

30A Series Cylinder Actuator

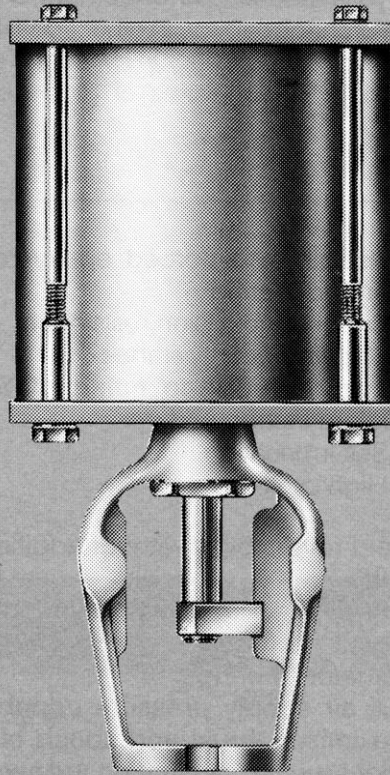


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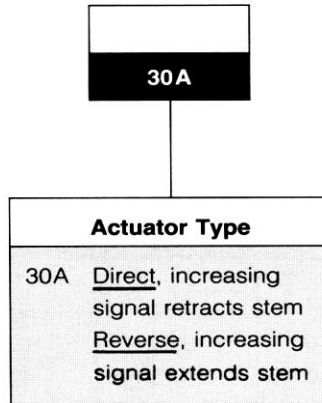
Foreword

The 30A cylinder combines the versatility of the traditional Annin control valve configuration to a high performance, double acting, spring fail-safe actuator. This cylinder actuator utilizes the standard split-body yoke mounting arrangement, so it is fully interchangeable with other split-body actuator offerings. The 30A cylinder is also adaptable to our series of globe style valves.

Features

1. Glass fibre reinforced epoxy resin cylinder, offering
 - Superior corrosion resistance
 - High impact resistance
 - Internal surface finish of 5-15 micro-inches
 - Self lubrication
 - High cycle life
2. Field reversibility without additional parts
3. Standard split body yoke mounting for full interchangeability with other actuator offerings
4. Full air supply pressure capability maximizes thrust and speed of response while eliminating the necessity for supply pressure regulators. Consult thrust tables for supply pressure limitations.
5. Stainless steel mounting hardware for increased corrosion resistance.
6. Wide selection of spring ranges for optimization of actuator force.
7. Steel or cast iron spring retaining parts to maintain positive failure action at temperature extremes.

Numbering System



General Data

type _____

Double acting cylinder
with fail safe spring

ambient temperature limit _____

- + 180°F (82°C) Buna-N O-Rings
- + 225°F (107°C) Viton O-Rings

action _____

Increasing signal retracts stem
(direct)
Increasing signal extends stem
(reverse)

