

# Pneumatic actuator (A/R series)

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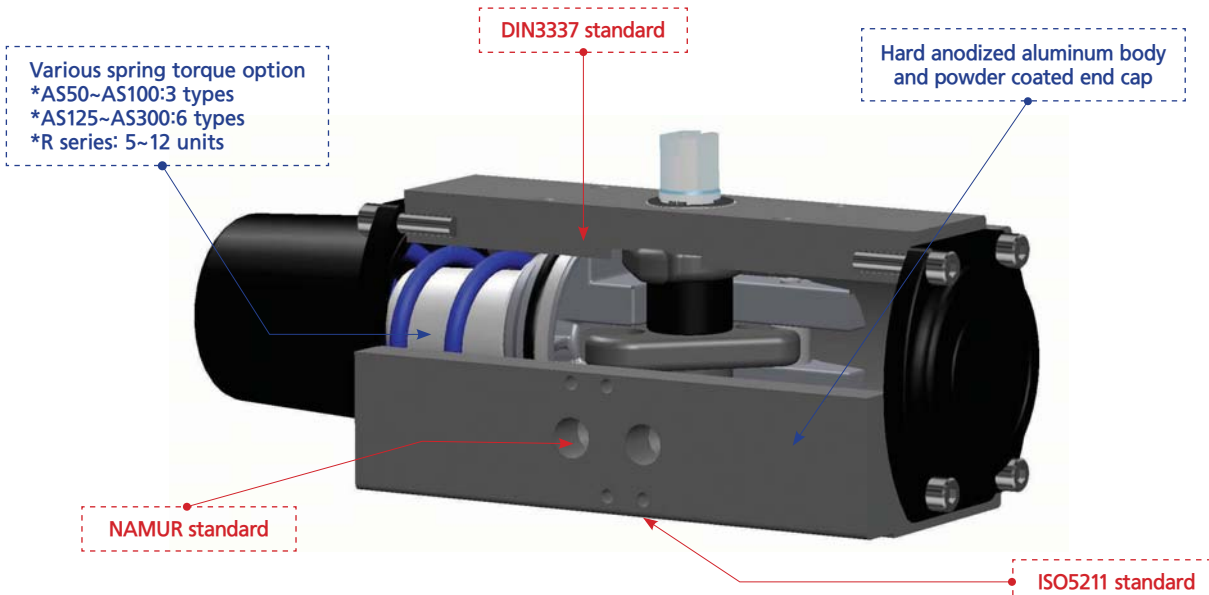
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## ► Model range

# A D 65

① — ② — ③

A series - Scotch yoke  
R series - Rack pinion

Internal diameter

D-Double acting  
S-Spring return

AD	50/65/80/100/125/140/160/185/210/250/300
AS	50/65/80/100/125/140/160/185/210/250/300
RD	32/40/50/65/80/90/100/115/125/140/160/185/210
RS	40/50/65/80/90/100/115/125/140/160/185/210



## ► Model code

# A6ND-AKKB-1012C27-OP

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>	<b>f</b>	<b>g</b>	<b>h</b>	<b>i</b>	<b>j</b>	<b>k</b>
<b>Mechanism</b> A : scotch yoke R : rack pinion	<b>O-RING</b> N : NBR* V : Viton (High temp.) E : EPDM(Low temp.)	<b>Action</b> A : Action A* (Fail closed) B : Action B (Fail open) C : Action C (Fail closed/Open CW) D : Action D (Fail open/Open CW)	<b>Diameter</b> 3 : 32 4 : 40 5 : 50 6 : 65 8 : 80 9 : 90 10 : 100 11 : 115 :	<b>SPRING</b> D : Double acting W : Weak spring WM : Weak Middle spring WS : Weak Strong spring M : Middle spring MS : Middle strong spring S : Strong spring *Refer to page 5.  No. : RS spring q'ty *Refer to page 11	<b>End cap color</b> K : Black painted* L : Blue painted M : Mint painted R : Red painted	<b>Body color</b> K : Hard anodized* L : Blue anodized W : White anodized Y : Yellow anodized R : Red anodized	<b>Indicator</b> A : A type B : B type C : C type D : D type * Refer to page 14	<b>ISO5211</b> 3 : F03 5 : F05 :	<b>STEM</b> C11 : 11*11 C14 : 14*14 :	<b>OPTION</b> T4 : PT1/4 T8 : PT3/8 T2 : PT1/2 N4 : NPT1/4 N8 : NPT3/8 N2 : NPT1/2  O45 : Open -45 ° (center stopper) SE1 : end cap stopper HW : Hand wheel * Refer to page 15~16

\*Standard

- Data contained in the Catalog may be subject to change without advance notice for improvement of performance&safety of Product.  
- Contact us for the most recent product and technical information. Visit our website for more details: <http://www.kosaplus.com>

