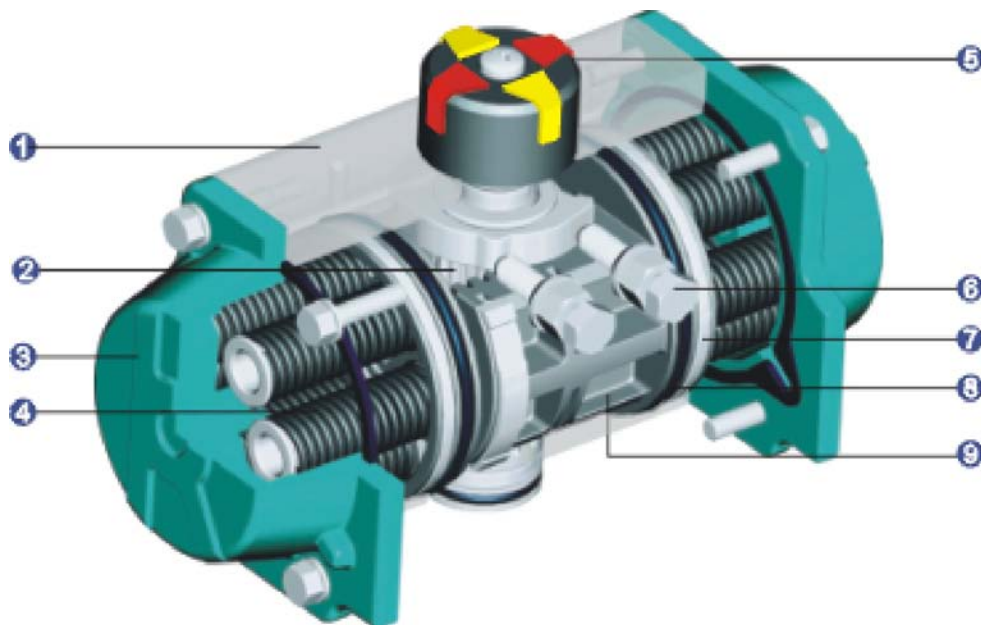


Pneumatic Actuator KP Series

➤ Introduction

KI pneumatic actuators offer Double-acting type and Single-acting type (spring return). Superior aluminum extruded body with hard anodized polish internally and externally enhances its ability in corrosion-resistance and wear-proof, and extends life-cycle. KI pneumatic actuators equipped with brilliant performance of rack and pinion provide high output torque and flexible on/off to suit a wide range of ball valves, butterfly valves, and other valves for automation solutions.

➤ Design Features



1. ACTUATOR BODY

Aluminum extruded body with normal or hard anodized polish internally and externally offers beautiful appearance, lasting life-cycle and hard wear.

2. PINION

Alloy steel pinion machined precisely and nickel plated provides utmost wear proof and corrosion resistance.

3. END CAPS

Heavy duty die-cast aluminum end caps with polyester coating enhance corrosion resistance.

4. HEAVY DUTY SPRINGS

Springs produced by imported and quality alloy steel bring high performance and long lifespan.

5. INDICATOR

All types are equipped with a disc open/close indicator.

6. TRAVEL ADJUSTMENT

Adjustment between $+5^{\circ}$ and -5° through two external screws is available.

7. PISTON GUIDES

“ACETAL” self-lubricating piston guides greatly increase life cycle of Actuator Body.

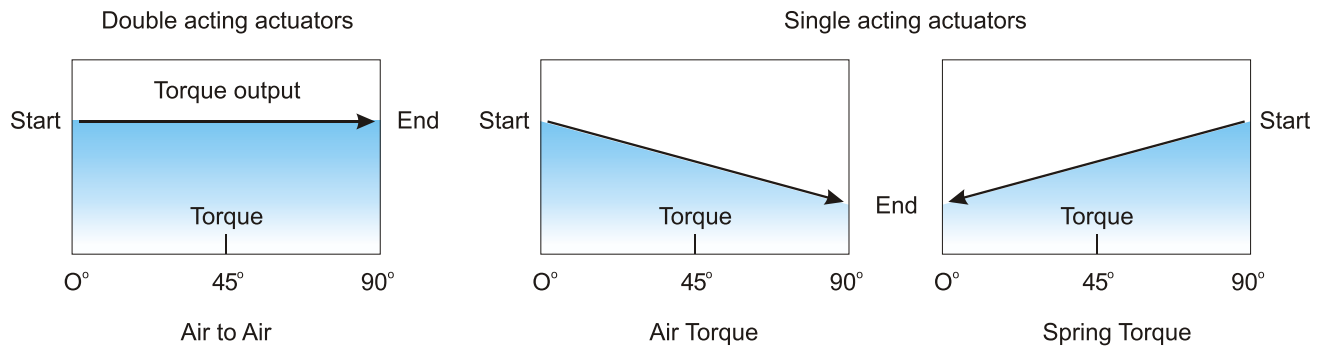
8. PISTON SEALS

Original Japan-made NBR-70 rubber seal rings of piston seals ensure top reliability at working operations.

