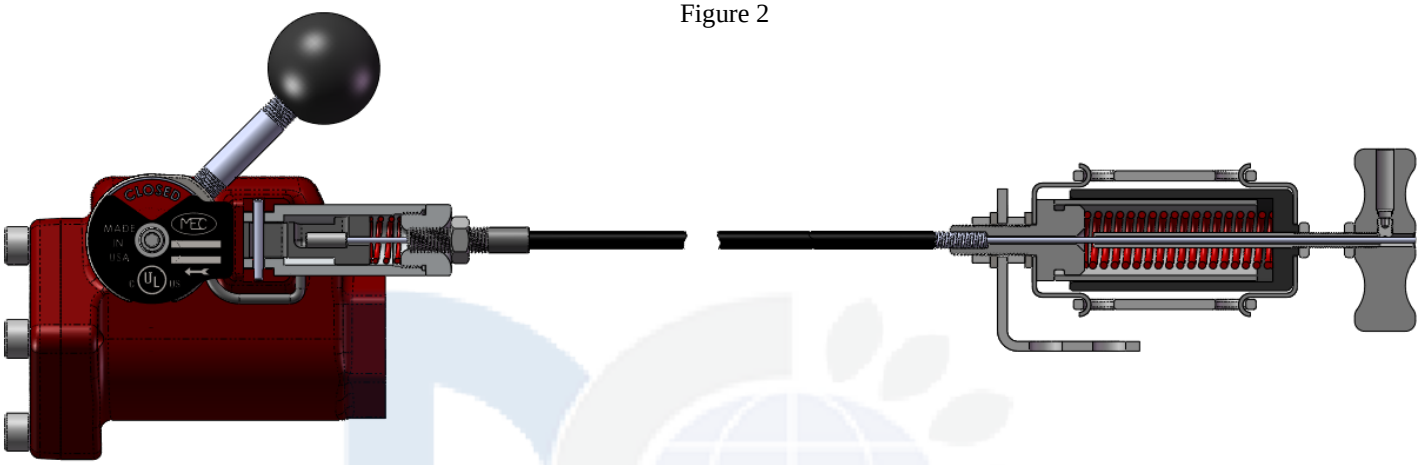


Figure 2



CABLE RELEASE CONNECTIONS

WARNING!

Remote release cables shall be installed so that they will close the ME980 valve(s) when pulled from the farthest remote location. Cable shall operate smoothly, over pulleys and/or through conduit. Do not kink cable or run cable around sharp corners. If installed in conduit, keep water out of conduit. Frozen water, dirt or dried mud in the conduit will render the remote release inoperable.

Remote releases used on ME980 valves shall not:

(a) be made from plastic or fiber rope;

(b) have any kind of fusible link which could melt and prevent the cable from pulling the ME980 latch.

To provide a remote release, aircraft cable can be connected to the short looped cable on the valve and run to the remote release point over pulleys or through conduit. Adjust the cable so that minimal pull is required to close the emergency valves.

ME980-906-25 or ME980-906-50 Cable Installation

To connect an ME980 remote release assembly, which is supplied with either 25' or 50' of cable:

1. Run the inner cable and housing assembly to the remote release point. Leave enough slack on each end for a smooth, flowing path, without sharp bends in the cable, between the ME980 latch and remote release handle.
2. If it is necessary to cut the cable to a shorter length, pull about one foot of inner cable from the ME980 latch cable end (end with the 3/16 by 1/2" long cylindrical cast fitting, (see Figure 2) from the housing.

   At the remote release end (other end of inner cable housing assembly), cut the cable jacket and inner cable at desired length. Push the excess inner cable back through the housing so that the bare cable extends from the remote release end.
3. Close the ME980 valve.