supply pressure _____

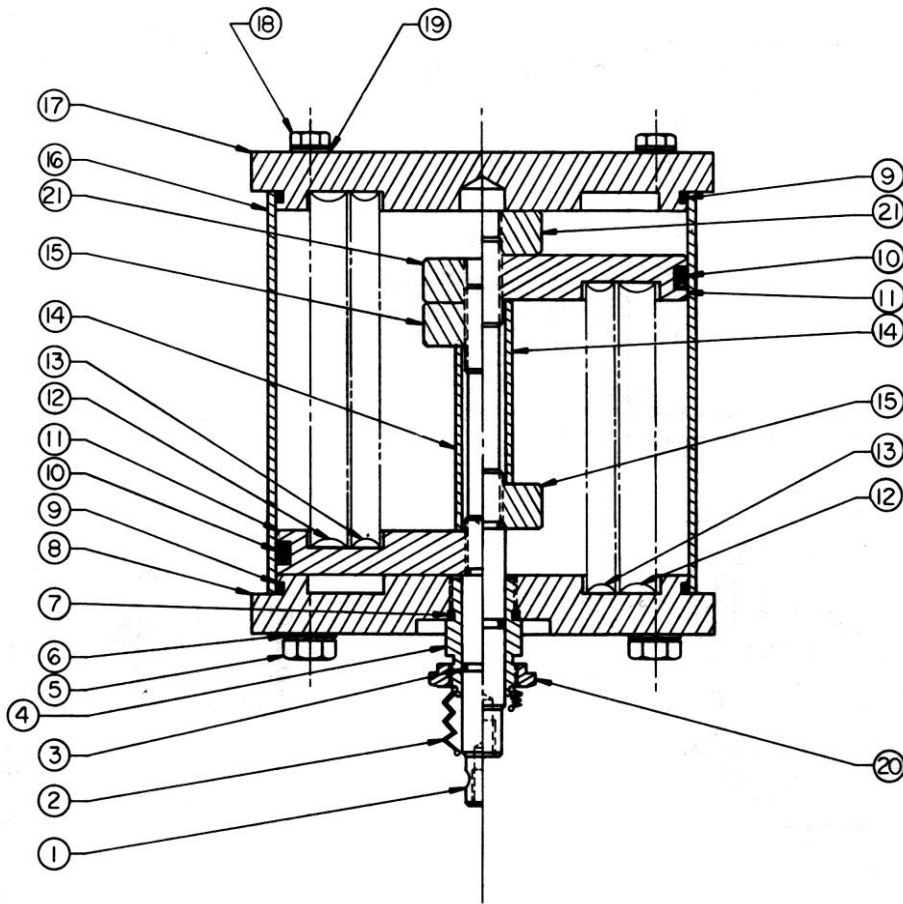
up to 150 psi

air connections _____

¼" NPT upper
and lower

Nominal Effective Area (sq. in.)	Maximum Stroke (in.)	Available Spring Ranges (Psig) All Sizes
38	1.5	10-20
78	2.5	15-30
154	6.0	or
314	6.0	25-50

Auxiliary side mounted handwheel is available.

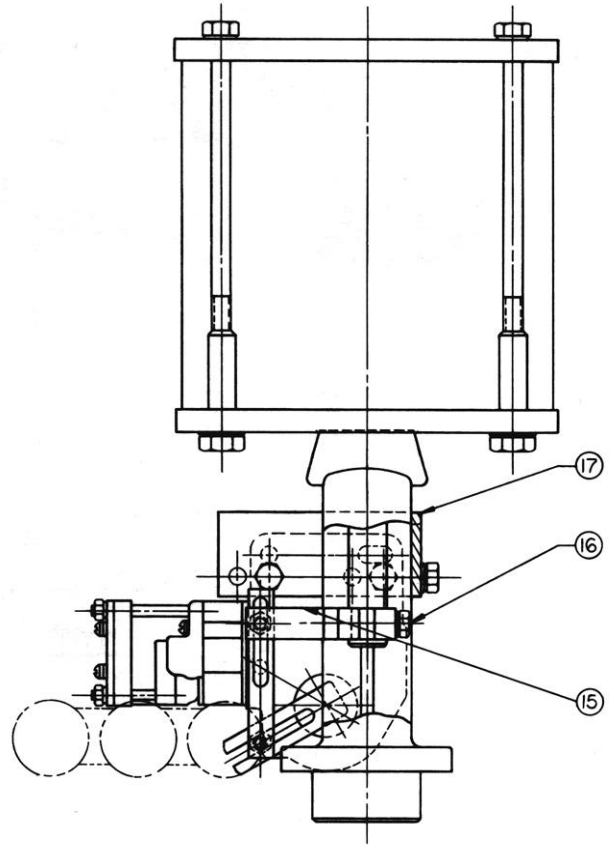
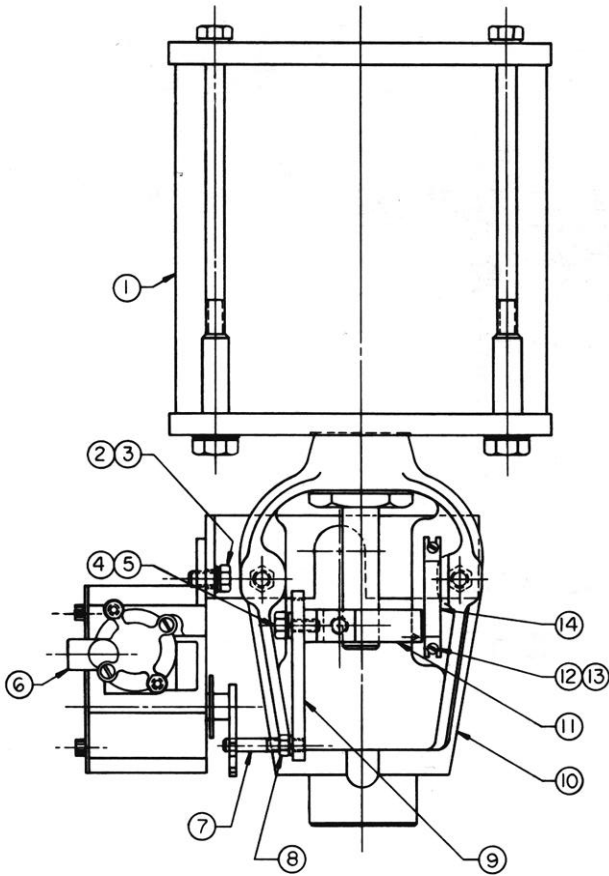


