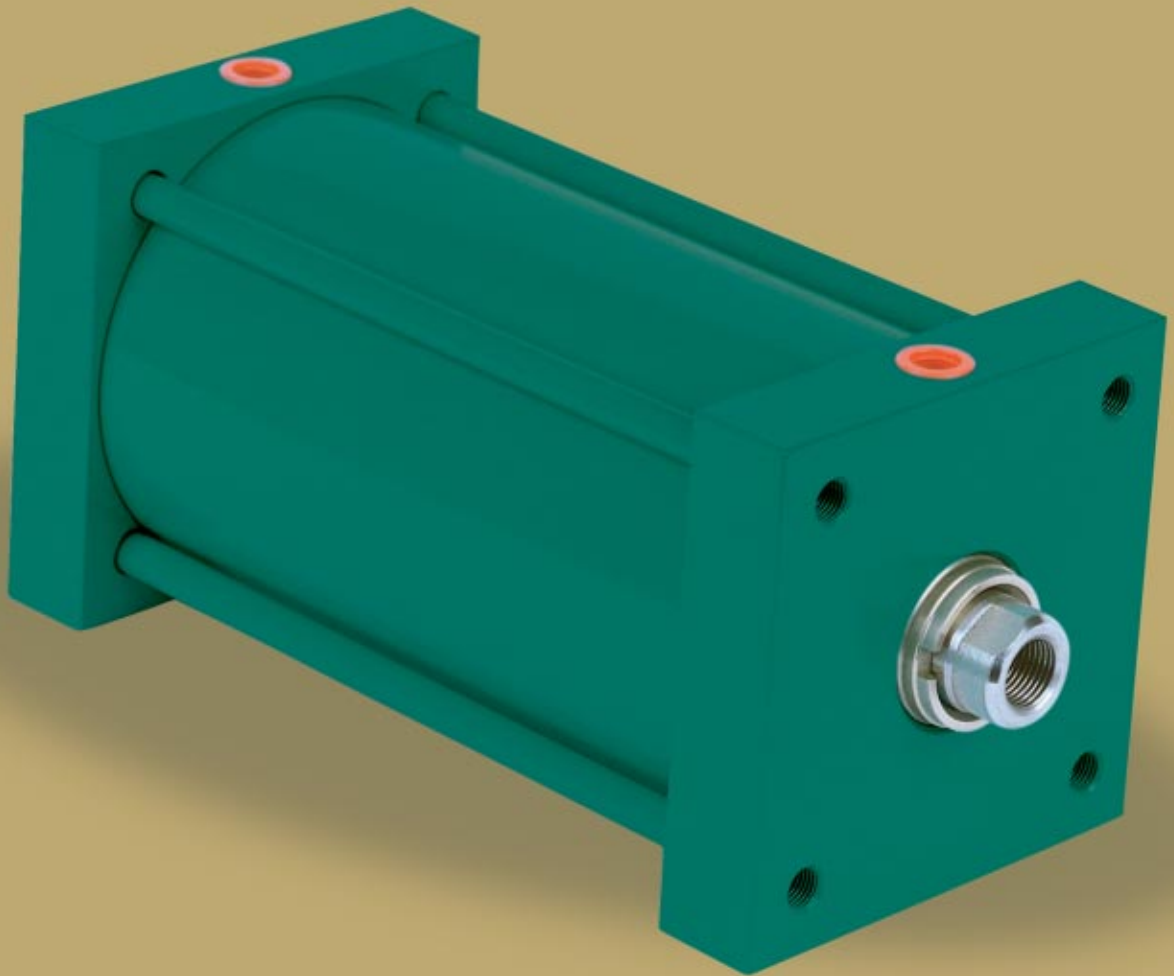


# SERIES PA

**PNEUMATIC CYLINDERS FOR VALVE ACTUATION**

BORE SIZE: 3 1/4" TO 20" • RATING: 150 PSIG (1000 kPa)



CONTRÔLE

# PNEUMATIC CYLINDERS FOR VALVE ACTUATION **FEATURES**

THE PA SERIES OF VALVE ACTUATORS ARE DESIGNED TO AUTOMATE VALVE OPERATION. THESE ACTUATORS CAN BE ADAPTED FOR MANY APPLICATIONS, INCLUDING SPECIAL NEEDS. THEIR COMPACT DESIGN ALLOWS FOR EASY INSTALLATION. IN ADDITION, RDC CONTROLE FABRICATES THEM UNDER STRICT QUALITY CONDITIONS.

