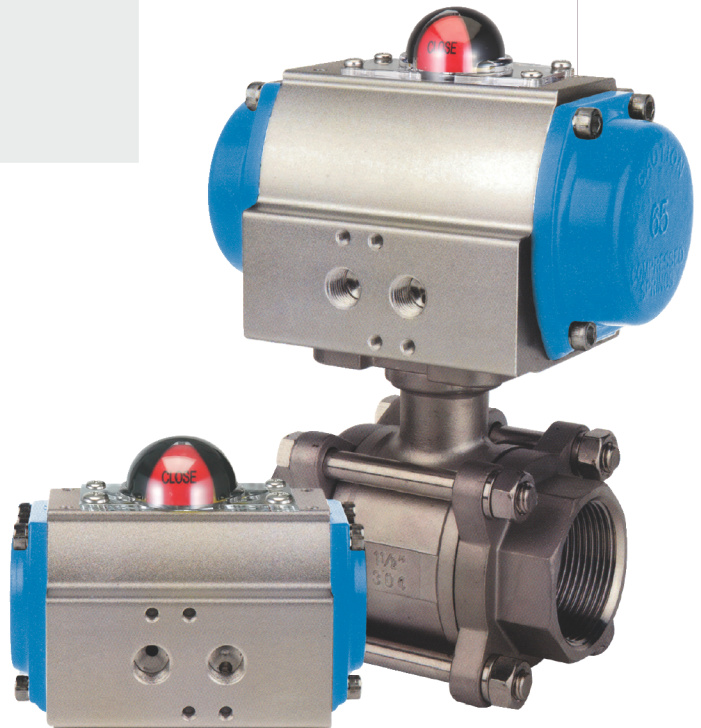


Rack & Pinion Type Pneumatic Actuator



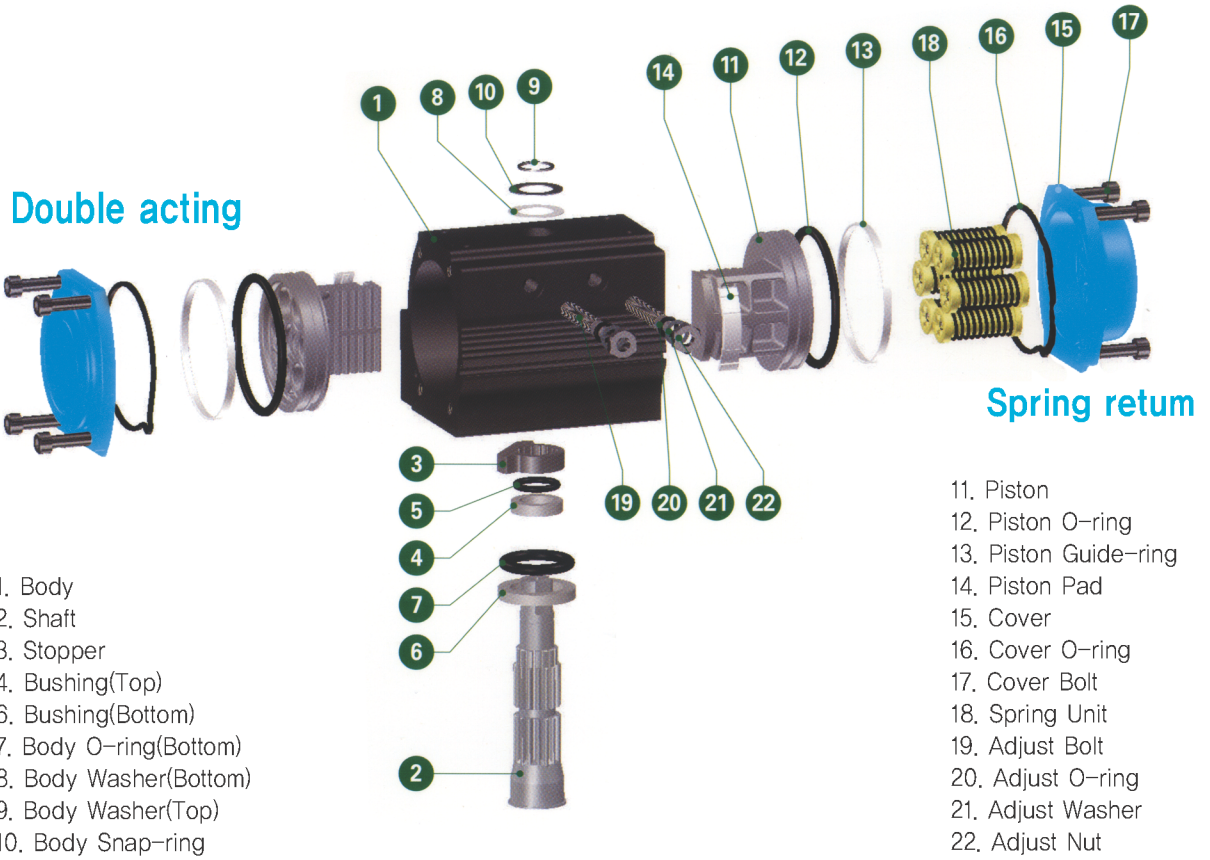
# RACK & PINION Type Pneumatic Actuator



**AUTOMA**  
Automatic Valve & Accessories



# Part List



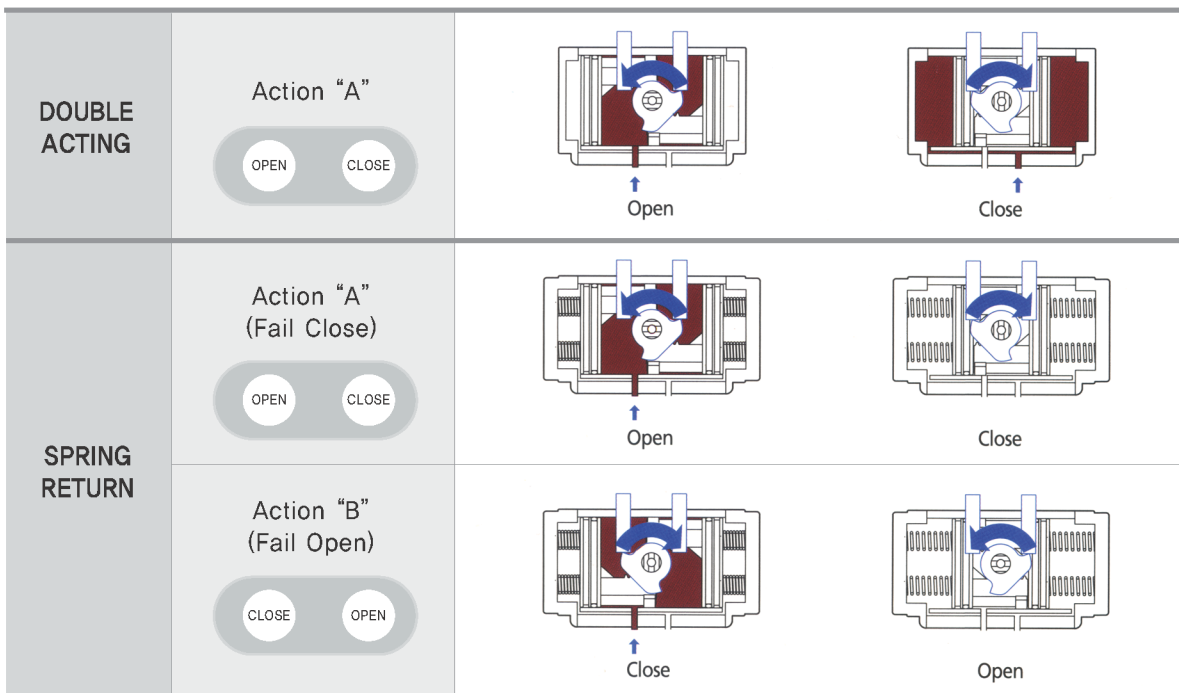
Double acting

Spring return

- 1. Body
- 2. Shaft
- 3. Stopper
- 4. Bushing(Top)
- 5. Bushing(Bottom)
- 6. Bushing(Bottom)
- 7. Body O-ring(Bottom)
- 8. Body Washer(Bottom)
- 9. Body Washer(Top)
- 10. Body Snap-ring

