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A – FORCE (SCOTCH-YOKE) PNEUMATIC ACTUATOR

ALOHAN

Scotch Yoke Pneumatic Actuator

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The Alohan A-FORCE pneumatic actuator is designed using Scotch-Yoke technology. Scotch-Yoke technology is well known to all users as the most suitable actuator mechanism for valve and damper operation as it produces higher torque at both and end position. The latest manufacturing technologies have been operated in order to supply a high quality and cycle-life on **A-FORCE**. Our extensive inventory & engineering capabilities allow us to provide reliable and safety product to our customer with satisfaction.

SPECIFICATION

Pressure Range	Maximum Working Pressure : 10 Bar(143 Psi)
Temperature Range	Standard: -20˚C~80˚C Low: -40˚C~110˚C High: -20˚C~150˚C
Movement	90 degree +5~-10 (optional -45 degree)
Lubrication	All moving parts are lubricated for long life cycle
Life Cycle	More than 1,000,000 Operations

FEATURES

Center Stopper Bolt

Adjustment for open & close positions
90 degree : adjustable +5 ~ -10 degree
Max : -45 degree

Mounting Holes

Easy to mount accessory
VDI/VDE 3845 NAMUR

Spring Pack

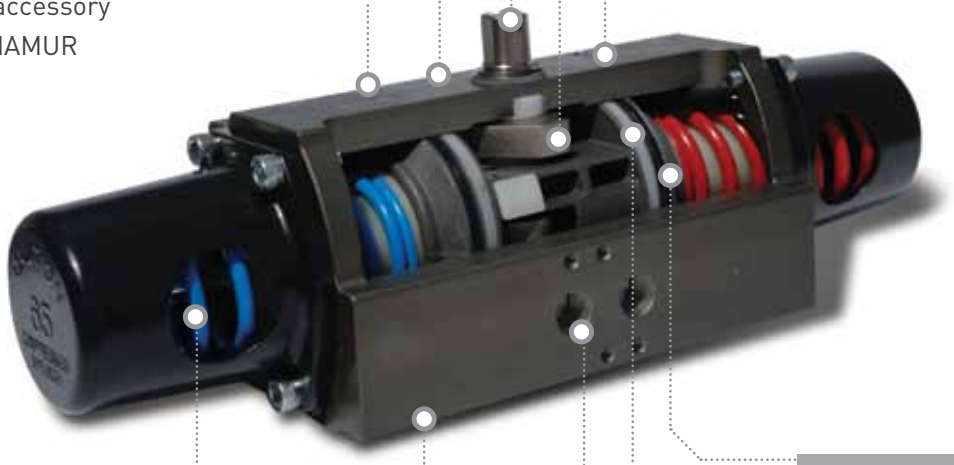
Pre-compressed for safety

