

ASEPCO

ADVANCED ASEPTIC PROCESS EQUIPMENT

355 Pioneer Way
Mountain View, CA 94041 USA

800-882-3886

Radial-Diaphragm Valve
Maintenance Instructions
and Spare Parts Manual

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Asepco Actuator Maintenance Instructions

MANUAL ACTUATORS (For Drawings Ref Pgs. 3 - 6)

I. Removing the diaphragm

See Diaphragm Replacement Instructions

II. Disassembly and Reassembly

1. Using a 1/8" Allen wrench remove the set screw.
2. Pull the knob off the sleeve.
3. Using an o-ring tool, take out the o-ring from the center of the knob and replace it with a new o-ring from the kit.
4. Put some of the lubricant provided on the o-ring.
5. Using a pair of pliers, pull the JM wiper out of the knob and replace with the new JM wiper.
6. Remove the snap ring from the top of the sleeve.
7. Grab the shaft and nut and pull them out of the sleeve. (One bearing race will come out with these parts.)
8. Using an o-ring tool or a pick, remove the bearing left in the sleeve.
9. Turn sleeve over and let key sleeve drop out.
10. Using the back of a ballpoint pen or similar object, push the guide bushing assembly (GBA) out of the sleeve.
11. Lubricate o-ring for GBA and press the new GBA into the sleeve.
12. Drop the key sleeve back into the sleeve.
13. Using the shaft turn the key sleeve around until it drops completely into place.
14. Place one of the bearing and race sets on top of the key sleeve (in the order of race-bearing-race). Press firmly into place.
15. Put the remaining lubricant provided on the threads of the shaft.
16. Insert shaft into key sleeve.
17. Screw nut down over shaft.
18. Place second bearing and race set over nut. Press into place.
19. Re-insert snap ring.
20. Before replacing knob onto sleeve, stretch JM wiper by pulling the edges outward. This will help slip the knob over the sleeve.
21. Slip the knob onto the shaft and sleeve.
22. Hold entire assembly so that the set screw hole in the knob is facing you. Rotate the actuator counterclockwise until the hole in the knob lines up with the hole in the nut.
23. Insert set screw and tighten with Allen wrench. Do NOT let the assembly shift while you are doing this or you will lose your alignment.

III. Replacing the diaphragm

See Diaphragm Replacement Instructions

PNEUMATIC ACTUATORS (For Drawings Ref. Pgs. 7 - 10)

I. Removing the diaphragm

See Diaphragm Replacement Instructions

II. Disassembly and Reassembly

1. Place actuator in a vise with top (black part) facing up. Be careful not to close the vise on the flange of the actuator.
2. Using a spanner wrench turn the top counterclockwise and remove the top from the actuator sleeve. Set the top on a flat surface.
3. Using snap ring pliers, remove the snap ring from the center of the top.
4. On the outer sides of the top there are two large o-rings; on the inside there is a guide bushing assembly (GBA). Remove o-rings and replace with new ones. Using the end of a ballpoint pen (or similar object) push the GBA and washer out of the top. Lubricate and press the new GBA into place with your thumb. Place the washer on top, re-insert the snap ring.
5. Remove the spring. Pull the shaft and piston assembly out of the actuator sleeve. Remove the quad ring from the piston, slip new quad ring over piston and run the o-ring tool between the piston and the quad ring to ensure it is not twisted.
6. Place the shaft and piston assembly in the vise with the spring side of the piston facing up, make sure that the flats are secure in the vise. Using a crescent wrench, unscrew the jam nut from the shaft. Remove the piston. Remove and replace a lubricated o-ring on the shaft. Replace the piston. Then, cover the quad ring with lubricant. Re-tighten the nut onto the shaft.
7. Remove the second GBA from the bottom of the actuator and replace as above (#3).
8. Reinstall the piston and shaft assembly into the sleeve, making sure the cup of the piston is facing down.
9. Reinstall the spring.
10. Spread the rest of the lubricant on the threads of the top. Reinstall the top onto the sleeve
11. Turn the top clockwise until it is flush with the sleeve.

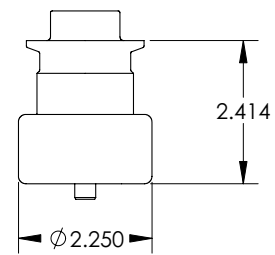
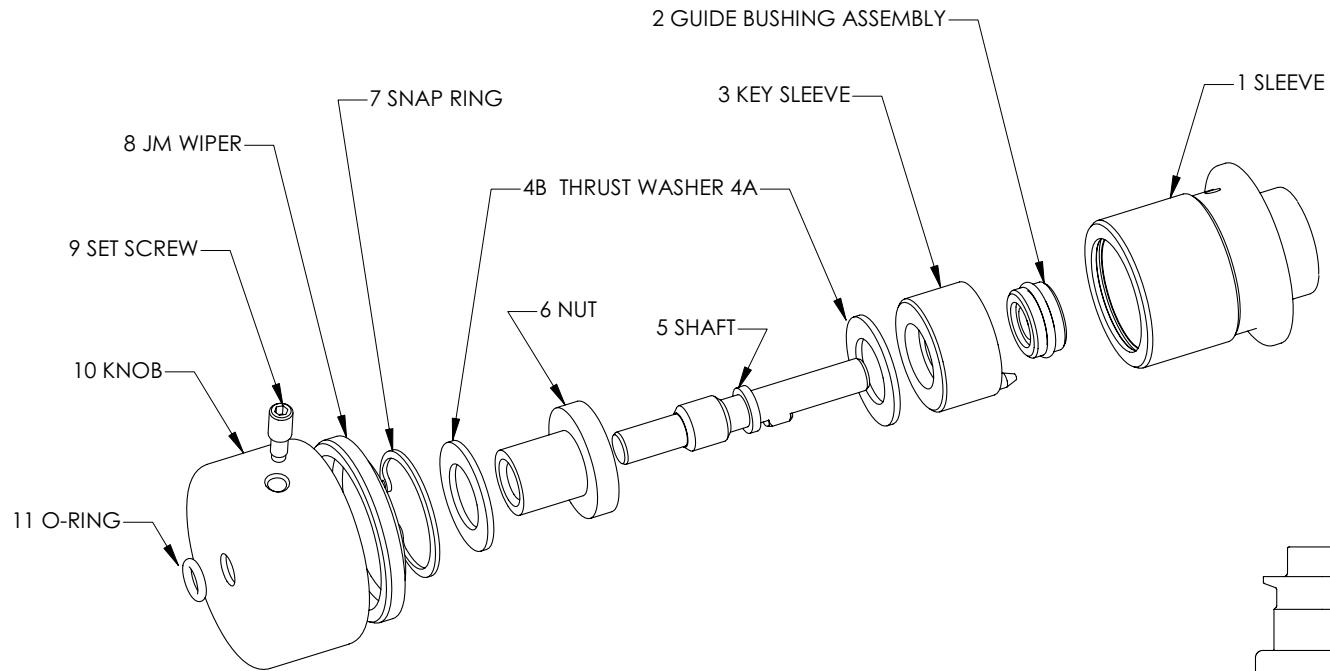
III. Replacing the diaphragm

See Diaphragm Replacement Instructions

Questions? Call 1-800-882-3886

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PRODUCTION RELEASE	08/03/01	M.F.



ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	QTY REQD.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CAD GENERATED DRAWING. DO NOT MANUALLY UPDATE		
DECIMALS	ANGLES	APPROVALS		
00+ .01 + 1	-	DRAWN	JARED PROBST	DATE
.000+.005	-	CHECKED	MARK EMBURY	08/03/01
MATERIAL		RES/ENG		
FINISH		MFG/ENG		
NEXT ASSY		QUAL/ENG		
USED ON		SCALE		
APPLICATION		DO NOT SCALE DRAWING		