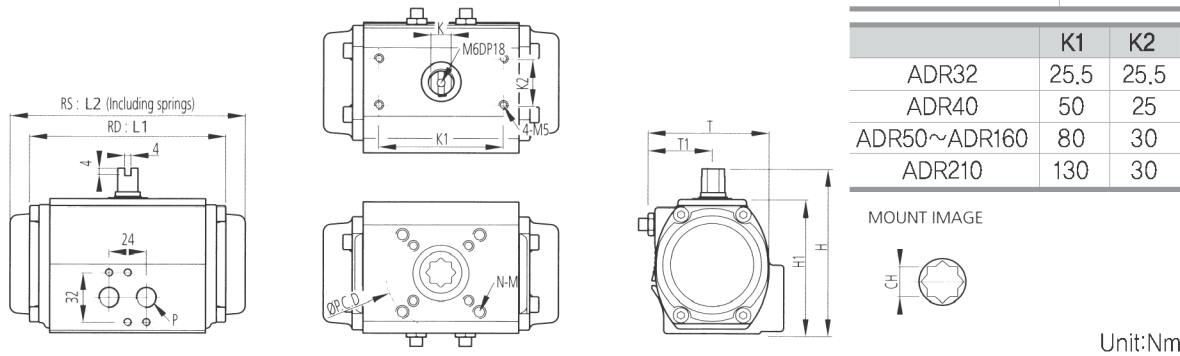
- 11. Piston
- 12. Piston O-ring
- 13. Piston Guide-ring
- 14. Piston Pad
- 15. Cover
- 16. Cover O-ring
- 17. Cover Bolt
- 18. Spring Unit
- 19. Adjust Bolt
- 20. Adjust O-ring
- 21. Adjust Washer
- 22. Adjust Nut

# Operating Mechanism



# Dimension table

## Rack&pinion Double acting/Spring return



Model	ISO	P.C.D(Ø)	N-G	K	L1 (RD)	L2 (RS)	T	T1	H	H1	CH	DTH	W1(K) (RD)	W2(K) (R5)
ADR32	F03	36	4-M5	7	66	-	45	25	55	45	9×9	9	0.3	-
ADR40	F03/F05	36/50	4-M5/M6	9	109	109	60	33	74	54	9×9	9	0.6	0.6
ADR50	F03/F05/F07	36/50/70	4-M5/M6/M8	10	119	133	75	40	90	70	11×11	13	1.6	1.3
ADR65	F05/F07	50/70	4-M6/M8	13	131	154	88.5	46	106.5	86.5	14×14	16	1.7	2.1
ADR80	F07	70	4-M8	17	189	220	101	49.5	126	106	17×17	19	2.7	3.4
ADR90	F07	70	4-M8	19	190	219	104	54.5	136	116	17×17	19	4.1	5.1
ADR100	F07/F10	70/102	4-M8/M10	22	229	256	132	71	148	128	22×22	26	4.7	5.9
											17×17	19		
ADR125	F07/F10	70/102	4-M8/M10	22	330	330	151	84	174	154	22×22	19	7.4	9.2
ADR140	F10/F12	102/125	4-M10/M12	24	332	389	164	87	192	172	27×27	30	12.1	15.1
											22×22	19		
ADR160	F10/F12	102/125	4-M10/M12	32	366	416	191	104	211	196	27×27	30	16.8	21.0
ADR200	F14	140	4-M16	32	444	527	231	115	284	254	36×36	30	29.9	37.3

# Torque table

## Double acting

Unit:Nm

Model	Supply Air				
	3Bar	4Bar	4.5Bar	5Bar	6Bar
ADR32	3.2	4.5	5.3	6.0	7.3
ADR40	5.0	7.0	8.0	9.0	11.0
ADR50	10.3	13.7	15.5	17.1	20.6
ADR65	19.1	25.4	28.6	31.8	38.2
ADR80	39.3	52.2	58.8	65.3	78.4
ADR90	57.8	77.1	86.8	96.4	115.7
ADR100	84.4	112.5	126.5	140.6	168.7
ADR125	171.2	228.4	256.9	285.4	342.5
ADR140	243.3	324.4	365.0	405.5	486.6
ADR160	350.7	467.6	526.0	584.4	701.3
ADR200	725.4	967.2	1,088.1	1,209.0	1,450.8

