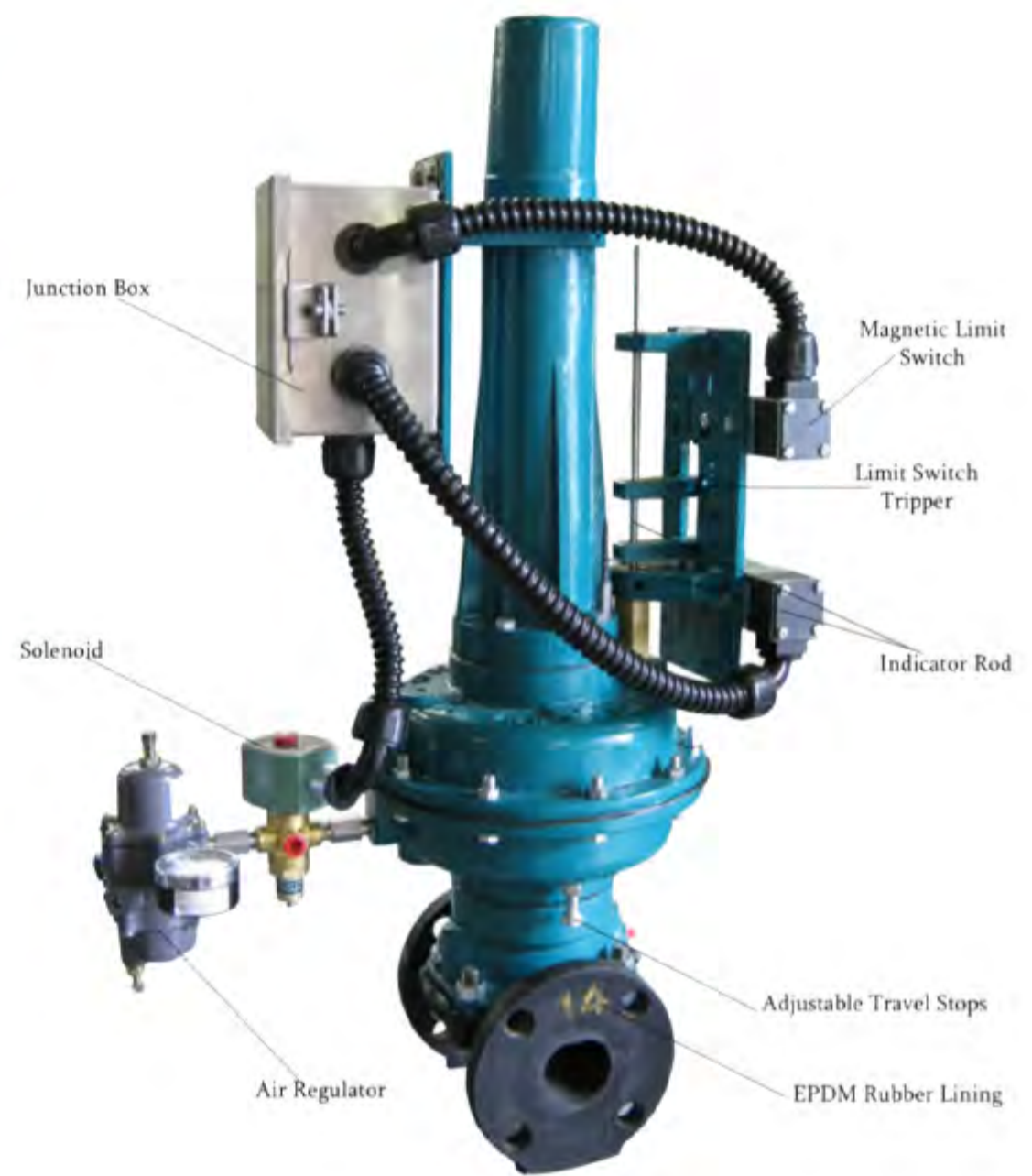


# PNEUMATIC VALVE ACTUATORS

Engineered specifically to  
automate diaphragm valves.



