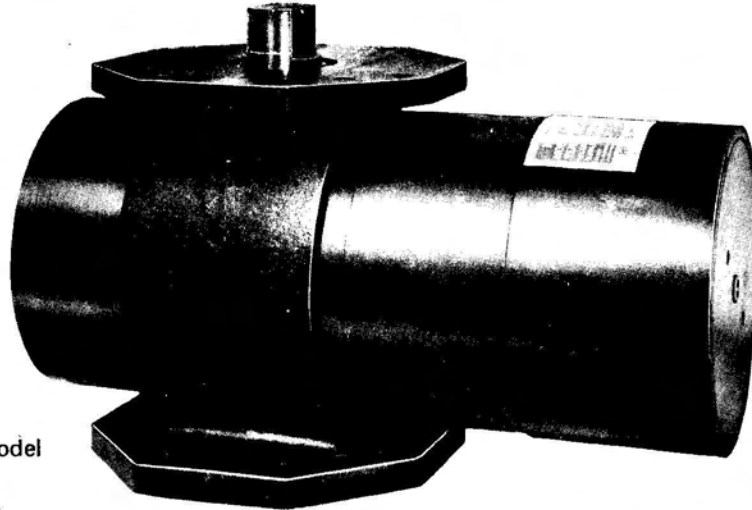


QUALITY CONTROLS, INC.

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ROTARY PNEUMATIC/HYDRAULIC ACTUATOR Models R2000D* and R2000DFS*



R2000D
Double Acting 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

Top and bottom pads are identical. Bottom pads provide 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.

DECLUTCHABLE GEARBOX FOR MANUAL OPERATION

HIGH TEMPERATURE PREPARATION

Special seals, heat shields, extended brackets, etc.

SYSTEM MODULES

Can be quoted upon receipt of complete specifications.

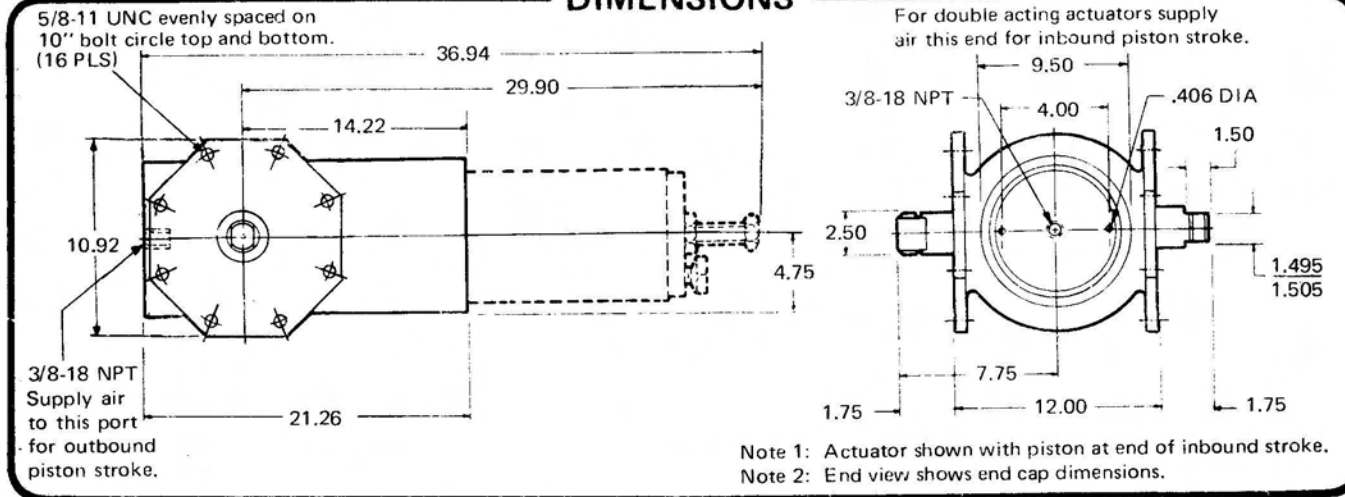
*Patented and patents applied for.