Mounting Holes

International standard
ISO5211, DIN3337, NAMUR

Double Square Drive Shaft

ISO5211 NAMUR



NAMUR Drive Shaft

Mechanical Stopper

Cylinder

Hard anodized aluminum

O-Ring

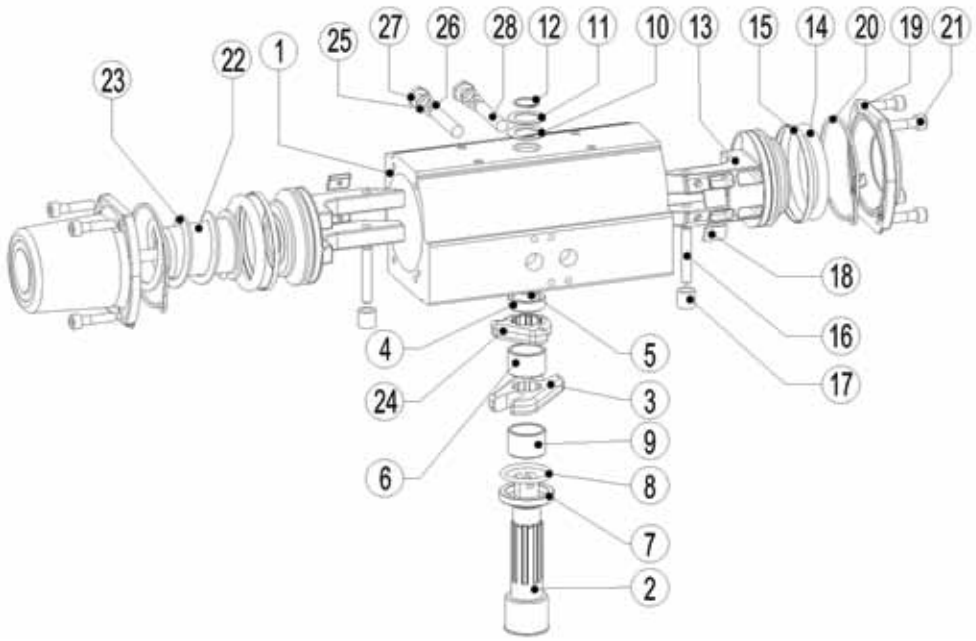
Specially treated for
reducing friction

Guide Ring

For longer working life cycle

Direct Mounting NAMUR

PART LIST (A-FORCE)

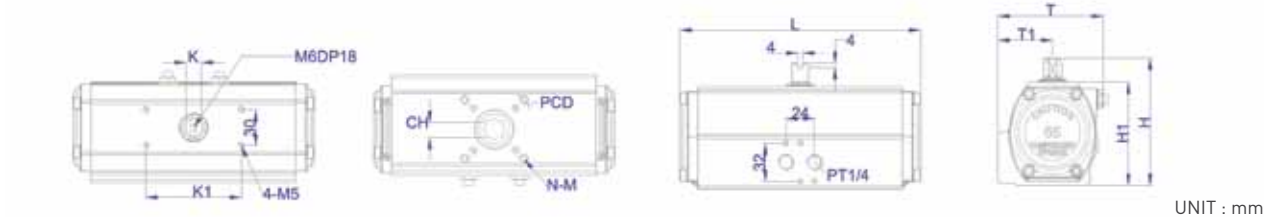


NO.	Part Name	Materials
1	Body	Aluminum Alloy
2	Shaft	Steel Alloy (Nickel Plated)
3	Crank	Steel Alloy
4	Bushing (Top)	Steel Alloy
5	Body O-ring (Top)	NBR
6	Shaft Roller (Top)	Engineering Plastic
7	Bushing (Bottom)	Steel Alloy
8	Body O-ring (Bottom)	NBR
9	Shaft Roller (Bottom)	Engineering Plastic
10	Body Washer (Bottom)	Engineering Plastic
11	Body Washer (Top)	Steel Alloy
12	Body Snap-ring	Steel Alloy
13	Piston	Aluminum Alloy
14	Piston O-ring	NBR

NO.	Part Name	Materials
15	Piston Guide-ring	Engineering Plastic
16	Piston Pin	Steel Alloy
17	Piston Roller	Steel Alloy
18	Piston Pad	Engineering Plastic
19	Cover	Aluminum Alloy
20	Cover O-ring	NBR
21	Cover Bolt	Stainless Steel
22	Spring Cap	Engineering Plastic
23	Spring	Steel Alloy
24	Stopper	Steel Alloy
25	Adjust Washer	Stainless Steel
26	Adjust Nut	Stainless Steel
27	Adjust O-ring	NBR
28	Adjust Bolt	Stainless Steel