**TRU-TECH VALVE**  
SIMPLIFY YOUR WORLD.

3287 Perry Highway • New Castle, PA 16101  
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TTV AI05  
12 2015



# PNEUMATIC ACTUATOR FEATURES

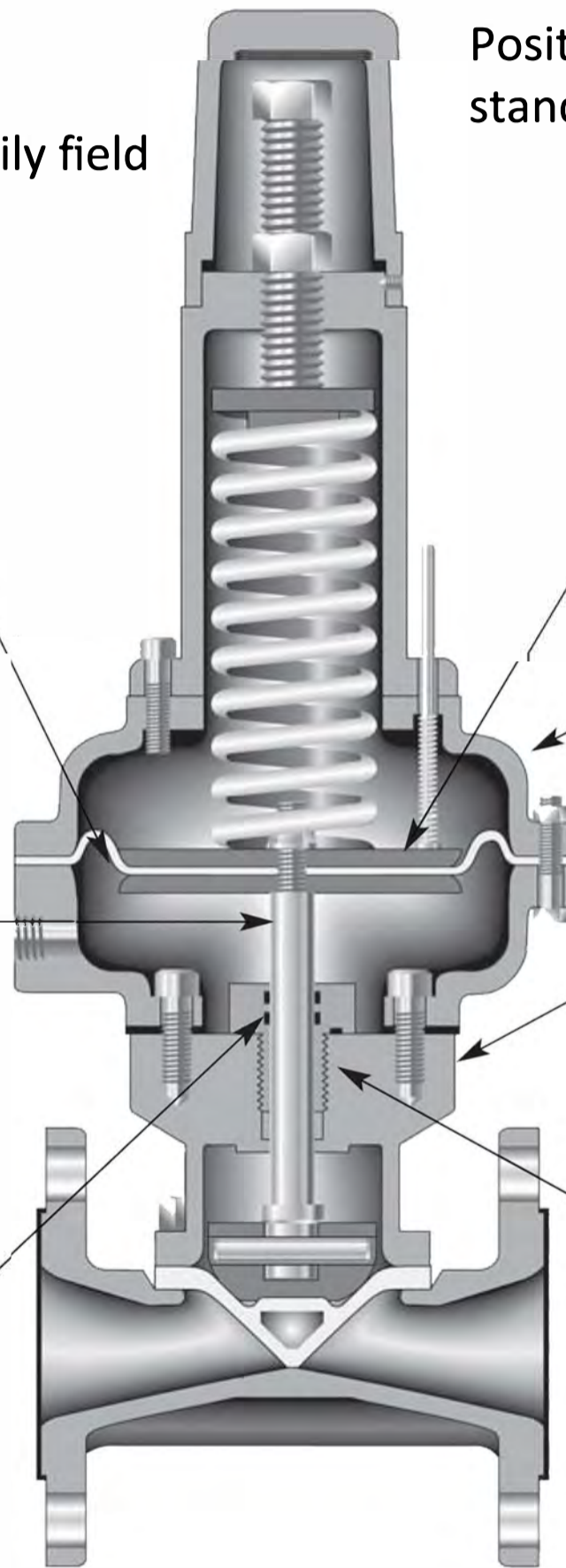
Accessories easily field mounted.

Position Indicator furnished standard.

**DIAPHRAGM:** Molded of nylon reinforced oil-resistant elastomer to provide longer life and high operating pressures.

**SHAFT(Stem):** Precision machined from stainless steel for corrosion and wear resistance. Unique collar controls opening stroke and extends cycle life under load.