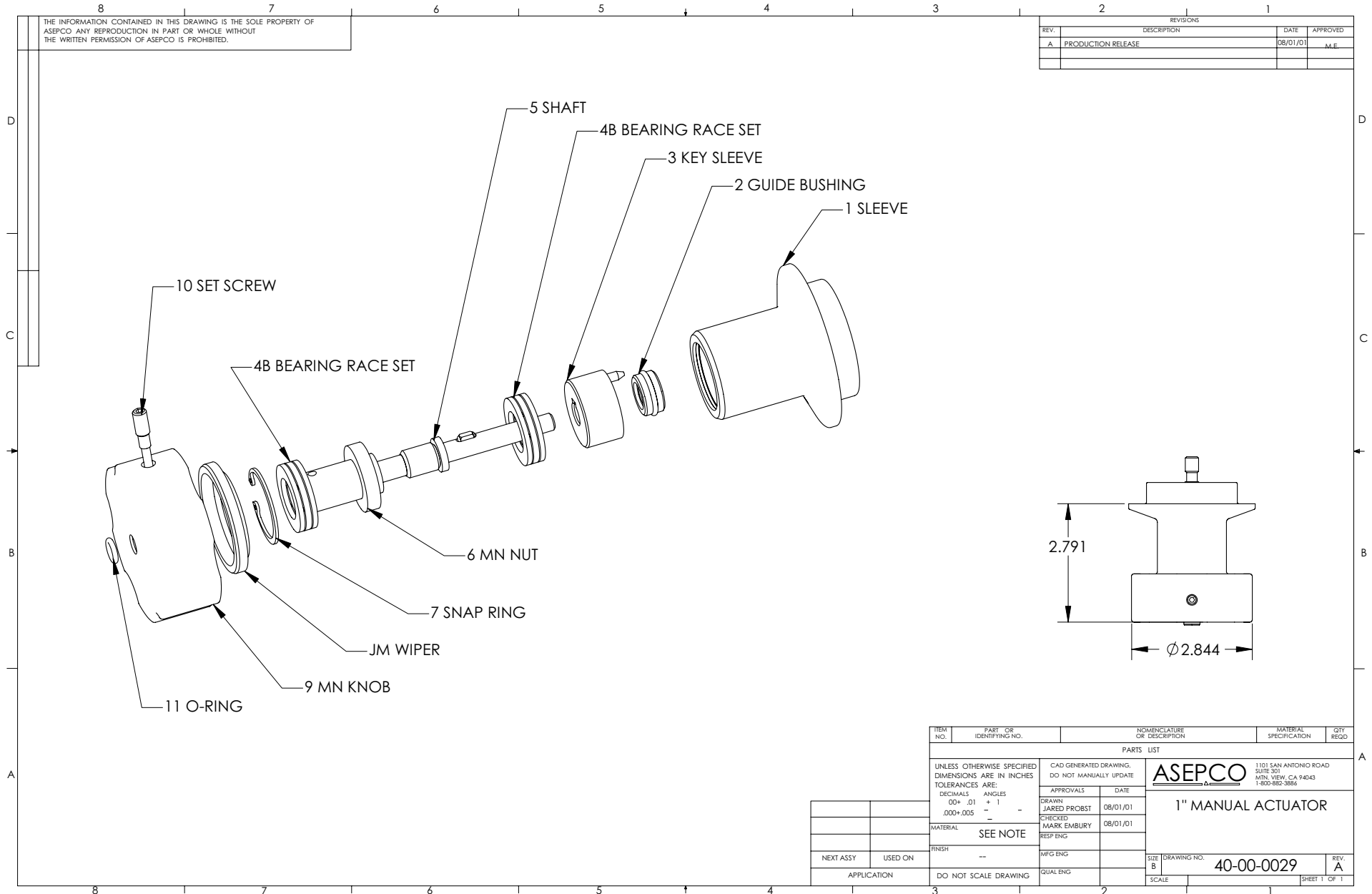
ASEPCO 1101 SAN ANTONIO ROAD
SUITE 301
MTR. VIEW, CA 94043
1-800-882-3886

0.5" MANUAL ACTUATOR

SIZE B DRAWING NO. **40-00-0032** REV. **A**
SCALE SHEET 1 OF 1

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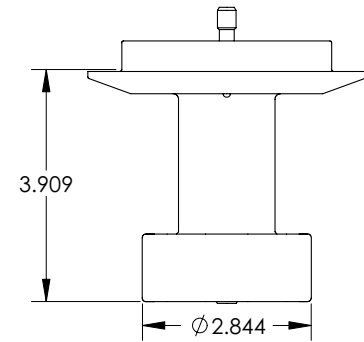
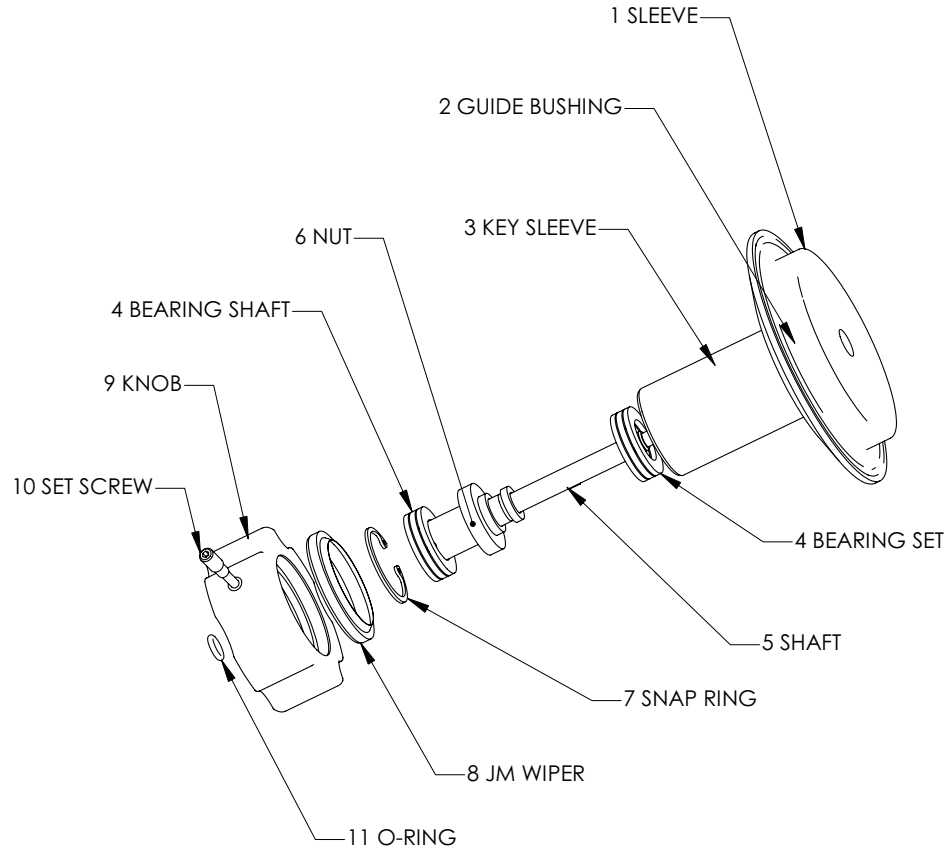
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FINISH --		DRAWN JARED PROBST 08/01/01		
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NEXT ASSY		MFG ENG		
USED ON		QUAL ENG		
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		SCALE		
		SHEET 1 OF 1		