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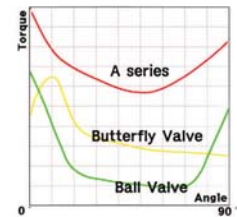
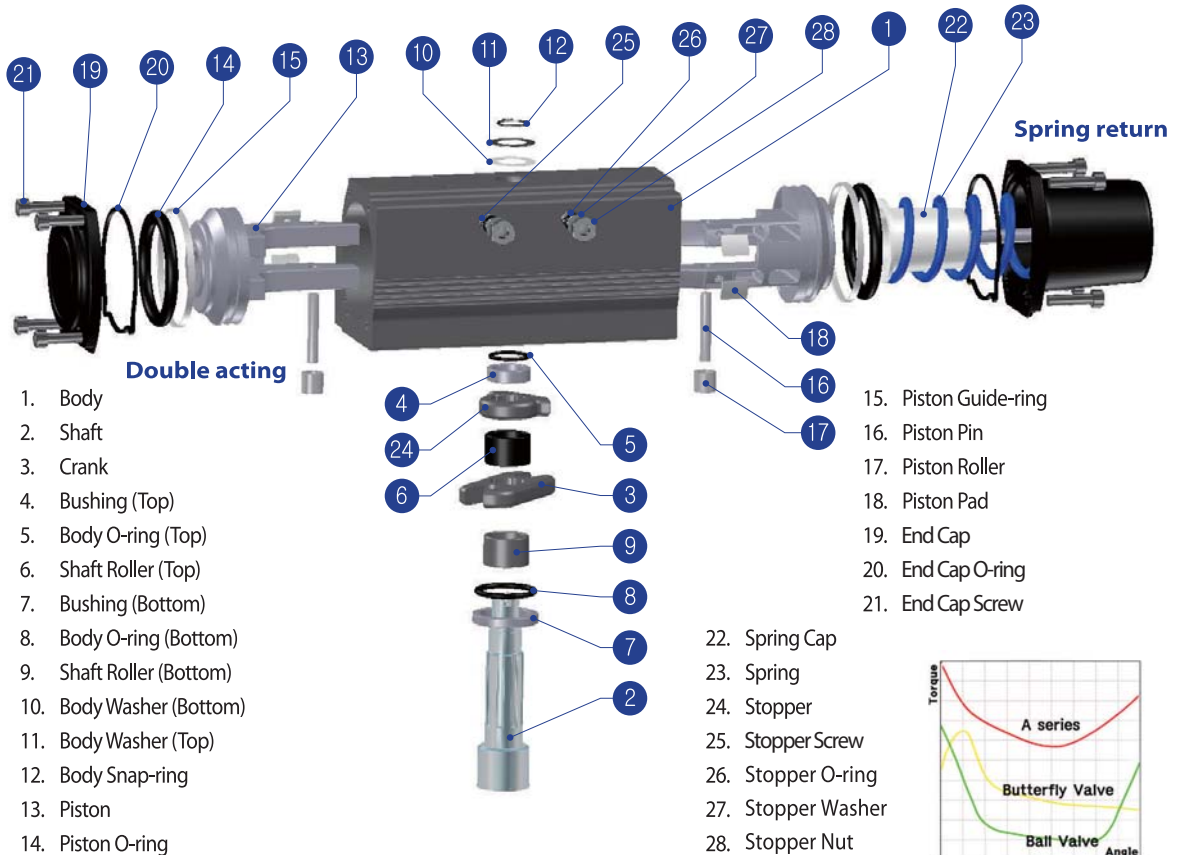
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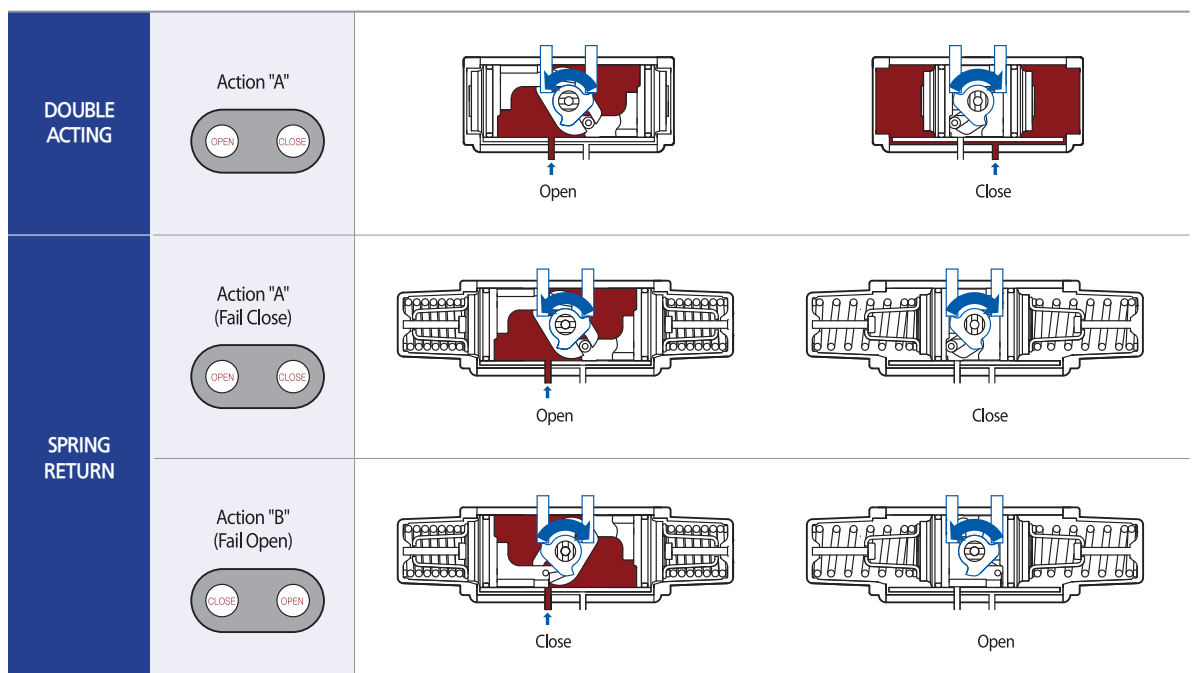
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## Operating mechanism