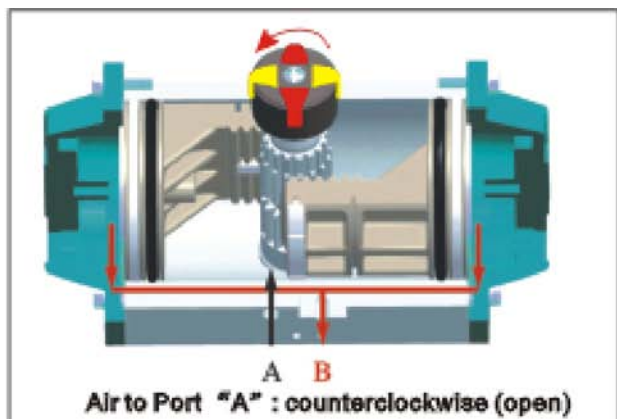
9. PISTON

Heavy duty die-cast aluminum pistons with hard-wear treatment on the surface and driven by double racks greatly enhance efficiency and constant torque during transmission.

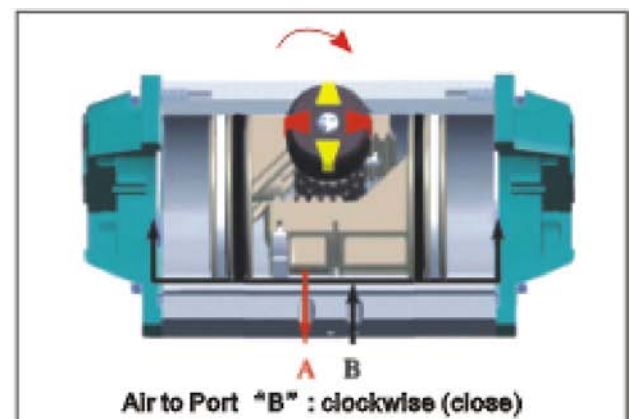
➤ Torque Diagram



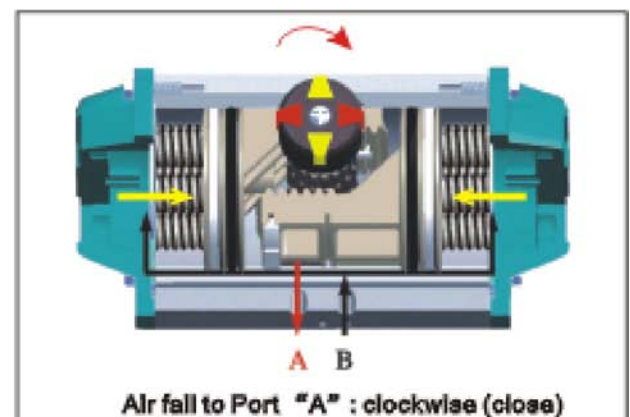
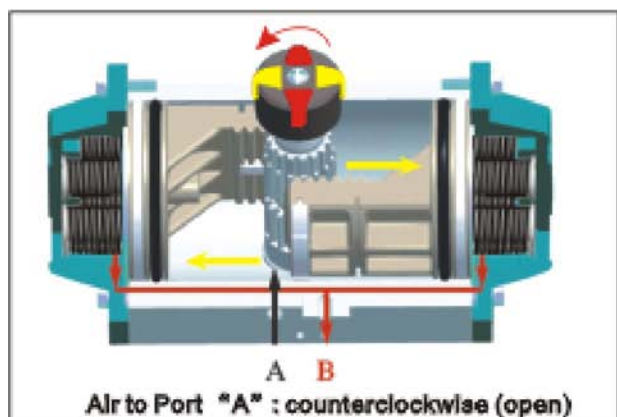
➤ Double Acting Operation