## HEAD & CAP

Numerically controlled machined from hot rolled steel plates ASTM A36 or better.

## PISTON PACKING

2 pressure sensitive "U" cups for better sealing and durability.

## CYLINDER BARREL

Bore size from 3 1/4 to 12": Heavy wall steel tubing with a polished chrome plated interior for better durability.

Bore size from 14" to 20": Thermoset fiber reinforced composite, specially designed for cylinder tubing for weight reduction and corrosion resistance.

## TIE RODS AND NUTS

Bore size from 3 1/4 to 12": Made from STAINLESS STEEL to limit corrosion.

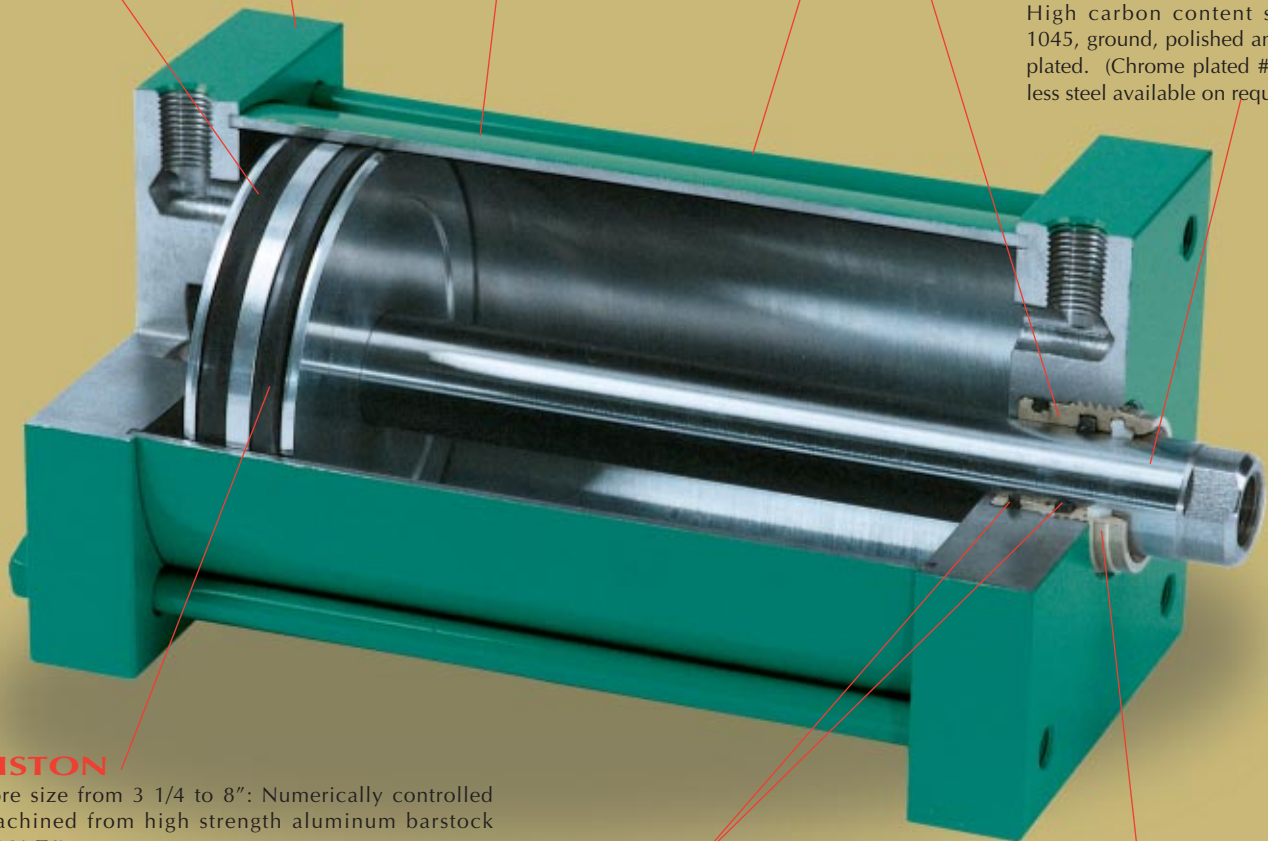
Bore size from 14" to 20": High strength steel barstock along with zinc plated steel nuts (Grade 5).