# ▶ Selection guide

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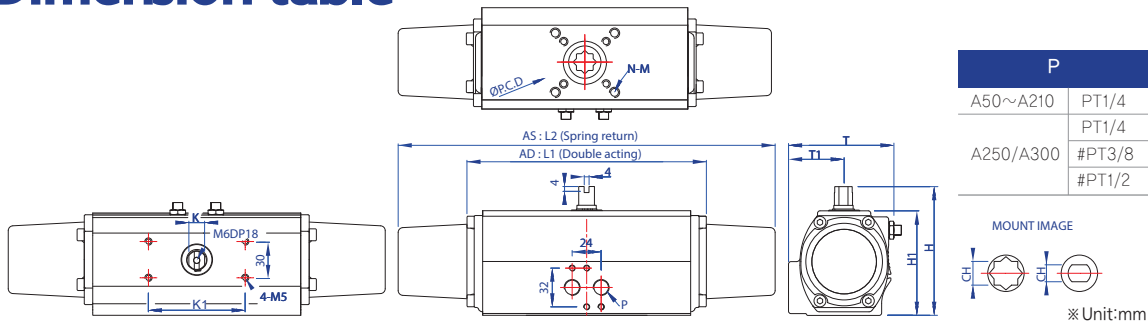
Valve Size		Double acting		Spring return		
		Ball valve	Butterfly valve	Ball valve	Butterfly valve	
1/2"	15A	AD50		AS50		
3/4"	20A					
1"	25A					
1-1/4"	32A	AD65		AS65		
1-1/2"	40A				AS50	
2"	50A		AD50		AS80	
2-1/2"	65A	AD80		AS100	AS65	
3"	80A					AS125
4"	100A		AD65			AS140
5"	125A	AD100		AS160	AS80	
6"	150A		AD80			AS185
8"	200A					AS210
10"	250A	AD125		AS250	AS125	
12"	300A		AD100			AS140
14"	350A		AD140			AS160
16"	400A	AD160		AS300	AS185	
18"	150A		AD160			AS210
20" ~ 22"	500A ~ 550A		AD185			AS250
24" ~ 32"	600A ~ 800A	AD210		AS300	AS100	
34" ~ 40"	850A ~ 1000A		AD250			AS125

•Based on 10K/#150

•The above data is for reference only; the actual assembly may be different depending on valve material, pressure, structure, fluid and operational environment.

•The data is not legally effective and therefore should not be used as legal ground.

# ▶ Dimension table



MODEL	K1	ISO	P.C.D(Ø)	N-G	K	AD L1	AS L2	T	T1	H	H1	CH	Stem depth	AD WG(Kg)	AS WG(Kg)
A50	80	F03/F05/F07	36/50/70	4-M5/M6/M8	9	162	257	75	40	90	70	11*11	13	1.4	1.6
												#14*14	14		
												#9.7*Ø15	14		
A65	80	F05/F07	50/70	4-M6/M8	13	202	314	89	46	107	87	14*14	17	2.3	3.0
												#11*11	13		
												#11.7*Ø17	17		
A80	80	F07	70	4-M8	13	253	421	101	49.5	126	106	17*17	19	3.9	5.3
												#14.7*Ø19	20		
												22*22	26		
A100	80	F07/F10	70/102	4-M8/M10	19	311	500	129	61.5	148	128	#17.7*Ø22	26	6.7	9.5
												22*22	26		
A125	80	F07/F10	70/102	4-M8/M10	19	390	606	151	71.5	174	154	22*22	26	11.3	17.6
A140	80	F10/F12	102/125	4-M10/M12	24	431	682	164	77	192	172	27*27	30	16.4	23.9
												#22*22			
A160	80	F14	140	4-M16	24	506	781	188	89	216	196	36*36	30	23.7	36.6
		#F10/F12	#102/125	#4-M10/M12								#27*27			
A185	80/130	F14	140	4-M16	24	578	894	217	102	244	224	36*36	30	34.8	56.9
A210	130	F16	165	4-M20	36	605	982	231	115	284	254	46*46	60	45.5	77.2
		#F14										#36*36			
A250	130	F16	165	4-M20	36	755	1108	301	152	335	305	46*46	60	65.8	119.6
A300	130	F16/F25	165/254	4-M20/8-M16	36	889	1345	360	170	408	378	55*55	60	165.0	275.5