Materials

Ref. No.	Description	Material
1	Piston Rod	303 St. St.
2	Piston Rod Boot	Neoprene
3	O-Ring	Buna-N (Viton*)
4	Adapter Screw	Aluminum Bronze
5	Extended Nut	304 St. St.
6	Flat Washer	Molded Nylon
7	O-Ring	Buna-N (Viton*)
8	Bottom Cap	Steel (St. St.*)
9	O-Ring	Buna-N (Viton*)
10	O-Ring	Buna-N (Viton*)
11	Piston	Steel (St. St.*)

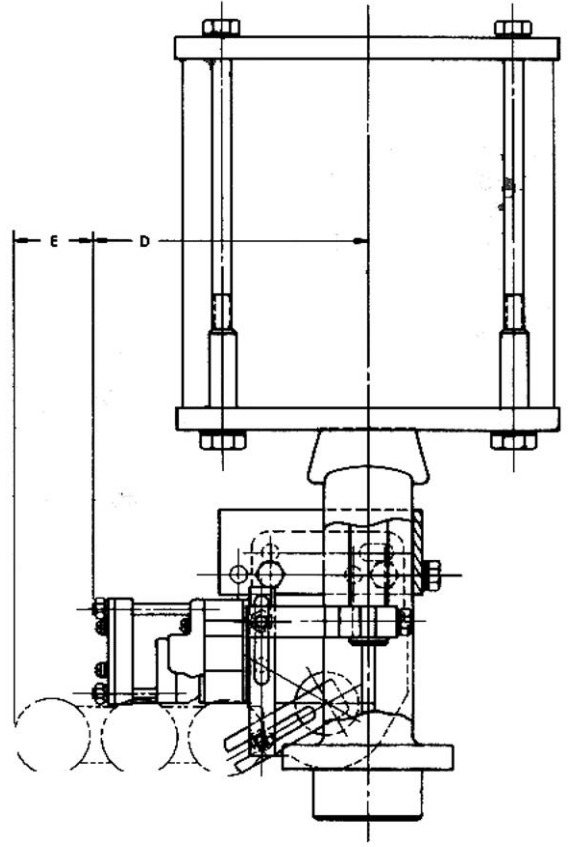
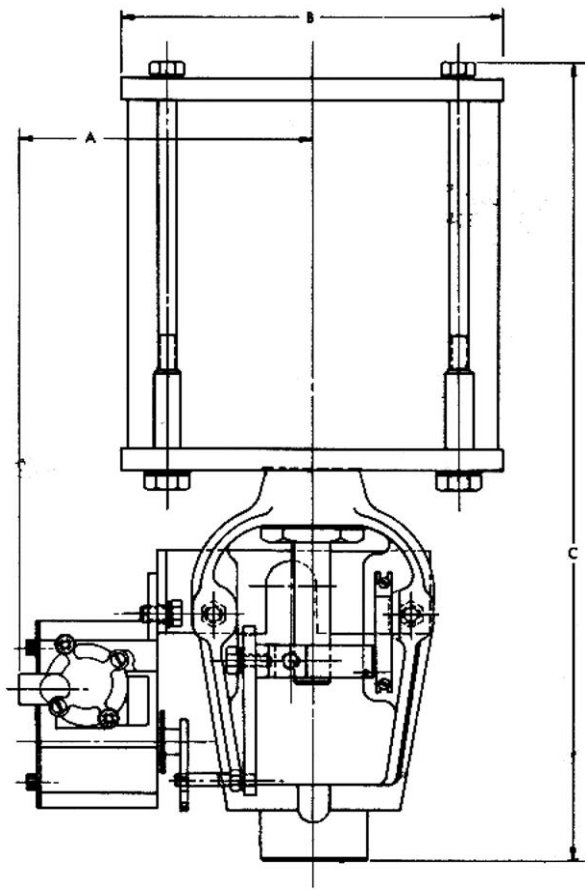
* Denotes optional material

Ref. No.	Description	Material
12	Spring	Steel
13	Spring	Steel
14	Spacer	Steel
15	Travel Stop	Steel
16	Cylinder	Black Amalgon
17	Top Cap	Steel (St. St.*)
18	Cap Screw	St. St.
19	Flat Washer	Molded Nylon
20	Adapter Nut	Steel (St. St.*)
21	Travel Stop	St. St.



