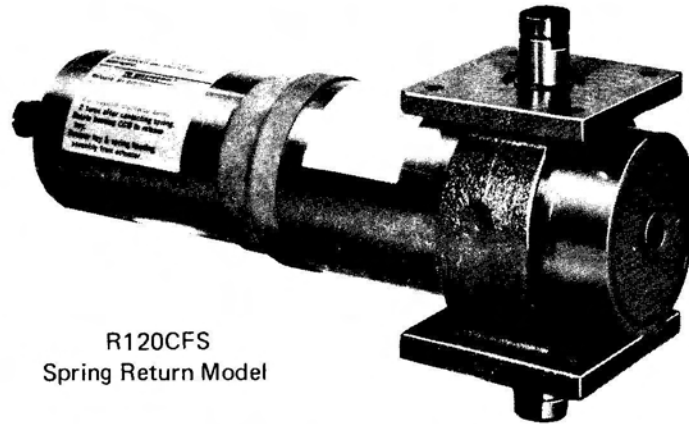


# QUALITY CONTROLS, INC.

1-603-286-3321

## ROTARY PNEUMATIC/HYDRAULIC ACTUATOR Models R120C\* and R120CFS\*



R120CFS  
Spring Return Model

### FEATURES AND SPECIFICATIONS

#### DOUBLE SCOTCH YOKE DRIVE ACTION

Double scotch yoke provides for single or double piston drive with maximum starting torque transmission to actuator drive shaft.

#### RETAINER KEY FASTENER

The end cap is fastened to the actuator body by a retainer key. A matched groove around the end cap and the actuator body accepts the retainer key which provides full 360° contact for positive lock. The same retainer key is used to replace the end cap with a spring capsule for conversion to Fail Safe actuation without removing the actuator from the line.

#### FAIL SAFE SPRING CAPSULE

The spring is factory assembled into a locked capsule for safe, simple installation and removal. Special O-ring seal prevents internal corrosion due to moisture and other contaminants. When ordered with a solenoid valve, actuator will be piped with a spring loaded check valve and breather cap for system exhaust.

#### DOUBLE MOUNTING PAD

Square top and bottom pads are identical. Bottom pad provides for multi-position, rugged attachment to mounting bracket. Top pad provides versatile mounting of auxiliary items such as limit switches, positioners, etc.

#### STEM LOCATION IS CENTERBORE OF PISTON

Provides for unlimited mounting positions. Actuator can be installed parallel to pipe line or at 90° position.

#### MANUAL OVERRIDE

Actuator drive shaft extends from top of actuator providing for emergency manual operation.

#### WEATHER GUARD

Standard on fail safe models for protection against rain and snow entering the fail safe capsule.

### OPTIONAL EQUIPMENT

#### SOLENOID VALVES - Mounted and Piped

Specify enclosure - NEMA I, III, IV, VII, etc.

#### AIR PILOT VALVES - Mounted and Piped

Air control in lieu of solenoids.

#### LIMIT SWITCHES - Mounted

For open/close position indication. Specify type - NEMA I, III, IV, VII, etc.

#### POSITIONER - Mounted and Piped

3 - 15 psi instrument air standard. If other signal range is required, please specify.

#### ADJUSTABLE TRAVEL STOPS

Mechanically limit travel of actuator.

#### SPECIAL COATING

For corrosion resistance. Specify requirements.

#### AIR PREPARATION ACCESSORIES

Furnished loose, but can be mounted and piped if specified.

##### AIR REGULATOR

Adjusts air pressure leading to actuator.

##### AIR FILTER

Assures clean air for actuator.

##### AIR LUBRICATOR

Provides oil mist for internal lubrication of actuator.

##### AIR SPEED CONTROL

Controls air to actuator to adjust speed of actuation.

#### HANDLE FOR MANUAL OPERATION

Available for double-acting configuration. Do not operate manually with air pressure on actuator. (Lever type handles *not recommended* for operating spring return actuators.)