*Pistons must be inverted to reverse actuator rotation



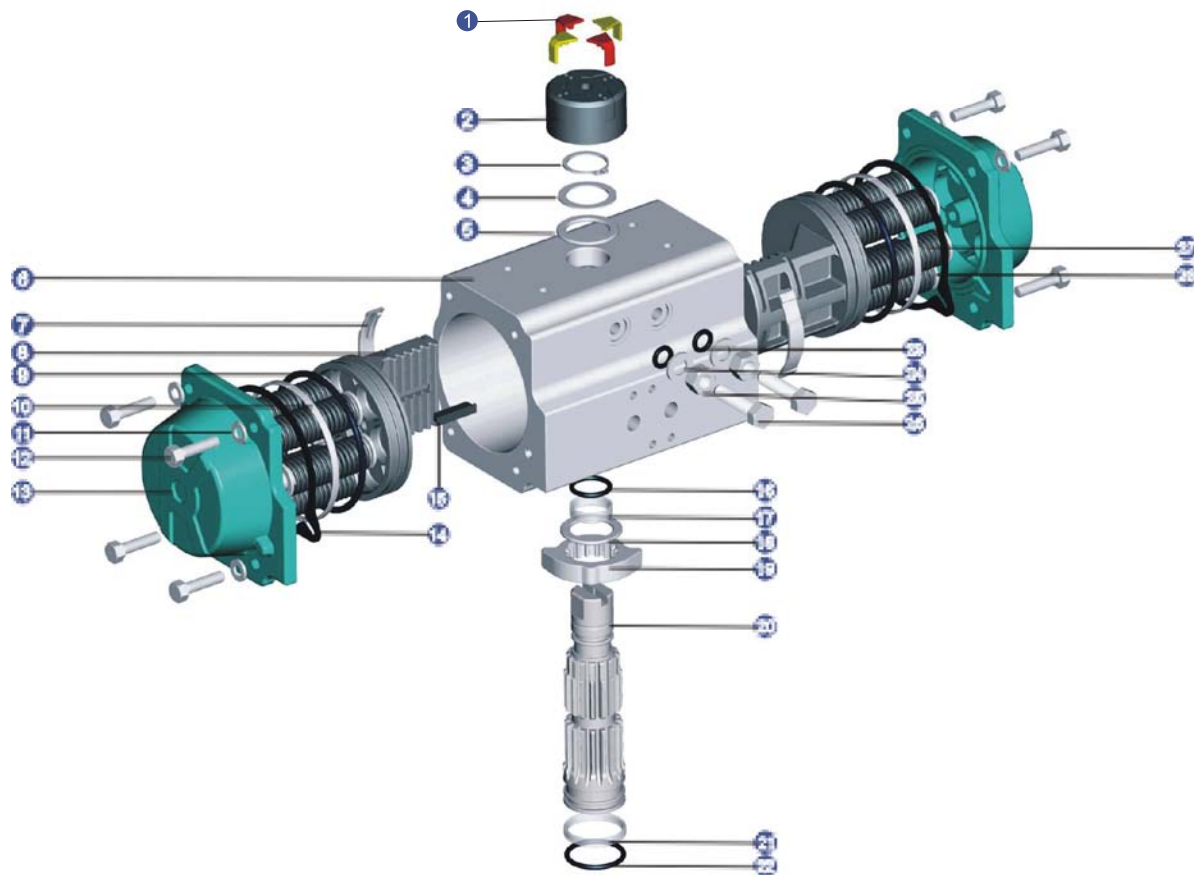
➤ Spring Return Operation



*Spring force makes the actuator clockwise when the air is exhausted at port "A"

*When air fail to counterclockwise is required, the pistons must be inverted

Parts



Materials

PART NO	UNIT Q 'TY	PART DESCRIPTION	STANDARD MATERIAL	CORROSION PROTECTION	OPTIONAL MATERIAL
1	4	Position indicator	Polypropylene+GF	—	—
2	1	Position indicator holder	Polypropylene+GF	—	—
3	1	Spring clip (pinion)	Stainless Steel	KP-160,200 Nickel plated	—
4	1	Thrust washer (pinion)	Stainless Steel	—	—
5	1	Thrust bearing (pinion)	Polyphthalamide	—	—
6	1	Body	Extruded Aluminium alloy	Hard anodized	—
7	2	Bearing (piston back)	Polyphthalamide	—	—
8	2	Piston	Die cast Aluminium	Hard anodized	—
9	2	" O " Ring (piston)	Nitrile (NBR70)	—	Viton SiliconViton
10	2	Bearing (piston head)	Polyphthalamide	—	—
11	8	Cap bolt washer	Stainless Steel	—	—
12	2	Cap bolt (end cap)	Stainless Steel	—	—
13	2	Right and left end cap	Die cast Aluminium	Chromate+Polyester coated	—
14	2	" O " Ring (end cap)	Nitrile (NBR70)	—	Viton SiliconViton
15	2	Piston guide	Polypropylene+GF	—	—
16	1	" O " Ring (pinion top)	Nitrile (NBR70)	—	Viton SiliconViton
17	1	Bearing (piston top)	Nylon46	—	—
18	1	Thrust bearing (pinion)	Polyphthalamide	—	—
19	1	Open.Close cam (stop arrangement)	Stainless Steel	—	—
20	1	Drive shaft	Steel alloy	Nickel planted	—
21	1	Bearing (piston bottom)	Nylon46	—	—
22	1	" O " Ring (pinion bottom)	Nitrile (NBR70)	—	Viton SiliconViton
23	1	" O " Ring (stop screw)	Nitrile (NBR70)	—	Viton SiliconViton
24	2	Stop bolt washer	Stainless Steel	—	—
25	2	Stop nut	Stainless Steel	—	—
26	2	Stop bolt	Stainless Steel	—	—
27	Min.5/max.12	Spring (catridge)	High alloy Spring Steel	Epoxy coated	—
28	1	Spring holder	Polypropylene+GF	—	—

> Specification

- Media: dry or lubricated air, inert gas, or non-corrosive gas
- Pressure range: 0.25MPa~0.8MPa
- Temperature range:
Standard: -20℃~80℃
Option: -35℃~80℃ or -20℃~150℃
- Movement: 90° ± 5°
- Lubrication: no need for lubricant under normal conditions.



> Connection



- Top mounting connection is designed in accordance with VDI / VDE3845 NAMUR standard to allow easy installation of accessories like limit switch boxes and positioners.
- KI manufactures switch boxes and positioners for various application.



- Side mounting connection is designed in accordance with VDI / VDE3845 NAMUR standard to install solenoid valve.



- Bottom mounting connection is designed in accordance with ISO 5211 and DIN3337 standard for direct mounting with valves.
- Star drive and square insert permits easy installation of the actuator directly.