#Option

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## ▶ AD series Torque table

※ Unit : Nm

Model	Angle	Supply air (Air to)													
		3Bar		4Bar		4.5Bar		5Bar		6Bar		7Bar		8Bar	
		Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open
AD50	0°	31.4	24.7	42.8	32.3	48.5	36.1	54.2	39.9	66.5	47.5	78.9	54.2	92.2	60.8
	45°	15.2	15.2	20.0	20.0	22.8	22.8	25.7	24.7	30.4	29.5	36.1	34.2	40.9	39.9
	90°	23.8	29.5	31.4	39.9	35.2	45.6	39.0	48.5	46.6	59.9	53.2	71.3	60.8	82.7
AD65	0°	77.9	54.2	108.3	69.4	12.4	77.9	138.7	84.6	169.1	99.8	199.5	115.0	229.9	130.2
	45°	35.2	33.3	45.6	43.7	51.3	49.4	57.0	55.1	68.4	65.6	80.8	76.0	92.2	87.4
	90°	52.3	65.6	69.4	88.4	77.0	100.7	85.5	111.2	102.6	134.0	119.7	156.8	136.8	179.6
AD80	0°	152.0	99.8	209.0	133.0	237.5	152.0	266.0	166.3	323.0	199.5	380.0	228.0	437.0	261.3
	45°	66.5	57.0	90.3	76.0	99.8	85.5	109.3	95.0	133.0	114.0	156.8	137.8	175.8	161.5
	90°	104.5	118.8	137.8	166.3	152.0	190.0	166.3	218.5	199.5	266.0	232.8	318.3	266.0	365.8
AD100	0°	232.8	180.5	323.0	247.0	361.0	275.5	399.0	304.0	475.0	365.8	560.5	418.0	646.0	470.3
	45°	114.0	109.3	152.0	147.3	171.0	166.3	190.0	185.3	232.8	223.3	275.5	266.0	318.3	304.0
	90°	190.0	190.0	256.5	266.0	289.8	304.0	318.3	342.0	384.8	418.0	446.5	494.0	508.3	560.5
AD125	0°	551.0	389.5	750.5	508.3	874.0	574.8	997.5	631.8	1,197.0	745.8	1,396.5	855.0	1,596.0	959.5
	45°	247.0	242.3	332.5	323.0	370.5	361.0	413.3	399.0	498.8	475.0	584.3	555.8	665.0	631.8
	90°	394.3	451.3	527.3	612.8	589.0	698.3	646.0	821.8	774.3	983.3	893.0	1,144.8	1,002.3	1,306.3
AD140	0°	741.0	589.0	1,026.0	779.0	1,178.0	874.0	1,311.0	969.0	1,596.0	1,159.0	1,881.0	1,339.5	2,166.0	1,491.5
	45°	337.3	318.3	451.3	427.5	508.3	479.8	570.0	532.0	684.0	641.3	798.0	750.5	912.0	864.5
	90°	527.3	579.5	693.5	788.5	788.5	893.0	878.8	1,007.0	1,040.3	1,263.5	1,206.5	1,539.0	1,368.0	1,805.0
AD160	0°	1,121.0	902.5	1,539.0	1,187.5	1,738.5	1,330.0	1,947.5	1,472.5	2,384.5	1,748.0	2,850.0	2,033.0	3,325.0	2,299.0
	45°	522.5	503.5	703.0	674.5	788.5	760.0	878.8	845.5	1,059.3	1,011.8	1,235.0	1,182.8	1,415.5	1,349.0
	90°	845.5	978.5	1,125.8	1,363.3	1,268.3	1,581.8	1,401.3	1,805.0	1,676.8	2,123.3	1,947.5	2,503.3	2,208.8	2,883.3
AD185	0°	1,833.5	1,187.5	2,470.0	1,520.0	2,783.5	1,719.5	3,097.0	1,900.0	3,686.0	2,251.5	4,294.0	2,584.0	4,902.0	2,888.0
	45°	802.8	817.0	1,073.5	1,092.5	1,206.5	1,225.5	1,339.5	1,349.0	1,605.5	1,615.0	1,881.0	1,890.5	2,156.5	2,147.0
	90°	1,311.0	1,406.0	1,729.0	1,919.0	1,928.5	2,175.5	2,137.5	2,441.5	2,527.0	3,021.0	2,916.5	3,581.5	3,296.5	4,256.0
AD210	0°	2,137.5	1,976.0	2,945.0	2,612.5	3,344.0	2,888.0	3,724.0	3,163.5	4,560.0	3,676.5	5,367.5	4,218.0	6,317.5	4,750.0
	45°	1,083.0	1,102.0	1,444.0	1,491.5	1,615.0	1,662.5	1,805.0	1,852.5	2,166.0	2,223.0	2,527.0	2,593.5	2,897.5	2,945.0
	90°	1,748.0	1,824.0	2,318.0	2,432.0	2,612.5	2,755.0	2,878.5	3,068.5	3,458.0	3,705.0	4,028.0	4,322.5	4,617.0	4,940.0
AD250	0°	4,180.0	3,277.5	5,700.0	4,275.0	6,460.0	4,750.0	7,220.0	5,272.0	8,835.0	6,222.5	10,260.0	7,125.0	11,780.0	7,970.5
	45°	1,890.5	1,890.5	2,498.5	2,498.5	2,755.0	2,812.0	3,087.5	3,097.0	3,705.0	3,743.0	4,341.5	4,389.0	4,968.5	4,978.0
	90°	3,201.5	3,448.5	4,218.0	4,617.0	4,664.5	5,177.5	5,158.5	5,776.0	6,080.0	6,944.5	7,039.5	8,189.0	7,970.5	9,443.0
AD300	0°	7,286.5	5,719.0	10,089.0	7,552.5	11,495.0	8,493.0	12,825.0	9,215.0	15,998.0	10,345.5	18,895.5	11,523.5	21,793.0	13,015.0
	45°	3,363.0	3,192.0	4,455.5	4,284.5	5,054.0	4,921.0	5,624.0	5,434.0	6,792.5	6,555.0	8,008.5	7,752.0	9,196.0	8,901.5
	90°	5,320.0	5,985.0	7,125.0	8,170.0	7,980.0	9,281.5	8,854.0	10,421.5	10,526.0	12,796.5	12,217.0	15,276.0	13,832.0	17,806.8