#### HIGH TEMPERATURE PREPARATION

Special seals, heat shields, extended brackets, etc.

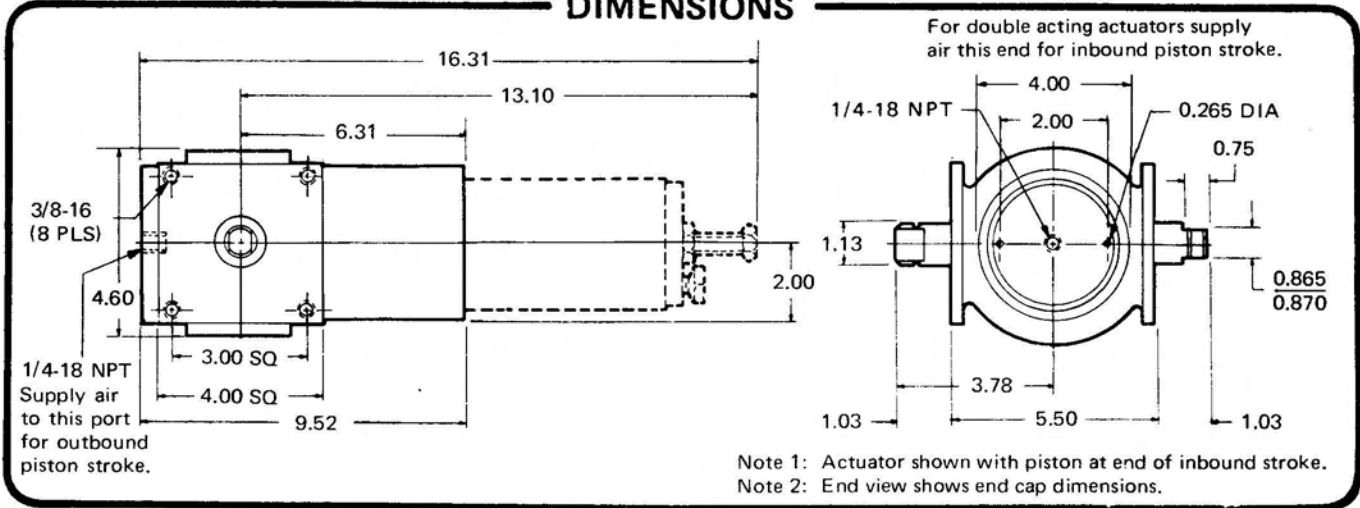
#### SYSTEM MODULES

Can be quoted upon receipt of complete specifications.

# ROTARY PNEUMATIC/HYDRAULIC ACTUATOR

MODELS R120C and R120CFS

## DIMENSIONS



## TECHNICAL DATA

BORE .....	3.52 In.	CYLINDER VOLUME	
STROKE .....	2.36 In.	Double Acting	
NO. OF PISTONS .....	1	inner .....	58 Cu. In.
		outer .....	23 Cu. In.
		Fail Safe .....	58 Cu. In.
MAXIMUM WORKING PRESSURE		OUTPUT DRIVE TRAVEL .....	90°
Pneumatic .....	125 psi	WEIGHT	
Hydraulic .....	125 psi	Double Acting .....	24 Lbs.
		Fail Safe .....	32 Lbs.

### DOUBLE ACTING ACTUATOR (R120C) OUTPUT TORQUES

TORQUE lb-in.	OPERATING PRESSURE*								
	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI	110 PSI	120 PSI
<b>BREAK</b>	625	810	995	1188	1380	1543	1705	1885	2065
<b>RUNNING</b>	307	401	495	580	665	755	845	935	1025

\*Available air pressure must be specified

### FAIL SAFE ACTUATOR (R120CFS) OUTPUT TORQUES

TORQUE lb-in.	OPERATING PRESSURE*				
	40 PSI	60 PSI	70 PSI	80 PSI	100 PSI
<b>BREAK-AIR</b>	355	540	620	755	925
<b>FINISH-AIR</b>	195	300	355	430	510
<b>BREAK-SPRING</b>	355	590	655	820	1010
<b>FINISH-SPRING</b>	155	280	325	390	550