> Models Available



KP - 35

KP - 50 ~ KP - 125

KP - 160 ~ KP - 200

➤ KP Series Torque Outputs

Double Acting Actuator

Output torque (Nm) for double acting actuators

Model	Air supply in bar		0.25 MPa	0.3 MPa	0.35 MPa	0.4 MPa	0.45 MPa	0.5 MPa	0.55 MPa	0.6 MPa	0.7 MPa	0.8 MPa
KP - 35			3.6	4.3	5.0	5.7	6.4	7.3	8.0	8.7	10.0	11.6
KP - 50			8.4	10.1	11.7	13.5	15.1	16.7	18.4	20.0	23.4	26.7
KP - 63			14.8	17.7	20.6	23.6	26.5	29.4	32.3	35.3	41.1	47.0
KP - 75			29.2	35.0	40.8	46.6	52.5	58.3	64.1	69.9	81.5	93.2
KP - 88			45.9	55.0	64.2	73.3	82.5	91.6	101.1	110.1	128.1	146.1
KP - 100			66.8	80.1	93.4	106.3	120.3	133.3	146.3	160.3	186.3	213.3
KP - 125			139.0	167.0	195.0	223.0	250.0	278.0	306.0	333.0	389.0	444.0
KP - 160			285.0	341.0	398.0	455.0	512.0	577.0	625.0	682.0	795.0	909.0
KP - 200			533.0	639.0	746.0	852.0	976.0	1065.0	1171.0	1277.0	1490.0	1703.0