DIMENSION

DOUBLE ACTING

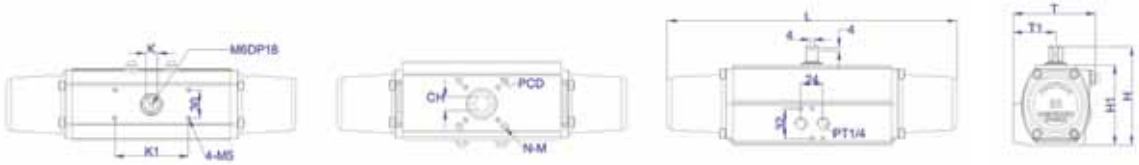


UNIT : mm

MODEL	K1	ISO	P.C.D(Ø)	N-G	K	L	T	T1	H	H1	CH	DTH	WG(Kg)
AD50	80	F03/F05/F07	36/50/70	4-M5/M6/M8	9	162	75	40	90	70	11*11	13	1.4
											#14*14	14	
AD65	80	F05/F07	50/70	4-M6/M8	13	202	89	46	107	87	14*14	17	2.3
AD80	80	F07	70	4-M8	13	253	101	49.5	126	106	17*17	19	3.9
AD100	80	F07/F10	70/102	4-M8/M10	19	311	129	61.5	148	128	22*22	26	6.7
AD125	80	F07/F10	70/102	4-M8/M10	19	390	151	71.5	174	154	22*22	26	11.3
AD140	80	F10/F12	102/125	4-M10/M12	24	431	164	77	192	172	27*27	30	16.4
											#22*22		
AD160	80	F14	140	4-M16	24	506	188	89	216	196	36*36	30	23.7
		#F10/F12	#102/125	#4-M10/M12							#27*27		
AD185	80	F14	140	4-M16	24	578	217	102	244	224	36*36	30	34.8
AD210	130	F16	165	4-M20	36	605	231	115	284	254	46*46	60	45.5
		#F14									#36*36	50	
AD250	130	F16	165	4-M20	36	755	301	152	335	305	46*46	60	65.8
AD300	130	F16/F25	165/254	4-M20/8-M16	36	889	360	170	408	378	55*55	60	165.0

'#' IS OPTIONAL

SPRING RETURN



UNIT : mm

MODEL	K1	ISO	P.C.D(Ø)	N-G	K	L	T	T1	H	H1	CH	DTH	WG(Kg)
AS50	80	F03/F05/F07	36/50/70	4-M5/M6/M8	9	257	75	40	90	70	11*11	13	1.6
											#14*14	14	
AS65	80	F05/F07	50/70	4-M6/M8	13	314	89	46	107	87	14*14	17	3.0
AS80	80	F07	70	4-M8	13	421	101	49.5	126	106	17*17	19	5.3
AS100	80	F07/F10	70/102	4-M8/M10	19	500	129	61.5	148	128	22*22	26	9.5
AS125	80	F07/F10	70/102	4-M8/M10	19	606	151	71.5	174	154	22*22	26	17.6
AS140	80	F10/F12	102/125	4-M10/M12	24	682	164	77	192	172	27*27	30	23.9
											#22*22		
AS160	80	F14	140	4-M16	24	781	188	89	216	196	36*36	30	36.6
		#F10/F12	#102/125	#4-M10/M12							#27*27		
AS185	80	F14	140	4-M16	30	894	217	102	244	224	36*36	30	56.9
AS210	130	F16	165	4-M20	36	982	231	115	284	254	46*46	60	77.2
		#F14									#36*36	50	
AS250	130	F16	165	4-M20	36	1108	301	152	335	305	46*46	60	119.6
AS300	130	F16/F25	165/254	4-M20/8-M16	36	1345	372	170	408	378	55*55	60	275.5

'#' IS OPTIONAL

TORQUE

Committed to continuous improvement

DOUBLE ACTING OUTPUT TORQUE

Model	Angle	SupplyAir											
		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar	
		Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open
AD50	0°	31.4	24.7	42.8	32.3	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	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	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	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	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	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	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	109.3	95.0	133.0	114.0	156.8	137.8	175.8	161.5
	90°	04.5	118.8	137.8	166.3	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	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	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	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	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	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	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	1,311.0	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	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	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	1,947.5	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	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	1,401.3	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	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	1,339.5	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	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	3,724.0	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	1,805.0	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	2,878.5	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	7,220.0	5,272.5	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	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	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°	7,211.0	5,049.0	9,615.0	6,732.0	14,422.0	10,099.0	15,984.4	11,193.1	17,306.4	12,118.8	18,222.2	12,760.1
	45°	2,970.0	2,970.0	3,960.0	3,960.0	5,940.0	5,940.0	6,583.5	6,583.5	7,128.0	7,128.0	7,505.2	7,505.2
	90°	5,049.0	7,211.0	6,732.0	9,415.0	10,099.0	14,422.0	11,193.1	15,984.4	12,118.8	17,306.4	12,760.1	18,222.2