※ 0° -Valve Closed / 90° -Valve open

# ▶ AS series Torque table

※Unit : Nm

Model	Spring type	Angle	Supply Air (Air to Open)							Spring to Close
			3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar	
AS50	Weak	0°	14.3	21.9	25.7	29.0	36.1	43.7	50.4	10.5
		45°	6.7	11.9	14.3	17.1	21.9	27.1	32.0	8.2
		90°	7.6	17.1	21.9	27.6	39.9	50.4	59.9	16.2
	Middle*	0°	11.4	19.0	22.8	26.6	33.3	40.9	47.5	16.2
		45°	2.9	8.2	10.8	13.6	19.0	23.8	29.5	12.0
		90°	-	6.2	11.4	16.2	27.6	39.0	47.5	24.2
	Strong	0°	5.0	13.3	17.1	20.9	28.3	35.2	42.8	23.0
		45°	-	2.9	6.7	9.5	14.3	20.0	24.7	16.5
		90°	-	-	1.0	4.8	14.0	23.8	33.3	33.3
AS65	Weak	0°	35.2	53.2	61.8	68.4	81.7	100.7	118.8	29.5
		45°	17.1	28.5	34.2	40.9	52.3	62.7	72.2	15.6
		90°	28.5	47.0	58.0	68.4	91.2	96.9	136.8	29.2
	Middle*	0°	24.2	41.3	49.4	58.0	73.2	87.4	101.7	43.7
		45°	6.8	17.6	23.3	28.5	40.4	51.3	62.7	24.9
		90°	3.2	20.0	30.6	41.2	64.6	87.4	110.2	47.2
	Strong	0°	13.0	33.1	42.8	51.3	64.9	83.6	95.0	56.6
		45°	-	9.5	14.7	20.0	32.3	44.7	56.1	34.4
		90°	-	-	8.6	19.0	39.9	60.8	84.6	65.2
AS80	Weak	0°	71.3	104.5	123.5	142.5	175.8	209.0	242.3	47.5
		45°	28.5	52.3	61.8	71.3	95.0	114.0	137.8	33.3
		90°	47.5	95.0	128.3	152.0	213.8	256.5	285.0	61.8
	Middle*	0°	42.8	76.0	95.0	114.0	147.3	180.5	209.0	76.0
		45°	9.5	33.3	42.8	57.0	76.0	99.8	118.8	42.8
		90°	4.8	42.8	61.8	85.5	128.3	171.0	218.5	85.5
	Strong	0°	14.3	52.3	71.3	90.3	123.5	156.8	190.0	114.0
		45°	-	14.3	28.5	38.0	61.8	80.8	99.8	61.8
		90°	-	-	19.0	38.0	85.5	128.3	171.0	118.8
AS100	Weak	0°	109.3	161.5	190.0	223.3	289.8	351.5	413.3	95.0
		45°	47.5	90.3	104.5	128.3	166.3	209.0	247.0	61.8
		90°	61.8	133.0	180.5	204.3	285.0	361.0	437.0	109.3
	Middle*	0°	71.3	133.0	166.3	199.5	266.0	323.0	389.5	114.0
		45°	14.3	57.0	76.0	95.0	137.8	175.8	213.8	76.0
		90°	-	61.8	99.8	133.0	209.0	285.0	361.0	152.0
	Strong	0°	42.8	104.5	137.8	171.0	237.5	299.3	356.3	152.0
		45°	-	33.3	57.0	76.0	118.8	161.5	204.3	99.8
		90°	-	9.5	42.8	80.8	152.0	228.0	304.0	209.0
AS125	W	0°	332.5	465.5	527.3	584.3	703.0	807.5	931.0	109.3
		45°	180.5	261.3	299.3	342.0	418.0	498.8	589.0	57.0
		90°	313.5	489.3	584.3	679.3	769.5	964.3	1,149.5	118.8
	WM	0°	256.5	384.8	441.8	503.5	631.8	750.5	869.3	190.0
		45°	128.3	213.8	251.8	294.5	375.3	456.0	541.5	109.3
		90°	190.0	361.0	451.3	536.8	722.0	893.0	1,064.0	213.8
	WS	0°	190.0	323.0	384.8	446.5	574.8	693.5	807.5	261.3
		45°	66.5	152.0	190.0	232.8	313.5	394.3	475.0	152.0
		90°	76.0	218.5	289.8	361.0	494.0	641.3	826.5	256.5
	M	0°	185.3	318.3	384.8	451.3	574.8	693.5	812.3	285.0
		45°	80.8	161.5	204.3	247.0	327.8	408.5	493.0	166.3
		90°	76.0	237.5	318.3	408.5	584.3	722.0	893.0	318.3
	MS	0°	133.0	266.0	327.8	389.5	522.5	641.3	760.0	332.5
		45°	38.0	118.8	161.5	204.3	285.0	361.0	441.8	199.5
		90°	-	142.5	228.0	313.5	484.5	665.0	836.0	380.0
	S*	0°	80.8	213.8	280.3	346.8	470.3	589.0	712.5	408.5
		45°	-	85.5	128.3	166.3	247.0	327.8	408.5	237.5
		90°	-	61.8	133.0	213.8	384.8	560.5	712.5	446.5

