

SUPERIOR

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(1)



SUPERIOR

BPS-1	800 Series Repair Kit ³ / ₄ " (includes)	BPS15019 Diaphragm BPS15046 Seat Washer BPS16011 Solenoid O-Ring BPS16005 Stem O-Ring BPS15053 Body Gasket BPS16054 Fiber Washer	BPS-8	950 Series Repair Kit 3" (includes)	BPS19006 Diaphragm BPS19003 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16006 Stem O-Ring BPS18002 Fiber Washer BPS19007 Fiber Washer
BPS-2	800 Series Repair Kit 1" (includes)	BPS15019 Diaphragm BPS15047 Seat Washer BPS16011 Solenoid O-Ring BPS16005 Stem O-Ring BPS15054 Body Gasket BPS16054 Fiber Washer	BPS-9	2000 Series Repair Kit ³ / ₄ " (includes)	BPS16055 Diaphragm BPS20004 Seat Washer BPS15053 Body Gasket BPS16005 Stem O-Ring BPS16012 Bleed Screw O-Ring BPS16011 Solenoid O-Ring BPS16054 Fiber Washer
BPS-3	950 Series Repair Kit ³ / ₄ " (includes)	BPS16055 Diaphragm BPS16059 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16005 Stem O-Ring BPS16053 Fiber Washer	BPS-10	2000 Series Repair Kit 1" (includes)	BPS16055 Diaphragm BPS20005 Seat Washer BPS15054 Body Gasket BPS16005 Stem O-Ring BPS16012 Bleed Screw O-Ring BPS16011 Solenoid O-Ring BPS16054 Fiber Washer
BPS-4	950 Series Repair Kit 1" (includes)	BPS16056 Diaphragm BPS16060 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16005 Stem O-Ring BPS16053 Fiber Washer	BPS-11	800 Series Repair Kit 1 ³ / ₄ " (includes)	BPS15019 Diaphragm BPS15048 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16005 Stem O-Ring BPS15055 Body Gasket BPS16054 Fiber Washer
BPS-5	950 Series Repair Kit 1 ¹ / ₄ " (includes)	BPS16057 Diaphragm BPS16061 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16006 Stem O-Ring BPS16054 Fiber Washer	BPS-12	800 Series Repair Kit 1 ¹ / ₂ " (includes)	BPS15020 Diaphragm BPS16062 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16006 Stem O-Ring BPS16054 Fiber Washer BPS15056 Body Gasket BPS15076 Diaphragm Protector
BPS-6	950 Series Repair Kit 1 ¹ / ₂ " (includes)	BPS16058 Diaphragm BPS16062 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16006 Stem O-Ring BPS16054 Fiber Washer	BPS-13	800 Series Repair Kit 2" (includes)	BPS15020 Diaphragm BPS16063 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16006 Stem O-Ring BPS15057 Body Gasket BPS16054 Fiber Washer BPS15076 Diaphragm Protector
BPS-7	950 Series Repair Kit 2" (includes)	BPS16058 Diaphragm BPS16063 Seat Washer BPS16011 Solenoid O-Ring BPS16012 Bleed Screw O-Ring BPS16006 Stem O-Ring BPS16054 Fiber Washer			

- BPS-14 800 Series Repair Kit 2 1/2"
(includes)
BPS15020 Diaphragm
BPS15049 Seat Washer
BPS16011 Solenoid O-Ring
BPS16012 Bleed Screw O-Ring
BPS16006 Stem O-Ring
BPS15058 Body Gasket
BPS18002 Fiber Washer
BPS15083 Diaphragm Protector
- BPS-15 800 Series Repair Kit 3/4" - 1 1/4"
(includes)
BPS15019 Diaphragm
- BPS-16 800 Series Repair Kit 3/4"
(includes)
BPS15046 Seat Washer
- BPS-17 800 Series Repair Kit 1"
(includes)
BPS15047 Seat Washer
- BPS-18 800 Series Repair Kit 3/4" - 1 1/4"
(includes)
BPS15019 Diaphragm
- BPS-19 800 Series Repair Kit 3/4"
(includes)
BPS15046 Seat Washer
- BPS-20 800 Series Repair Kit 1"
(includes)
BPS15047 Seat Washer
- BPS-21 800 Series Repair Kit 2"
(includes)
BPS15020 Diaphragm
BPS15050 Seat Washer
BPS16011 Solenoid O-Ring
BPS16012 Bleed Screw O-Ring
BPS16006 Stem O-Ring
BPS15059 Body Gasket
BPS18002 Fiber Washer
BPS15083 Diaphragm Protector
- BPS-22 600 Series Repair Kit 3/4"
(includes)
BPS16056 Diaphragm
BPS14023 Seat Washer
BPS16011 Solenoid O-Ring
BPS16012 Exhaust O-Ring
BPS15053 Body Gasket
- BPS-23 600 Series Repair Kit 1"
(includes)
BPS16056 Diaphragm
BPS14024 Seat Washer
BPS16011 Solenoid O-Ring
BPS16012 Exhaust O-Ring
BPS15054 Body Gasket

Trouble Shooting Model 800 Adapters

I. Will not shut off

- A. Check for foreign object at bottom of solenoid cavity.
- B. Check seat of solenoid plunger to see if there is anything embedded in it.
- C. Check solenoid plunger to see if its free moving. Clean if necessary.
- D. Check spring on solenoid plunger to see if its on properly. Replace if necessary.
- E. Open manual bleeder. If no water comes out then remove adapter from valve body and check for clogged inlet orifice at bottom of shaft (at center of seat disc).
- F. Remove adapter from valve body and check for debris under seat disc as well as damaged seat disc. Replace if necessary. Also check seat in valve body for rough edges or debris.
- G. If there is excess back pressure in system, which can be caused by an insufficient number of heads for the volume of water passing thru the valve, it may be necessary to balance the system in order for the valve to shut off.
 1. Turn flow control clockwise a half turn at a time until slightly less water is passing out the heads.
 2. Turn flow control counter clockwise a half turn so that the same amount of water is passing out the head as just before it decreased slightly.

II. Water weeps past valve seat.

- A. Remove adaptor from valve body and check for debris in seat disc and/or roughness in seat of valve body. Replace if necessary.
- B. Attempt to turn seat disc in clockwise direction. If the shaft turns as you turn the seat disc, do the following:
 1. Remove cap screws or bolts.
 2. Separate diaphragm cap from the rest of the adaptor. Take care not to bend the cleaning rod which is attached to the diaphragm cap.
 3. Tighten the nut located at the top of the shaft.
 4. Reassemble adaptor. Be sure that everything is tight, including the nut at the bottom of the shaft.
- C. If there is not seat impression in the seat disc, or a slight irregular impression, the seat of the valve body is too low requiring that a stainless steel spacer be added to the shaft as follows:
 1. Remove nut at bottom end of shaft.
 2. Remove disc and disc holder from shaft.
 3. Do not remove the fiber washer that sits above the disc holder.
 4. Add a stainless steel washer (spacer) to the shaft and add an additional fiber washer so that the stainless steel spacer is sandwiched between the two fiber washers. On certain models, there may already be a stainless steel spacer on the shaft. If so, add a second washer next to the washer already on the shaft. Be sure that there is a fiber washer on both sides of the washer(s).

- D. A tear in the diaphragm can cause weeping but this is an uncommon cause.