## GLAND BUSHING

Cartridge type, made from Bronze SAE 660. Seals can be replaced without dismantling the cylinder.

## PISTON ROD

High carbon content steel SAE 1045, ground, polished and chrome plated. (Chrome plated #316 stainless steel available on request).



## PISTON

Bore size from 3 1/4 to 8": Numerically controlled machined from high strength aluminum barstock (6061-T6).

Bore size from 10" to 20": Made from mild steel. A wear strip is added on the outside diameter to protect the tube and assure a perfect fit.

## PISTON WEAR STRIP

Bore size from 10" to 20": It consists of a teflon tape filled with particles of bronze and glass, for smoother piston operation.

## SEALS AND PACKING

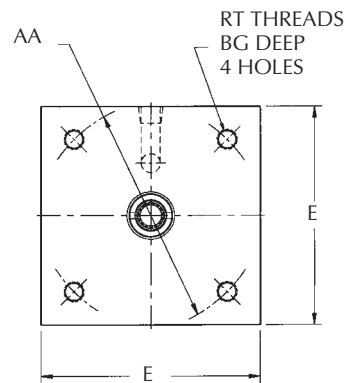
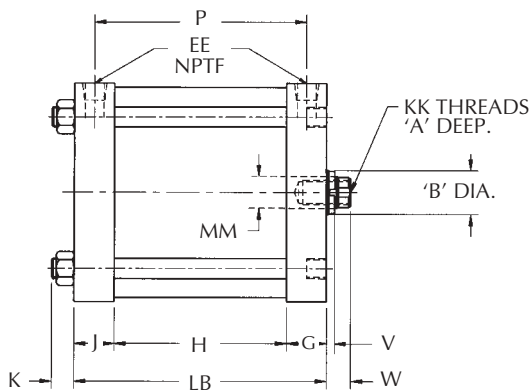
"U" CUP AND "O" RING used for added security. A high durometer nitrile material is offered as a standard for a temperature rating from -34°C to 120°C (-30°F to 250°F). For temperature range up to 250°C (450°F), fluorocarbon (viton) seals and packings are available

## ROD WIPER

Stops dust and other particles from entering into the cylinder. Standard material is polyurethane. It can be replaced by fluorocarbon (viton) for higher temperature applications.

# SERIES PA

## PNEUMATIC CYLINDERS FOR VALVE ACTUATION A0 - BASE MOUNTING

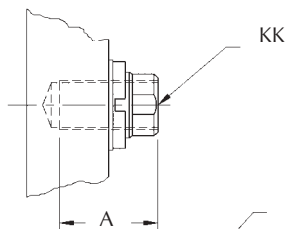


DIMENSIONS (IN.)