**SHAFT SEAL:** Furnished standard with two (2 each) O-Rings for longer trouble free performance.



**DIAPHRAGM PLATES:** Manufactured from heavy section cast iron and steel plate to withstand higher air pressure.

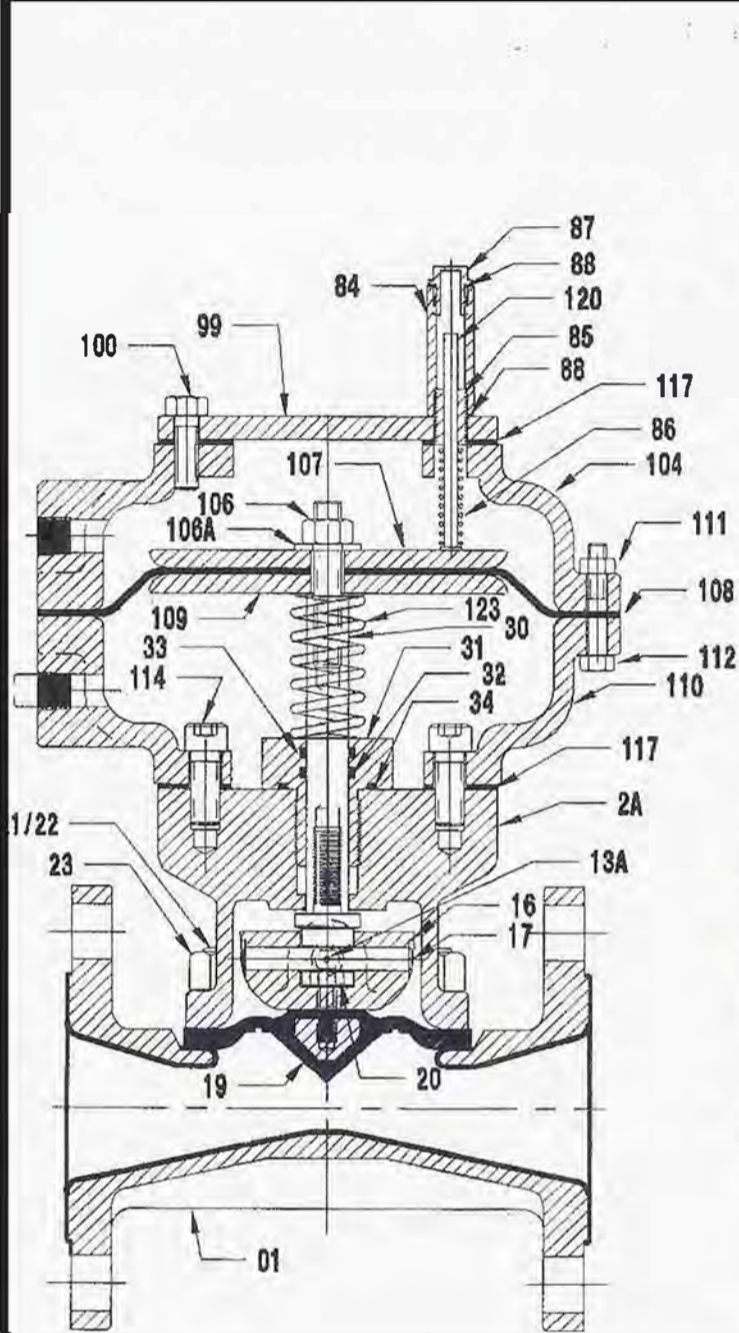
**DIAPHRAGM CASE:** Rugged high strength cast iron with bosses and pads to facilitate the mounting of accessories.

**BONNET:** Designed of high strength cast iron with generous area flat top for precision/super high strength coupling between actuator and valve.