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1" MANUAL ACTUATOR

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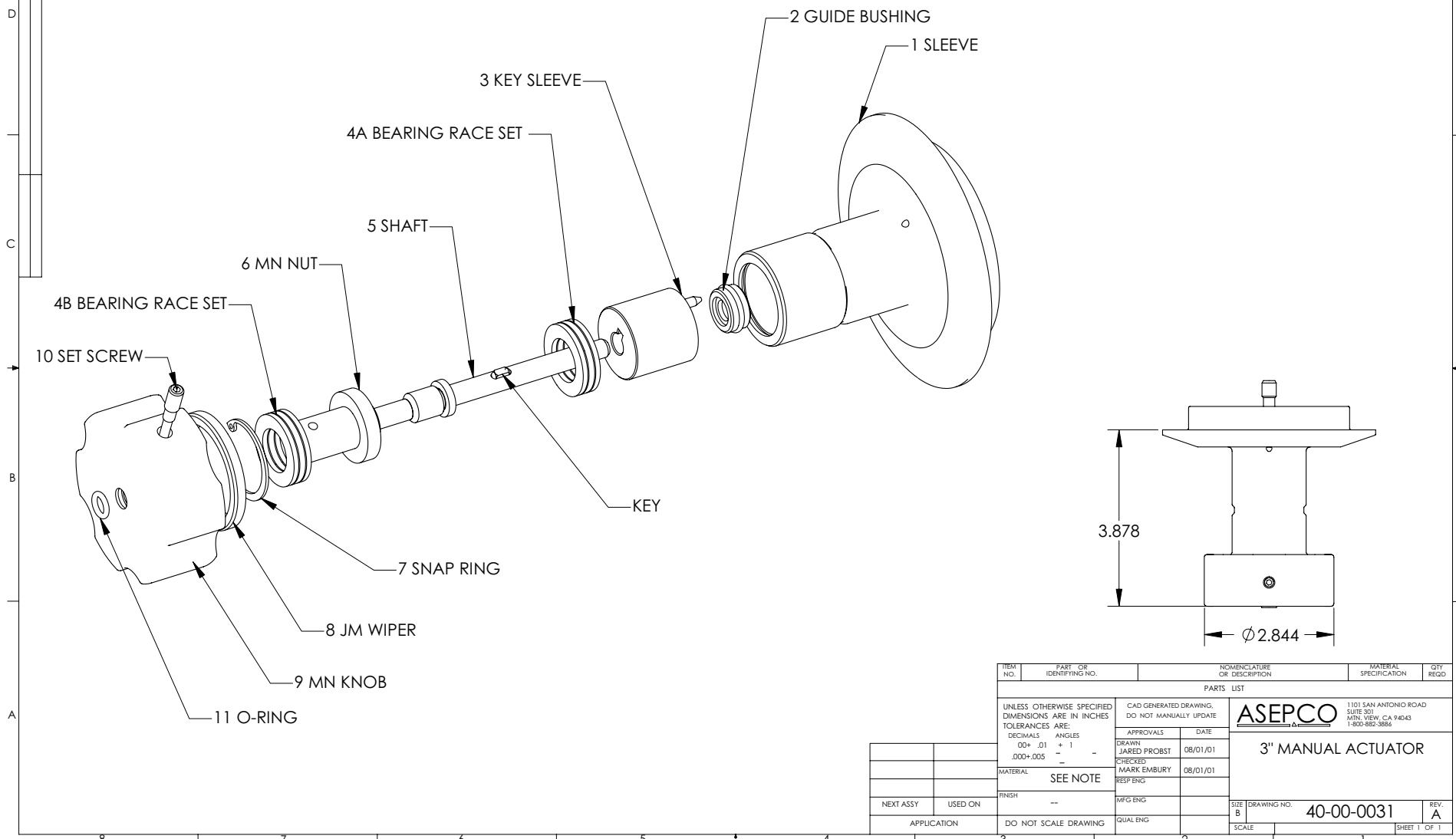
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FINISH		QUAL ENG		
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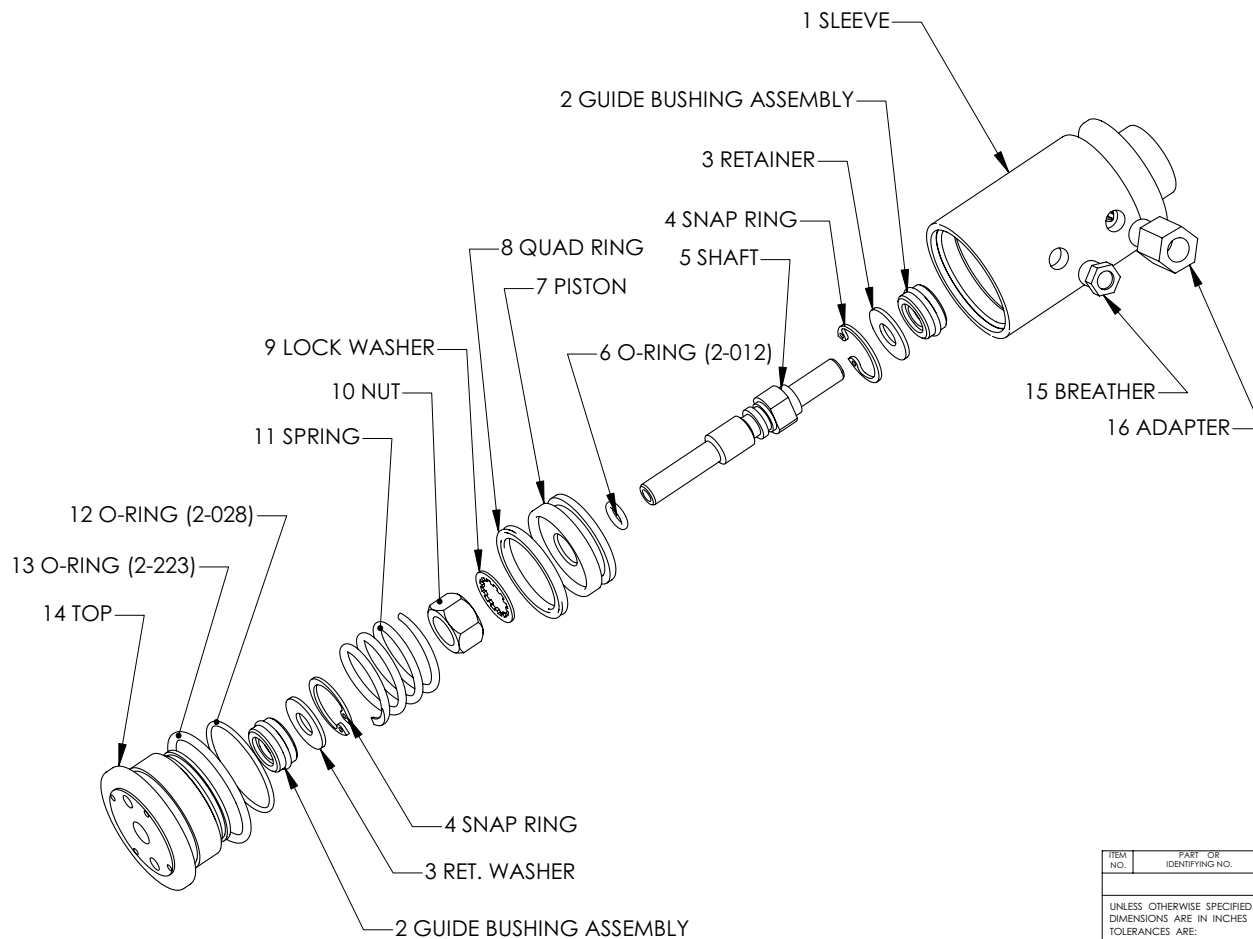


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		MATERIAL	SEE NOTE	RESP ENG
		FINISH	--	MFG ENG
		APPLICATION	DO NOT SCALE DRAWING	QUAL ENG

ASEPCO		1101 SAN ANTONIO ROAD SUITE 301 MILPITAS, CA 95033 1-800-882-3886	
3" MANUAL ACTUATOR		DRAWING NO.	40-00-0031
SHEET	B	SCALE	REV. A
		SHEET 1 OF 1	

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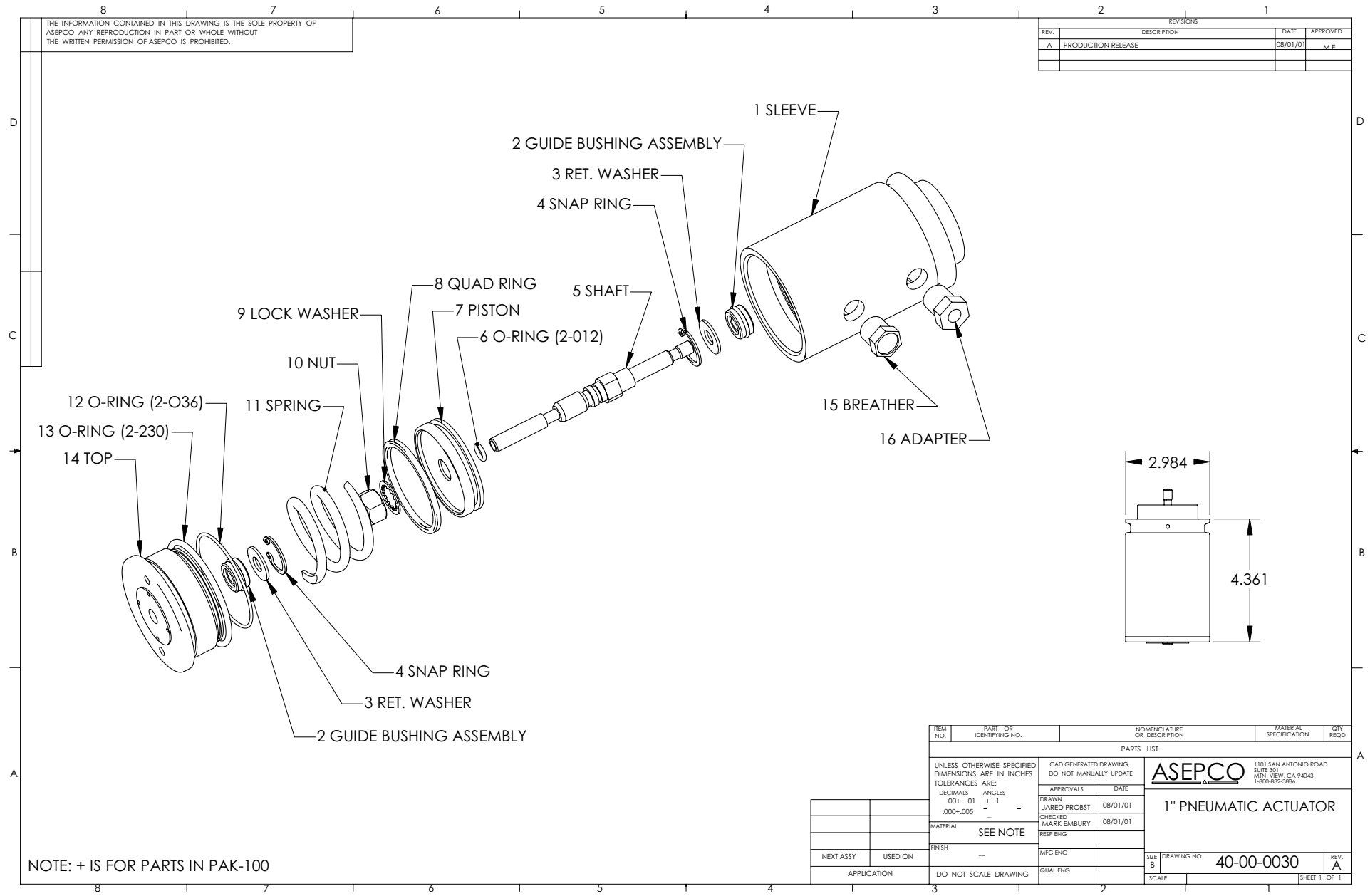
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ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	QTY REQD
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.000+ .005	-	JARED PROBST	08/03/01	
		MARK EMBURY	08/03/01	
MATERIAL		FINISH	MFG ENG	0.5" PNEUMATIC ACTUATOR REV. A
		SEE NOTE	QUAL ENG	DRAWING NO. 40-00-0033 SCALE SHEET 1 OF 1
NEXT ASSY	USED ON	DO NOT SCALE DRAWING		