Unit : N-m

SPRING RETURN OUTPUT TORQUE

Maximize the torque

Model	Angle	Spring torque: Weak			Spring torque: Middle				Spring torque: Strong			
		Spring	Air:3Bar	Air:4Bar	Spring	Air:4Bar	Air:4.5Bar	Air:5Bar	Spring	Air:6Bar	Air:7Bar	Air:8Bar
AS50	0°	10.5	14.3	21.9	16.2	19.0	22.8	26.6	23.0	28.3	35.2	42.8
	45°	8.2	6.7	11.9	12.0	8.2	10.8	13.6	16.5	14.3	20.0	24.7
	90°	16.2	7.6	17.1	24.2	6.2	11.4	16.2	33.3	14.0	23.8	33.3
AS65	0°	29.5	35.2	53.2	43.7	41.3	49.4	58.0	56.6	64.9	83.6	95.0
	45°	15.6	17.1	28.5	24.9	17.6	23.3	28.5	34.4	32.3	44.7	56.1
	90°	29.2	28.5	47.0	47.2	20.0	30.6	41.2	65.2	39.9	60.8	84.6
AS80	0°	47.5	71.3	104.5	76.0	76.0	95.0	114.0	114.0	123.5	156.8	190.0
	45°	33.3	28.5	52.3	42.8	33.3	42.8	57.0	61.8	61.8	80.8	99.8
	90°	61.8	47.5	95.0	85.5	42.8	61.8	85.5	118.8	85.5	128.3	171.0
AS100	0°	95.0	109.3	161.5	114.0	133.0	166.3	199.5	152.0	237.5	299.3	356.3
	45°	61.8	47.5	90.3	76.0	57.0	76.0	95.0	99.8	118.8	161.5	204.3
	90°	109.3	61.8	133.0	152.0	61.8	99.8	133.0	209.0	152.0	228.0	304.0
AS125	0°	109.3	332.5	465.5	285.0	318.3	384.8	451.3	408.5	470.3	589.0	712.5
	45°	57.0	180.5	261.3	166.3	161.5	204.3	247.0	237.5	247.0	327.8	408.5
	90°	118.8	313.5	489.3	318.3	237.5	318.3	408.5	446.5	384.8	560.5	712.5
AS140	0°	133.0	475.0	674.5	384.8	460.8	555.8	655.5	574.8	693.5	883.5	1,073.5
	45°	85.5	228.0	342.0	228.0	199.5	247.0	313.5	332.5	318.3	427.5	532.0
	90°	152.0	251.8	532.0	446.5	275.5	375.3	475.0	617.5	465.5	674.5	883.5
AS160	0°	313.5	627.0	921.5	503.5	750.5	902.5	1,045.0	888.3	1,059.3	1,339.5	1,615.0
	45°	194.8	299.3	475.0	289.8	380.0	465.5	551.0	498.8	508.3	679.3	850.3
	90°	384.8	460.8	826.5	536.8	608.0	769.5	950.0	940.5	731.5	1,121.0	1,520.0
AS185	0°	456.0	912.0	1,282.5	1,035.5	921.5	1,111.5	1,292.0	1,548.5	1,292.0	1,634.0	1,976.0
	45°	266.0	513.0	779.0	579.5	465.5	598.5	741.0	874.0	703.0	969.0	1,235.0
	90°	541.5	798.0	1,301.5	1,140.0	608.0	855.0	1,092.5	1,681.5	931.0	1,415.5	1,928.5
AS210	0°	418.0	1,577.0	2,156.5	1,206.5	1,491.5	1,833.5	2,109.0	1,681.5	2,375.0	2,945.0	3,515.0
	45°	247.0	779.0	1,149.5	674.5	717.3	921.5	1,097.3	1,035.5	1,092.5	1,463.0	1,833.5
	90°	475.0	1,197.0	1,824.0	1,239.8	978.5	1,349.0	1,719.5	1,947.5	1,472.5	2,099.5	2,707.5
AS250	0°	731.5	2,631.5	3,686.0	2,213.5	2,555.5	3,097.0	3,610.0	3,277.5	3,942.5	4,864.0	5,776.0
	45°	418.0	1,425.0	2,090.0	1,254.0	1,282.5	1,605.5	1,947.5	1,738.5	2,071.0	2,726.5	3,363.0
	90°	874.0	2,299.0	3,515.0	2,432.0	1,767.0	2,318.0	2,945.0	3,315.5	2,888.0	4,028.0	5,168.0
AS300	0°	-	-	-	6,421.0	3,637.9	4,308.0	4,547.3	8,566.0	5,740.0	6,361.8	7,270.7
	45°	-	-	-	2,283.0	1,834.1	2,172.0	2,292.7	3,046.0	2,894.0	3,207.5	3,665.7
	90°	-	-	-	3,266.0	3,712.2	4,396.0	4,640.2	4,359.0	5,857.0	6,491.5	7,418.9

Unit : N-m

Manual Handwheel

- For AD50 to AS300, DA and SR
- Simple and Compact

Our Commitment of Quality

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