※0° -Valve Closed / 90° -Valve open

\*Standard

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※ Unit : Nm

Model	Spring type	Angle	Supply air (Air to)							Spring to Close
			3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar	
AS140	W	0 °	475.0	674.5	764.8	864.5	1,045.0	1,235.0	1,396.5	133.0
		45 °	228.0	342.0	399.0	451.3	560.5	669.8	779.0	85.5
		90 °	251.8	532.0	617.5	707.8	883.5	1,064.0	1,273.0	152.0
	WM	0 °	365.8	570.0	674.5	774.3	959.5	1,159.0	1,320.5	256.5
		45 °	161.5	275.5	323.0	380.0	489.3	598.5	707.8	156.8
		90 °	223.3	418.0	532.0	636.5	855.0	1,078.3	1,339.5	294.5
	WS	0 °	289.8	479.8	584.3	674.5	869.3	1,054.5	1,225.5	375.3
		45 °	104.5	223.3	275.5	327.8	432.3	541.5	650.8	199.5
		90 °	99.8	313.5	418.0	517.8	741.0	969.0	1,206.5	380.0
	M	0 °	256.5	460.8	555.8	655.5	855.0	1,035.5	1,206.5	384.8
		45 °	104.5	199.5	247.0	313.5	418.0	532.0	636.5	228.0
		90 °	80.8	275.5	375.3	475.0	688.8	912.0	1,149.5	446.5
	MS	0 °	190.0	380.0	475.0	570.0	769.5	959.5	1,140.0	479.8
		45 °	38.0	152.0	209.0	266.0	361.0	465.5	579.5	275.5
		90 °	-	161.5	266.0	380.0	570.0	788.5	1,026.0	522.5
	S*	0 °	109.3	304.0	399.0	503.5	693.5	883.5	1,073.5	574.8
		45 °	-	109.3	166.3	213.8	318.3	427.5	532.0	332.5
		90 °	-	61.8	156.8	251.8	465.5	674.5	883.5	617.5
AS160	W	0 °	627.0	921.5	1,064.0	1,206.5	1,491.5	1,757.5	2,042.5	313.5
		45 °	299.3	475.0	560.5	646.0	817.0	997.5	1,178.0	194.8
		90 °	460.8	826.5	1,016.5	1,178.0	1,596.0	2,071.0	2,242.0	384.8
	WM	0 °	541.5	855.0	997.5	1,130.5	1,425.0	1,700.5	1,966.5	394.3
		45 °	256.5	422.8	513.0	598.5	769.5	950.0	1,121.0	232.8
		90 °	361.0	703.0	893.0	1,083.0	1,501.0	1,928.5	2,289.5	446.5
	WS	0 °	389.5	684.0	826.5	983.3	1,263.5	1,548.5	1,833.5	612.8
		45 °	137.8	304.0	389.5	479.8	650.8	821.8	964.3	356.3
		90 °	42.8	365.8	513.0	674.5	1,002.3	1,353.8	1,767.0	636.5
	M	0 °	446.5	750.5	902.5	1,045.0	1,330.0	1,615.0	1,900.0	503.5
		45 °	204.3	380.0	465.5	551.0	731.5	902.5	1,068.8	289.8
		90 °	247.0	608.0	769.5	950.0	1,349.0	1,795.5	2,090.0	536.8
	MS	0 °	308.8	612.8	745.8	893.0	1,173.3	1,453.5	1,738.5	665.0
		45 °	902.5	266.0	356.3	441.8	617.5	788.5	954.8	389.5
		90 °	-	304.0	484.5	674.5	1,045.0	1,444.0	1,862.0	731.5
	S*	0 °	156.8	470.3	622.3	769.5	1,059.3	1,339.5	1,615.0	888.3
		45 °	-	166.3	247.0	332.5	508.3	679.3	850.3	498.8
		90 °	-	66.5	218.5	380.0	731.5	1,121.0	1,520.0	940.5
AS185	W	0 °	912.0	1,282.5	1,463.0	1,643.5	1,995.0	2,327.5	2,650.5	456.0
		45 °	513.0	779.0	912.0	1,045.0	1,311.0	1,586.5	1,852.5	266.0
		90 °	798.0	1,301.5	1,548.5	1,824.0	2,365.5	2,926.0	3,477.0	541.5
	WM	0 °	745.8	1,140.0	1,311.0	1,491.5	1,824.0	2,142.3	2,484.6	726.8
		45 °	356.3	603.3	741.0	869.3	1,140.0	1,406.0	1,705.1	441.8
		90 °	441.8	912.0	1,144.8	1,396.5	1,900.0	2,441.5	2,747.7	864.5
	WS	0 °	532.0	940.5	1,121.0	1,301.5	1,653.0	1,976.0	2,308.5	950.0
		45 °	213.8	494.0	617.5	760.0	1,026.0	1,282.5	1,548.5	551.0
		90 °	95.0	636.5	888.3	1,121.0	1,634.0	2,147.0	2,698.0	1,078.3
	M	0 °	532.0	921.5	1,111.5	1,292.0	1,653.0	2,004.5	2,337.0	1,035.5
		45 °	199.5	465.5	598.5	741.0	1,007.0	1,273.0	1,539.0	579.5
		90 °	133.0	608.0	855.0	1,092.5	1,586.5	2,090.0	2,631.5	1,140.0
	MS	0 °	332.5	731.5	931.0	1,111.5	1,501.0	1,843.0	2,185.0	1,273.0
		45 °	57.0	332.5	465.5	598.5	874.0	1,121.0	1,396.5	712.5
		90 °	-	304.0	522.5	769.5	1,254.0	1,767.0	2,299.0	1,387.0
	S*	0 °	142.5	532.0	741.0	931.0	1,292.0	1,634.0	1,976.0	1,548.5
		45 °	-	180.5	304.0	437.0	703.0	969.0	1,235.0	874.0
		90 °	-	-	218.5	456.0	931.0	1,415.5	1,928.5	1,681.5