ROTARY PNEUMATIC/HYDRAULIC ACTUATOR

MODELS R2000D and R2000DFS

DIMENSIONS



TECHNICAL DATA

BORE	8.56 in.	CYLINDER VOLUME	
		Double Acting	
STROKE	5.81 in.	inner	785 Cu. In.
		outer	330 Cu. In.
NO. OF PISTONS	1	Fail Safe	785 Cu. In.
MAXIMUM WORKING PRESSURE		OUTPUT DRIVE TRAVEL	90°
Pneumatic	125 psi	WEIGHT	
Hydraulic	125 psi	Double Acting	245 Lbs.
		Fail Safe	315 Lbs.

DOUBLE ACTING ACTUATOR (R2000D) 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
BREAK	10350	13150	15950	18825	21700	24500	27300	30125	32950
RUNNING	5100	6400	7700	9100	10500	11750	13000	14317	15634

FAIL SAFE ACTUATOR (R2000DFS) OUTPUT TORQUES

TORQUE lb-in.	OPERATING PRESSURE*				
	40 PSI	60 PSI	70 PSI	80 PSI	100 PSI
BREAK-AIR	5450	8600	9700	12000	15250
FINISH-AIR	2920	4650	5490	6500	8200
BREAK-SPRING	6700	10300	10750	13750	17250
FINISH-SPRING	3200	5150	5790	6650	8550

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



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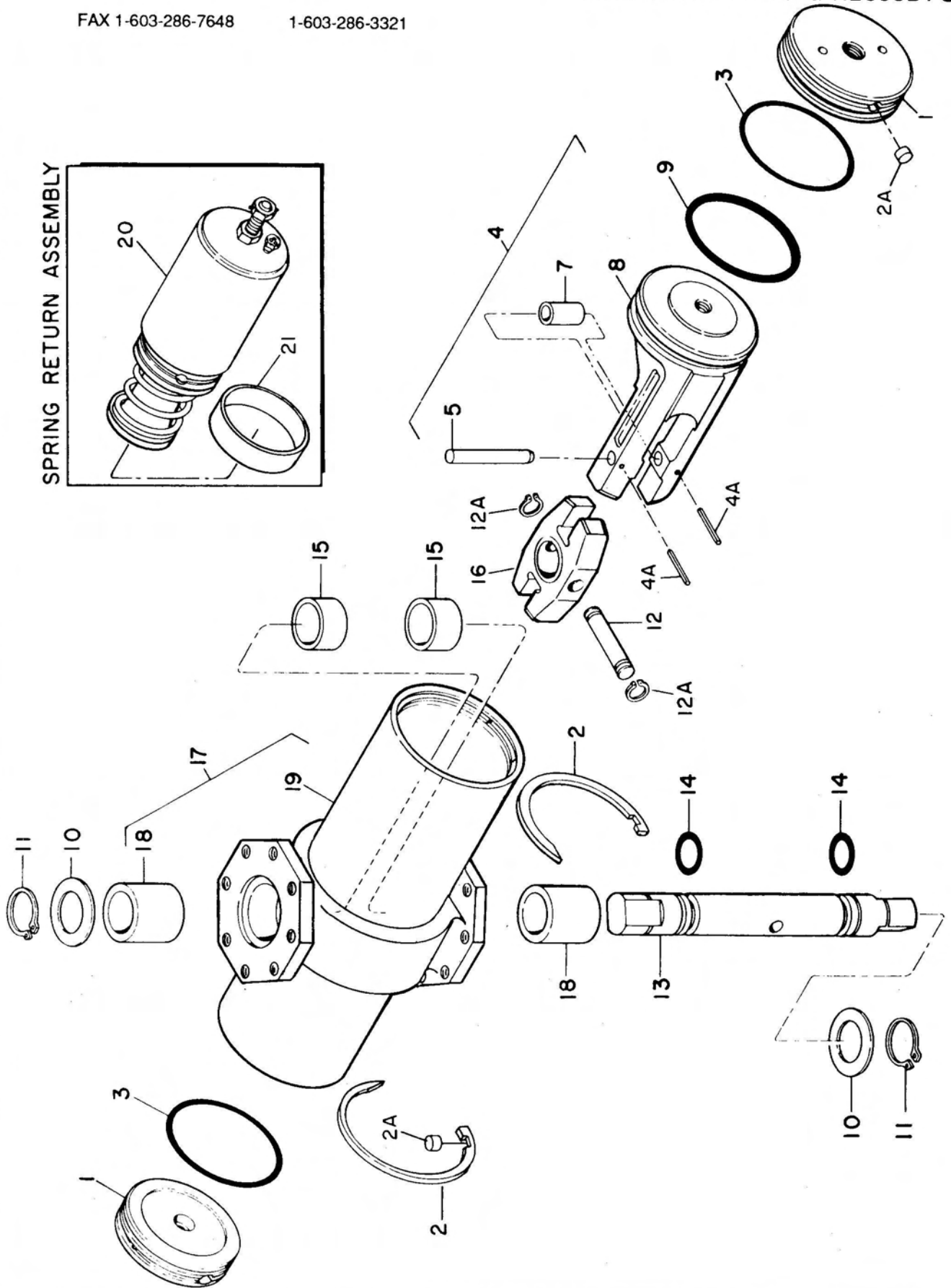
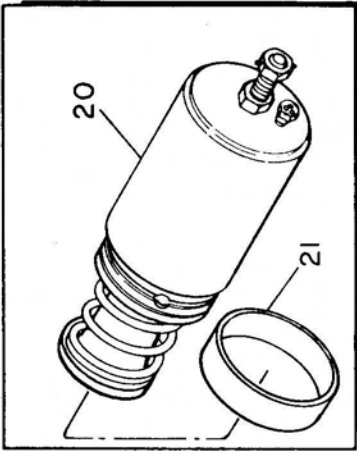
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QUALITY CONTROLS, INC. PNEUMATIC ACTUATOR MODEL R2000D and R2000DFS