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NOTE: + IS FOR PARTS IN PAK-100

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FINISH	--	MFG ENG		
NEXT ASSY	USED ON	QUAL ENG		
APPLICATION	DO NOT SCALE DRAWING			

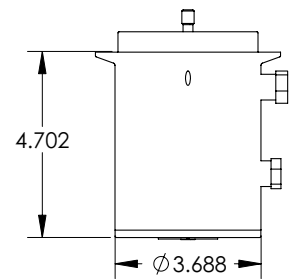
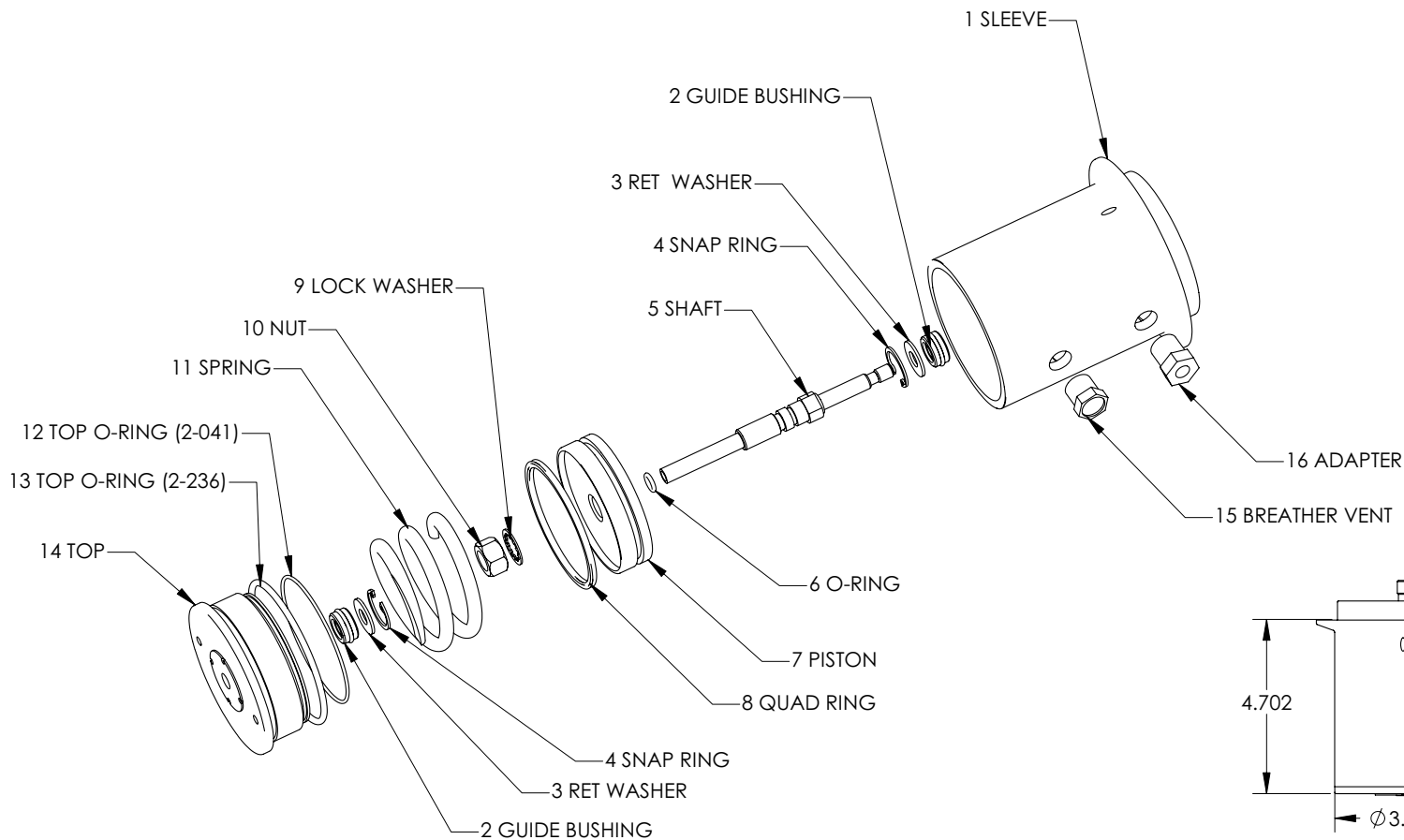
ASEPCO 1101 SAN ANTONIO ROAD
SUITE 301
MILN. VIEW, CA 94043
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1" PNEUMATIC ACTUATOR

SIZE B DRAWING NO. **40-00-0030** REV. **A**

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PARTS LIST				
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APPLICATION DO NOT SCALE DRAWING				

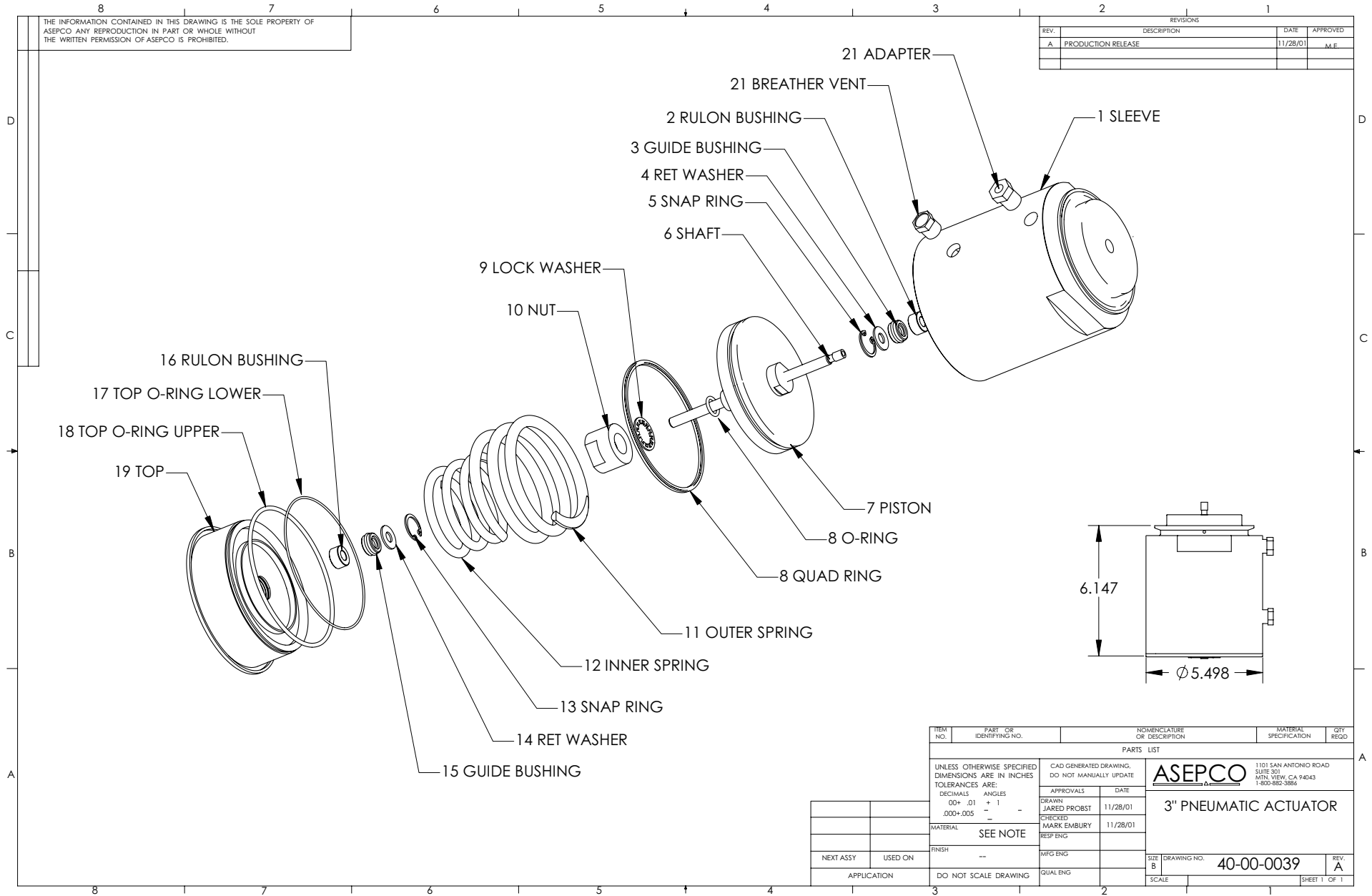
ASEPCO 1101 SAN ANTONIO ROAD
SUITE 301
MIRALOMA, CA 94043
1-800-882-3886

2" PNEUMATIC ACTUATOR

SIZE B DRAWING NO. **40-00-0028** REV. **A**
SCALE SHEET 1 OF 1

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ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	QTY REQD.
PARTS LIST				
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		RESP ENG		
MATERIAL		FINISH		
SEE NOTE		MFG ENG		
		QUAL ENG		
NEXT ASSY		USED ON		
APPLICATION		DO NOT SCALE DRAWING		

ASEPCO 1101 SAN ANTONIO ROAD
SUITE 301
MILPITAS, CA 95033
1-800-882-3886

3" PNEUMATIC ACTUATOR

SHEET 1 OF 1
DRAWING NO. **40-00-0039**
SCALE

General Information and Spare Parts List

GENERAL INFORMATION

All ASEPCO actuators meet 3A requirements.