※ 0 ° -Valve Closed / 90 ° -Valve open

\*Standard

# Contents

※Unit : Nm

Model	Spring type	Angle	Air (to Open)							Spring to Close
			3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar	
AS210	W	0 °	1,577.0	2,156.5	2,460.5	2,736.0	3,287.0	3,857.0	4,389.0	418.0
		45 °	779.0	1,149.5	1,330.0	1,510.5	1,881.0	2,242.0	2,603.0	247.0
		90 °	1,197.0	1,824.0	2,156.5	2,470.0	3,078.0	3,705.0	4,332.0	475.0
	WM	0 °	1,140.0	1,795.5	2,090.0	2,384.5	3,002.0	3,543.5	4,085.0	807.5
		45 °	513.0	883.5	1,054.5	1,254.0	1,615.0	1,976.0	2,337.0	484.5
		90 °	693.5	1,311.0	1,624.5	1,919.0	2,546.0	3,154.0	3,800.0	940.5
	WS	0 °	969.0	1,643.5	1,928.5	2,251.5	2,850.0	3,458.0	3,990.0	1,054.5
		45 °	380.0	760.0	950.0	1,140.0	1,510.5	1,881.0	2,242.0	627.0
		90 °	380.0	1,054.5	1,330.0	1,672.0	2,280.0	2,907.0	3,515.0	1,206.5
	M	0 °	926.3	1,491.5	1,833.5	2,109.0	2,641.0	3,163.5	3,648.0	1,206.5
		45 °	351.5	717.3	921.5	1,097.3	1,444.0	1,805.0	2,147.0	674.5
		90 °	313.5	978.5	1,349.0	1,719.5	2,261.0	2,973.5	3,163.5	1,239.8
	MS	0 °	598.5	1,235.0	1,586.5	1,928.5	2,536.5	3,135.0	3,705.0	1,472.5
		45 °	114.0	484.5	674.5	864.5	1,225.5	1,586.5	1,957.0	874.0
		90 °	-	503.5	798.0	1,121.0	1,748.0	2,356.0	2,983.0	1,719.5
	S*	0 °	389.5	1,092.5	1,415.5	1,738.5	2,375.0	2,945.0	3,515.0	1,681.5
		45 °	-	351.5	541.5	722.0	1,092.5	1,463.0	1,833.5	1,035.5
		90 °	-	228.0	522.5	855.0	1,472.5	2,099.5	2,707.5	1,947.5
AS250	W	0 °	2,631.5	3,686.0	4,180.0	4,655.0	5,624.0	6,555.0	7,457.5	731.5
		45 °	1,425.0	2,090.0	2,413.0	2,726.5	3,420.0	4,047.0	4,721.5	418.0
		90 °	2,299.0	3,515.0	4,056.5	4,655.0	5,814.0	6,982.5	8,217.5	874.0
	WM	0 °	2,118.5	3,249.0	3,781.0	4,303.5	5,320.0	6,270.0	7,172.5	1,434.5
		45 °	1,064.0	1,729.0	2,052.0	2,375.0	3,011.5	3,667.0	4,313.0	826.5
		90 °	1,453.5	2,641.0	3,211.0	3,800.0	4,987.5	6,222.5	7,429.0	1,596.0
	WS	0 °	1,757.5	2,812.0	3,306.0	3,800.0	4,816.5	5,738.0	6,621.5	1,862.0
		45 °	855.0	1,491.5	1,805.0	2,109.0	2,783.5	3,420.0	4,094.5	1,054.5
		90 °	921.5	2,033.0	2,707.5	3,220.5	4,275.0	5,586.0	6,593.0	2,080.5
	M	0 °	1,453.5	2,555.5	3,097.0	3,610.0	4,655.0	5,633.5	6,536.0	2,213.5
		45 °	636.5	1,282.5	1,605.5	1,947.5	2,593.5	3,230.0	3,876.0	1,254.0