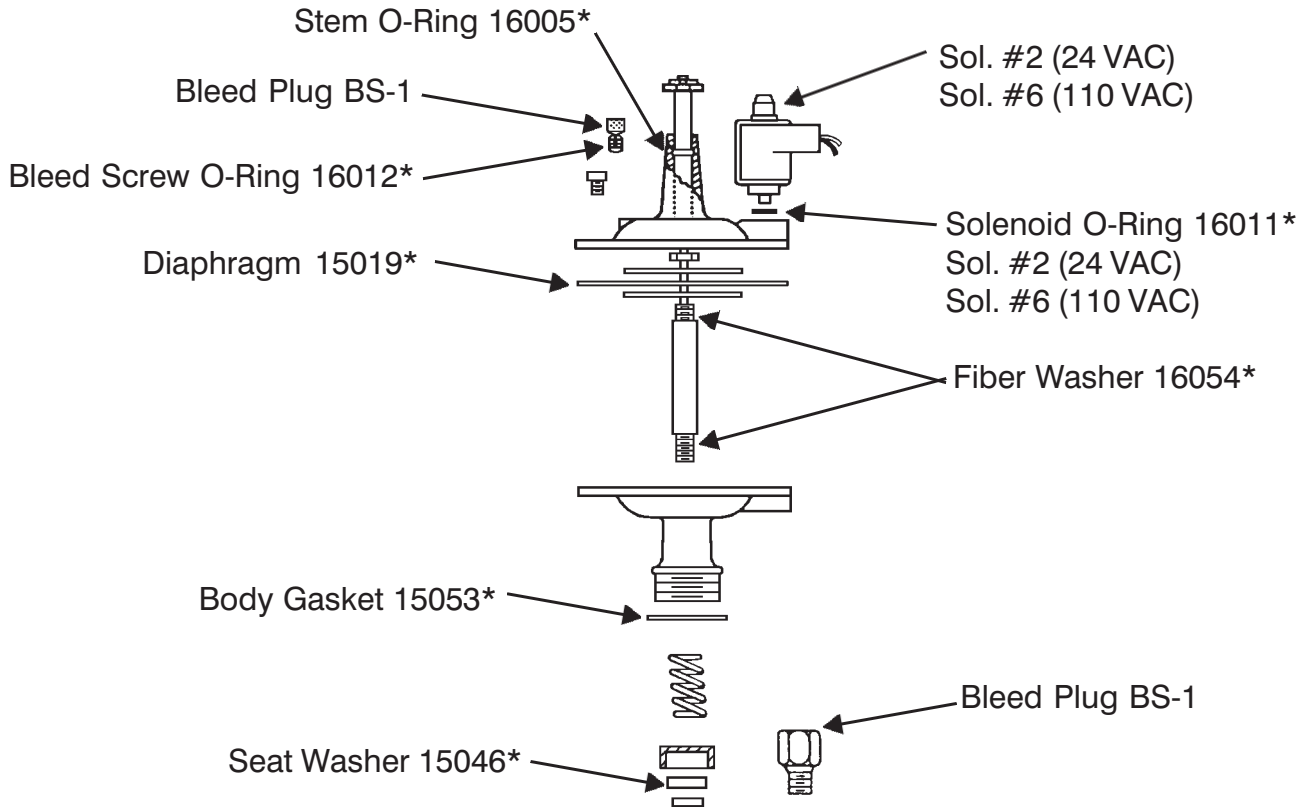
III. Valve will not open

- A. Check to see if solenoid is receiving power as follows:
 - 1. Energize solenoid at the controller. The solenoid should vibrate enough that it can be felt when coil is touched.
 - 2. As an additional check, remove coil and solenoid assembly from diaphragm cap making sure that the plunger does not fall from the hollow tube of the stem. Have another person energize the solenoid at the controller. Plunger should be sucked up into the tube portion of the stem. If the solenoid is not receiving power, the most likely cause, assuming the controller is functioning properly, is a damaged valve wire. Another possibility is a bad coil.
- B. Check for clogged exhaust port.
 - 1. Remove adapter from valve body.
 - 2. Unscrew cap screws on bolts and separate diaphragm cap from adaptor taking care not to bend cleaning rod which is attached to upper diaphragm cap.
 - 3. On the diaphragm, there are holes for each cap screw or bolt plus an extra hole that must be centered over the exhaust port. If the adaptor was recently taken apart, its possible that the diaphragm was not aligned properly when the adaptor was reassembled. If the extra hole was not directly over the exhaust port, the valve will not open.
 - 4. Check exhaust ports in upper and lower diaphragm caps for obstruction.
- C. Check to see if metering rod is missing.
- D. Check to see if inlet port at bottom of shaft is over-sized. Corrosive water, over a period of time, can enlarge the inlet orifice which causes water to enter chamber above diaphragm faster than it can escape thru exhaust port.
- E. Too much elevation can cause valve not to open. Consult factory regarding 3-way solenoid valve to correct problem.

IV. Water leaks out flow control stem

- A. Shut off water supply to valve.
- B. Remove cap screws or bolts and separate diaphragm cap from the rest of the adaptor taking care not to bend the cleaning rod which is attached to the cap. It is not necessary to remove the adaptor from the valve body.
- C. Remove flow control crosshandle.
- D. From underneath the diaphragm cap, unscrew the flow control stem so that it drops down from the cap.
- E. Replace the flow control o-ring and reassemble valve.
- F. Turn on water supply to valve.

3/4" 800 Series Electric Adapter

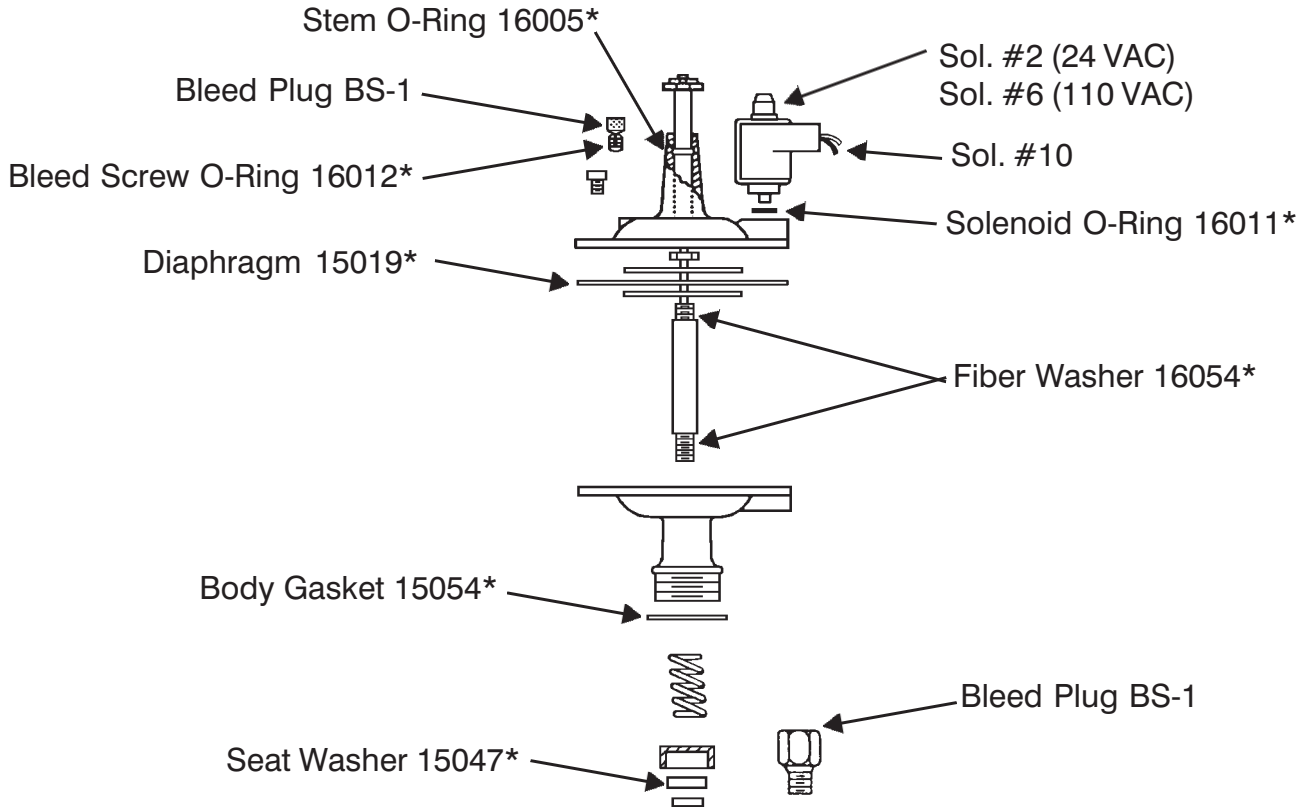


REPAIR KITS BPS-1

(includes Asterisk Items)

2	16054	Fiber Washer
1	15046	Seat Washer
1	16005	Stem O-Ring
1	15019	Diaphragm
1	16011	Solenoid O-Ring
1	15053	Body Gasket
1	16012	Bleed Screw O-Ring

1" 800 Series Electric Adapter



REPAIR KITS BPS-2

(includes Asterisk Items)

2	16054	Fiber Washer
1	15047	Seat Washer
1	16005	Stem O-Ring
1	15019	Diaphragm
1	16011	Solenoid O-Ring
1	15054	Body Gasket
1	16012	Bleed Screw O-Ring

Trouble Shooting Model 950 Adapters

I. Will not shut off

- A. Check for foreign object at bottom of solenoid cavity.
- B. Check seat of solenoid plunger to see if there is anything embedded in it.
- C. Check solenoid plunger to see if its free moving. Clean if necessary.
- D. Check spring on solenoid plunger to see if its on properly. Replace if necessary.
- E. Open manual bleeder. If no water comes out then unscrew diaphragm cap bolts an dremove diaphragm cap. Next remove diaphragm assembly and check for clogged inlet orifice.
- F. Check for debris under seat disc after gaining access to diaphragm assembly (as described in "E" above). Also, look into valve body and check for rocks or other debris on or around brass valve seat.
- G. If there is excess back pressure in system which can be caused by an insufficient number of heads for the volume of water passing thru the valve, it may be necessary to balance the system in order for the valve to shut off.
 1. Turn flow control clockwise a half turn at a time until slightly less water is passing out the heads.
 2. Turn flow control counter clockwise a half turn so that the same amount of water is passing out the head as just before it decreased slightly.

II. Water weeps past valve seat.

- A. Check for debris embedded in seat disc or on brass seat in valve body
 1. Remove diaphragm cap bolts.
 2. Remove diaphragm assembly.
 3. Check for debris under seat washer or on valve seat.
- B. Check diaphragm assembly for loose diaphragm shaft or valve disc nut. If either is loose, weeping can occur.
- C. Check for tear in diaphragm. This is rare, but could be caused by a sharp edge on the diaphragm plate. If this found to be the case, be sure to smooth out the rough or sharp edges on the diaphragm plate.
- D. Check to see if diaphragm shaft appears to be off center on the diaphragm. A loose diaphragm shaft can work its way off center over a period of time resulting in the seat disc sitting off center on the valve seat. In rare cases, the seat disc could be off center enough to allow water to seep by. If this occurs, replace diaphragm assembly.