Maximum operating temperature: 135°C

Maximum operating pressure: 250 psi

**IMPORTANT: O-RINGS SHOULD BE REPLACED ANNUALLY
CALL FOR REPLACEMENT KIT NUMBER.**

PNEUMATIC ACTUATORS

Air pressure minimums:

0.5" - min. air pressure to open valve 60 psi

1", 1.5" and 2" - min. air pressure to open valve 80 psi

HEIGHT OF ACTUATORS - from top (knob) to clamp face.

0.5"	Manual actuator	2.435"
	maximum travel of position indicator	0.220"
0.5"	Pneumatic actuator	3.192"
	maximum travel of position indicator	0.220"
1.0"	Manual actuator	2.875"
	maximum travel of position indicator	0.305"
1.0"	Pneumatic actuator	4.371"
	maximum travel of position indicator	0.305"
1.5"	Manual actuator	3.901"
	maximum travel of position indicator	0.562"
1.5"	Pneumatic actuator	4.721"
	maximum travel of position indicator	0.562"
2.0"	Manual actuator	3.901"
	maximum travel of position indicator	0.562"
2.0"	Pneumatic actuator	4.721"
	maximum travel of position indicator	0.562"
1"/1.5"/2"	Saunders Retrofitted Pneumatic	7.517"
	maximum travel of position indicator	0.400"

ACTUATOR SPARE PARTS LIST

ALL MANUAL ACTUATORS

Part #	Description
MAK-100	Includes o-rings, guide bushing and wiper seal.

ASEPCO 0.5" PNEUMATIC ACTUATOR

PAK-050	Includes o-rings, guide bushing and quad ring.
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ASEPCO 1.0" PNEUMATIC ACTUATOR

PAK-100	Includes o-rings, guide bushing and quad ring.
---------	--

ASEPCO 1.5" / 2.0" PNEUMATIC ACTUATOR

PAK-200	Includes o-rings, guide bushing and quad ring.
---------	--

SAUNDERS RETROFITTED PNEUMATIC ACTUATOR

PKS-100	Includes o-rings and guide bushing.
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*** Please check the pneumatic actuator type.

The first ASEPCO pneumatic actuator was a black PES Saunders actuator with ASEPCO internal parts.

If you need spare parts for ANY type of ASEPCO actuator, please contact us at 1-800-882-3886.

REPLACEMENT DIAPHRAGMS

Material	0.5" Standard	0.5" Satellite	1.0"	1.5"/2.0"	3"	4"
Silicone	SL05	SG05	SL10	SL20	SL30	SL40
EPDM	EP05	EG05	EP10	EP20	EP30	EP40
Viton	VT05	VG05	VT10	VT20	N/A	N/A
Parylene Plus						
Silicone	PS05	PSG05	PS10	PS20	PS30	N/A
EPDM	PE05	PEG05	PE10	PE20	PE30	N/A

Please call us for current price and availability at 1-800-882-3886.

ALL ABOUT ASEPCO RADIAL-DIAPHRAGMS

1. Why is diaphragm life unpredictable?

It's true and it's hard to hear if you're the one who is expected to report the answer to this question. It seems so logical after all. And when we valve manufacturers tell you we don't know for sure, it's tough on you. So we'd like to explain.

First, we are never told exactly what chemicals are in your process. So, it's hard for us to know what we are dealing with. We want to be careful and this is why we can't give you an answer that gets any better than the classic, "it depends".

The factors that contribute to diaphragm aging include, but are not limited to: the chemicals in the process, the CIP and SIP cycles, as well as the temperatures and lengths of all these cycles. Sometimes the cycles and the chemicals even act synergistically to age the diaphragm. Steam certainly ages diaphragms. [Our valves are designed for an aseptic environment and can be sterilized per 3-A 54.02 C1.7]

On top of that, cycle parameters for CIP/SIP vary from company to company. While CIP/SIP cycles may resemble each other from plant to plant, the truth is that no one can develop a generic CIP/SIP cycle.

Since each CIP/SIP cycle is custom developed, and we never know what the product is to begin with, there is no way we can even guess at how to carry out an appropriate test in the lab. This is why valve makers don't (and shouldn't) attempt to predict diaphragm life.

2. How should I select a diaphragm material?

- a. Gather data about your own process. Find out what is already known about how certain elastomers perform in your system.
- b. Check the generic chemical compatibility tables produced by many elastomer manufacturers. These will clue you in about what materials not to select as a diaphragm.
- c. Make your best judgment in diaphragm selection based on actual experience at your plant combined with the compatibility tables.

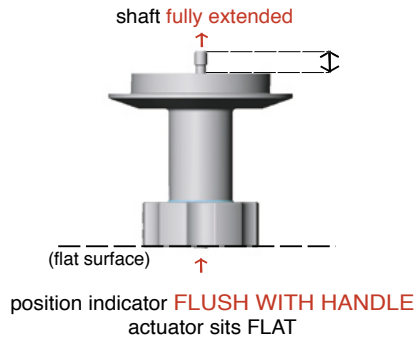
Remember: Nothing we can suggest can come close to the value of your company's own experience. Trust what you learn from your production people.

3. How can I tell when it's time to change the diaphragm?

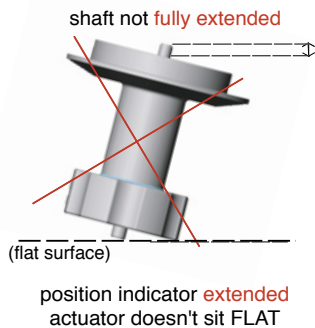
- a. Observe the diaphragm as it goes into the process and starts to develop a "life". Examine it weekly or twice a month, at a minimum (it takes only minutes to do with an ASEPCO valve).
- b. Keep on the lookout for any signs of increasing overall diaphragm stiffness and, of course, any incipient cracks/tears. Learn what the diaphragm looks and feels like as it ages in your process.
- c. Our pickiest customers suggest starting with the following rules of thumb for being sure to change diaphragms long before needed:
 1. For <5 SIP cycles a week (of <2 hours each at temperatures <135°C), consider annual diaphragm changeout.
 2. For <6 SIP cycles a week (of <2 hours each at temperatures <135°C), consider changing out the diaphragm at six months.

DIAPHRAGM CHANGEOUT INSTRUCTIONS FOR MANUAL ACTUATORS

PROPER POSITION For DIAPHRAGM MOUNTING



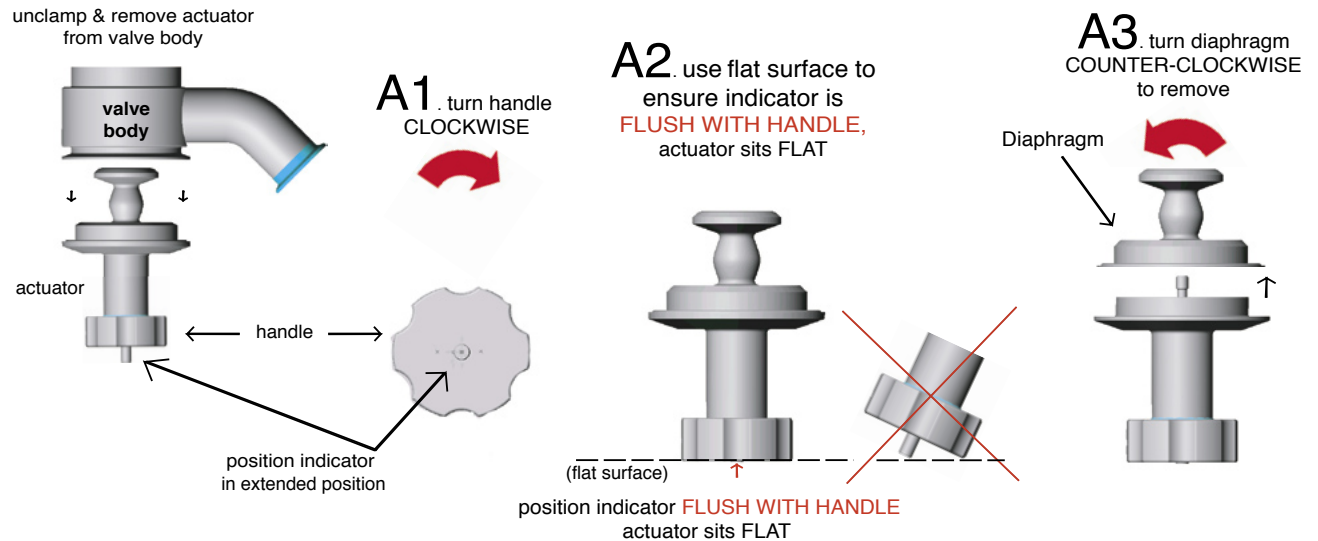
IMPROPER POSITION For DIAPHRAGM MOUNTING