# Torque table

## Spring return

Unit:Nm

Model	Spring Unit	Supply Air													
		3Bar		4Bar		4.5Bar		5Bar		6Bar		7Bar		Spring	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
ASR40	1	2	-	4	2	5	3	6	4	8	7	10	8	10	6
	2	1	-	2	-	3	-	4	-	6	2	8	4	12	9
ASR50	5	6.8	5.3	10.2	8.7	11.9	10.4	13.6	12.1	-	-	-	-	5	3.5
	6	6.2	4.3	9.6	7.7	11.3	9.5	13	11.1	16.5	14.6	-	-	6	4.1
	7	5.5	3.3	8.9	6.7	10.6	8.4	12.3	10.1	15.8	13.6	19.2	17	7	4.8
	8	4.7	2.3	8.1	5.7	9.9	7.4	11.5	9.1	15	12.6	18.4	16	8	5.6
	9	-	-	7.4	4.6	9.2	6.4	10.8	8	14.3	11.5	17.7	14.9	9.1	6.3
	10	-	-	6.8	3.7	8.5	5.5	10.2	7.1	13.7	10.6	17.1	14	10	6.9
	11	-	-	-	-	7.8	4.4	9.5	6.1	13	9.6	16.4	13	11	7.6
ASR65	5	13.2	10.1	19.6	16.5	22.8	19.7	26	22.9	-	-	-	-	8.9	5.9
	6	11.9	8.3	18.3	14.7	21.5	17.9	24.7	21.1	31.1	27.5	-	-	10.8	7.1
	7	10.8	6.5	17.1	12.9	20.3	16.1	23.5	19.3	29.9	25.7	36.3	32	12.6	8.3
	8	9.6	4.7	16	11.1	19.2	14.3	22.4	17.5	28.7	23.8	35.1	30.2	14.4	9.5
	9	-	-	14.8	9.3	18	12.5	21.2	15.6	27.6	22	34	28.4	16.2	10.6
	10	-	-	13.6	7.5	16.8	10.6	20	13.8	26.4	20.2	32.8	26.6	18	11.8
	11	-	-	-	-	15.6	8.8	18.8	12	25.2	18.4	31.6	24.8	19.8	13
ASR80	5	26.6	19.6	39.6	32.5	46.2	39.1	52.7	45.6	-	-	-	-	19.7	12.6
	6	24.1	15.6	37.1	28.6	43.7	35.2	50.2	41.6	63.3	54.7	-	-	23.7	15.1
	7	21.6	11.7	34.6	24.7	41.2	31.3	47.7	37.8	60.8	50.9	73.8	63.9	27.5	17.6
	8	19.1	7.7	32.1	20.7	38.7	27.3	45.2	33.8	58.3	46.9	71.3	60	30.7	20.1
	9	-	-	29.6	16.7	36.2	23.3	42.7	29.8	55.7	42.9	68.8	56	35.5	22.6
	10	-	-	27.1	12.9	33.7	19.5	40.4	25.9	53.2	39	66.3	52.1	39.4	25.1
	11	-	-	-	-	31.2	15.5	37.7	22	50.7	35	63.8	48.1	43.3	27.6
ASR90	5	38.7	27.6	57.9	46.9	67.7	56.6	77.3	66.2	-	-	-	-	30.2	19.1
	6	34.8	21.5	54.1	40.8	63.8	50.5	73.4	60.1	92.7	79.4	-	-	36.3	23
	7	31	15.6	50.2	34.8	59.9	44.6	69.6	54.2	88.8	73.4	108	92.7	42.3	26.9
	8	27.2	9.5	46.4	28.8	56.2	38.5	65.8	48.1	85	66.7.4	104.3	86.6	48.3	30.6
	9	-	-	42.6	22.7	52.3	32.4	61.9	42	81.2	61.3	100.4	80.5	54.4	34.5
	10	-	-	38.7	16.6	48.4	26.4	58	36	77.3	55.2	96.5	74.5	60.5	38.4
	11	-	-	-	-	44.7	20.4	54.3	30	73.5	49.3	92.8	68.5	66.4	42.1
ASR100	5	58.3	43.8	86.4	71.9	100.4	85.9	114.5	100	-	-	-	-	40.6	26.1
	6	53	35.6	81.2	63.8	95.2	77.8	109.3	91.9	137.4	120	-	-	48.7	31.3
	7	47.8	27.6	75.9	55.7	89.9	69.7	104	83.8	132.1	112	160.3	140.1	56.8	36.6
	8	42.6	19.5	70.8	47.6	84.8	61.6	98.9	75.7	127	103.8	155.1	131.9	64.9	41.7
	9	-	-	65.5	39.4	79.5	53.5	93.6	67.6	121.7	95.7	149.9	123.8	73	47