III. Valve will not open

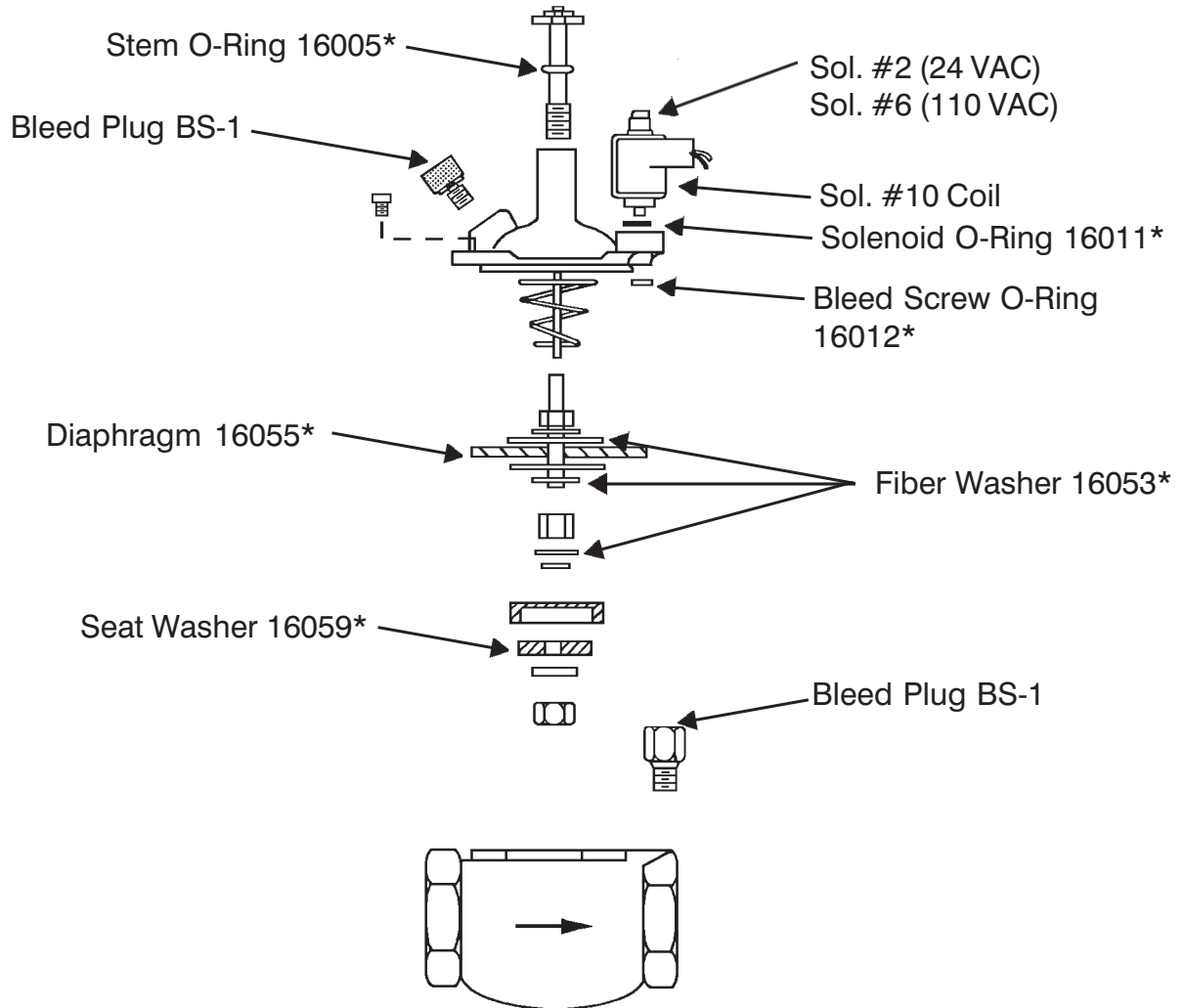
- A. Check to see if solenoid is receiving power as follows:
 - 1. Energize solenoid at the controller. The solenoid should vibrate enough that it can be felt when coil is touched.
 - 2. As an additional check, remove coil and solenoid assembly from diaphragm cap making sure that the plunger does not fall from the hollow tube of the stem. Have another person energize the solenoid at the controller. Plunger should be sucked up into the tube portion of the stem.

If the solenoid is not receiving power, the most likely cause, assuming the controller is functioning properly, is a damaged valve wire. Another possibility is a bad coil.

- B. Check for clogged exhaust port.
 - 1. Remove coil from solenoid post.
 - 2. Unscrew solenoid post from diaphragm cap.
 - 3. Take a thin rod or wire and place it through hole in center of solenoid cavity, running it down until it has passed into mouth of valve body.
 - 4. If no obstruction is found, remove diaphragm cap and check for obstruction in the horizontal part that leads from diaphragm chamber to solenoid cavity.
- C. Check for missing cleaning rod (except for 3/4" size).
 - 1. Remove cap bolts
 - 2. Remove diaphragm cap. Cleaning rod should be attached to diaphragm.
- D. Too much elevation can cause valve not to open. Consult factory regarding 3-way solenoid valve to correct problem.

IV. Water leaks out flow control stem

- A. Remove cap bolts.
- B. Remove diaphragm cap.
- C. Remove flow control crosshandle.
- D. From underneath the diaphragm cap, unscrew the flow control stem so that it drops down from the cap.
- E. Replace the flow control o-ring and reassemble valve.

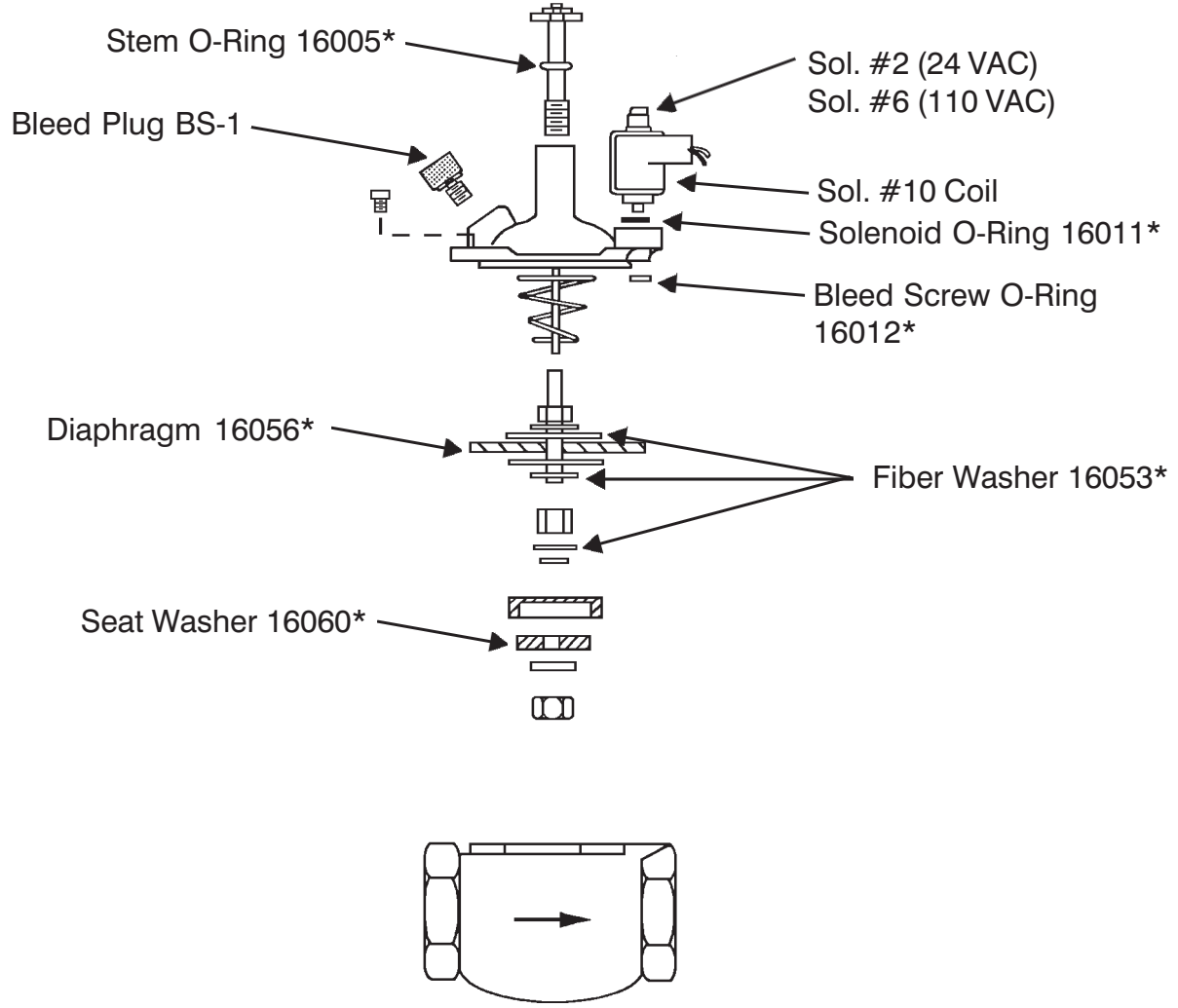


REPAIR KITS BPS-3

(includes Asterisk Items)

1	16055	Diaphragm
1	16059	Seat Washer
3	16053	Fiber Washer
1	16012	Bleed Screw O-Ring
1	16005	Stem O-Ring
1	16011	Solenoid O-Ring