rev: 10/03

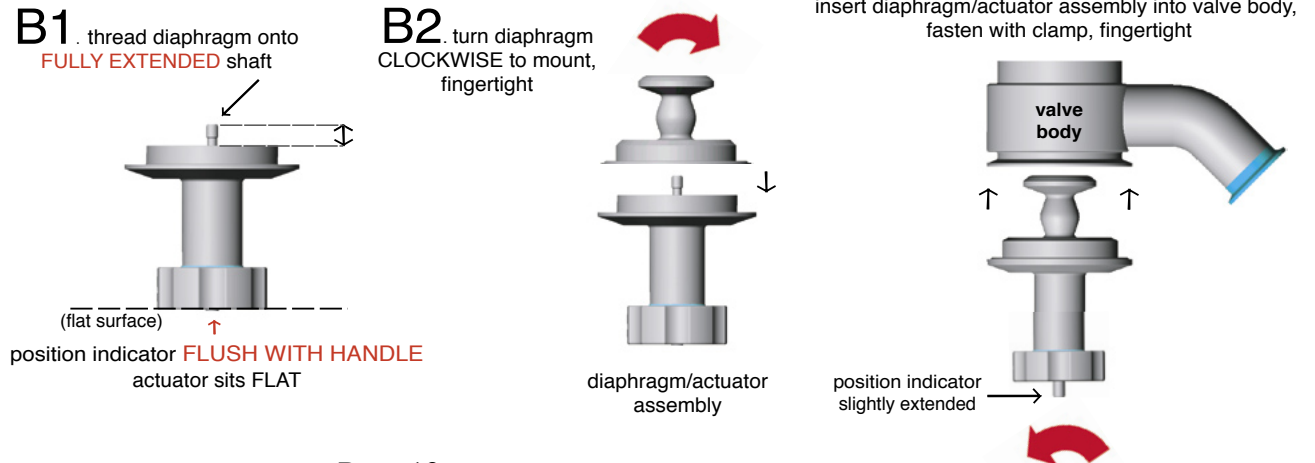
A. To REMOVE diaphragm from MANUAL actuators

- 1) Unclamp & remove actuator from valve body, turn handle **CLOCKWISE** until position indicator is **FLUSH WITH HANDLE**
- 2) Place actuator handle-down on flat surface to ensure that **POSITION INDICATOR IS FLUSH**
- 3) Turn diaphragm **COUNTER-CLOCKWISE** to remove



B. To MOUNT diaphragm and re-assemble with valve body

- 1) Thread diaphragm onto **fully extended shaft**
- 2) Turn diaphragm **CLOCKWISE** until **FINGER-TIGHT**
- 3) Turn handle **COUNTERCLOCKWISE 2 turns** to slightly retract diaphragm & shaft; insert diaphragm/actuator assembly into valve body with **sanitary clamp**; **fingertight**



Diaphragm Replacement Instructions for Asepco Pneumatic Actuators

For information or assistance, please give us a call at 1-800-882-3886

ALL ASEPCO actuators (manual and pneumatic) are OPEN when the position indicator is **protruding** from the actuator. It is CLOSED when the position indicator is **flush** with the actuator. Diaphragms **MUST** be mounted on the shaft when shaft is fully extended (in the CLOSED position).

WARNING: Valve clamp MUST NOT be opened during steaming or while valve is under pressure.

Normally Closed Pneumatic Actuators ALL SIZES

REMOVING:

1. Make sure air to the actuator is **ON**.
2. Remove clamp.
3. Remove actuator and diaphragm assembly by grasping diaphragm edge and pulling downward from valve body.
4. **Turn off** or disconnect actuator from air source. Run your thumb between diaphragm edge and actuator to break any gasket bead.
5. Turn diaphragm *counterclockwise* until completely unscrewed from actuator.

REPLACING:

1. While air to actuator is **OFF** mount diaphragm on actuator shaft and turn *clockwise* until fully seated.
Do NOT force; Finger-tight is sufficient
2. Insert actuator and diaphragm assembly into valve body. Ensure good seating by rocking assembly into position.
3. **Turn air source ON to fully open actuator, position indicator should be protruding from the top of the actuator. This pulls diaphragm back to allow firm tightening.**
4. Reinstall clamp.

Normally Open Pneumatic Actuators ALL SIZES

REMOVING:

1. Make sure air to actuator is **OFF**.
2. Remove clamp.
3. Connect actuator to air source, **turn air ON**.
4. Remove actuator and diaphragm assembly by grasping diaphragm edge and pulling downward from valve body.
5. Run your thumb between diaphragm edge and actuator to break any gasket bead.
6. Turn diaphragm *counterclockwise* until completely unscrewed from actuator.

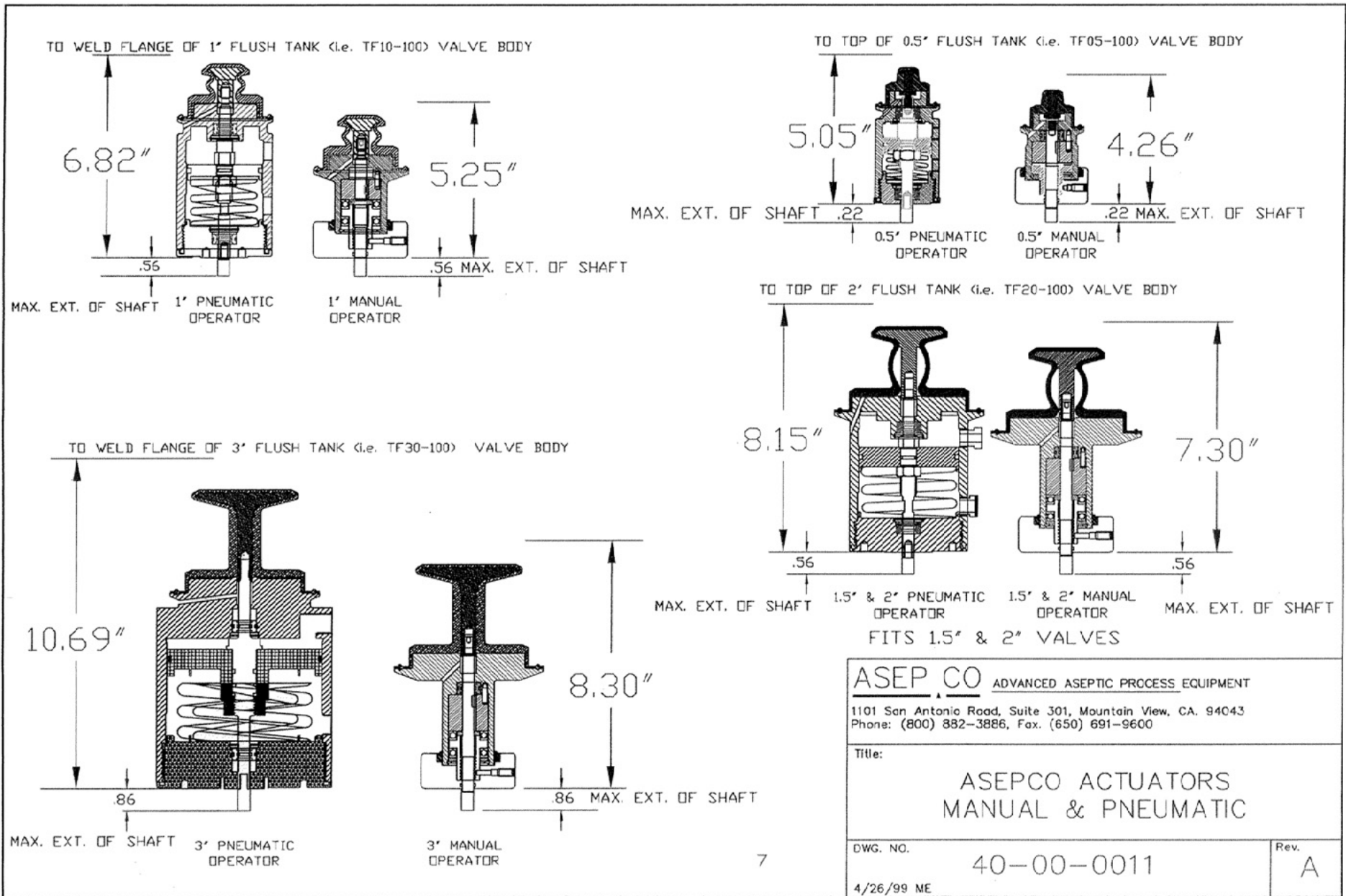
REPLACING:

1. Connect actuator to air supply and turn air **ON**.
2. Mount diaphragm on actuator shaft and turn *clockwise* until fully seated. **Do NOT force;** Finger-tight is sufficient.
3. Insert actuator and diaphragm assembly into valve body. Ensure good seating by rocking assembly into position.
4. **Turn OFF or disconnect the air source to pull diaphragm back and allow easy assembly.**
5. Reinstall clamp.

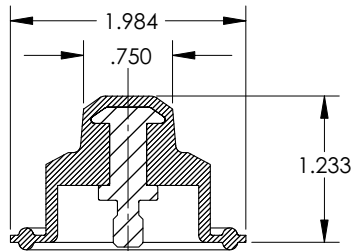
NOTE:

1. Improper diaphragm mounting can cause semi-circular or circular cuts on the diaphragm at the seating surface.
2. Hard piped air lines to pneumatic actuators have been associated with misalignment upon assembly (and thus, seal failure). Please provide some flexible airhose at the pneumatic actuator to avoid this.