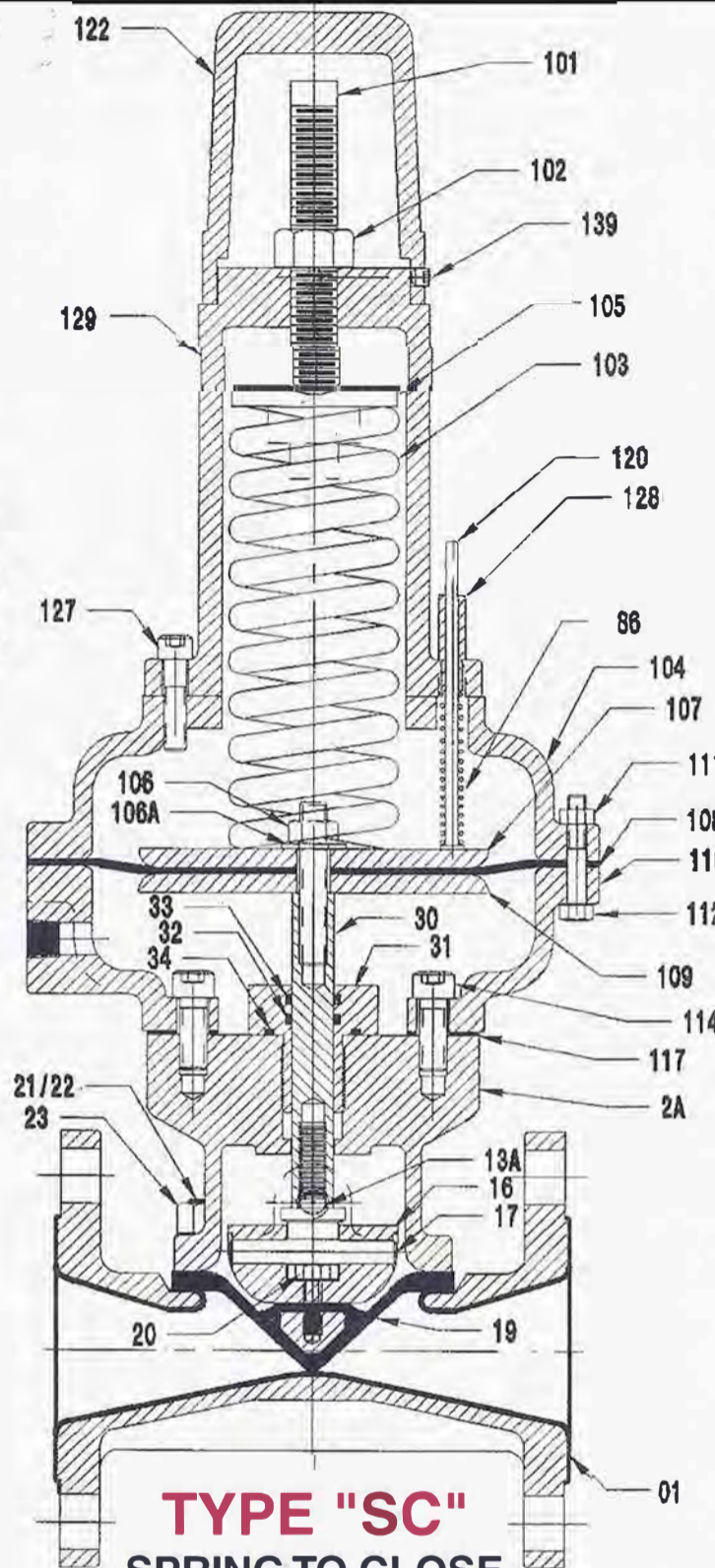
**SHAFT BEARING:** Precision machined from non-metallic self-lubricating material.