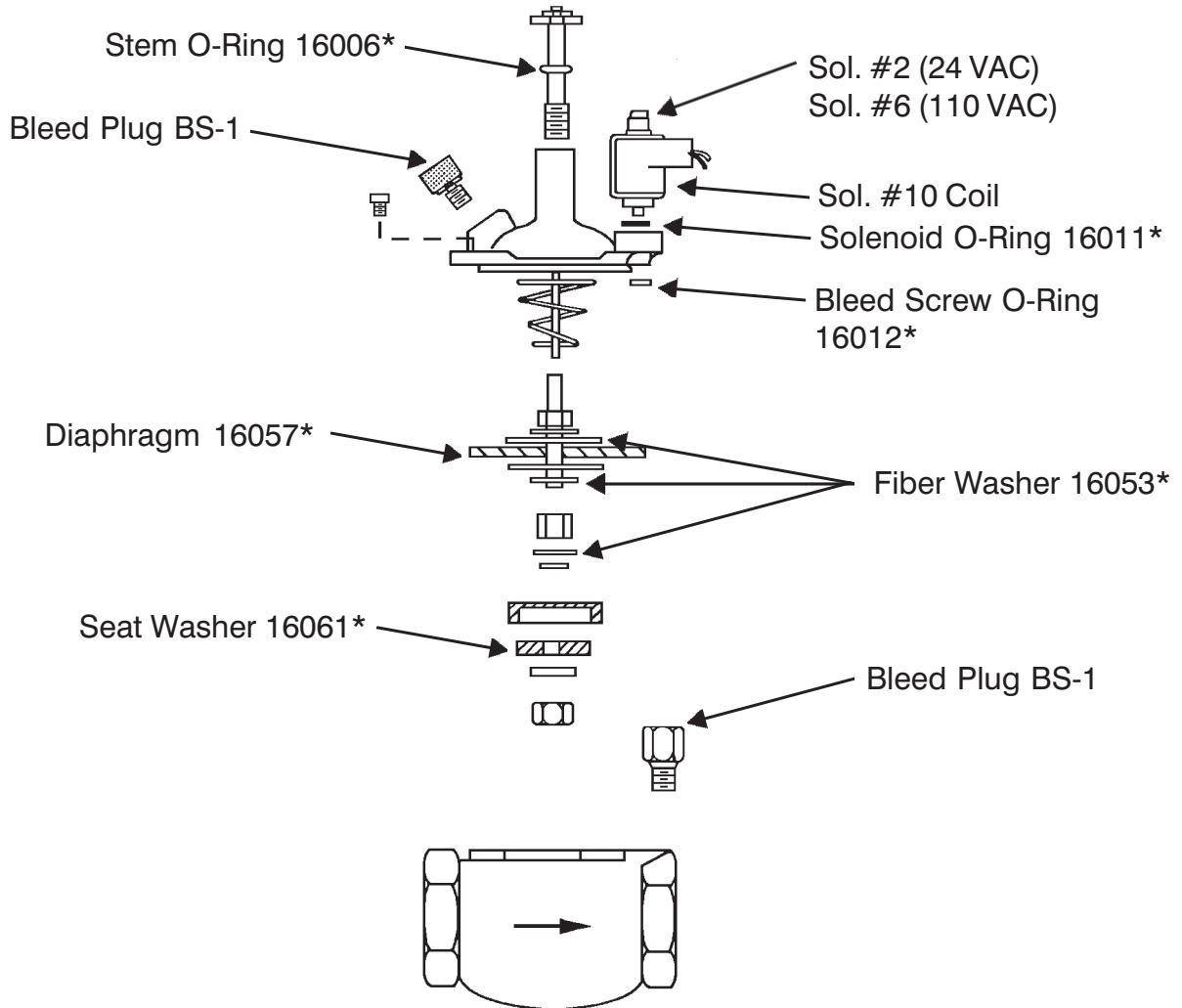
1" 950 Series Electric Valve



REPAIR KITS BPS-4		
(includes Asterisk Items)		
1	16056	Diaphragm
1	16060	Seat Washer
3	16053	Fiber Washer
1	16012	Bleed Screw O-Ring
1	16005	Stem O-Ring
1	16011	Solenoid O-Ring



1 1/4" 950 Series Electric Valve

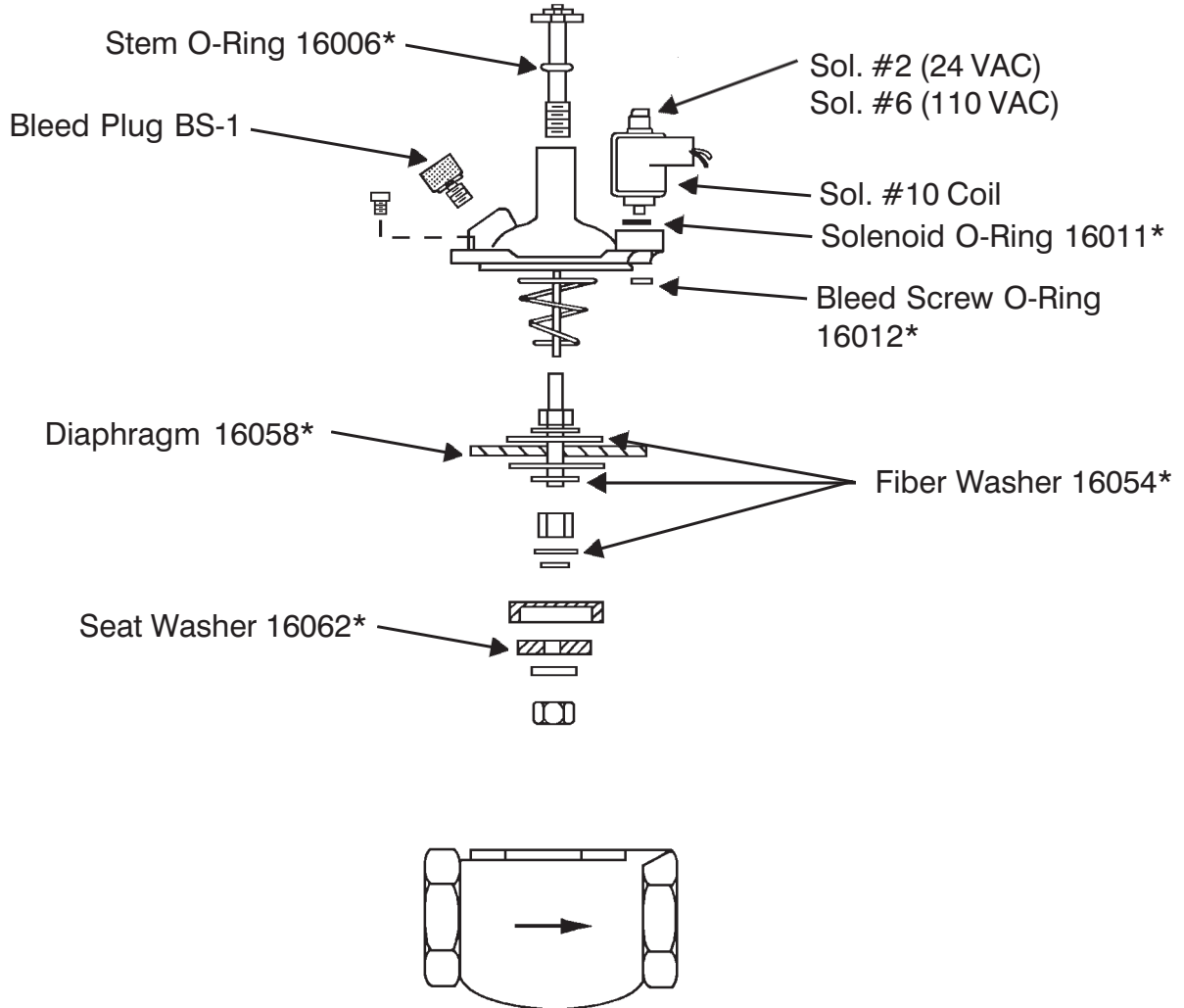


REPAIR KITS BPS-5

(includes Asterisk Items)

1	16057	Diaphragm
1	16061	Seat Washer
3	16053	Fiber Washer
1	16012	Bleed Screw O-Ring
1	16006	Stem O-Ring
1	16011	Solenoid O-Ring

1 1/2" 950 Series Electric Valve

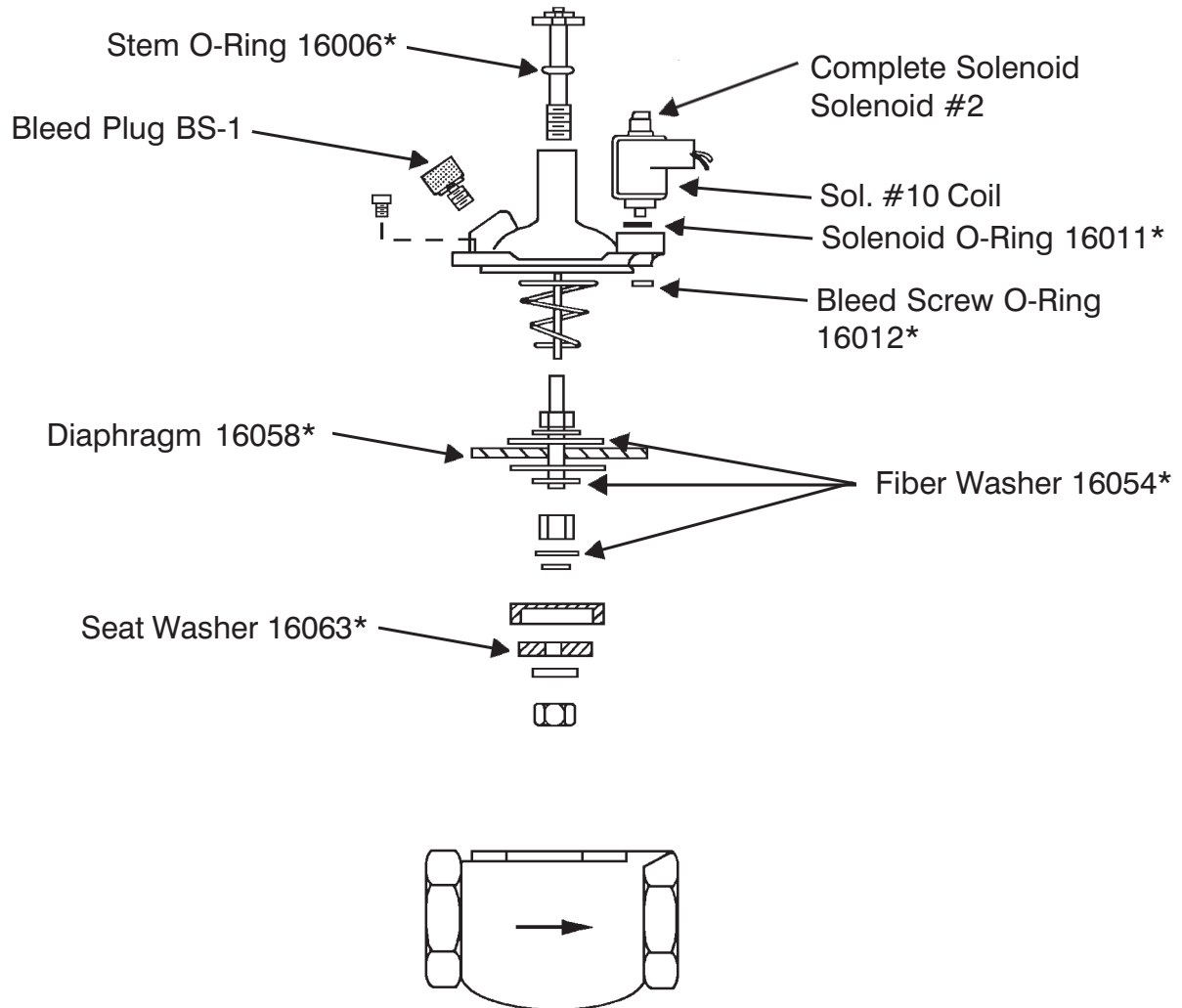


REPAIR KITS BPS-6

(includes Asterisk Items)