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SPRING RETURN ASSEMBLY



PARTS LIST**MODEL R2000D and R2000DFS**

INDEX NO.	PART NUMBER	DESCRIPTION	QTY	U/O CODE
REF.	R2000D	ACTUATOR, Pneumatic, rotary	REF.	A
REF.	R2000DFS	ACTUATOR, Pneumatic, rotary (Fail Safe).	REF.	B
1	460-1016	. CAP, End (see note 1)	2	
2	460-2904	. KEY, Retaining (AP)	2	
2A	400-2901	. SLUG, Key retainer	2	
3	952-0172-410	. O-RING, End cap (see note 2)	2	
4	4600-3201	. PISTON AND ROLLER ASSEMBLY	1	
4A	943-2250-11P	. PIN, Spring	2	
5	460-2502	. PIN, Straight, headless	1	
7	460-2203	. BEARING, Sleeve	1	
8	460-3210	. PISTON	1	
9	952-0445-1A0	. O-RING, Piston (see note 2)	1	
10	974-3101-000	. WASHER, Thrust	2	
11	959-3001-000	. RING, Retaining (AP)	2	
12	460-2503	. PIN, Straight, headless	1	
12A	959-2601-000	. RING, Retaining (AP)	2	
13	460-2101	. SHAFT, Output	1	
14	952-0228-430	. O-RING, Output shaft	2	
15	460-2202	. BEARING, Sleeve	2	
16	460-4102	. YOKE	1	
17	4601-3303	. CYLINDER BODY & STEM BEARING ASSEMBLY	1	
18	460-2201	. BEARING, Sleeve	2	
19	460-3322	. CYLINDER, Body	1	
20	4600-7501	. SPRING RETURN ASSEMBLY (40 psi) (See Warning Note)	1	B
20	4600-7502	. SPRING RETURN ASSEMBLY (60 psi) (See Warning Note)	1	B
20	4600-7509	. SPRING RETURN ASSEMBLY (70 psi) (See Warning Note)	1	B
20	4600-7503	. SPRING RETURN ASSEMBLY (80 psi) (See Warning Note)	1	B
20	4600-7504	. SPRING RETURN ASSEMBLY (100 psi) (See Warning Note)	1	B
21	400-1405-004	. 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 R2000DFS

Note 2. Optional O-rings
 952-0172-430 - VITON O-RING, End cap
 952-0445-430 - VITON O-RING, Piston

(AP) - Attaching Parts

U/O - "Used on" code

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