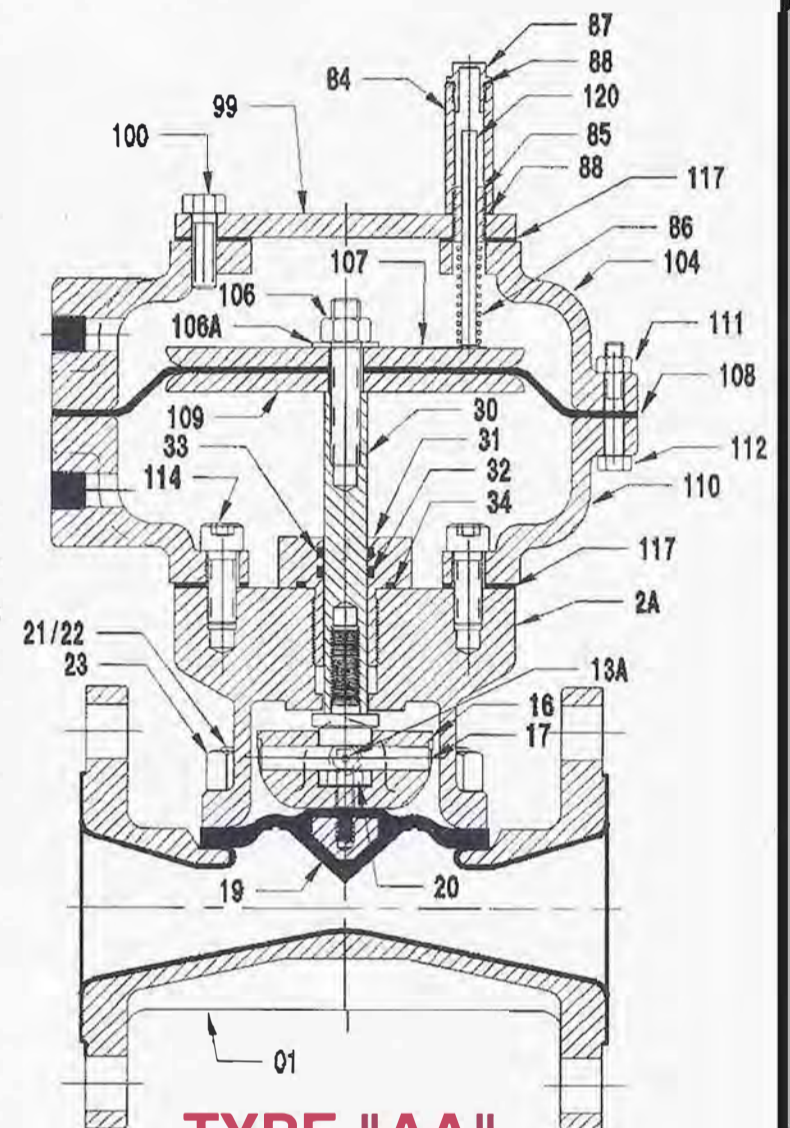
# PNEUMATIC ACTUATOR PARTS LIST



**TYPE "SO"**  
 SPRING TO OPEN  
 AIR TO CLOSE  
 (NORMALLY OPEN)



**TYPE "SC"**  
 SPRING TO CLOSE  
 AIR TO OPEN  
 (NORMALLY CLOSED)



**TYPE "AA"**  
 AIR TO OPEN  
 AIR TO CLOSE  
 (NORMALLY PART OPEN)

## PARTS LIST

NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
1	BODY	84	CLEAR ENCLOSURE	108 *	ACTUATOR DIAPHRAGM
2A	FLAT-TOP BONNET	85	INDICATOR ROD BUSHING	109	LOWER DIAPHRAGM PLATE
13A	TELL-TALE PIPE PLUG	86 *	INDICATOR ROD SPRING	110	LOWER DIAPHRAGM CASE
16	COMPRESSOR	87	ENCLOSURE CAP	111	CASE NUT
17 *	COMPRESSOR PIN	88 *	ENCLOSURE CAP O-RING	112	CASE BOLT
19 *	DIAPHRAGM	99	TOP PLATE	114	LOWER CASE CAPSCREWS
20	DIAPHRAGM CAPSCREWS	100	TOP PLATE BOLTS	117 *	GASKET
21	BONNET STUDS	101	ADJUSTING SCREW	120	INDICATOR ROD
22	BONNET BOLTS	102	LOCKNUT	122	WEATHER CAP
23	BONNET NUTS	103 *	SPRING (SC)	123 *	SPRING (SO)
30	ACTUATOR SHAFT	104	UPPER DIAPHRAGM CASE	127	SPRING CHAMBER SCREWS
31	ACTUATOR BUSHING	105	SPRING RETAINER	128	INDICATOR ROD BUSHING (SC)
32 *	ACTUATOR BUSHING INNER SEAL	106	DIAPHRAGM NUT	129	SPRING CHAMBER
33 *	ACTUATOR BUSHING WIPER RING	106A	DIAPHRAGM WASHER	139	SETSCREWS
34 *	ACTUATOR BUSHING LOWER SEAL	107	UPPER DIAPHRAGM PLATE		

