

# Series **ARD**

## Round Cylinder

Bore Size(mm(inch)) : Ø32(1¼), Ø40 (1½), Ø50(2), Ø63(2½)

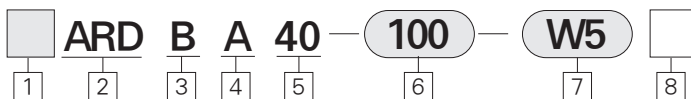


- COMPACT DESIGN
- HIGH SPEED ACTUATOR
- STANDARD RUBBER BUMPER (AIR CUSHION OPTIONAL)
- LIGHTWEIGHT
- BUILT-IN MAGNET FOR AUTO SWITCH

Symbol



### How To Order



- 1 Series**  
Blank : Rc(PT)  
U : NPT
- 2 Round Cylinder**  
\* (Built-in Magnet, Bumper, Non-lube standard)
- 3 Mounting**  
B : Basic type
- 4 Cushion**  
Blank : Rubber Cushion  
A : Air Cushion
- 5 Bore Size(inch)**  
32 : 32mm(1¼)  
40 : 40mm(1½)  
50 : 50mm(2)  
63 : 63mm(2½)

#### 6 Stroke

Rubber Cushion Type	Stroke	Air Cushion Type	Stroke
φ 32 (1¼)	25(0.984)~450(17.7)	φ 32 (1¼)	25(0.984)~450(17.7)
φ 40 (1½)	25(0.984)~800(31.5)	φ 40 (1½)	25(0.984)~800(31.5)
φ 50 (2)	25(0.984)~1200(47.2)	φ 50 (2)	25(0.984)~1200(47.2)
φ 63 (2½)	25(0.984)~1200(47.2)	φ 63 (2½)	25(0.984)~1200(47.2)

#### 7 Auto Switch

Blank : None  
(Cylinder with built-in Magnet)  
**Reed Switch**  
W5(2wire DC24V, AC 100V)  
Band mounted type  
※ Standard Lead 1m  
(upto 3m optional)

#### 8 Number of Auto Switches

Blank : 2 pcs  
S : 1 pc  
N : N pcs

- ACP
- APM
- AS
- AX
- AM2
- AM
- AL  
ALX
- AQ  
ADQ
- AQ2  
ADQ2
- AJ  
AJM
- ABK
- ACK1
- NSK
- AG
- NGQ
- AGX  
GX
- NP
- ADR
- AMR
- NDM
- ARD**
- NST
- AST
- ASTH
- NLCD
- NLCS

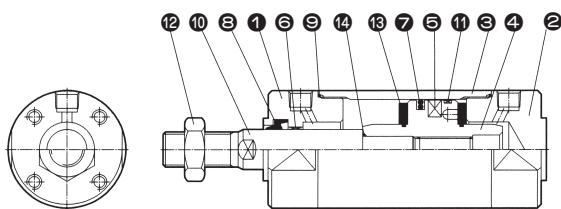
# Series ARD

## Specifications

Fluid	Air	
Proof Pressure	1.5MPa(220psi)	
Max. Operation Pressure	1.0MPa(150psi)	
Min. Operation Pressure	0.05MPa(8psi)	
Ambient and Fluid Temperature	5~ 60℃ (41~140°F)	
Lubrication	None(Non-Lube)	
Piston Speed	1.9~40inch/sec (50~1000 mm/sec)	
Stroke Tolerance (inch)	~40st: $+0.058_0$ ~47st: $+0.071_0$	
Thread Tolerance	KS 2 Class	
Cushion	Rubber Cushion	Air Cushion

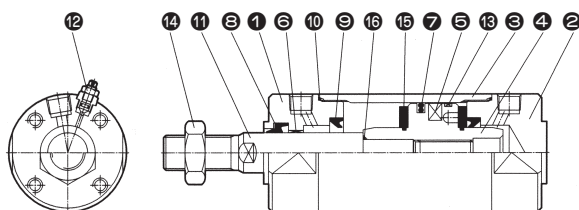
## Construction/Parts List

ARD  $\phi 32 \sim \phi 63$ (Rubber Cushion Type)



No.	Description	Material	Note
14	Piston Gasket	NBR	
13	Bumper	$\phi 20, \phi 25$ NBR $\phi 32 \sim \phi 63$ Urethane	
12	Rod End Nut	Rolled Steel	Zinc Plated
11	Wear Ring	-	
10	Piston Rod	Carbon Steel	Hard Chrome Plated
9	Tube Gasket	NBR	
8	Rod Packing	NBR	
7	Piston Packing	NBR	
6	Rod Bushing	Lead Bronze Casting	
5	Magnet	Ba Ferrite + NBR	
4	Piston	Al	Chromate
3	Cylinder Tube	Al	Hard alumite
2	Head Cover	Al	White alumite
1	Rod Cover	Al	"

ARDA  $\phi 32 \sim \phi 63$ (Air Cushion Type)