	10	-	-	60.3	31.3	74.3	45.3	88.4	59.4	116.5	87.6	144.6	115.7	81.2	52.2
	11	-	-	-	-	69.1	37.2	83.2	51.3	111.3	79.4	139.5	107.5	89.3	57.4
ASR125	5	117.1	86.7	174.3	143.9	202.8	172.4	231.3	201	-	-	-	-	84.5	54.1
	6	106.3	69.2	163.5	126.4	192	154.9	220.5	183.4	277.6	240.5	-	-	102	64.9
	7	95.5	52.7	152.6	109.9	181.2	138.4	209.7	167	266.8	224	323.8	281.1	118.5	75.7
	8	84.7	35.2	141.8	92.4	170.4	120.9	198.9	149.5	256	206.5	313	263.6	136	86.5
	9	-	-	131	75.9	159.5	104.4	188.1	133	245.1	190	302.2	247.1	152.4	97.3
	10	-	-	120.2	58.4	148.7	86.9	177.3	115.5	234.3	172.5	291.4	229.6	170	108.2
	11	-	-	-	-	137.4	70.5	165.9	99	223	156	280.1	213.1	186.4	119.5
ASR140	5	126.3	82.5	248	204.2	288.5	244.7	329.1	285.3	-	-	-	-	120.3	76.4
	6	110.5	58.3	232.1	179.9	272.7	220.5	313.2	261	394.3	342.1	-	-	144.5	92.3
	7	95.6	35	217.2	156.6	257.8	197.2	298.3	237.7	379.4	318.8	460.5	399.9	167.8	107.2
	8	79.7	10.7	201.4	132.4	241.9	172.9	282.5	213.5	363.6	294.6	444.7	375.7	192	123.1
	9	-	-	186.4	108.1	227	148.7	267.5	189.2	348.6	270.3	429.7	351.4	216.3	138
	10	-	-	170.6	83.9	211.1	124.4	251.7	165	332.8	246.1	413.9	327.2	240.5	153.8
	11	-	-	-	-	196.2	101.1	236.8	141.7	317.9	222.8	399	303.9	263.8	168.7
ASR160	5	235.4	179.7	352.3	296.6	410.7	355	469.1	413.4	-	-	-	-	171	115.4
	6	211.7	145.7	328.6	262.7	387	321.1	445.4	379.5	562.3	496.4	-	-	205	139.1
	7	189	110.7	305.9	227.6	364.3	286	422.7	344.4	539.6	461.3	656.5	578.2	240	161.7
	8	165.3	76.7	282.2	193.6	340.6	252	399	310.4	515.9	427.3	632.8	544.3	274	185.4
	9	-	-	259.6	159.7	318	218.1	376.4	276.5	493.3	393.4	610.2	510.3	308	208.1
	10	-	-	236.9	125.7	295.3	184.1	353.7	242.5	470.6	359.4	587.5	476.3	342	230.7
	11	-	-	-	-	271.6	150.1	330	208.5	446.9	325.4	563.8	442.3	376	254.4
ASR200	4	563.8	442.9	805.6	684.6	-	-	-	-	-	-	-	-	282.5	161.6
	5	523.4	372.3	765.2	614.1	886.1	735	1,007.00	855.9	-	-	-	-	353.1	202
	6	483.1	301.7	724.8	543.4	845.7	664.4	966.7	785.3	1,208.20	1,027.00	-	-	423.7	242.4
	7	442.6	231	684.3	472.8	805.3	593.7	926.2	714.6	1,168.00	956.4	1,410.10	1,197.90	494.4	282.8
	8	-	-	644	402.2	764.9	523.1	885.8	644.1	1,127.90	885.8	1,369.90	1,127.90	565	323.2
	9	-	-	603.6	331.6	724.5	452.5	845.4	573.4	1,087.70	815.1	1,328.70	1,056.80	635.6	363.6
	10	-	-	563.2	260.9	684.1	381.8	805	502.7	1,046.50	744.5	1,288.50	986.3	706.3	404
11	-	-	-	-	643.8	311.3	764.7	432.2	1,006.40	673.9	1,248.40	915.8	776.8	444.3	
12	-	-	-	-	603.3	240.6	724.2	361.5	965.9	603.3	-	-	845.1	847.5	484.8