\* - RECOMMENDED SPARE PARTS



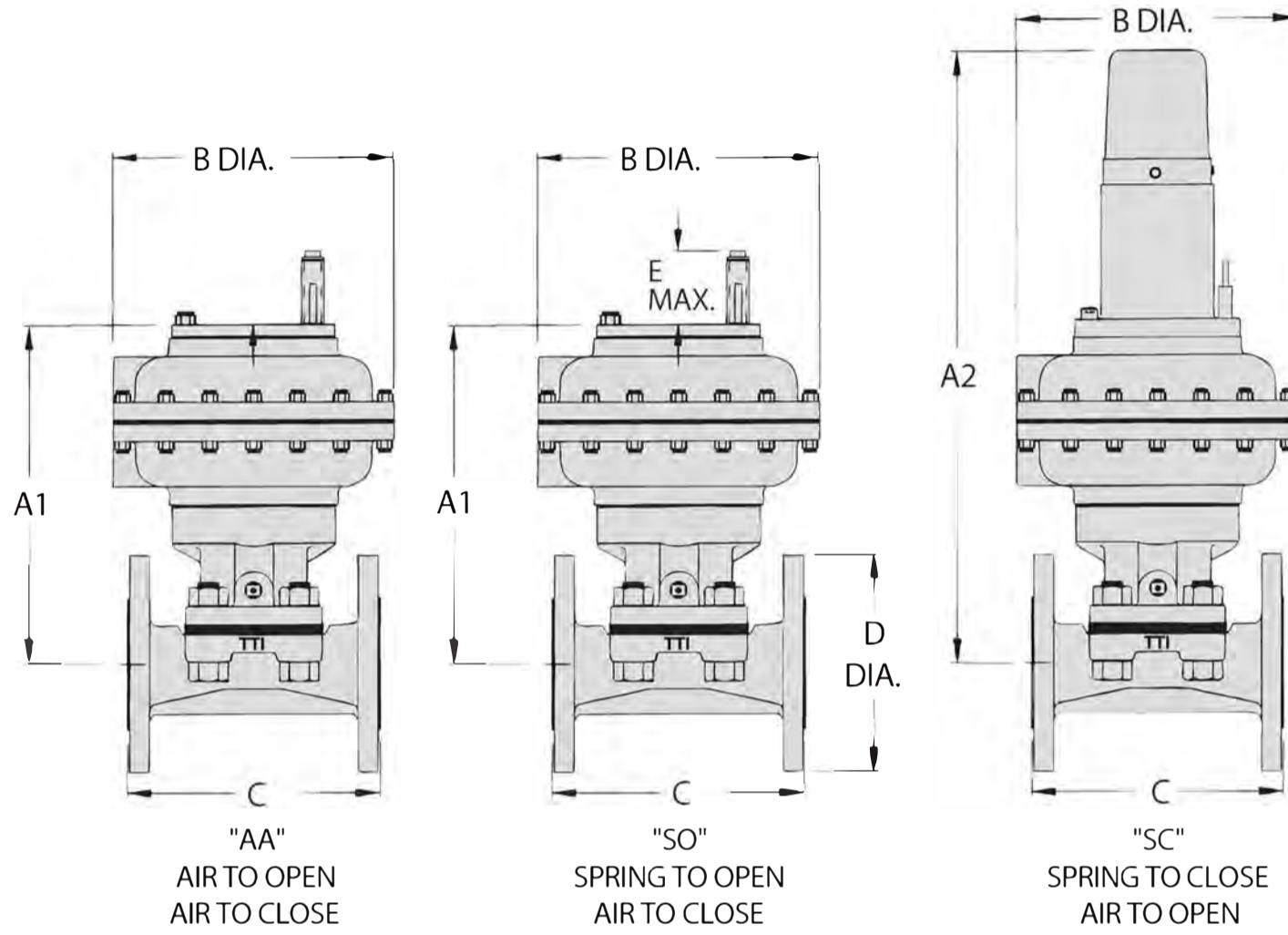
# PNEUMATIC ACTUATOR ACCESSORIES

LIMIT SWITCHES AND PROXIMITY SWITCHES	"A" POSITIONERS FOR RATE OF FLOW, PRESSURE REDUCING AND OTHER THROTTLING APPLICATIONS	"B" TRANSDUCERS FOR THROTTLING APPLICATIONS, RESPONDING TO A 4-20 MA OR OTHER ELECT. SIGNAL
SOLENOID VALVES FOR OPEN/CLOSE OPERATION	REGULATORS AND FILTER REGULATORS	ADJUSTABLE OPENING STOPS
<p>4-Way for AA Actuators</p> <p>3-Way for SO &amp; SC Actuators</p>	<p>Regulators are recommended for use with actuators to extend cycle life.</p> <p>Filter-Regulators are recommended for use with positioners and/or transducers.</p>	
SPECIAL PAINTS AND COATINGS	MANUAL OVER-RIDE ALLOWS VALVE CLOSURE ON POWER FAILURE	YOKE MOUNTING
<ul style="list-style-type: none"> <li>• <b>Liquid Epoxy:</b> Chemical resistant, 2-part catalyzed. <b>KOP-COAT® 300-M</b></li> <li>• <b>Powder Epoxy:</b> Premium grade coating for maximum protection and best appearance. <b>SCOTCHKOTE® 134</b></li> </ul>		