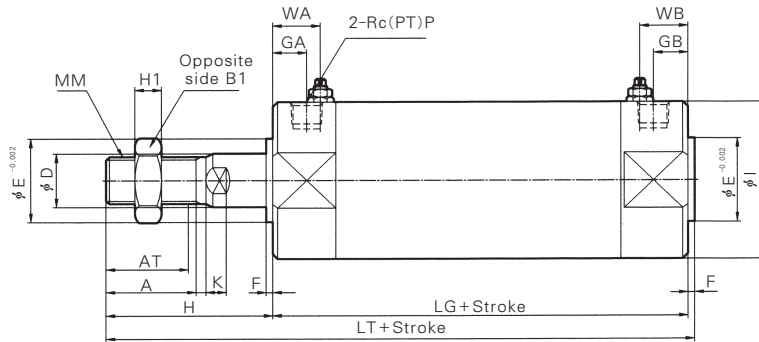
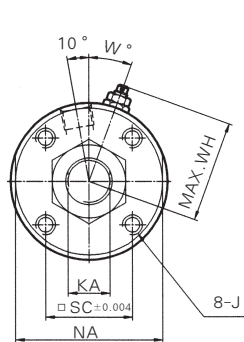
No.	Description	Material	Note
16	Piston Gasket	NBR	
15	Bumper	$\phi 20, \phi 25$ NBR $\phi 32 \sim \phi 63$ Urethane	
14	Rod End Nut	Rolled Steel	Zinc Plated
13	Wear Ring	-	
12	Cushion Valve Ass'y		
11	Piston Rod	Carbon Steel	Hard Chrome Plated
10	Tube Gasket	NBR	
9	Cushion Packing	NBR	
8	Rod Packing	NBR	
7	Piston Packing	NBR	
6	Rod Bushing	Lead Bronze Casting	
5	Magnet	Ba Ferrite + NBR	
4	Piston	Al	Chromate
3	Cylinder Tube	Al	Hard alumite
2	Head Cover	Al	White alumite
1	Rod Cover	Al	"

# Series ARD

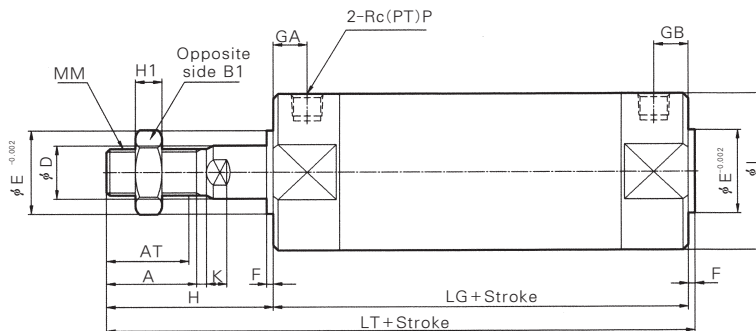
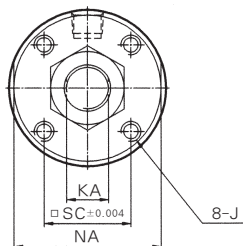
## Dimensions

(inch)

### Air Cushion Type



### Rubber Cushion Type



Bore size (mm)	Standard stroke Range mm Extended stroke Range mm	(mm)																							
		AT	A	□SC	φD	φE	F	GA	GB	φI	J	K	KA	MM	NA	P	LG	H	LT	WA	WB	WH	W	H1	B1
φ32	~300 301~450	19.5	22	20	12	18	2	12	12	38	M5×0.8 DP:8	5.5	10	M10×1.25	36	1/8	32	40	124	14	14	28.5	25	6	7
φ40	~300 301~800	27	30	26	16	25	2	13	13	47	M6×1 DP:12	6	14	M14×1.5	44	1/8	87	50	139	15	15	33	20	8	22
φ50	~300 301~1200	32	35	32	20	30	2	14	14	58	M8×1.25 DP:16	7	18	M18×1.5	55	1/4	102	58	162	16	16	38.5	20	11	27
φ63	~300 301~1200	32	35	38	20	32	2	14	14	72	M10×1.5 DP:16	7	18	M18×1.5	69	1/4	105	58	165	16	16	45.5	20	11	27

Bore size (inch)	Standard stroke Range mm Extended stroke Range mm	(inch)																							
		AT	A	□SC	φD	φE	F	GA	GB	φI	J	K	KA	MM	NA	P	LG	H	LT	WA	WB	WH	W	H1	B1
φ32(1 1/4)	~300(12) 301~450(18)	0.77	0.87	0.79	0.48	0.71	0.08	0.48	0.48	0.67	10-32UNF	0.22	0.40	1/16-20UNF	1.42	1/8	3.23	1.57	4.88	0.48	0.48	1.12	0.98	0.24	0.67
φ40(1 1/2)	~300(12) 301~800(32)	1.06	1.18	1.02	0.63	0.98	0.08	0.51	0.51	1.85	1/4-28UNF	0.24	0.24	1/16-20UNF	1.73	1/8	3.43	1.97	5.47	0.60	0.60	1.30	0.79	0.31	0.87
φ50(2)	~300(12) 301~1200(48)	1.26	1.38	1.26	0.79	1.18	0.08	0.55	0.55	2.28	5/16-24UNF	0.28	0.71	1/2-20UNF	2.17	1/4	4.02	2.28	6.38	0.63	0.63	1.52	0.79	0.43	1.06
φ63(2 1/2)	~300(12) 301~1200(48)	1.26	1.38	1.50	0.79	1.26	0.08	0.55	0.55	2.83	9/16-24UNF	0.28	0.71	1/2-20UNF	2.72	1/4	4.13	2.28	6.50	0.63	0.63	1.79	0.79	0.43	1.06