Ref. No.	Part Name	Material
1	Cylinder	See Page 5
2	Cap Screw	Steel (St. St.*)
3	Lock Washer	Steel (St. St.*)
4	Cap Screw	St. St.
5	Lock Washer	St. St.
6	Positioner	
7	Feedback Finger	St. St.
8	Jam Nut	St. St.
9	Adjustment Bar	St. St.
10	Yoke	D.I. (St. St.*)
11	Stem Lock	Steel (St. St.*)
12	Screw	St. St.
13	Nut	St. St.
14	Travel Plate	St. St.
15	Adapter Arm	St. St.
16	Cap Screw	Steel (St. St.*)
17	Mounting Plate	Steel (St. St.*)

* Denotes optional material



Dimensions inches

Actuator and Yoke Size	A	B (Dia.)	C	D	E
38 sq. in. "A" yoke	5.8	7.6	14.0	5.8	1.5
38 sq. in. "B" yoke	5.8	7.6	15.8	5.5	1.5
78 sq. in. "B" yoke	5.8	10.5	20.0	5.5	1.5
78 sq. in. "C" yoke	6.4	10.5	21.4	5.5	1.5
154 sq. in. "C" yoke	—	14.75	30.2	—	—
154 sq. in. "D" yoke	—	14.75	33.0	—	—
314 sq. in. "D" yoke	—	24.5	35.5	—	—

USEFUL EQUIVALENTS

U.S. CUSTOMARY UNITS

Specific gravity of air G = 1 (reference for gases)

Specific gravity of water = 1 (reference for liquids)

U.S. gallon of water = 8.33 lbs @ std. cond.

1 cubic foot of water = 7.48 gallons

Air specific volume = 1/density = 13.1 cubic feet/lb

G of any gas = density of gas/0.076

T + 460

Standard conditions (U.S. customary) are at 14.69 psia & 60°F

Flow conversion of gas

$$\text{SCFH} = \frac{\text{Lbs/hr}}{\text{density}}$$

$$\text{SCFH} = \frac{\text{Lbs/hr} \times 379}{M}$$

$$\text{SCFH} = \frac{\text{Lbs/hr} \times 13.1}{G}$$

Flow conversion of liquid

$$\text{GPM} = \frac{\text{Lbs/hr}}{500 \times G}$$

Temperature Conversion

$$F \text{ (Fahrenheit)} = C(9/5) + 32$$

$$C \text{ (Celsius)} = (F - 32) 5/9$$

METRIC CONVERSION TABLES

Multiply	By	To Obtain
LENGTH		
millimeters	0.039	inches
centimeters	0.394	inches
inches	2.54	centimeters
feet	30.48	centimeters
feet	0.304	meters
AREA		
sq. centimeters	0.155	sq. inches
sq. centimeters	0.001076	sq. feet
sq. inches	6.452	sq. centimeters
sq. inches	0.00694	sq. feet
sq. feet	929	sq. centimeters
FLOW RATES		
gallons US/minute (GPM)	3.785	liters/min
gallons US/minute	0.133	ft ³ /min
gallons US/minute	0.227	m ³ /hr
cubic feet/minute	7.481	GPM
cubic feet/hour	0.1247	GPM
cubic feet/hour	0.01667	ft ³ /min
cubic meters/hour	4.403	GPM
cubic meters/hour	35.31	ft ³ /hr
VELOCITY		
feet per second	0.3048	meters/second
feet per second	1.097	km/hr
feet per second	0.6818	miles/hr

Multiply	By	To Obtain
VOLUME & CAPACITY		
cubic feet	28.32	liters
cubic feet	7.4805	gallons
liters	61.02	cubic inches
liters	0.03531	cubic feet
liters	0.264	gallons
gallons	3785.0	cubic cm
gallons	231.0	cubic inches
gallons	0.1337	cubic feet
WEIGHT		
pounds	0.453	kilogram
kilogram	2.205	pounds
PRESSURE & HEAD		
pounds/sq. inch	0.06895	bar
pounds/sq. inch	0.06804	atmosphere
pounds/sq. inch	0.0703	Kg/cm ²
pounds/sq. inch	2.307	ft of H ₂ O (4°C)
pounds/sq. inch	0.703	m of H ₂ O (4°C)
pounds/sq. inch	5.171	cm of Hg (0°C)
pounds/sq. inch	2.036	in of Hg (0°C)
atmosphere	14.69	psi
atmosphere	1.013	bar
atmosphere	1.033	Kg/cm ²
atmosphere	101.3	kPa
bar	14.50	psi
kilogram/sq. cm	14.22	psi
kiloPascal	0.145	psi

Facilities: Brazil, Canada, France, Germany, Italy, Japan, Mexico, Netherlands, Singapore, Spain, United Kingdom, United States



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