		90 °	608.0	1,767.0	2,318.0	2,945.0	4,085.0	5,253.5	6,422.0	2,432.0
	MS	0 °	1,092.5	2,156.5	2,669.5	3,163.5	4,227.5	5,187.0	6,061.0	2,660.0
		45 °	399.0	1,045.0	1,358.5	1,691.0	2,327.5	2,992.5	3,638.5	1,482.0
		90 °	19.0	1,235.0	1,757.5	2,346.5	3,467.5	4,607.5	5,795.0	2,878.5
	S*	0 °	731.5	1,900.0	2,441.5	2,945.0	3,942.5	4,864.0	5,776.0	3,277.5
		45 °	123.5	779.0	1,092.5	1,415.5	2,071.0	2,726.5	3,363.0	1,738.5
		90 °	-	665.0	1,197.0	1,748.0	2,888.0	4,028.0	5,168.0	3,315.5
AS300	W	0 °	4,626.5	6,460.0	7,267.5	7,923.0	9,120.0	10,697.0	12,245.5	1,425.0
		45 °	2,460.5	3,505.5	4,218.0	4,569.5	5,624.0	6,792.5	7,951.5	817.0
		90 °	4,322.5	6,507.5	7,619.0	8,692.5	10,963.0	13,471.0	14,373.5	1,472.5
	WM	0 °	3,515.0	5,510.0	6,460.0	7,362.5	9,072.5	10,564.0	11,713.5	2,726.5
		45 °	1,520.0	2,717.0	3,344.0	3,942.5	5,130.0	6,336.5	7,552.5	1,900.0
		90 °	2,147.0	4,284.5	5,301.0	6,431.5	8,645.0	10,849.0	13,271.5	3,211.0
	WS	0 °	2,888.0	4,854.5	5,633.5	6,488.5	8,122.5	9,956.0	11,381.0	3,439.0
		45 °	1,130.5	2,242.0	2,821.5	3,429.5	4,427.0	5,823.5	6,640.5	2,052.0
		90 °	1,206.5	3,448.5	4,465.0	5,880.5	7,856.5	9,946.5	12,226.5	3,971.0
	M	0 °	2,147.0	4,075.5	4,987.5	5,890.0	7,524.0	8,930.0	10,184.0	4,408.0
		45 °	617.5	1,776.5	2,346.5	2,916.5	3,961.5	4,997.0	6,061.0	2,546.0
		90 °	190.0	2,147.0	3,268.0	4,332.0	6,270.0	8,578.5	10,640.0	4,949.5
	MS	0 °	1,482.0	3,458.0	4,484.0	5,462.5	7,134.5	8,578.5	9,718.5	5,130.0
		45 °	161.5	1,282.5	1,881.0	2,422.5	3,467.5	4,550.5	5,605.0	3,002.0
		90 °	-	1,187.5	2,242.0	3,230.0	5,329.5	7,334.0	9,690.0	5,709.5
	S*	0 °	807.5	2,650.5	3,638.5	4,588.5	6,403.0	7,942.0	9,139.0	6,099.0
		45 °	-	826.5	1,425.0	1,966.5	3,021.0	4,085.0	5,111.0	3,505.5
		90 °	-	190.0	1,187.5	2,204.0	4,199.0	6,365.0	8,331.5	6,564.5

※0 ° -Valve Closed / 90 ° -Valve open

\*Standard

A series  
Part List

A series  
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Dimension

A series  
Torque table

R series  
Part list

R series  
Selection guide  
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R series  
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Various option

Limit switch  
box

Positioner