1	16058	Diaphragm
1	16062	Seat Washer
3	16054	Fiber Washer
1	16012	Bleed Screw O-Ring
1	16006	Stem O-Ring
1	16011	Solenoid O-Ring

2" 950 Series Electric Valve

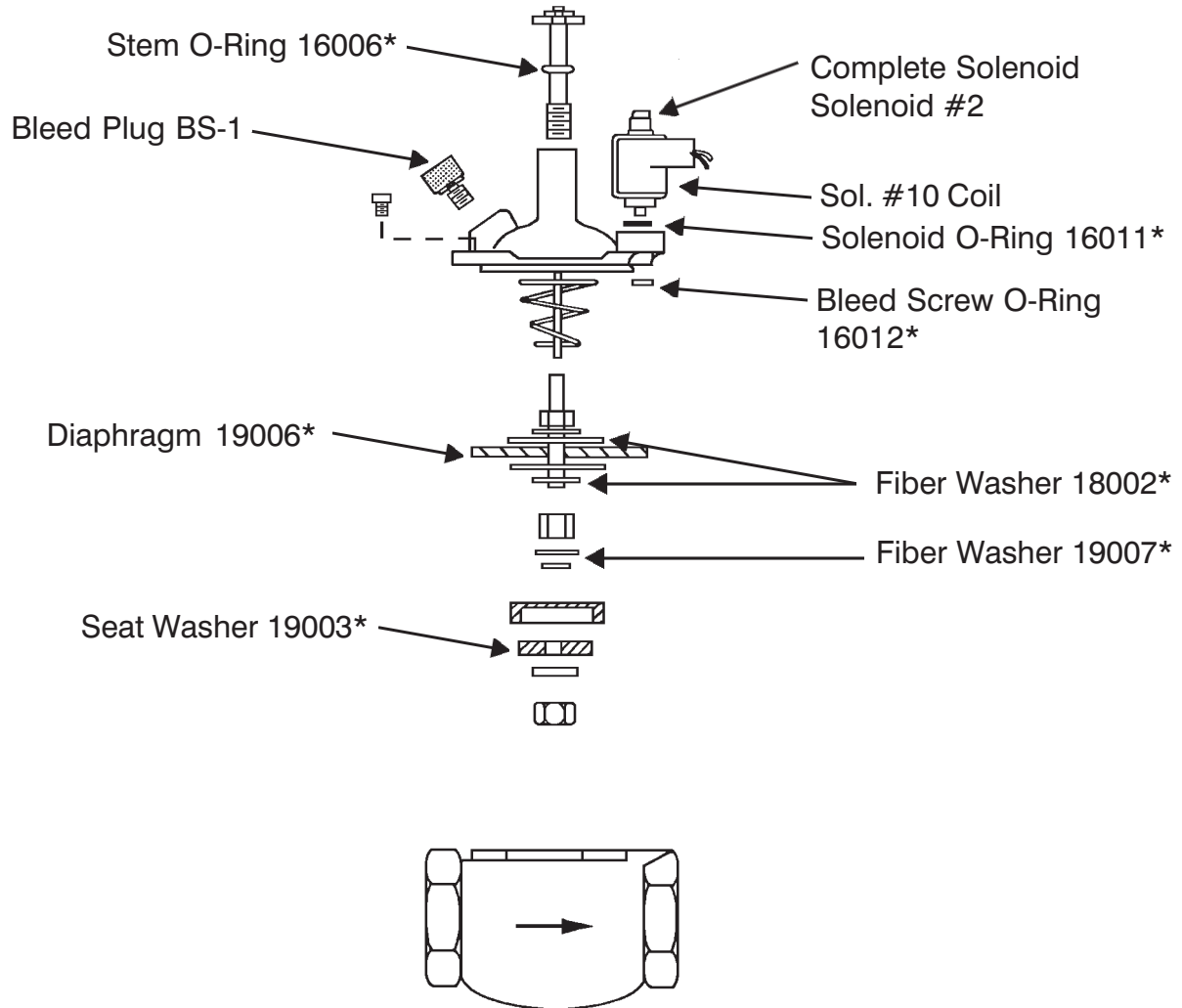


REPAIR KITS BPS-7

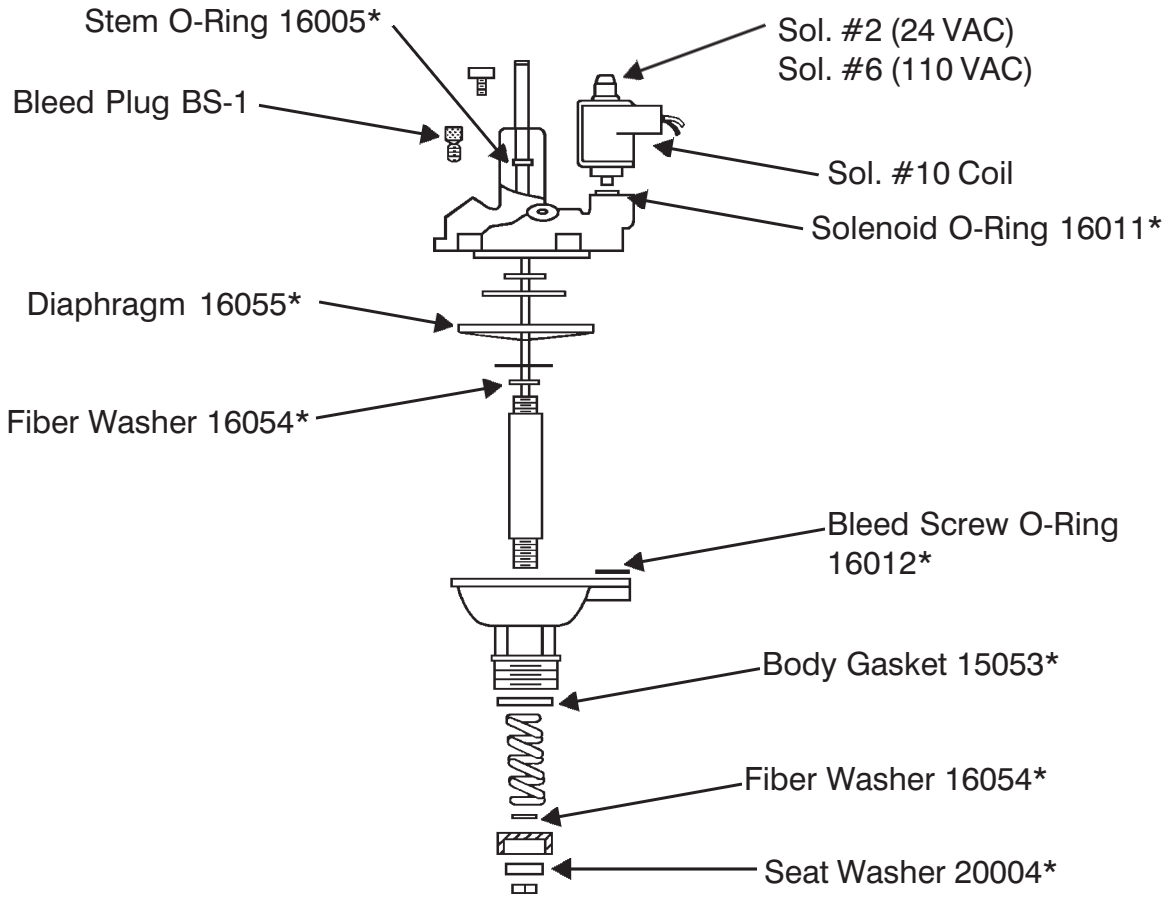
(includes Asterisk Items)

1	16058	Diaphragm
1	16063	Seat Washer
3	16054	Fiber Washer
1	16012	Bleed Screw O-Ring
1	16006	Stem O-Ring
1	16011	Solenoid O-Ring