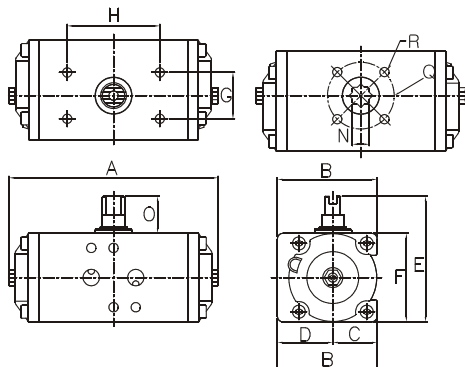
Single Acting Actuator

Output torque (Nm) for single acting (spring return) actuators

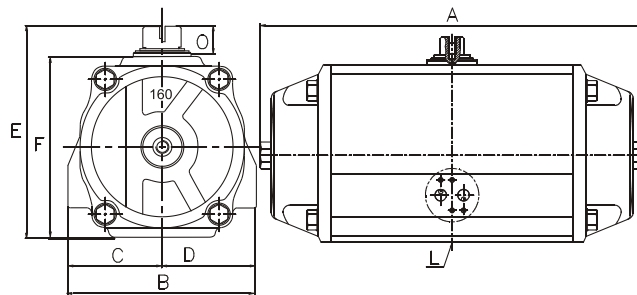
Model		0.25 MPa		0.3 MPa		0.35 MPa		0.4 MPa		0.45 MPa		0.5 MPa		0.55 MPa		0.6 MPa		0.7 MPa		0.8 MPa		Spring Torque		
(spring weight)		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
KP - 50S (0.108)	S.set	S	E	S	E	S	E	S	E	S	E	S	E	S	E	S	E	S	E	S	E	S	E	
	5	5.0	3.5	6.7	5.2	8.4	6.9	10.0	8.5	11.7	10.2	13.3	11.8									5.0	3.5	
	6	4.4	2.6	6.0	4.2	7.7	5.9	9.4	7.5	11.0	9.2	12.7	10.9	14.3	12.5							5.9	4.1	
	7			5.4	3.2	7.0	4.9	8.7	6.6	10.3	8.2	12.0	9.9	13.7	11.6	15.3	13.2					6.9	4.8	
	8					6.3	3.9	8.0	5.6	9.7	7.3	11.3	8.9	13.0	10.6	14.7	12.2	18.0	15.6			7.9	5.5	
	9							7.3	4.6	9.0	6.3	10.7	7.9	12.3	9.6	14.0	11.3	17.3	14.6	20.6	17.9	8.9	6.2	
	10									8.3	5.3	10.0	7.0	11.6	8.6	13.3	10.3	16.6	13.6	19.9	16.9	9.8	6.8	
	11											9.3	6.0	11.0	7.7	12.6	9.3	16.0	12.6	19.3	16.0	10.8	7.5	
KP - 63S (0.204)	12													10.3	6.7	12.0	8.3	15.3	11.7	18.6	15.0	11.8	8.1	
	5	9.2	6.3	12.1	9.3	15.1	12.2	18.0	15.1	20.9	18.0	23.9	21.0									8.5	5.6	
	6	8.1	4.6			11.0	7.6	14.0	10.5	16.9	13.4	19.8	16.4	22.8	19.3							10.2	6.8	
	7			9.9	5.9	12.9	8.8	15.8	11.7	18.7	14.7	21.6	17.6	24.6	20.5	27.5	23.5					11.9	7.9	
	8					11.7	7.1	14.7	10.1	17.6	13.0	20.5	15.9	23.5	18.8	26.4	21.8	32.3	27.6			13.6	9.0	
	9							13.6	8.4	16.5	11.3	19.4	14.2	22.4	17.2	25.3	20.1	31.2	26.0	38.0	31.8	15.3	10.1	
	10									15.4	9.6	18.3	12.54	21.2	15.5	24.2	18.4	30.0	24.3	35.9	30.1	17.0	11.2	
	11											17.2	10.9	20.1	13.8	23.1	16.7	28.9	22.6	34.8	28.4	18.7	12.3	
KP - 75S (0.132)	12													19.0	12.1	22.0	15.0	27.8	20.9	33.7	26.8	20.3	13.4	
	5	18.1	11.9	23.9	17.7	29.8	23.5	35.6	29.3	41.4	35.1	47.2	41.0									17.4	11.2	
	6	15.9	8.4	21.7	14.2	27.6	20.0	33.4	25.9	39.2	31.7	45.0	37.5	50.8	43.3							20.9	13.4	
	7			19.5	10.8	25.3	16.6	31.2	22.4	37.0	28.2	42.8	34.0	48.6	39.9	54.4	45.7					24.3	15.6	
	8					23.1	13.1	28.9	18.9	34.8	24.8	40.6	30.6	46.4	36.4	52.2	42.2	63.8	53.8			27.8	17.8	
	9							26.7	15.5	32.6	21.3	38.4	27.1	44.2	32.9	52.0	38.7	61.6	50.4	73.3	62.0	31.3	20.0	
	10									30.3	17.8	36.2	23.7	42.0	29.5	47.8	35.3	59.4	46.9	71.1	58.6	34.7	22.2	
	11											33.9	20.2	39.8	26.0	45.6	31.8	57.2	43.5	68.8	55.1	38.2	24.4	
KP - 88S (0.672)	12													37.6	22.5	43.4	28.4	55.0	40.0	66.6	51.6	41.6	26.6	
	5	27.5	17.0	36.7	26.1	45.8	35.3	55.0	44.4	64.1	53.6	73.3	62.7									29.0	18.4	
	6	23.9	11.2	33.0	20.4	42.2	29.5	51.3	38.7	60.5	47.8	69.6	57.0	78.8	66.1							24.8	22.1	
	7			29.3	14.6	38.5	23.7	47.6	32.9	56.8	42.0	65.9	51.2	75.1	60.3	84.32	69.5					40.5	25.8	
	8					34.8	18.0	44.0	27.1	53.1	36.3	62.3	45.4	71.4	54.6	80.6	63.7	98.9	82.0			46.3	29.4	
	9							40.3	21.3	49.5	30.5	58.6	39.6	67.8	48.8	76.9	57.9	95.2	76.2	113.0	94.6	52.1	33.1	
	10									45.8	24.7	54.9	33.9	64.1	43.0	73.2	52.2	91.6	70.5	110.0	88.8	57.9	36.8	
	11											51.3	28.1	60.4	37.2	69.6	46.4	87.9	64.7	106.0	83.0	63.6	40.4	
KP - 100S (0.936)	12													56.8	31.5	65.9	40.6	84.2	58.9	102.0	77.2	69.4	44.1	
	5	41.2	27.2	54.5	40.5	67.8	53.8	81.1	67.1	94.4	80.4	108.0	93.7									39.5	25.4	
	6	36.2	19.3	49.5	32.6	62.8	45.9	76.1	59.2	89.4	72.5	103.0	85.8	116.0	99.1							47.4	30.5	
	7			44.4	24.7	57.7	38.0	71.0	51.3	84.3	64.6	97.6	77.9	111.0	91.2	124.0	104.0					55.2	35.6	
	8					52.6	30.1	65.9	43.4	79.2	56.7	92.5	70.0	106.0	83.3	119.0	96.6	146.0	123.0			63.1	40.6	
	9							60.9	35.6	74.1	48.9	87.4	62.2	101.0	75.4	114.0	88.7	141.0	115.0	167.0	142.0	71.0	45.7	
	10									69.1	41.0	82.4	54.3	95.7	67.6	109.0	80.9	135.0	107.0	162.0	134.0	78.9	50.8	
	11											77.3	46.3	90.6	59.7	104.0	73.0	130.0	99.1	157.0	126.0	86.8	55.8	
KP - 125S (1.980)	12													85.5	51.8	98.8	65.1	125.0	92.1	152.0	118.0	94.6	60.9	
	5	86.1	56.2	113.7	84.0	141.0	111.0	169.0	139.0	197.0	167.0	224.0	195.0									82.1	52.6	
	6	75.6	39.7	103.2	67.4	131.0	95.1	159.0	123.0	186.0	150.0	214.0	178.0	242.0	206.0							99.1	63.1	
	7			92.8	50.9	120.5	78.6	148.0	106.0	176.0	134.0	203.0	162.0	231.0	189.0	259.0	217.0					115.0	73.6	
	8					110.0	62.1	137.6	89.8	165.0	117.0	193.0	145.0	221.0	173.0	248.0	201.0	304.0	256.0			132.0	84.1	
	9							127.0	73.4	155.0	101.0	182.0	129.0	210.0	156.0	238.0	184.0	293.0	239.0	349.0	295.0	148.0	94.6	
	10									144.0	84.6	172.0	112.0	200.0	140.0	227.0	168.0	283.0	223.0	338.0	278.0	165.0	105.0	
	11											161.0	95.8	189.0	123.0	217.0	151.0	272.0	206.0	328.0	262.0	181.0	116.0	
KP - 160S (4.308)	12													179.0	107.0	206.0	135.0	262.0	109.0	317.0	245.0	198.0	126.0	
	5	171.0	118.0	228.0	174.0	285.0	231.0	342.0	288.0	398.0	344.0	455.0	401.0									166.0	112.0	
	6	149.0	84.4	206.0	141.0	262.0	198.0	319.0	255.0	376.0	311.0	433.0	368.0	489.0	425.0							199.0	135.0	
	7			183.0	108.0	240.0	165.0	297.0	221.0	353.0	278.0	410.0	335.0	467.0	391.0	524.0	448.0					233.0	157.0	
	8					218.0	131.0	274.0	188.0	331.0	245.0	388.0	302.0	444.0	358.0	501.0	415.0	615.0	528.0			266.0	180.0	
	9							252.0	155.0	309.0	212.0	365.0	268.0	422.0	325.0	479.0	382.0	592.0	495.0	706.0	609.0	299.0	202.0	
	10									286.0	178.0	343.0	235.0	400.0	292.0	456.0	349.0	570.0	462.0	683.0	575.0	332.0	224.0	
	11											320.0	202.0	377.0	259.0	434.0	315.0	547.0	429.0	661.0	542.0	365.0	247.0	
KP - 200S (9.024)	12													355.0	225.0	411.0	282.0	525.0	396.0	638.0	509.0	399.0	269.0	
	5	319.0	217.0	426.0	323.0	532.0	430.0	638.0	536.0	745.0	642.0	851.0	792.0									315.0	213.0	
	6	277.0	154.0	383.0	260.0	489.0	367.0	596.0	473.0	702.0	579.0	808.0	686.0	915.0	792.0							378.0	255.0	
	7			341.0	197.0	447.0	304.0	553.0	410.0	660.0	516.0	766.0	623.0	872.0	729.0	979.0	835.0					441.0	298.0	
	8					404.0	241.0	511.0	347.0	617.0	453.0	723.0	560.0	830.0	666.0	936.0	772.0	1149.0	985.0			504.0	340.0	
	9							468.0	284.0	575.0	390.0	681.0	497.0	787.0	603.0	894.0	709.0	1106.0	922.0	1319.0	1135.0	567.0	383.0	
	10									532.0	327.0	638.0	434.0	745.0	540.0	851.0	646.0	1064.0	859.0	1277.0	1072.0	630.0	425.0	
	11											596.0	371.0	702.0	477.0	809.0	583.0	1021.0	769.0	1234.0	1009.0	693.0	468.0	
															660.0	414.0	766.0	520.0	979.0	733.0	1192.0	946.0	756.0	510.0