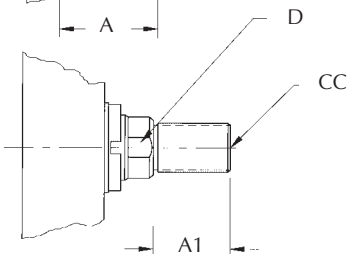
BORE	MM ROD SIZE	KK UNF	A	AA	B	BG	E	EE NPTF	G	J	K	RT UNF	V	W	ADD STROKE		
															LB	H	P
3 1/4	1	5/8 - 18	1 1/2	3.900	1.375	5/8	3 3/4	1/4	1	1	3/8	3/8 - 24	1/4	3/4	3	1	2
4	1	5/8 - 18	1 1/2	4.700	1.375	5/8	4 1/2	1/4	1	1	3/8	3/8 - 24	1/4	3/4	3	1	2
5	1	5/8 - 18	1 1/2	5.800	1.375	1/2	5 1/2	1/4	1	1	1/2	1/2 - 20	1/4	3/4	3 1/8	1 1/8	2 1/8
6	1	5/8 - 18	1 1/2	6.900	1.375	1/2	6 1/2	1/4	1	1	1/2	1/2 - 20	1/4	3/4	3 1/8	1 1/8	2 1/8
7	1	5/8 - 18	1 1/2	8.100	1.375	5/8	7 1/2	3/8	1 1/4	1 1/4	5/8	5/8 - 18	1/4	3/4	3 3/4	1 1/4	2 1/2
8	1	5/8 - 18	1 1/2	9.100	1.375	5/8	8 1/2	3/8	1 1/4	1 1/4	5/8	5/8 - 18	1/4	3/4	3 3/4	1 1/4	2 1/2
10	1 3/8	1 - 14	2	11.200	1.875	3/4	10 5/8	3/8	1 1/2	1 1/2	3/4	3/4 - 16	5/16	1	4 3/4	1 3/4	3 1/4
12	1 3/8	1 - 14	2	13.300	1.875	3/4	12 3/4	1/2	1 1/2	1 1/2	3/4	3/4 - 16	5/16	1	4 3/4	1 3/4	3 1/4
14	1 3/8	1 - 14	2	15.400	1.875	7/8	14 3/4	1/2	1 3/4	1 3/4	7/8	7/8 - 14	5/16	1	5 1/2	2	3 3/4
16	2	1 1/2 - 12	2 1/2	17.800	2.500	-	17	1/2	3/4	3/4	1	-	3/8	11/2	5 5/8	2 1/8	3 7/8
18	2	1 1/2 - 12	2 1/2	20.000	2.500	-	19	3/4	1 3/4	1 3/4	1 1/8	-	3/8	11/2	5 7/8	2 3/8	4 1/8
20	2	1 1/2 - 12	2 1/2	22.300	2.500	-	21	3/4	1 3/4	1 3/4	1 1/4	-	3/8	11/2	6 1/8	2 5/8	4 3/8

## ROD THREADS

TYPE -4-  
Female  
threads  
(standard)



TYPE -1-  
Male  
threads  
(optional)



DIMENSIONS (IN.)

ROD SIZE	A1	CC UNF-2A	D	A	KK UNF-2B
1	1 1/8	3/4 - 16	7/8	1 1/2	5/8 - 18
1 3/8	15/8	1 - 14	1 1/8	2	1 - 14
2	2 1/4	1 1/2 - 12	1 11/16	2 1/2	1 1/2 - 12

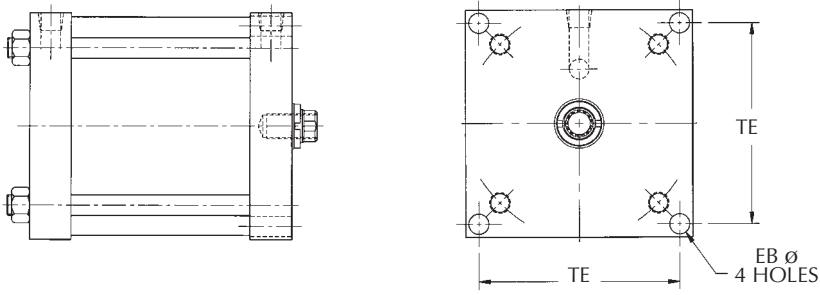
RDC Contrôle can also manufacture special rod ends to answer your specific needs. Use thread type -9- in model number and specify required dimensions