# PNEUMATIC ACTUATOR DIMENSIONS AND TECHNICAL DATA

## ACTUATOR SIZES 10 - 20 - 35



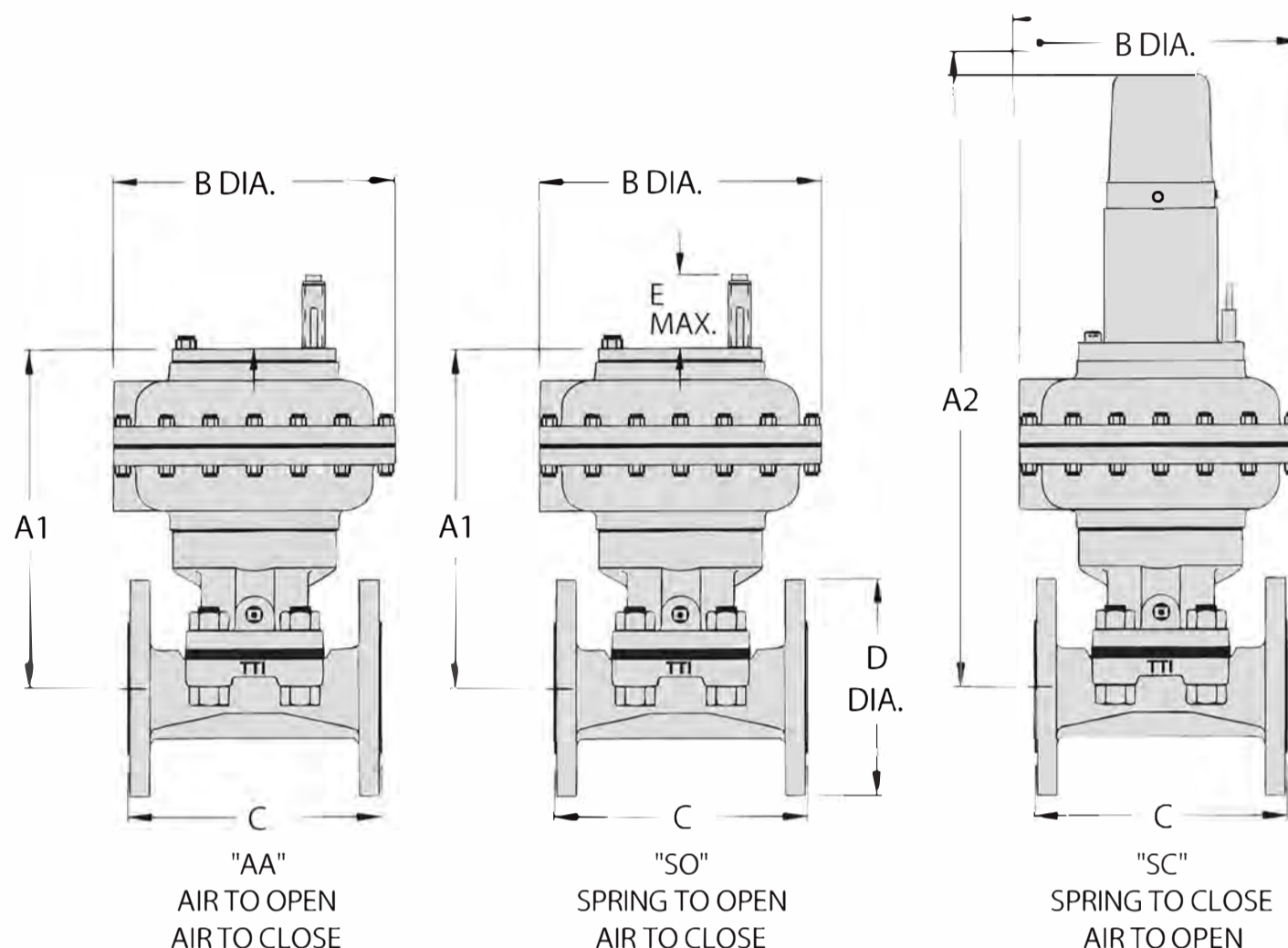
Pneumatic Actuator Dimensions and Technical Data															
Valve Size	C	D	E	#10 Actuator			#20 Actuator			#35 Actuator			Valve Stroke		
				A1	A2	B	A1	A2	B	A1	A2	B	TF	TT	
1/2	5.0	2.6	2.8	9.3	19.1	6.3	9.4	19.2	7.8	11.1	20.9	9.5	0.33	0.33	
3/4	5.0	2.6	2.8	9.3	19.1	6.3	9.4	19.2	7.8	11.1	20.9	9.5	0.33	0.33	
1	5.0	2.6	2.8	9.3	19.1	6.3	10.1	19.9	7.8	11.8	21.7	9.5	0.33	0.33	
1 1/4	7.0	2.6	2.8	10.1	19.8	6.3	10.2	24.6	7.8	11.4	26.4	9.5	0.33	0.47	
1 1/2	7.0	2.6	2.8	10.1	19.8	6.3	10.2	24.6	7.8	11.4	26.4	9.5	0.75	0.47	
2	7.0	2.6	2.8	9.6	19.8	6.3	10.2	24.6	7.8	11.4	26.4	9.5	0.75	0.47	
2 1/2	8.0	3.3	3.5	NA	NA	NA	10.6	25.6	7.8	12.4	27.3	9.5	1.19	0.75	
3	8.0	3.3	3.5	NA	NA	NA	10.6	25.6	7.8	12.4	27.3	9.5	1.19	0.75	
4	9.0	3.3	3.5	NA	NA	NA	NA	NA	NA	13.9	28.9	9.5	1.78	1.19	
Actuator Stroke (IN.)				1.75			2.25			2.75					
Effective Area (SQ.IN.)				14			19			34					
Maximum Air Pressure (PSI)							100								