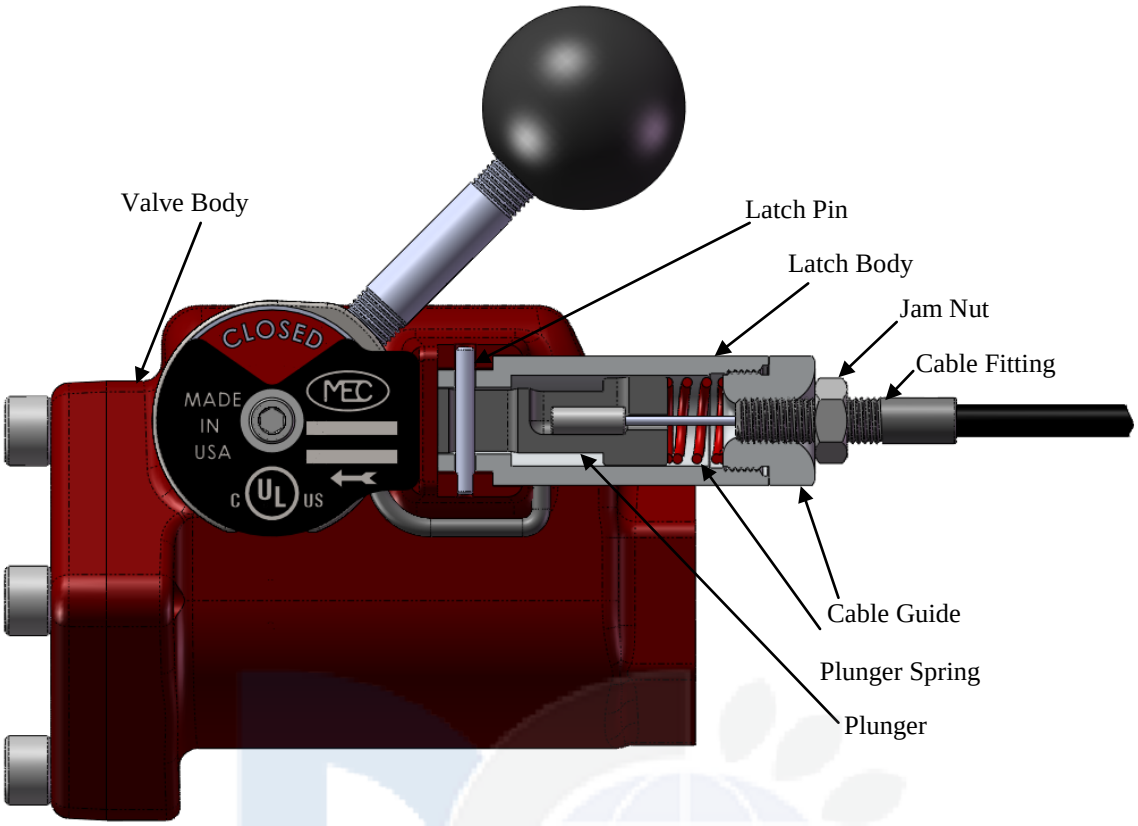


Figure 3

4. Unscrew the cable guide from the latch body.
5. Remove the latch pin from the valve body and remove the latch body from the valve body.
6. Remove the plunger, spring and lanyard (not shown).
7. Thread the cable guide onto the latch end cable fitting and tighten the jam nut.
8. Install the spring on the cable and insert the cable end in the plunger.
9. Install the plunger, spring and guide into latch body and **TIGHTEN SECURELY**.
10. Align the slot in the plunger, insert the latch body into the valve body and pin in place with latch pin.