Dimensional Drawing

KP - 35

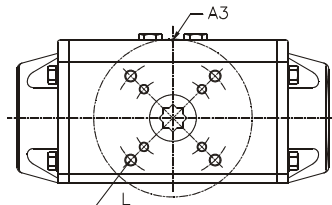
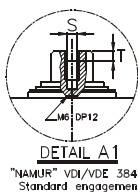
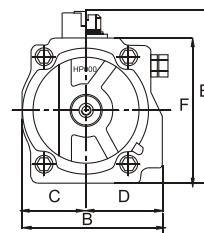
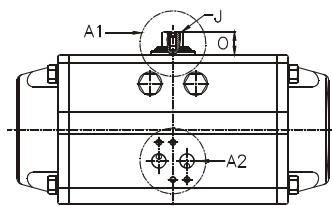
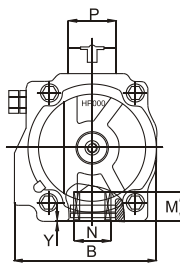
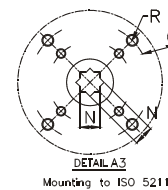
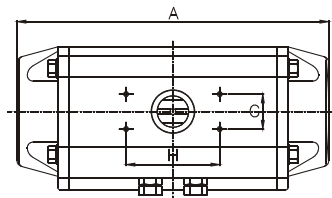