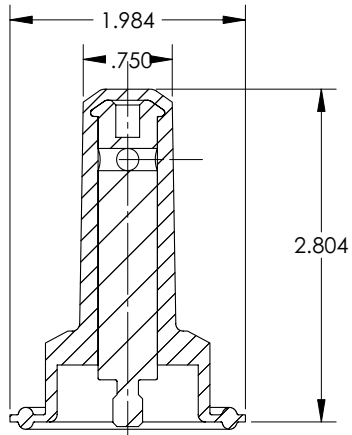
rev: 10/03



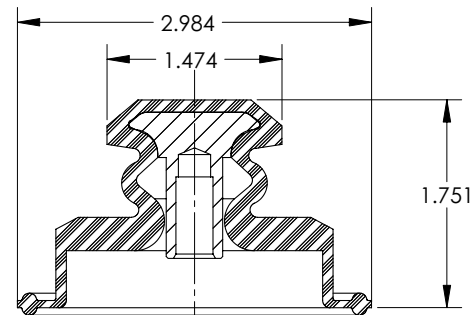
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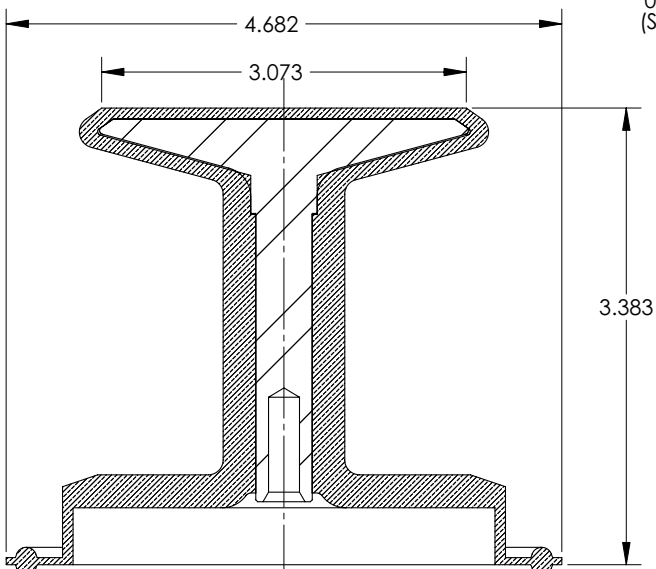
0.5" STANDARD DIAPHRAM
(SL, EP, VT, PS, PE) 05



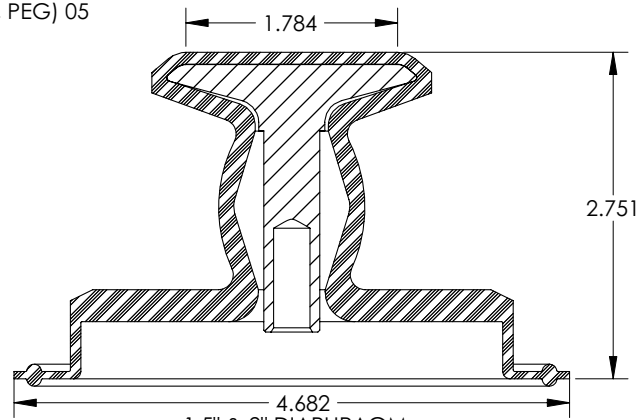
0.5" INTEGRAL DIAPHRAM
(SG, EG, VG, PSG, PEG) 05



1" DIAPHRAM
(SL, EP, VT, PS, PE) 10



3" DIAPHRAM
(SL, EP, VT, PS, PE) 30



1.5" & 2" DIAPHRAM
(SL, EP, VT, PS, PE) 20

ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	QTY REQD
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		CAD GENERATED DRAWING. DO NOT MANUALLY UPDATE		
TOLERANCES ARE:		APPROVALS		
DECIMALS	ANGLES	DATE		
00+ .01	+ 1	DRAWN TERRY FLANDERS 12/20/01		
.000+.005	-	CHECKED MARK EMBURY 12/20/01		
MATERIAL		RESP ENG		
SEE NOTE		MFG ENG		
FINISH		QUAL ENG		
NEXT ASSY	USED ON	SIZE B DRAWING NO. 40-00-0002 REV. B		
APPLICATION		DO NOT SCALE DRAWING		
		SCALE SHEET 1 OF 1		

ASEPCO - WESTLOCK 9920 LIMIT SWITCH INSTRUCTIONS

For information or assistance, please give us a call at 1-800-882-3886

ASSEMBLY

Please see drawing number 40-00-0018

1. Screw machined shaft (7) into the actuator shaft using a 3/32 allen wrench.
2. Using the two long screws, attach the mounting plate (20) to the top of the pneumatic actuator.
3. Remove the limit switch cover.
4. Attach the limit switch base (1) to the mounting plate (20) using the three short screws (17).
5. Slide the trigger assembly (6) – part with the red and black knobs – over the machined shaft (7) until it seats.
6. Screw the yellow indicator shaft (8) onto the machined shaft (7).
7. Screw the cover (11) back onto the base (1).

Assembly is now complete

REMOVAL

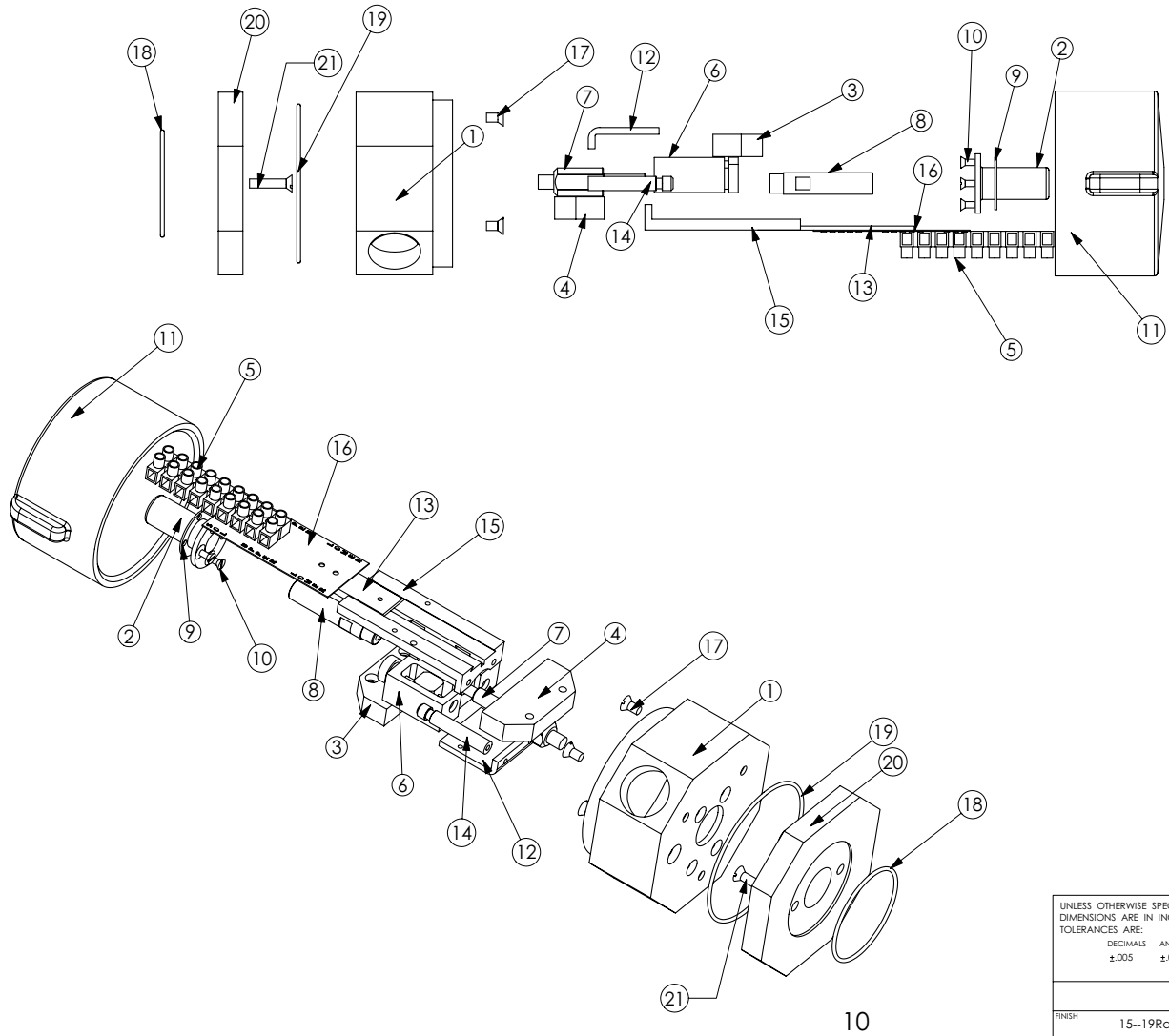
Please see drawing number 40-00-0018

1. Unscrew the limit switch cover (11).
2. Unscrew the yellow indicator shaft (8) from the machined shaft (7).
3. With a 3/32 Allen wrench, unscrew the machined shaft (7) from the adapter shaft.
4. Slide the trigger assembly (6) - part with red and black knobs - off the machined shaft (7).
5. Detach the base (1) of the limit switch from the mounting plate (20) by removing the three short screws (17).
6. Detach the mounting plate from the top of the actuator by removing the two screws.