- ACP
- APM
- AS
- AX
- AM2
- AM
- AL
- ALX
- AQ
- ADQ
- AQ2
- ADQ2
- AJ
- AJM
- ABK
- ACK1
- NSK
- AG
- NGQ
- AGX
- GX
- NP
- ADR
- AMR
- ARD
- NST
- AST
- ASTH
- NLCD
- NLCS

# Series ARD

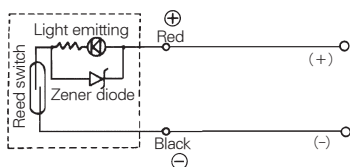


## Auto Switch Specifications

Auto Switch Model	W5	
Application	Relay, Sequence Control	
Voltage	DC24V	AC110V
Range of Load Current	5~40mA	5~20mA
Protection Circuit for Contact Breaker Point	None	
Internal Voltage Drop	2.4V or less	
Indicator Lamp	ON:Red light emitting diode	

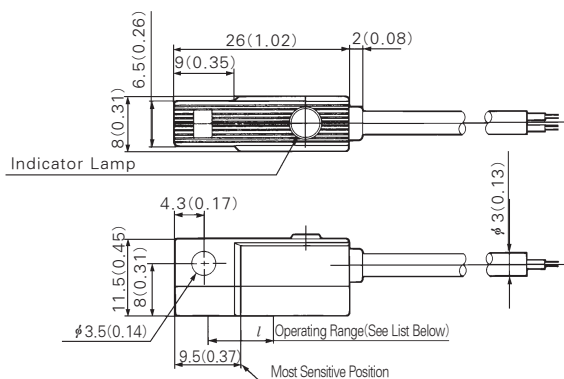
- Leakage current - None
  - Response time - 1.2 ms
  - Lead Wire - Oil proof vinyl.  $\phi$  3.4, 0.2mm<sup>2</sup>, 2 wire(red, black), 0.5 m(0.02inch)
  - Impact Resistance - 30G
  - Insulation Resistance - 50M $\Omega$  or more under the test voltage 500VDC (Between case and cable)
  - Withstand Voltage - 1500VAC 1min(between case and cable)
  - Ambient Temperature - 40~140° F (5~60°C)
  - Protection Structure - IEC spec IP67, Water-proof(JISCO920), oil-proof.
- ※ If 3m(118 in) lead wire is required, L is put at end of model numbers.  
(Example) W5L

### Auto Switch/Internal Circuit



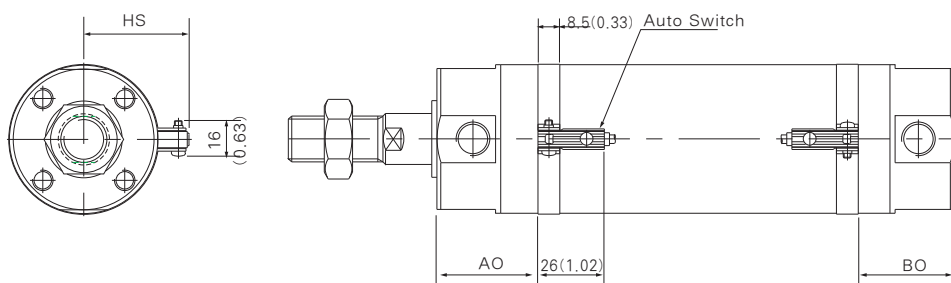
### Auto Switch Dimensions

mm(inch)



### Auto Switch Setting Position

mm(inch)



### Auto Switch Mounting Position

mm(inch)

Bore size mm (inch)	W5		
	AO	BO	HS
$\phi$ 32(1.26)	23(0.91)	33(1.30)	30.5(1.20)
$\phi$ 40(1.57)	32(1.26)	29(1.14)	35(1.38)
$\phi$ 50(1.97)	39.5(1.56)	37.5(1.48)	40.5(1.59)
$\phi$ 63(2.48)	41(1.61)	38(1.50)	47.5(1.87)

### Minimum Auto Switch Mountable Stroke

mm(inch)

Type of Auto Switch	Number of Switch		
	With 2pcs.		With 1pc.
	Different Orientation	Same Orientation	
<b>W5</b>	15(0.59)	50(1.97)	10(0.39)