KP - 160, KP - 200

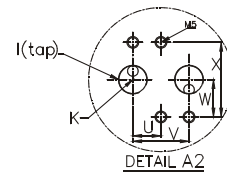


KP - 50, KP - 63, KP - 75

KP - 88, KP - 100, KP - 125



Connection according to ISO5211/DIN3337



Dimension

Unit:mm

Model	FLANGE L (ISO 5211)	R	A	B	C	D	E	F	G	H	I	J	K	O	P	S	T	U	V	W	X	Weight (kg)
	Q	M/N(mm)																				
KP - 35	F03/F05	M5/M6	125	54	24.0	30.0	76	48	25	50	PF	M6	1/8"	20	41.5	4	4	12	24	16	32	0.54
	ø36/ø50	10/9																				
KP - 50	F03/F05	M5/M6	142	72	30.0	42.0	100	72	30	80	PF	M6	1/8"	20	41.5	4	4	12	24	16	32	1.16
	ø36/ø50	12/11																				
KP - 63	F05/F07	M6/M8	162	84	37.0	47.0	113	85	30	80	PF	M6	1/8"	20	41.5	4	4	12	24	16	32	1.66
	ø50/ø70	16/14																				
KP - 75	F05/F07	M6/M8	208	96	42.5	53.5	131	103	30	80	PF	M6	1/8"	20	41.5	4	4	12	24	16	32	3.22
	ø50/ø70	19/17																				
KP - 88	F05/F07	M6/M8	246	108	49.5	58.5	144	116	30	80	PF	M6	1/8"	20	41.5	4	4	12	24	16	32	4.30
	ø50/ø70	19/17																				
KP - 100	F07/F10	M8/M10	266	123	56.0	67.0	156	128	30	80	PF	M6	1/4"	20	41.5	4	4	12	24	16	32	5.92
	ø70/ø102	22/17																				
KP - 125	F7/F10	M8/M10	347	151	69.0	82.0	196	159	30	80	PF	M6	1/4"	30	41.5	4	4	12	24	16	32	11.25
	ø70/ø102	24/22																				
KP - 160	F10/F12	M10/M12	475	202	101.0	101.0	233	197	30	80	PF	M6	1/4"	30	41.5	4	4	12	24	16	32	21.8
	ø102/ø125	29/27																				
KP - 200	F14	M16	570	203	116.0	116.0	274	246	30	130	PF	M6	1/4"	30	-	4	4	12	24	16	32	38.4
	ø140	38/36																				

➤ KP Series Repair Kit

● O-Ring Repair Kit

PART	STEM BOTTOM O-RING	STEM TOP O-RING	PISTON O-RING	STOP BOLT O-RING	COVER O-RING	TOTAL
Q'TY	1	1	2	2	2	8

● Part Number

MODEL	KP - 35	KP - 50	KP - 63	KP - 75	KP - 88	KP - 100	KP - 125	KP - 160	KP - 200
Part.No	0480	0630	0817	1147	1861	2147	2608	4070	6660

● Bearing & Guide Repair Kit

PART	POSITION BACK BEARING PP(AST)	POSITION TOP BEARING NYLON46	POSITION TOP BEARING NYLON46	POSITION THRUST BEARING PP(AST)	POSITION THRUST WASHER STS	POSITION GUIDE PP+GF15%	POSITION BACK BEARING PP(AST)	TOTAL
Q'TY	2	1	1	2	1	2	2	11

● Part Number

MODEL	KP - 35	KP - 50	KP - 63	KP - 75	KP - 88	KP - 100	KP - 125	KP - 160	KP - 200
Part.No	0580	0885	0895	0915	0916	0920	0960	0990	2240