\*Available air pressure must be specified

**RECOMMENDED SPARE PARTS:** One complete set of O-rings, and one set of retaining keys.



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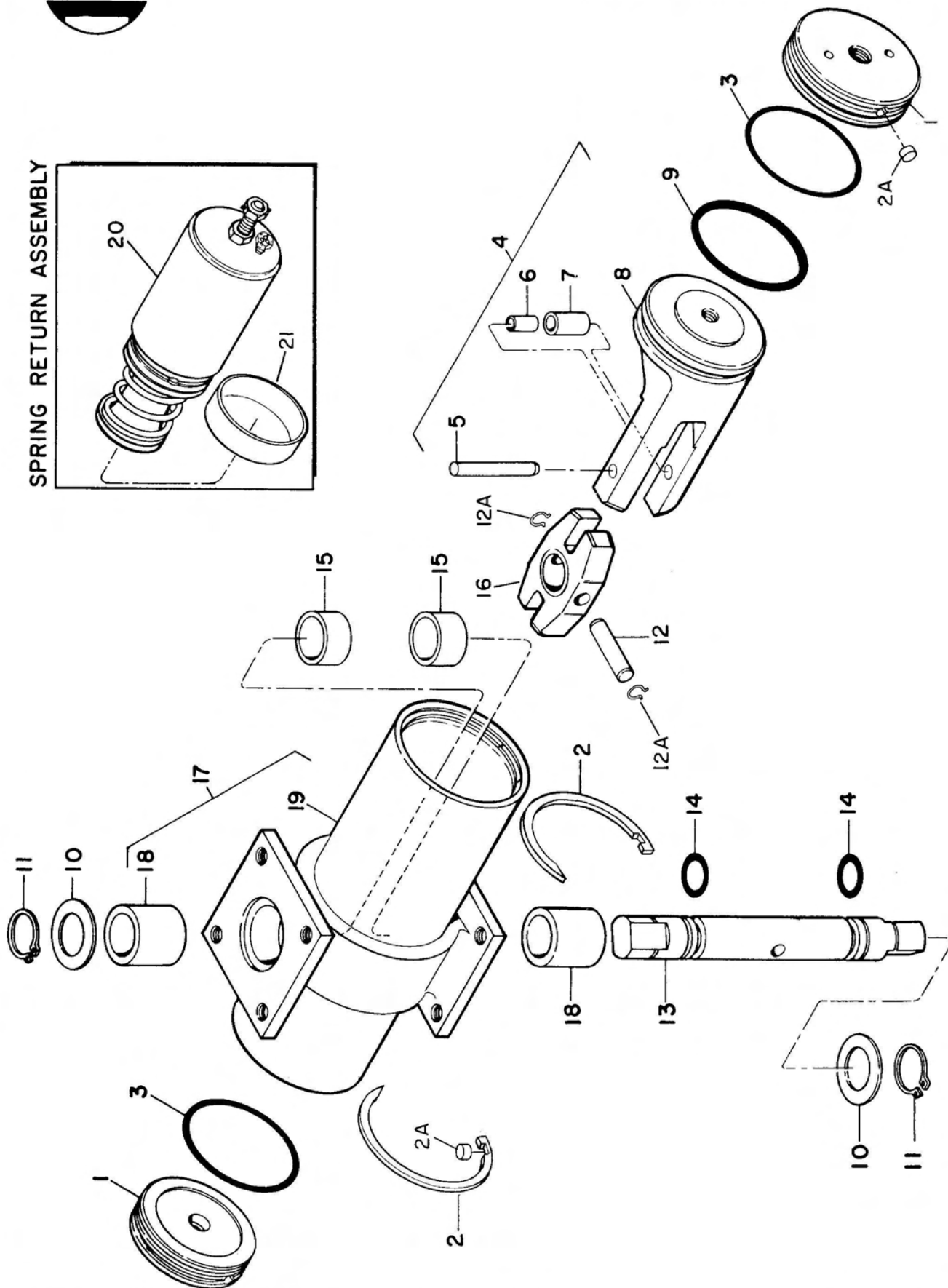
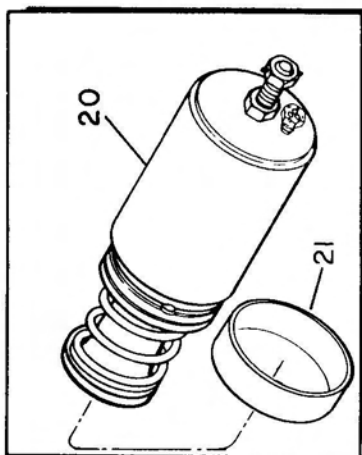
# QUALITY CONTROLS, INC.