# SERIES PA

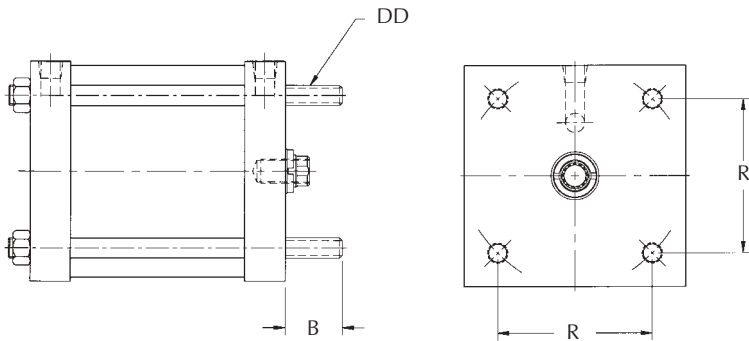
## PNEUMATIC CYLINDERS FOR VALVE ACTUATION OPTIONAL MOUNTINGS

### E3 – SQUARE HEAD MOUNTING

BORE SIZE: 7" TO 20" ONLY



### X3 – EXTENDED TIE RODS MOUNTING



BORE	EB	TE	BB	DD UNF	R
3 1/4	–	–	1 3/8	3/8 – 24	2.76
4	–	–	1 3/8	3/8 – 24	3.32
5	–	–	1 3/4	1/2 – 20	4.10
6	–	–	1 3/4	1/2 – 20	4.88
7	9/16	6.75	2	5/8 – 18	5.73
8	11/16	7.57	2	5/8 – 18	6.44
10	13/16	9.40	2 1/4	3/4 – 16	7.92
12	13/16	11.10	2 1/4	3/4 – 16	9.40
14	15/16	12.87	2 1/2	7/8 – 14	10.90
16	1 1/16	14.85	2 3/4	1 – 14	12.59
18	1 3/16	16.69	3 1/4	1 1/8 – 12	14.14
20	1 5/16	18.46	3 1/4	1 1/4 – 12	15.77

RDC Contrôle can also adapt any special mounting to your needs. Consult our engineering department.

## VALVE MOUNTINGS, OPTIONS AND ACCESSORIES

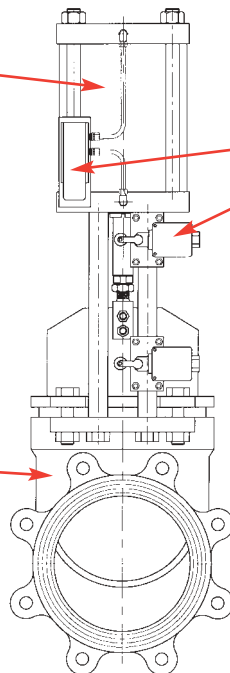
RDC Contrôle can also design and fabricate your valve mountings. In addition, we can also add a complete range of accessories to answer your automation requirements.

### CYLINDER OPTIONS

- Stainless steel piston rod
- Double ended cylinder
- Viton seals (450°F)
- Piston rod scrapper
- Special exterior finish
- Water operation (AWWA)
- Spring return (fail safe)
- Multiple stage cylinder

### VALVE TYPES

- Knife gate
- Wedge gate
- Globe
- Pinch
- Sluice



### AUTOMATION ACCESSORIES

- Control valve:
  - Manual
  - Solenoid
- Limit switches
- Positioners
- Position transmitters

### OTHER OPTIONS

- Stroke adjustment
- Manual override
- Stainless steel mounting
- Air fail safe system