Dimensions approximate only.  
 Valves may have a combination of drilled holes and threaded holes on flanges.  
 Contact factory for additional information.



# PNEUMATIC ACTUATOR DIMENSIONS AND TECHNICAL DATA

## ACTUATOR SIZES 60 - 90 - 140 - 280



Pneumatic Actuator Dimensions and Technical Data																			
Valve Size	C	D	E	#60 Actuator			#90 Actuator			#140 Actuator			#280 Actuator			Valve Stroke			
				A1	A2	B	A1	A2	B	A1	A2	B	A1	A2	B	TF	TT		
1 1/2	7.0	2.6	2.8	12.1	27.1	12.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.75	0.47		
2	7.0	2.6	2.8	12.1	27.1	12.3	12.1	41.5	15.0	NA	NA	NA	NA	NA	NA	0.75	0.47		
2 1/2	8.0	3.3	3.5	13.1	28.1	12.3	13.1	42.5	15.0	14.2	43.8	18.0	NA	NA	NA	1.19	0.75		
3	8.0	3.3	3.5	13.1	28.1	12.3	13.1	42.5	15.0	14.2	43.8	18.0	NA	NA	NA	1.19	0.75		
4	9.0	3.3	3.5	14.7	29.7	12.3	14.8	44.0	15.0	15.8	45.8	18.0	27.7	57.3	18.0	1.78	1.19		
5	10.5	4.8	5.0	18.2	33.2	12.3	18.3	47.6	15.0	19.3	48.9	18.0	31.2	60.8	18.0	2.63	1.78		
6	10.5	4.8	5.0	18.2	33.2	12.3	18.3	47.6	15.0	19.3	48.9	18.0	31.2	60.8	18.0	2.63	1.78		
8	11.5	4.8	5.0	18.2	33.2	12.3	18.3	47.6	15.0	19.3	48.9	18.0	31.2	60.8	18.0	-	2.63		
Actuator Stroke (IN.)				3.13			4.10			5.00			5.00						
Effective Area (SQ.IN.)				59			85			141			281						
Maximum Air Pressure (PSI)				100															

Dimensions approximate only.

Valves may have a combination of drilled holes and threaded holes on flanges.

Contact factory for additional information.



# PNEUMATIC ACTUATOR ACCESSORIES

### "SO" SPRING TO OPEN (ON - OFF CONTROL)

This actuator/accessory package is designed to normally position the valve open. The valve will close when compressed air is admitted into the upper actuator chamber and the actuator spring will open the valve when the air is exhausted.

### "AA" AIR - AIR, DOUBLE ACTING (ON - OFF CONTROL)

This actuator/accessory package is designed to open the valve when compressed air is admitted into the lower chamber and closes the valve when compressed air is admitted into the upper chamber.

### "AA" AIR - AIR, DOUBLE ACTING (AUTOMATIC THROTTLING)

This actuator/accessory package is provided with a positioner to accurately throttle the valve for pressure, liquid level, flow, temperature, and other control requirements. A transducer is generally supplied to provide valve modulation proportional to an electric signal (most often 4-20 ma).

### "SC" SPRING TO CLOSE (ON - OFF CONTROL)

OR AUTOMATIC THROTTLING (NOT SHOWN)

This actuator/accessory package is designed to normally position the valve closed. The valve will open when compressed air is admitted into the lower actuator chamber and the actuator spring will close the valve when the air is exhausted.