Disassembly is now complete

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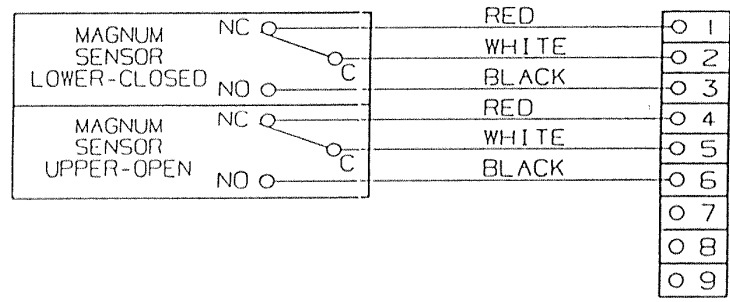
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PROD RELEASE		M.E.



No.	Description
21	Mounting Plate screw
20	Mounting Plate
19	O-ring
18	O-ring
17	Mounting screw
16	Terminal block label
15	Upper mounting bracket
14	Wire guide
13	Terminal block mount
12	Lower mounting bracket
11	Cover
10	Indicator cover screw
9	Indicator cover gasket
8	Indicator shaft
7	Machined shaft
6	Trigger assembly
5	Terminal block
4	Upper Magnum switch
3	Lower Mmagnum switch
2	Indicator cap
1	Base

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS ANGLES ±.005 ±.05*	CAD GENERATED DRAWING. DO NOT MANUALLY UPDATE		ASEPCO 1101 SAN ANTONIO ROAD SUITE 301 MCKINNEY, TEXAS 75069 1-800-852-3886	
	APPROVALS	DATE	Westlock 9920 Limit Switch	
DRAWN JARED PROBST	11/20/00			
CHECKED MARK EMBURY	11/20/00	SIZE DWG. NO. REV. B 40-00-0018 A		
FINISH 15--19Ra	DO NOT SCALE DRAWING	SCALE	SHEET 1 OF 1	

LET	DESCRIPTION	DWN	DATE	D.W.O.
A	ADDED NOTE	CBS	2/29/96	3533
B	LOWER-CLOSED WAS #1 LOWER & UPPER-OPEN WAS #2 UPPER	CBS	1/13/98	6036
C	REMOVED GROUND WIRE	RJD	3/10/98	6411
D	TITLE TO UPDATED FORMAT	RJD	10/5/98	7265



NOTES:

- IF APPLICABLE, CONNECT GROUND WIRE TO TERMINAL POINT 9 (TO BE FIELD GROUNDED EXTERNAL TO HOUSING).
- REFER TO IDENTIFICATION LABEL OF THE UNIT(S) AND/OR SOLENOID VALVE FOR ELECTRICAL PARAMETERS

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	INCHES	MILLIMETERS	LAC	3/11/95					
	2 PLC DEC. ±.015	1 PLC DEC. ±.4	CHK'D	DATE	TITLE WIRING DIAGRAM (9920) (2) MGM-SPDT 9PT				
	3 PLC DEC. ±.005	2 PLC DEC. ±.13	<i>JM</i>	10/6/98					
ANGLE ±1/2°	ANGLE ±1/2°	2829		SIZE					
MATERIAL:	N/A		SCALE		DWG NUMBER		REV		
		N/A		N/A		A		WD-10581	D

ASEPCO Ordering Information

It's easy to get a quote or place an order with us!

Just list your three catalog numbers — one for the **valve body**, one for the **actuator**, and one for the **diaphragm** - and forward to us.

All of our standard products are shown with catalog numbers in the "ASEPCO Products" section of the catalog.

1. Find the **valve body shape** that you want among the product drawings, and note the catalog number on the drawing. (Example: TF20-100 = 2" Tank valve with a 45° elbow outlet) **
2. Choose the **surface finish** you require from the table on next page.
3. Choose the manual or pneumatic **actuator** in the appropriate size and configuration e.g. pneumatic with or without limit switch and note the catalog number shown on the next page. (Example: PN20 = 2" pneumatic actuator).
4. Choose the appropriate **diaphragm size** and elastomer, using the numbers shown on the next page. (Example: SL20 = 2" Silicone diaphragm)
5. **Fax, call or email** ASEPCO for price and delivery information.
Fax 650-691-9600 • Phone 800-882-3886 • Email info@asepco.com

** If you don't see the valve you want just call us.

ASEPCO Valves can be made in a wide variety of sizes and porting options - too numerous to illustrate in a general catalog.

**ASEPCO exists to solve flow control problems.
We will be happy to work with you on any special requirements you may have.**

ASEPCO

General Product Information

Surface Finish

3 surface finishes are available. All valves are electropolished and passivated.

180 grit = 20-25 Micro Inch Ra	Order code = XXXX-XXX -1
240 grit = 15-19 Micro Inch Ra	Order code = XXXX-XXX -2
320 grit = 9-11 Micro Inch Ra	Order code = XXXX-XXX -3
Example TF20-100-2	

Actuators

	4"	3"	1.5" & 2"	1"	.5"
Manual:	MN40	MN30	MN20	MN10	MN05
Pneumatic:	PN40	PN30	PN20	PN10	PN05

Westlock 9920 position indicator with 2-SPDT proximity sensors

Size based on size of actuator: 3" = **LS-20-3** 1.5" & 2" = **LS-20-2** 1" = **LS-20-1** .5" = **LS-20-05**

Diaphragms

	4"	3"	1.5" & 2"	1"	.5" (Standard)	.5" (Satellite)
Silicone	SL40	SL30	SL20	SL10	SL05	SG05
EPDM	EP40	EP30	EP20	EP10	EP05	EG05
Viton	N/A	N/A	VT20	VT10	VT05	VG05
Silicone (Parylene)	N/A	PS30	PS20	PS10	PS05	PSG05
EPDM (Parylene)	N/A	PE30	PE20	PE10	PE05	PEG05

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WARRANTY AND TERMS OF SALE

GENERAL:

The following terms and conditions are applicable to all sales of ASEPCO Valves. Any acceptance by ASEPCO of a purchase order for its valves is hereby made conditional upon the customer's acceptance of these terms and conditions of sales; including, in particular, any which are different from or in addition to or vary the terms contained in the customer's purchase order or request for quotation. Such acceptance shall be deemed to occur upon the failure of the customer to object in writing specifically to these terms and conditions within fourteen (14) days of receipt hereof. No waiver, alteration or modification of these terms and conditions whether in the customer purchase order or otherwise shall be valid unless specifically accepted in writing by an authorized representative of ASEPCO.

LIMITATIONS OF USE:

ASEPCO valves are designed for aseptic processing at not greater than their rated working pressure and within the temperature range designated by ASEPCO. ASEPCO disclaims the suitability for its valves for applications or types of service other than those for which they are intended, as indicated in ASEPCO specifications furnished to the customer. ASEPCO also disclaims suitability of its valves for any use whatever, following an unsuccessful installation qualification protocol or after service without replacement of the diaphragm in accordance with ASEPCO recommendations.

WARRANTY:

ASEPCO warrants its valves against defects in materials or workmanship for a period of one year from the date of shipment, provided that they are used for a purpose and in a manner recommended or approved by ASEPCO and provided that upon inspection by ASEPCO after return to it, its products or parts are found to be defective. In such case, the warranty obligation of ASEPCO shall not exceed the net sales price of the defective product or part. ASEPCO makes no warranty respecting the products of other manufacturers, which it may sell as part of an ASEPCO valve assembly, but will afford to its customers the warranty rights afforded to it by the respective makers. ASEPCO MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFOREMENTIONED WARRANTY ARE DISCLAIMED BY ASEPCO AND EXCLUDED BY THIS WARRANTY. ASEPCO neither assumes nor authorizes any person to assume for it, any other obligation in connection with the sale of its products. THIS WARRANTY SHALL NOT APPLY TO ANY PRODUCTS OR PARTS WHICH HAVE BEEN REPAIRED OR ALTERED WITHOUT PRIOR AUTHORIZATION BY ASEPCO IN WRITING; OR HAVE BEEN SUBJECT TO MISUSE OF ANY KIND INCLUDING BUT NOT LIMITED TO CONTRARY TO ASEPCO INSTRUCTIONS OR RECOMMENDATIONS. ASEPCO SHALL NOT BE RESPONSIBLE FOR DESIGN DEFECTS DUE TO INACCURATE OR INCOMPLETE INFORMATION SUPPLIED BY THE CUSTOMER OR ITS REPRESENTATIVES.

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WARNING:

ASEPCO products should be used only in services and within pressure and temperature ranges designated in its product information or specifications or as specifically approved by it in writing. MISUSE OF ASEPCO PRODUCTS MAY RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE. IF ANY ASEPCO VALVE SHOWS SIGNS OF LEAKAGE, DO NOT OPERATE – REMOVE IT FROM THE LINE AND REPAIR OR REPLACE IT.