# SERIES PA

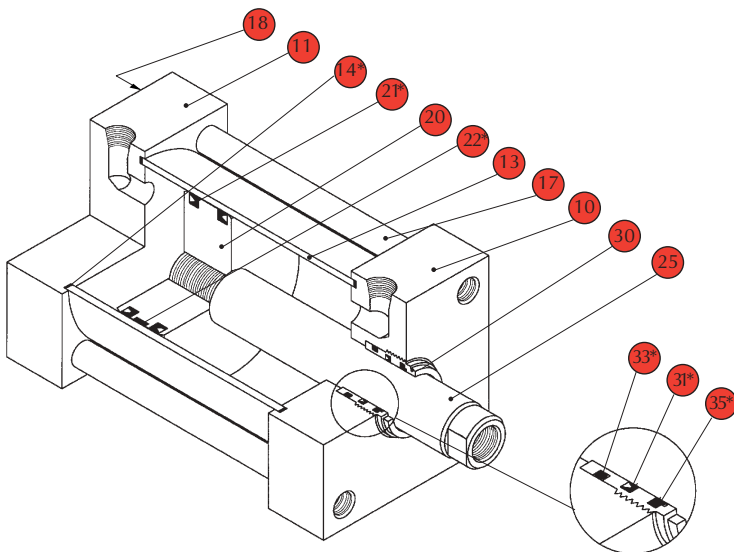
## PNEUMATIC CYLINDERS FOR VALVE ACTUATION MODEL NUMBERING

SERIES	BORE	ROD SIZE	ROD THREADS	CUSHIONS	MOUNTING	OPTION SUFFIX	STROKE
PA	G - 3 1/4	E - 1	1 - Male	N - none	AO - Base	(Blank if none)	
	H - 4	G - 1 3/8	(opt.)		E3 - Square head	A - Stroke adjustment	
	K - 5	J - 2	4 - Female		X3 - Extended tie rods	D - Double-rod	
	L - 6	K - 2 1/2	(STD)		Z9 - Special	E - Special exterior finish	
	M - 7	Z - OTHERS	5 - Added stud		or	J - Rod extension	
	N - 8		9 - Special		Valve mounting	S - Stainless steel piston rod	
	P - 10				State:	T - Stop tube	
	R - 12				- Make	V - Viton seals for temp. up to 250°C (450°F)	
	S - 14				- Type	W - Water operation specs. AWWA C-504	
	T - 16				- Size	X - Spring to extend	
	V - 18					Y - Spring to retract	
	W - 20					Z - Others	
	Z - OTHERS						
PA	L	E	4	N	AO	V	11
Series PA	6" Bore	1" Rod	Female threads	No cushions	Base mount	Viton seals	11" stroke

## REPLACEMENT PARTS

SPARE PARTS AND SEAL KITS CAN BE ORDERED, USING THE PART NUMBER PREFIX, FOLLOWED BY THE CYLINDER MODEL NUMBER  
**EXAMPLE: 20-PALE4NAO-11 (PISTON).**

IT IS RECOMMENDED TO PROVIDE THE CYLINDER SERIAL NUMBER TO FACILITATE INQUIRIES FOR PART REPLACEMENT.



Pieces	Description	Qty
10	Head	1
11	Cap	1
13	Barrel	1
14*	Barrel seals	2
17	Tie rods	4
18	Tie rod nuts	4
20	Piston	1
21*	Piston packings	2
22*	Wear strip (10" and up)	1
25	Piston rod	1
30	Gland bushing	1
31*	Gland packing	1
33*	Gland seal	1
35*	Piston rod wiper	1

### TORQUE CHART (MINIMUM & MAXIMUM)

BORE SIZE	TIE RODS		GLAND BUSHING	
	DIA.	TORQUE (FT-LBS)	ROD DIA.	TORQUE (FT-LBS)
3 1/4 - 4	3/8	6-15	1"	30 - 50
5 - 6	1/2	15-30	1"	30 - 50
7	5/8	20-70	1"	30 - 50
8	5/8	30-70	1"	30 - 50
10	3/4	55-110	1 3/8	40 - 60
12	3/4	70-110	1 3/8	40 - 60
14	7/8	100-180	1 3/8	40 - 60
16	1	150-350	2"	55 - 75
18	1 1/8	220-500	2"	55 - 75
20	1 1/4	300-720	2"	55 - 75

Seal kit	
29	for piston (parts #21 and #22)
39	for bushing (parts #31, #33 and #35)
99	Complete (parts indicated with an *)

A Maintenance & Operation Manual (#8 - PA) is available for more detailed maintenance instructions of Series PA actuators.



CONTRÔLE

**MANUFACTURER  
THERMOCOUPLES - RTD'S  
CYLINDERS**

1100 Michele-Bohec, Blainville (Quebec) J7C 5N5  
Tel.: (450) 434-0216 - Fax: (450) 434-0219 - Toll free: 1-800-363-2264  
Internet: [www.rdccontrol.com](http://www.rdccontrol.com)