3" 950 Series Electric Valve



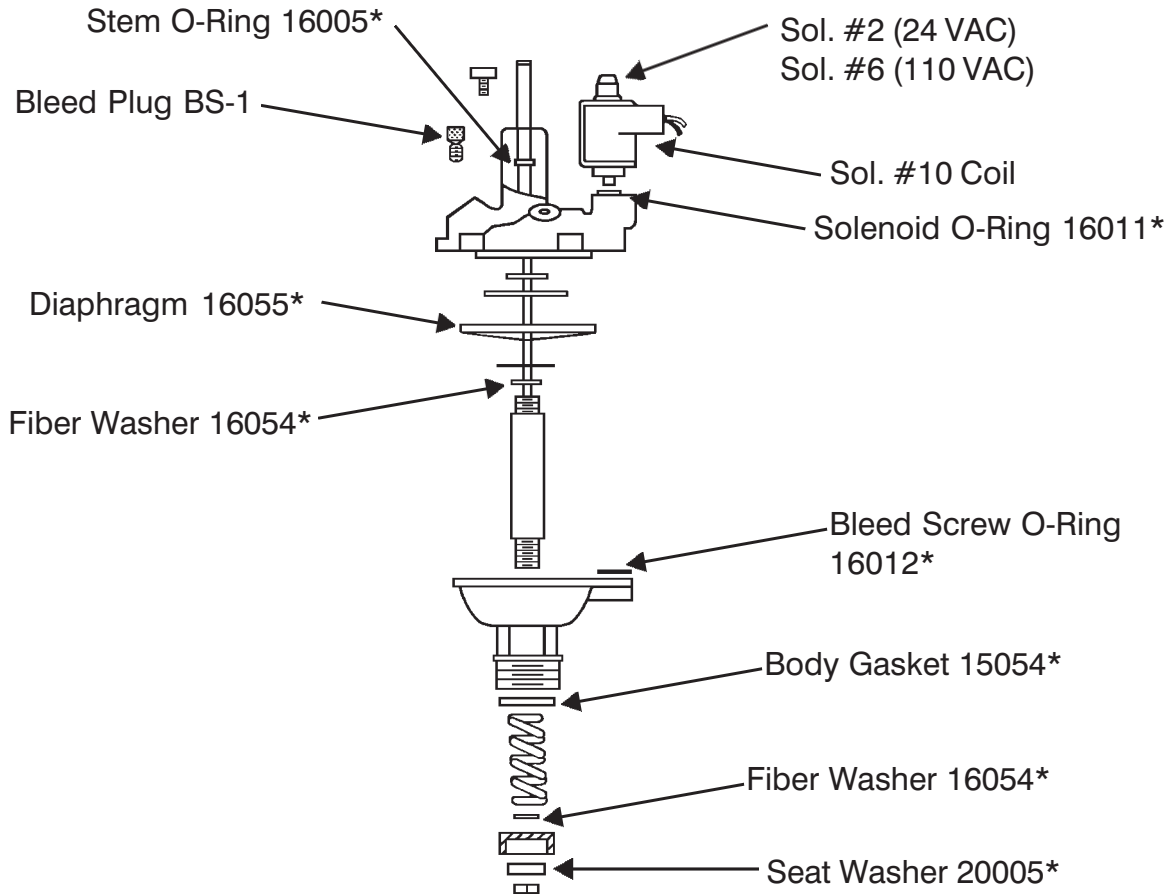
REPAIR KITS BPS-8		
(includes Asterisk Items)		
1	19006	Diaphragm
1	19003	Seat Washer
2	18002	Fiber Washer
1	19007	Fiber Washer
1	16012	Bleed Screw O-Ring
1	16006	Stem O-Ring
1	16011	Solenoid O-Ring



REPAIR KITS BPS-9		
(includes Asterisk Items)		
1	16055	Diaphragm
1	20004	Seat Washer
2	16054	Fiber Washer
1	15053	Body Gasket
1	16012	Bleed Screw O-Ring
1	16005	Stem O-Ring
1	16011	Solenoid O-Ring

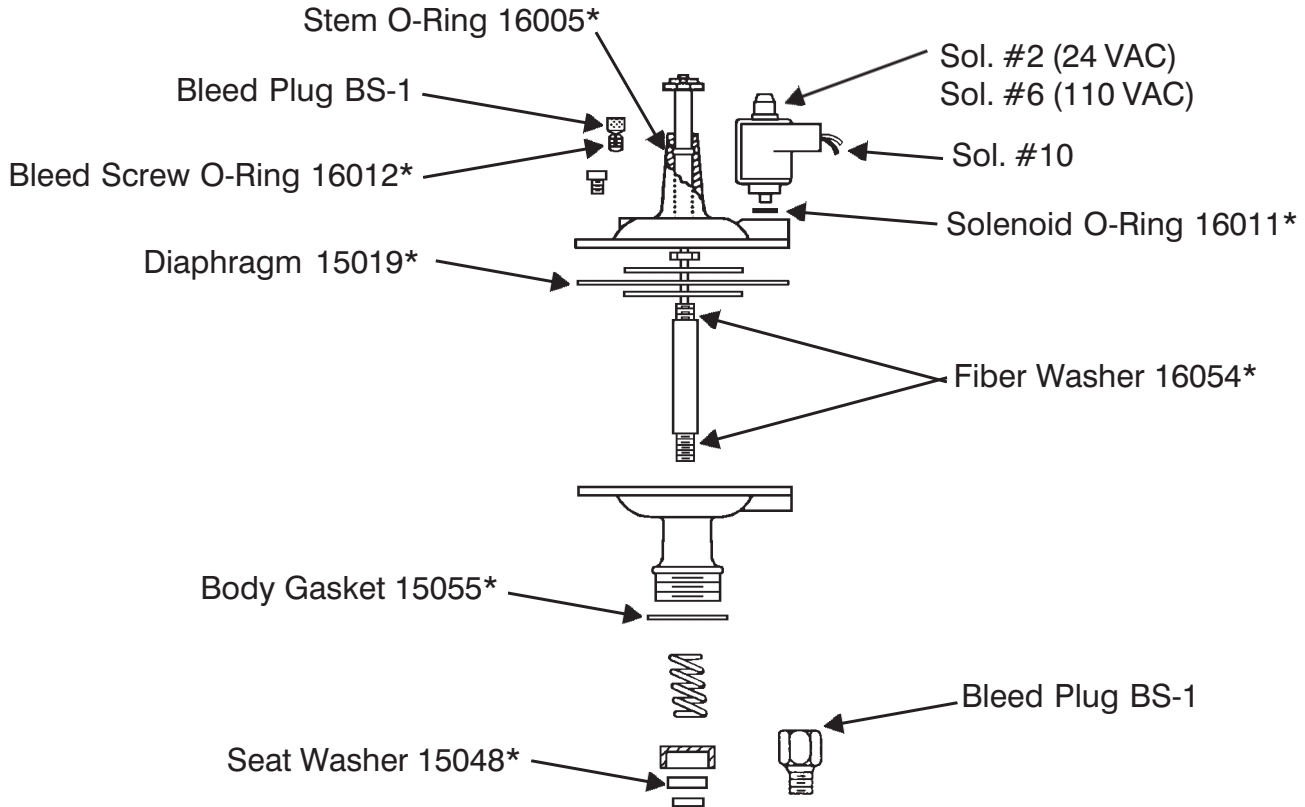


1" 2000 Series Electric Valve



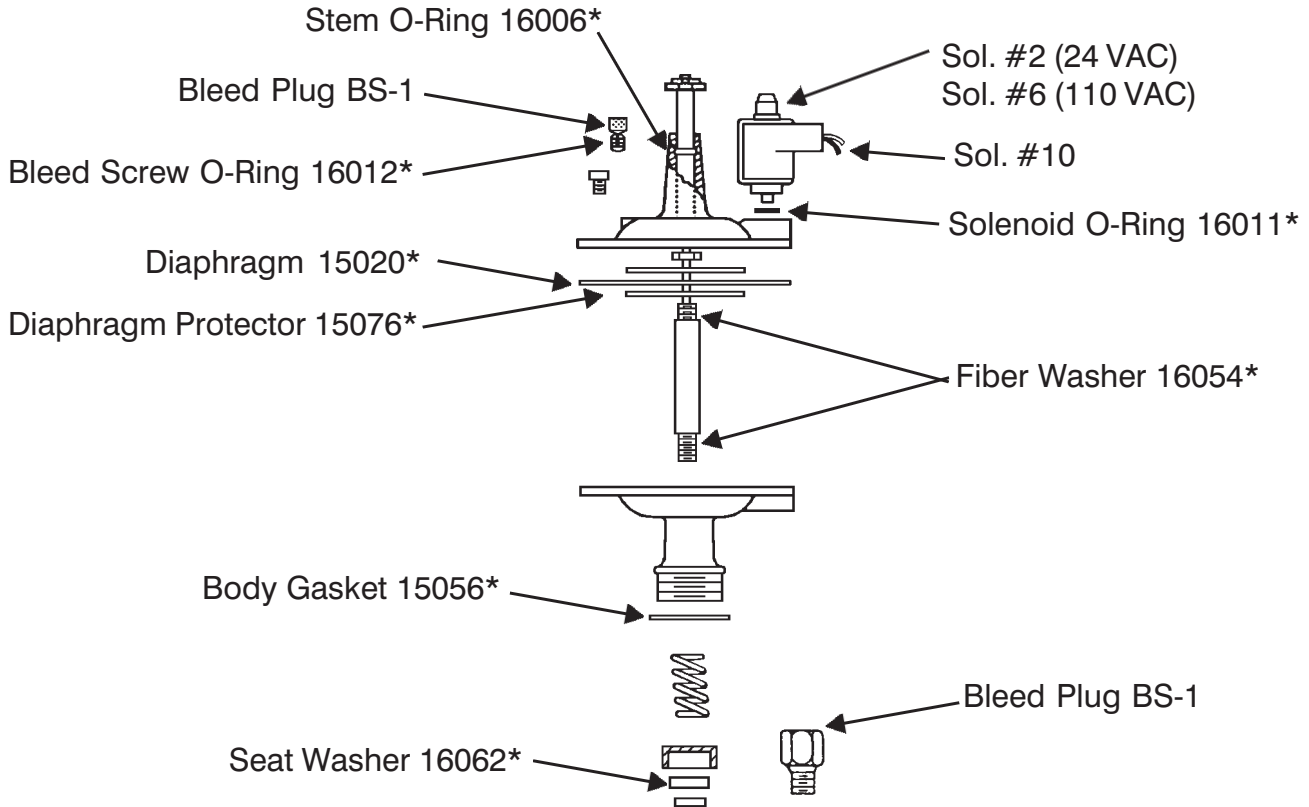
REPAIR KITS BPS-10		
(includes Asterisk Items)		
1	16055	Diaphragm
1	20005	Seat Washer
2	16054	Fiber Washer
1	15054	Body Gasket
1	16012	Bleed Screw O-Ring
1	16005	Stem O-Ring
1	16011	Solenoid O-Ring

1 1/4" 800 Series Electric Adapter



REPAIR KITS BPS-11		
(includes Asterisk Items)		
2	16054	Fiber Washer
1	15048	Seat Washer
1	16005	Stem O-Ring
1	15019	Diaphragm
1	16011	Solenoid O-Ring
1	15055	Body Gasket
1	16012	Bleed Screw O-Ring