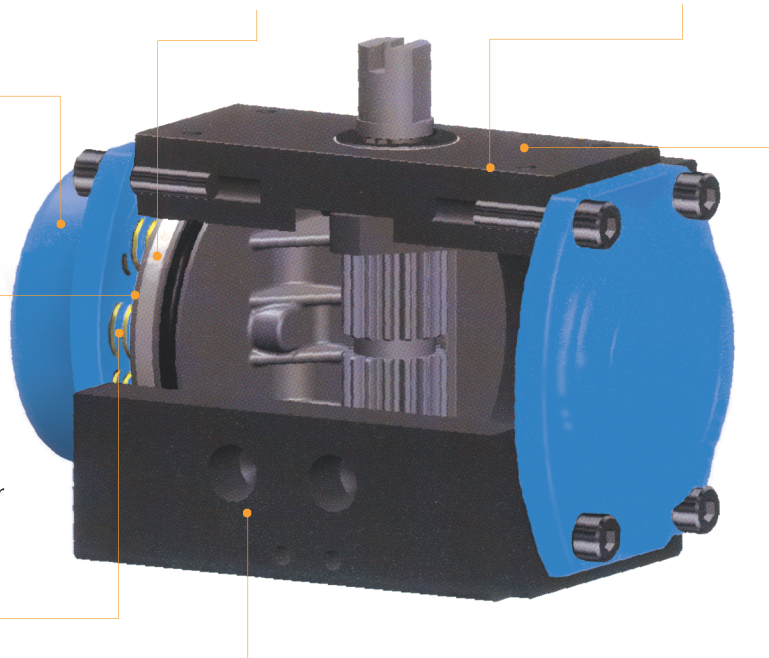
# WHY? AUTOMA

## Rack & Pinion Type Actuator

**Aluminum Cover** : is not easily peeled off, and its polish can last long as it is power coated upon special surface treatment.

As there is **no friction between metal to metal**, product life is long and without noise.

**ISO5211/din3337** : is the international standards, and thus the products can easily be fitted(assembly)with the accessories such as limit switch box,

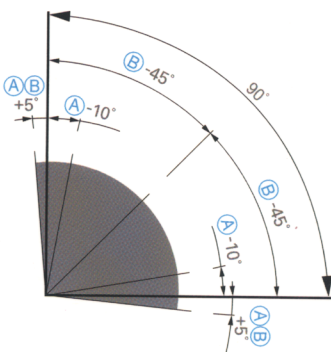


**NBR** : The products can be used at low/high temperature as the products are available in EPDM and/or VITON in addition to the standard NBR.