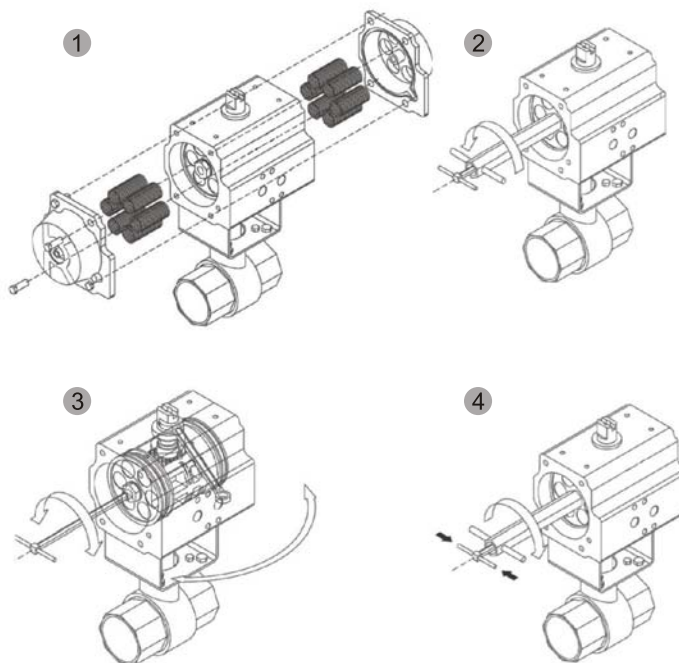
➤ KP Series Repair Set

set #5	
set #6	
set #7	
set #8	
set #9	
set #10	
set #11	
set #12	

➤ OPEN/CLOSE Adjustment of KP - 160, 200 series

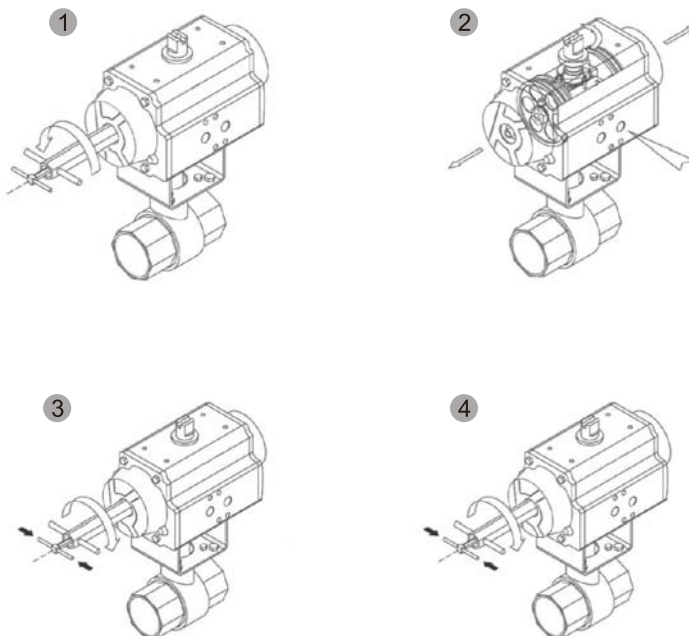
1. Adjustment for CLOSE

1. Disassemble bolts both side like shown on the picture and, take end-cap covers and springs (single acting actuator)
2. Loosen nut for adjustment of stop bolt like shown on the picture.
3. Adjust stop bolt using hex-lench while actuator stem is fixed by spanner at closed position.
 - Clockwise: CLOSED
 - Counterclockwise: OPEN
4. Tighten and fasten NUT while STOP BOLT is being fixed by hex-lench like picture. And assemble end-cap covers springs in reversed order of number.



2. Adjustment for OPEN

1. Loosen NUT a little to adjust OPEN STOP BOLT like picture on the right-hand.
2. Make actuator OPEN position by air like picture.
3. Adjust fix STOP BOLT using hex-lench.
 - Clockwise: CLOSED
 - Counterclockwise: OPEN
4. Tighten and fasten NUT while STOP BOLT is being fixed by hex-lench.



➤ Bracket Namur Standard

Shape			
Size	25 x 50 H: 20 30 x 80 H: 20 30 x 80 (130) H: 30 (50)	30 x 80 H: 20 30 x 80 H: 30	30 x 130 H: 30 30 x 130 H: 50
Model	MBP - 50 MBP - 100 MBP - 200 MBP - 300 MBP - 400	MB - P - O - 1C MB - P - O - 1S MB - P - O - 2C MB - P - O - 2S	MB - P - O - 3C MB - P - O - 3S MB - P - O - 4C MB - P - O - 4S

Last alphabet in model, C means plate steel, S means stainless steel

➤ Torque Figure

For KI 1-PC (KV-010&070&L70)Series Ball Valves

For KI 2-PC (KV-020&L20&040&L40&060&L60) Series Ball Valves

For KI 3-PC (KV-030&M30&L30&080&L80) Series Ball Valves

Close to Open Torque at Various Different Pressure (ΔP) , Standard Seats (TFM1600 & PTFE)

unit: in-lb/Nm

Size\ ΔP	75psig		150psig		300psig		700psig		1000psig		1500psig		2000psig	
	0.5 MPa		1 Mpa		2 Mpa		5 Mpa		6.3 Mpa		10 Mpa		14 Mpa	
	Nm	In-lb	Nm	In-lb	Nm	In-lb	Nm	In-lb	Nm	In-lb	Nm	In-lb	Nm	In-lb
1/4", 3/8" DN8,10	4.5	40	4.5	40	4.5	40	4.5	40	4.5	40	4.5	40	5	44
1/2" DN15	5	44	5	44	5	44	5	44	5	44	5	44	5.5	49
3/4" DN20	6	53	6	53	6	53	6	53	6	53	6	53	7	62
1" DN25	10	89	10	89	10.5	93	11	97	11	97	11	97	12	106
1-1/4" DN32	13	115	13	115	15	133	17	150	19	168	20	177	22	195
1-1/2" DN40	19	168	19	168	22	195	24	212	26	230	28	248	31	274
2" DN50	25	221	28.5	252	32	283	35	310	38	336	42	372	45	398
2-1/2" DN65	40	354	45	398	49	434	54	478	59	522	65	575	-	-
3" DN80	65	575	72	637	81	717	90	797	101	894	112	991	-	-
4" DN100	100	885	110	974	122	1089	135	1195	148	1310	162	1435	-	-
5" DN125	190	1682	208.5	1845	245	2168	285	2522	-	-	-	-	-	-
6" DN150	280	2478	306	2708	340	3009	408	3611	-	-	-	-	-	-
8" DN200	370	3275	430	3086	487	4310	560	4956	-	-	-	-	-	-
10" DN250	1190	10532	1330	11771	1500	13276	1880	16639	-	-	-	-	-	-
12" DN300	2055	18188	2210	19560	2400	21242	2738	24233	-	-	-	-	-	-
14" DN350	3200	28322	3385	29960	3600	31863	4020	35580	-	-	-	-	-	-
16" DN400	4076	36076	5170	45758	5400	47794	5980	52927	-	-	-	-	-	-

Remark: 1.Torques will increase about 15% if seat materials are Reinforced Fiber-Glass PTFE or Carbon-filled PTFE.

2.The torque figures at 0.5MPa pressure are maximum values to be tested after the valves are placed for 24 hours.

3.For actuator sizing, a safety factor of 30% at least is recommended.

4.10"~16" (DN250~400) is of soft seal fixed ball valves.



- 1. Life-Cycle Test on Actuators: 1, 000, 000 Operations
- 2. Life-Cycle Test on Springs: 1, 000, 000 Operations
- 3. Body Machining
- 4. Pressure Test
- 5. Assembly

1	2
3	
4	5