1 1/2" 800 Series Electric Adapter

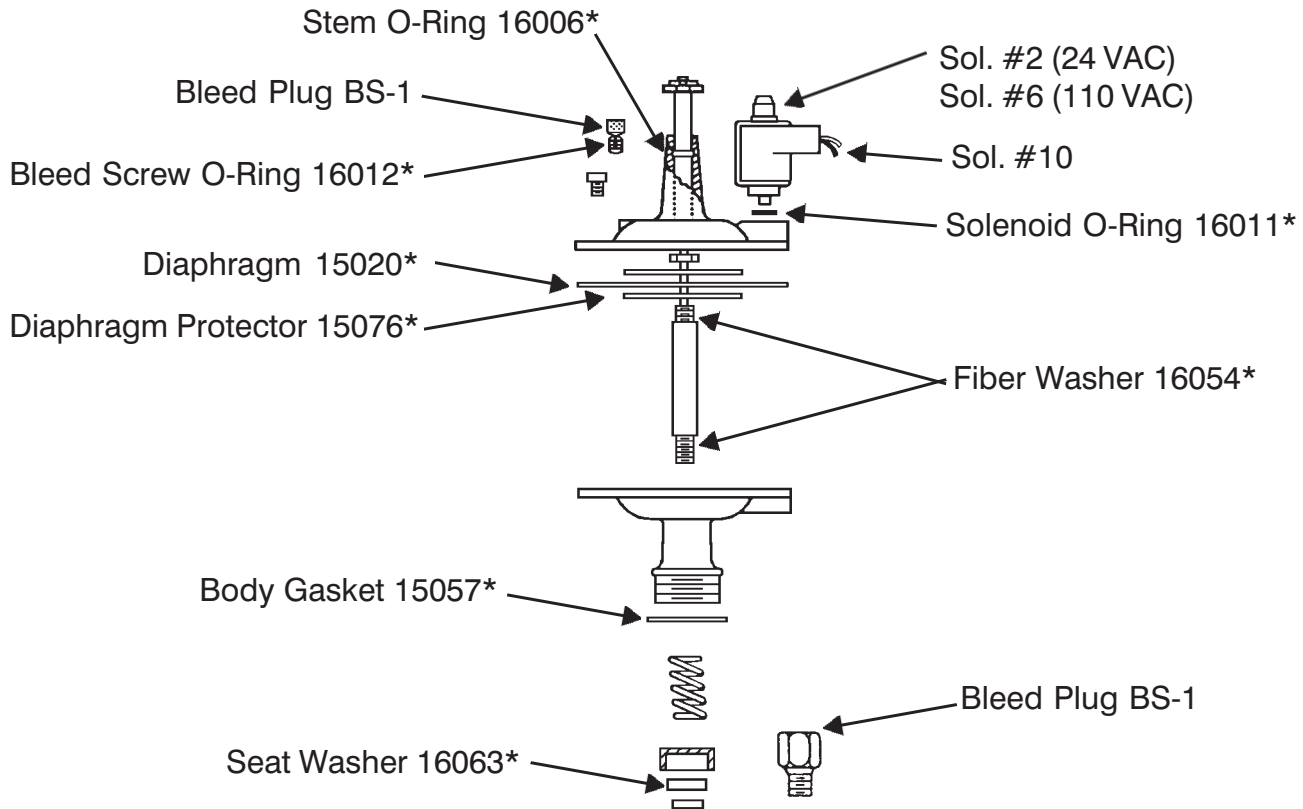


REPAIR KITS BPS-12

(includes Asterisk Items)

2	16054	Fiber Washer
1	16062	Seat Washer
1	16006	Stem O-Ring
1	15020	Diaphragm
1	16011	Solenoid O-Ring
1	15056	Body Gasket
1	16012	Bleed Screw O-Ring
1	15076	Diaphragm Protector

2" 800 Series Electric Adapter

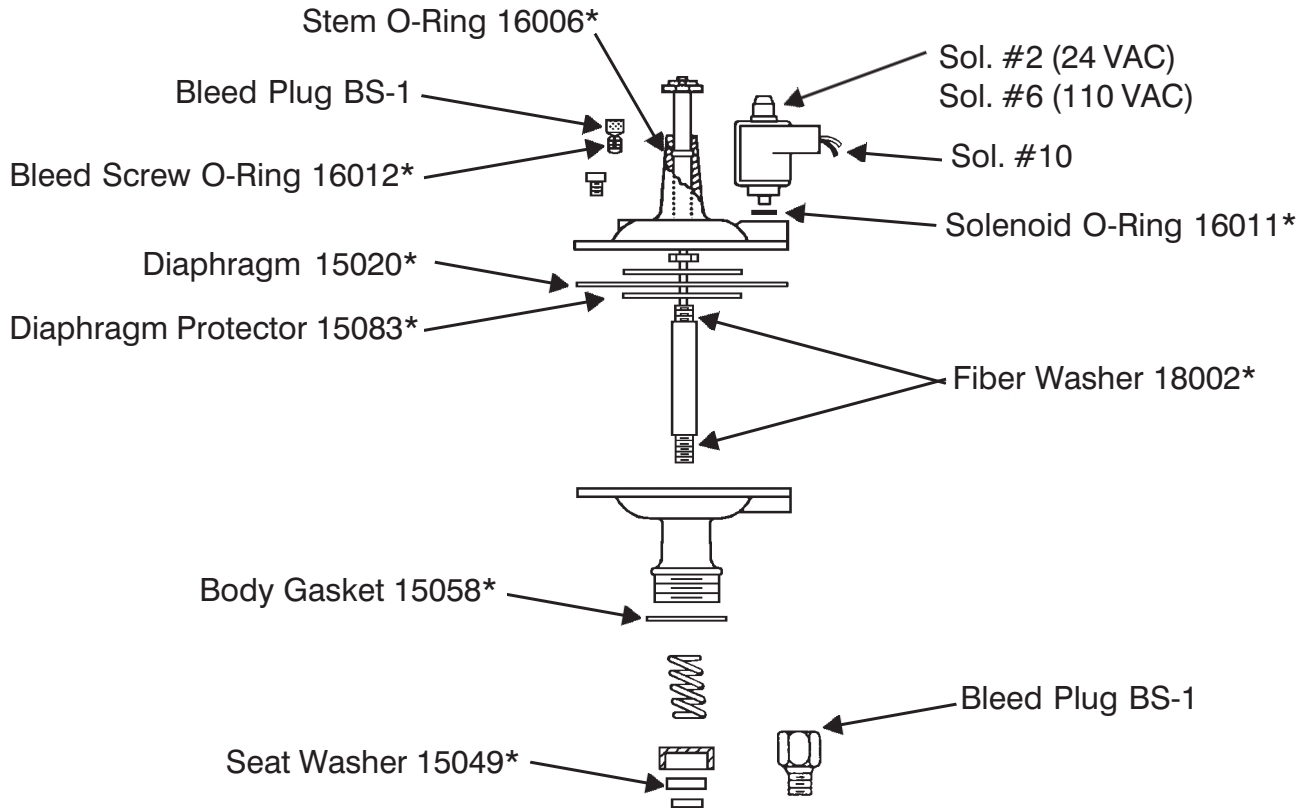


REPAIR KITS BPS-13

(includes Asterisk Items)

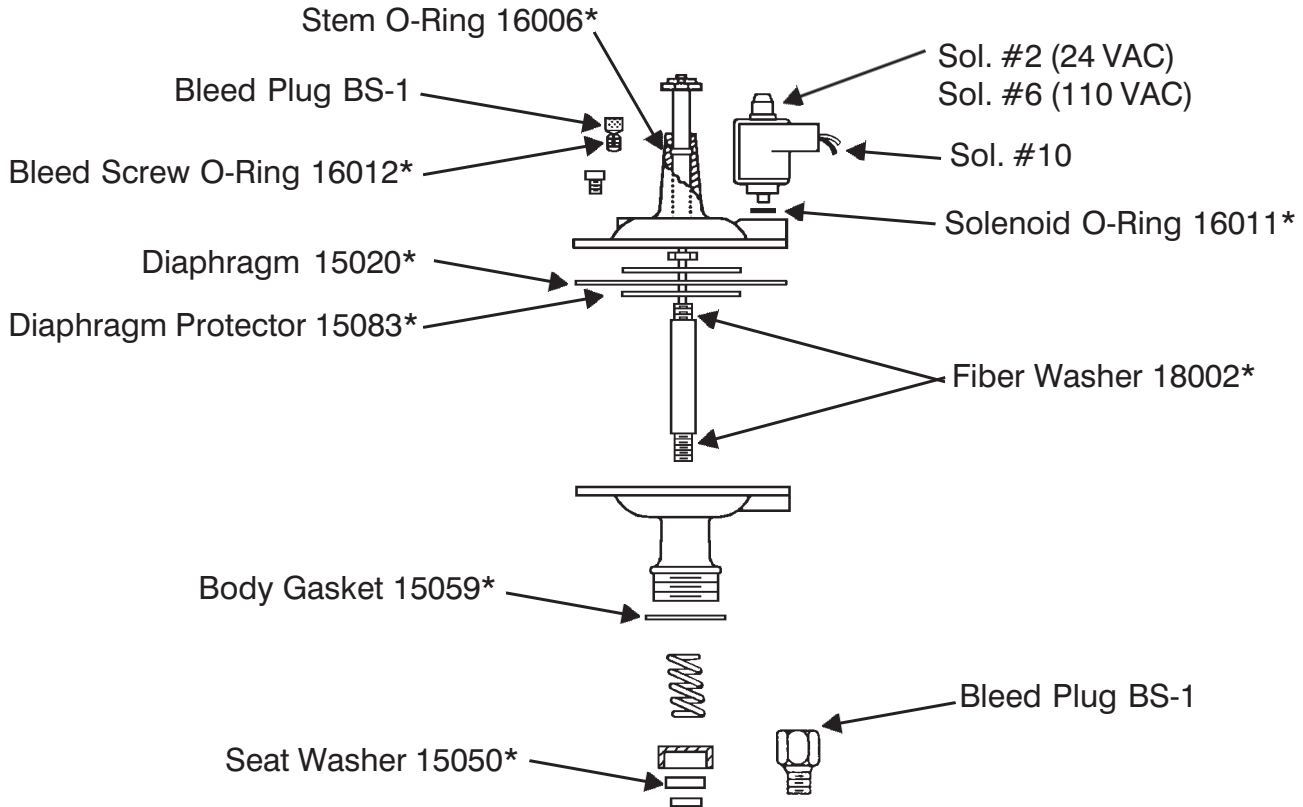
2	16054	Fiber Washer
1	16063	Seat Washer
1	16006	Stem O-Ring
1	15020	Diaphragm
1	16011	Solenoid O-Ring
1	15057	Body Gasket
1	16012	Bleed Screw O-Ring
1	15076	Diaphragm Protector