**Spring Cap** : enables safer assembly/disassembly.

**NAMUR** : is the international standard, and thus the products can easily be fitted with solenoid valves.

**Aluminum Body** is anodized to prevent internal/external scratches and thus securing long product life.



- Ⓐ -STANDARD
- Ⓑ -SPECIAL(OPTION)

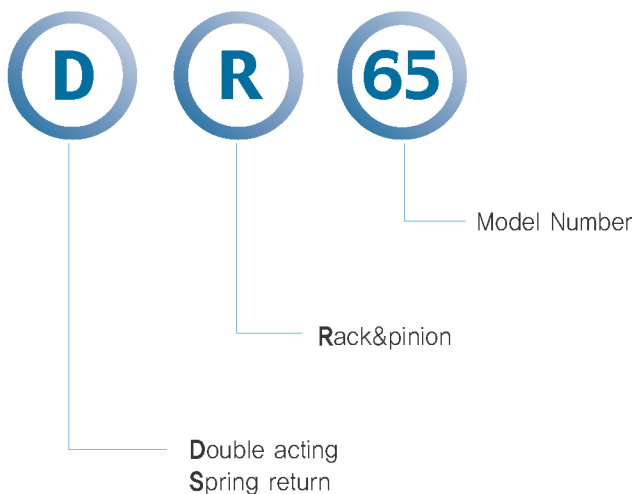
Angle range	+ 5°
	-10° (standard)
	-45° (option)

# Selection guide

Unit:Nm

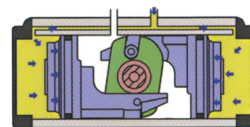
Valve Size		Supply Air		Spring return		
		Ball Valve	Butterfly Valve	Ball Valve	Butterfly Valve	
1/2"	15A	ADR32(one piece)	ADR50		ASR40	
3/4"	20A	ADR40(one piece)			ASR50	
1"	25A		ADR65		ASR65	
1-1/4"	32A				ASR80	
1-1/2"	40A		ADR80	ADR50	ASR90	ASR50
2"	50A			ADR65	ASR100	ASR65
2-1/2"	65A		ADR90		ASR125	ASR80
3"	80A		ADR100	ADR80	ASR140	ASR90
4"	100A		ADR125		ASR160	ASR100
5"	125A		ADR140	ADR90	ASR200	ASR125
6"	150A		ADR160	ADR100		
8"	200A		ADR200	ADR125		ASR140
10"	250A			ADR140		ASR160
12"	300A			ADR160		ASR200
14"	350A			ADR200		
16"	400A					
18"	450A					
20"	500A					

## How to order



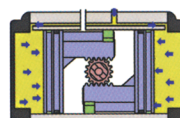
### Scotch-yoke

- Smooth on/off with the torque curve synchronized with valves
- Relatively higher torque than the same model in Rack & pinion type

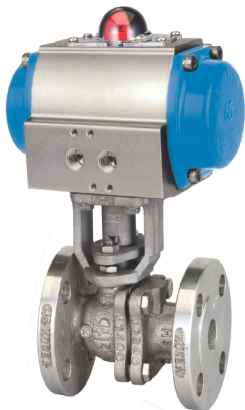


### Rack&Pinion

- Short body length makes it easier to fit in small spaces.
- The multi-spring structure enables adjustment of number of springs to suit the site requirements.



# Samples



Flanged Ball Valve(Double)



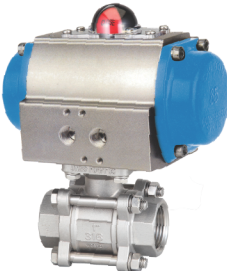
Plastic Ball Valve(Double)



Butterfly Valve(Double)



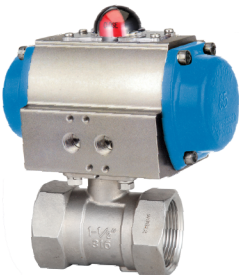
Butterfly Valve(Single)



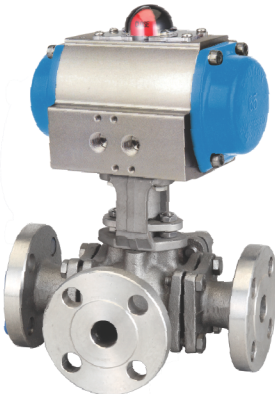
3-Piece Screwed Ball Valve(Double)



Plastic Butterfly Valve(Double)



1-Piece Screwed Ball Valve



3-Way Flanged Ball Valve



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※ The product is subject to change for technical development and quality improvement without prior notice.