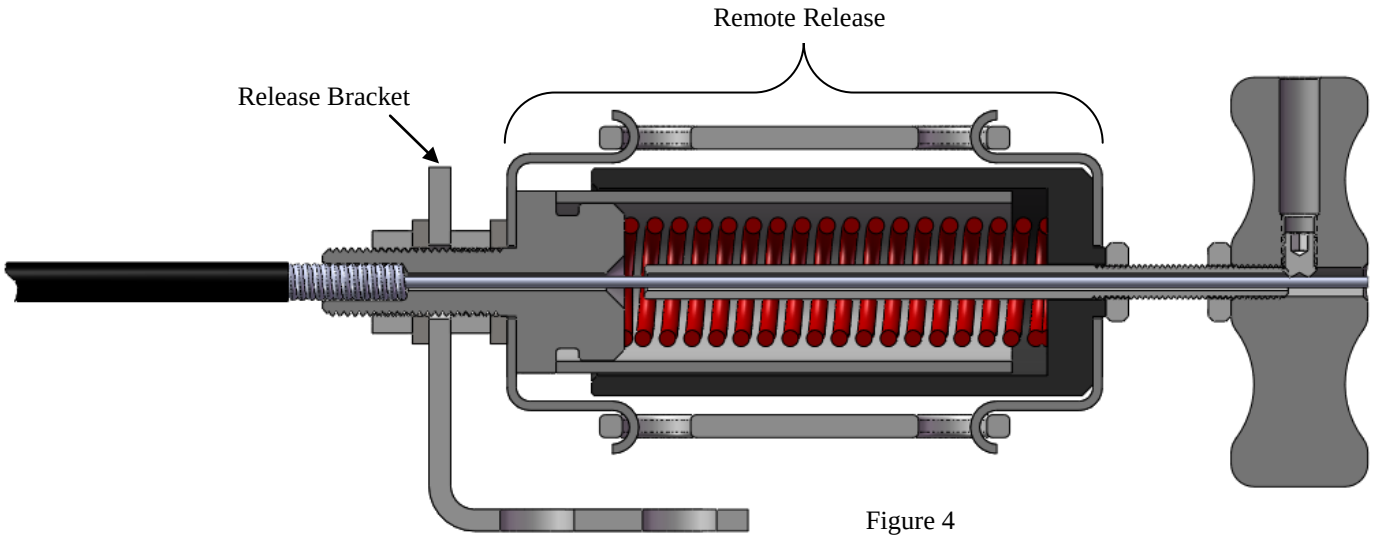


Figure 4

11. Mount the remote release bracket to a suitable stationary support and mount the remote release to the bracket.
12. At the remote release end, strip 3/4" of vinyl cover from cable jacket.
13. Insert the inner cable end completely through the remote release with pull handle pushed all the way in. Release cable should extend beyond the pull handle.
14. Pull any slack through the remote release (with the pull handle pushed all the way in) and **TIGHTEN CABLE SET SCREW SECURELY**.
15. Test the remote release and ME980 operation from the most remote location. Rotate ME980 valve handle to open valve. Valve must stay open. **HANDLE AND VALVE MUST QUICKLY "SNAP" CLOSED** when (a) the remote release cable is pulled, and (b) ME980 valve handle is pushed closed from the open position.
16. Cut-off excess cable from pull handle.

WARNING!

All open ME980 emergency valve(s) attached to the remote release must properly close when the release cable is pulled.

Maintenance

WARNING!

Only qualified service personnel should attempt to repair these valves. Before starting any type of repair, close off the upstream valves in the system and remove all pressure from both the inlet and outlet of the ME980 Emergency Shutoff Valve.

At least once a month, inspect and check the following:

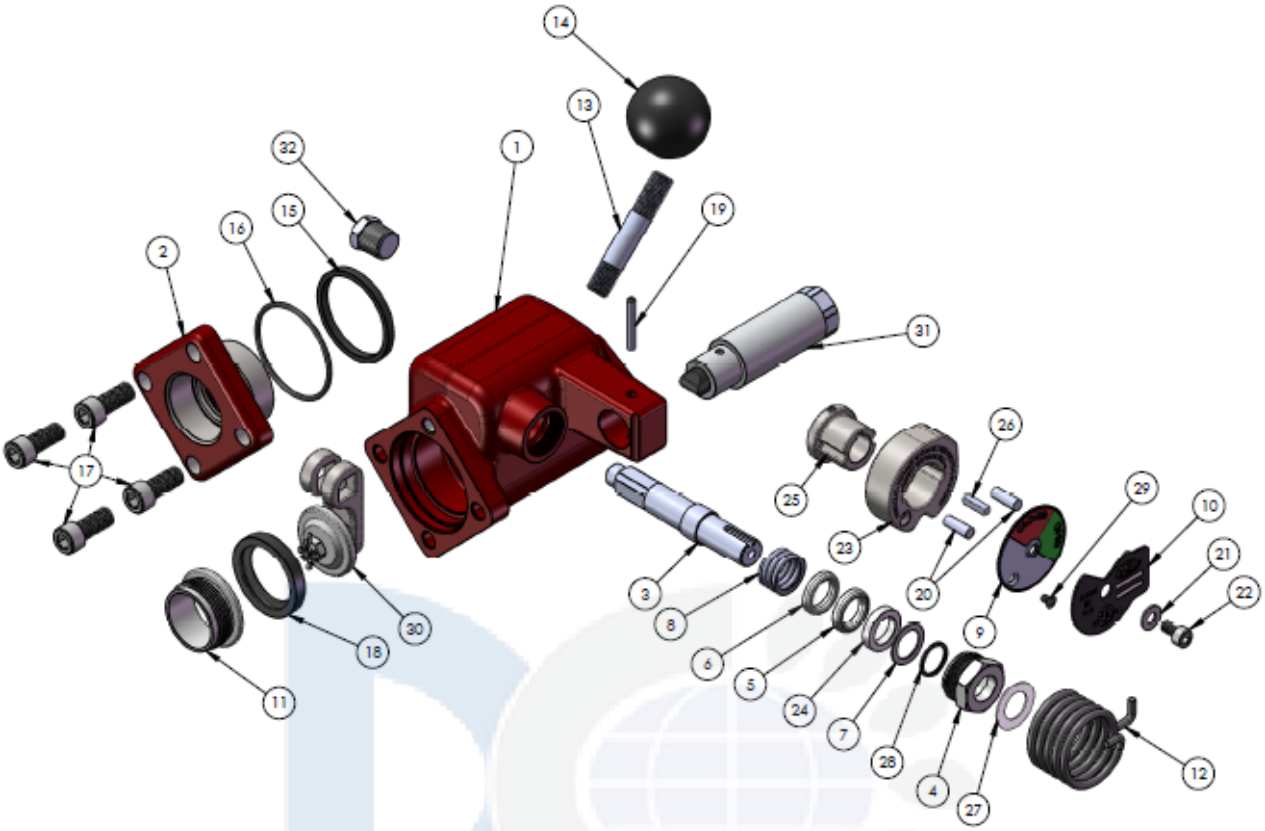
1. See that the remote release is properly connected, works freely, and is not worn. Operate the release to make certain it closes the valve. If the valve closes slowly, packing replacement may be required.
2. Make sure that the lever, latch, and release are working smoothly. The latch parts and lever are easily accessible for replacement or repair by removing the securing bolts.
3. Check for packing and joint leakage.

Replacing Internal Parts

ME980 can be repaired in the field. However, due to the special fire resistant seals and assembly techniques, repairs should be done only by trained personnel. If repair should become necessary, contact your local Marshall Excelsior Distributor for information and assistance.

Only parts manufactured by Marshall Excelsior Co., should be used for the repair of ME980 Series ESV Valves. Be sure to give the complete model number of the ME980 valve when corresponding with your local distributor.

ME980 valves that have been disassembled for repair must be tested for proper operation before being returned to service.



Components List

1. Body - 3/4" NPT or 1" NPT
2. Flange - 3/4" NPT or 1" NPT
3. Stem
4. Gland
5. V-Packing
6. Male V-Packing
7. Packing Washer
8. Packing Spring
9. Nameplate Dial
10. Nameplate
11. Valve Seat Retainer
12. Handle Spring
13. Handle Rod
14. Handle Knob
15. Graphite Seal
16. Flange O-Ring
17. Flange Screw
18. Valve Seat
19. Release Pin
20. Thermal Pin
21. Handle Washer
22. Handle Screw
23. Handle Body
24. Female v-Packing
25. Spring Winder
26. Square Key Machined
27. Stem Bearing Washer
28. Gland Bearing
29. Nameplate Screw
30. Clapper Assembly
31. Release Assembly - Cable or Pneumatic
32. 1/4" NPT Plug