2 1/2" 800 Series Electric Adapter



REPAIR KITS BPS-14		
(includes Asterisk Items)		
2	18002	Fiber Washer
1	15049	Seat Washer
1	16006	Stem O-Ring
1	15020	Diaphragm
1	16011	Solenoid O-Ring
1	15058	Body Gasket
1	16012	Bleed Screw O-Ring
1	15083	Diaphragm Protector

3" 800 Series Electric Adapter

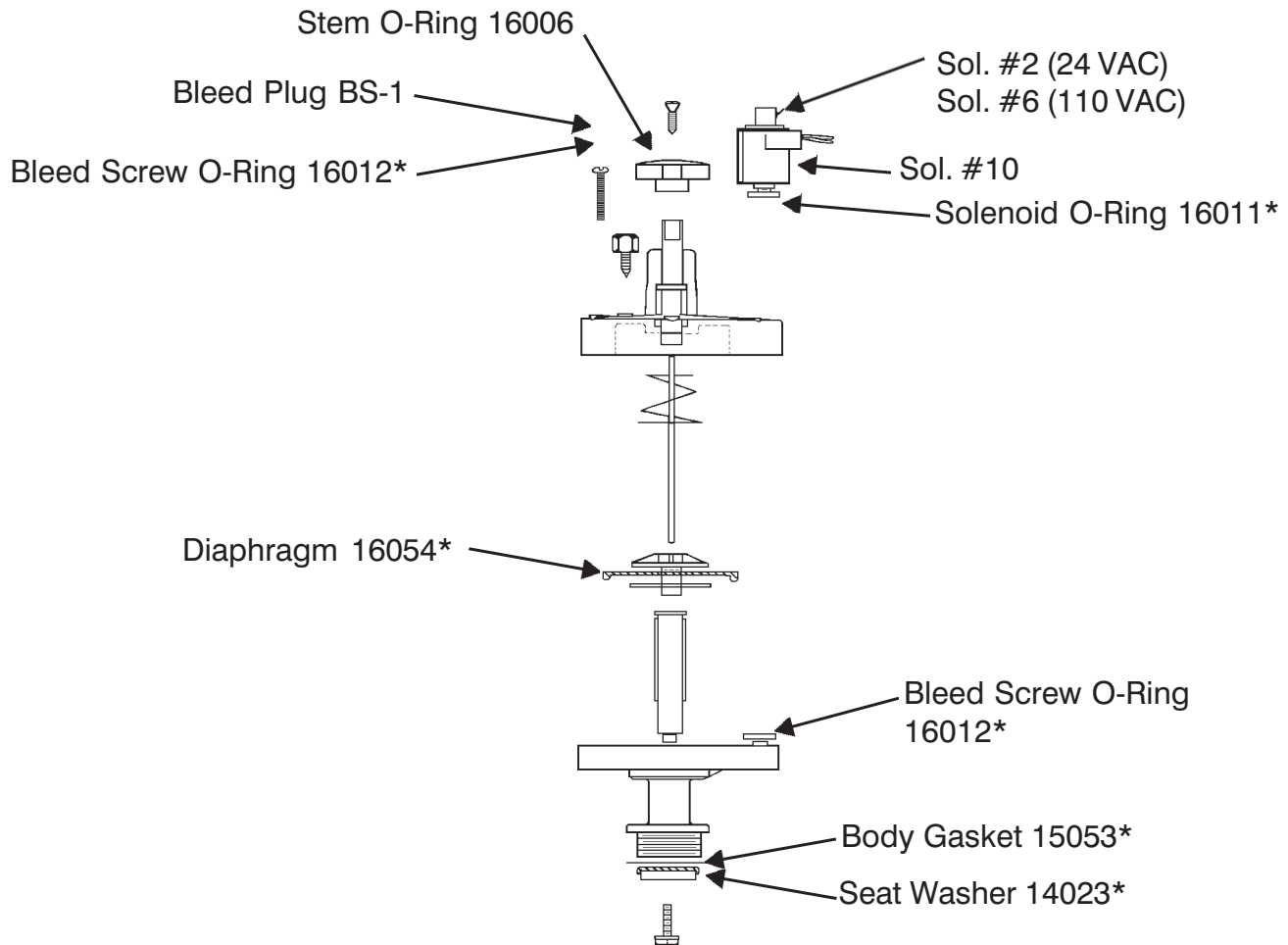


REPAIR KITS BPS-21

(includes Asterisk Items)

2	18002	Fiber Washer
1	15050	Seat Washer
1	16006	Stem O-Ring
1	15020	Diaphragm
1	16011	Solenoid O-Ring
1	15059	Body Gasket
1	16012	Bleed Screw O-Ring
1	15083	Diaphragm Protector

3/4" 600 Series Electric Adapter

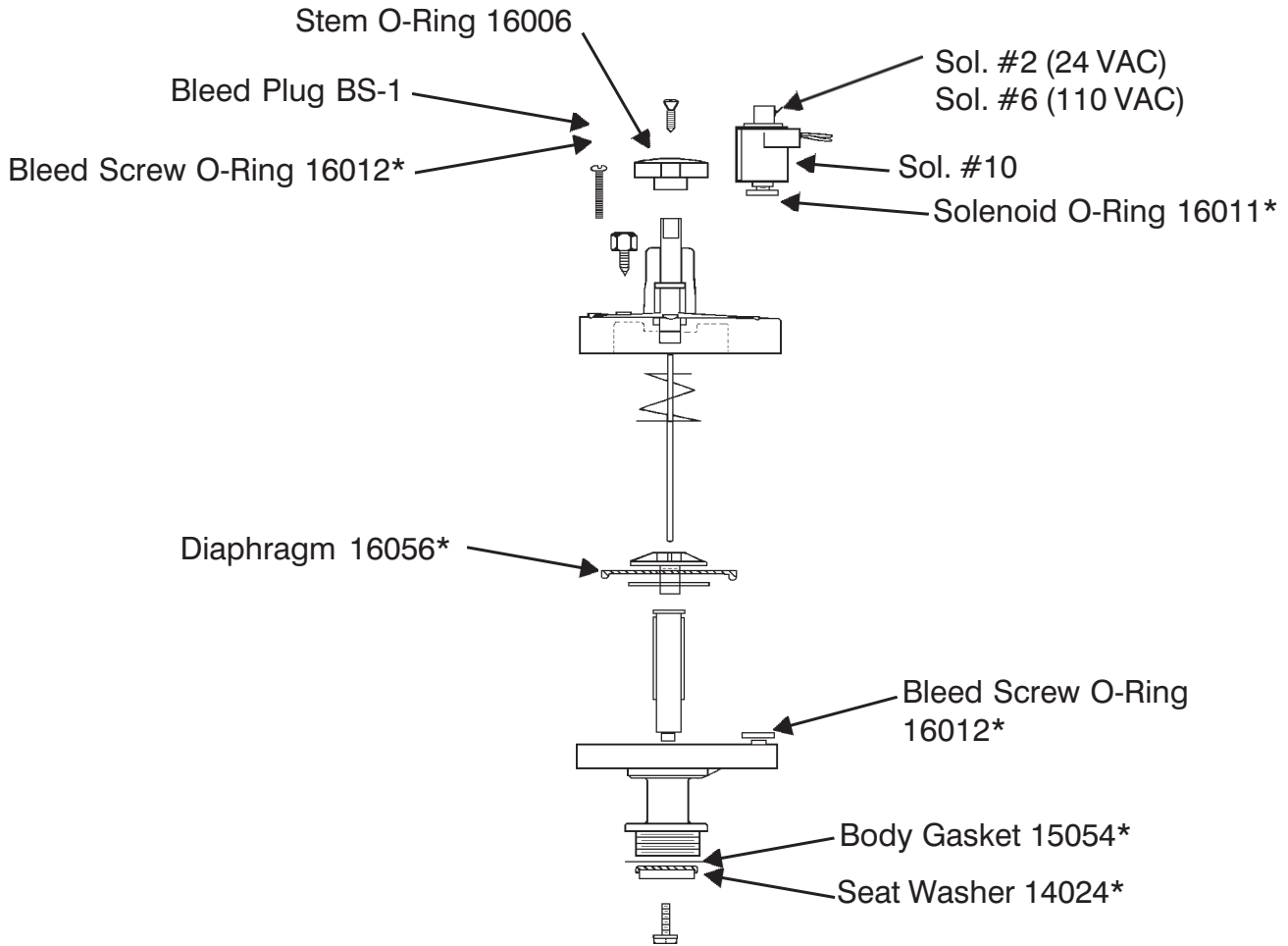


REPAIR KITS BPS-22

(includes Asterisk Items)

1	16056	Diaphragm
1	14023	Seat Washer
1	16011	Solenoid O-Ring
1	16012	Bleed Screw O-Ring
1	15053	Body Gasket

1" 600 Series Electric Adapter



REPAIR KITS BPS-23

(includes Asterisk Items)

1	16056	Diaphragm
1	14024	Seat Washer
1	16011	Solenoid O-Ring
1	16012	Bleed Screw O-Ring
1	15054	Body Gasket