## PNEUMATIC ACTUATOR

MODEL R120C and R120CFS



SPRING RETURN ASSEMBLY



# PARTS LIST

## MODEL R120C and R120CFS

INDEX NO.	PART NUMBER	DESCRIPTION	QTY	U/O CODE
REF.	R120C	ACTUATOR, Pneumatic, rotary . . . . .	REF.	A
REF.	R120CFS	ACTUATOR, Pneumatic, rotary (Fail Safe). . . . .	REF.	B
1	430-1017	. CAP, End (see note 1) . . . . .	2	
2	430-2904	. KEY, Retaining (AP) . . . . .	2	
2A	400-2901	. SLUG, Key retainer . . . . .	2	
3	952-0152-410	. O-RING, End cap (see note 2) . . . . .	2	
4	4300-3201	. PISTON AND ROLLER ASSEMBLY . . . . .	1	
5	430-2501	. PIN, Straight, headless . . . . .	1	
6	430-2401	. SPACER, Sleeve . . . . .	1	
7	430-2203	. BEARING, Sleeve . . . . .	1	
8	430-3203	. PISTON . . . . .	1	
9	952-0338-1A0	. O-RING, Piston (see note 2) . . . . .	1	
10	191-2413	. WASHER, Thrust . . . . .	2	
11	959-2703-000	. RING, Retaining (AP) . . . . .	2	
12	430-2502	. PIN, Straight, headless . . . . .	1	
12A	959-2302-000	. RING, Retaining (AP) . . . . .	2	
13	430-2101	. SHAFT, Output . . . . .	1	
14	952-0212-430	. O-RING, Output shaft . . . . .	2	
15	430-2201	. BEARING, Sleeve . . . . .	2	
16	430-4102	. YOKE . . . . .	1	
17	4301-3303	. CYLINDER BODY & STEM BEARING ASSEMBLY . . . . .	1	
18	430-2202	. BEARING, Sleeve . . . . .	2	
19	430-3323	. CYLINDER, Body . . . . .	1	
20	4300-7501	. SPRING RETURN ASSEMBLY (40 psi) (See Warning Note) . . . . .	1	B
20	4300-7502	. SPRING RETURN ASSEMBLY (60 psi) (See Warning Note) . . . . .	1	B
20	4300-7509	. SPRING RETURN ASSEMBLY (70 psi) (See Warning Note) . . . . .	1	B
20	4300-7503	. SPRING RETURN ASSEMBLY (80 psi) (See Warning Note) . . . . .	1	B
20	4300-7504	. SPRING RETURN ASSEMBLY (100 psi) (See Warning Note) . . . . .	1	B
21	400-1405-002	. WEATHER GUARD . . . . .	1	B

**WARNING**

The spring is factory assembled into a locked capsule. This provides for simple and safe removal of the spring return assembly during maintenance. Do not attempt to disassemble the spring return assembly. This unit is spring loaded under high spring pressure.

Note 1. Only one used on Model R120CFS

Note 2. Optional O-rings  
 952-0152-430 - VITON O-RING, End cap  
 952-0338-430 - VITON O-RING, Piston

(AP) - Attaching Parts



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