

**NAMUR(Solenoid) valve with coil and connector**

**Standard NAMUR valve**

Part #	Description
N5	5 /2 (5 Way)
N3	3 /2 (3 Way)

- Single Solenoid Spring Return (12, 24, 110, 220 V AC)
- Temperature: -10 to 50 C
- Working pressure: 2 ~ 10 bar

**Explosion proof NAMUR valve**

Part #	Description
N5E	5 /2 (5 Way)
N3E	3 /2 (3 Way)

**Pneumatic Single and Double acting actuator**

**Material of Construction**

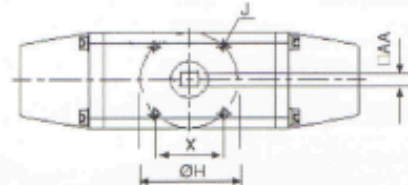
<b>Body Material</b>	Extruded Aluminum with hard anodized or Cast Aluminum with epoxy painted
<b>Rack</b>	Cast Aluminum
<b>Pinion</b>	Steel or stainless steel
<b>Gasket</b>	Buna-N
<b>Bearings</b>	Easy sliding hard plastic

**Technical data**

- Ambient temperature: - 20 ~ 80 C
- Recommended supply pressure: 6 bar
- Max. supply pressure: 10 bar
- Solenoid valve connection acc. to NAMUR (VDI/VDE 3845)
- Positioner and limit switch box acc. to NAMUR (VDI/VDE 3845)
- End connection: Female BSPT 1/8 inch for up to PCS/POS-3, PD-3  
Female BSPT 1/4 inch for bigger than PCS/POS-3, PD-3.

**Spring Return Single Acting Actuators**

90 Deg. Actuation

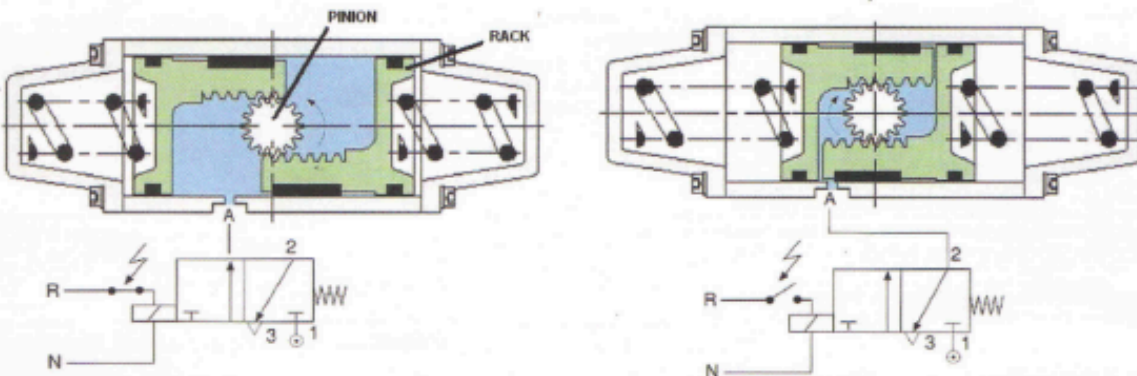


**Technical Information**

Maker's Part #	DK ordering #		Dimensions L x H x W unit: mm	Weight Kg	Moment Values P=6 bar		Air Consumption Liter	Bracket Mounting Dimensions Unit: mm			
	Normal close	Normal open			Nm	kgf.m		OH	X	AA	J
PA40TE	PCS-1	POS-1	143x70x50	0.90	4	0.4	0.31	42	29.70	11	M5 x 8mmL
PA50TE	PCS-2	POS-2	180x80x65	1.75	7	0.71	0.7	42	29.70	11	M5 x 8mmL
PA60TE	PCS-3	POS-3	243x90x70	2.35	13	1.32	1	50	35.35	11	M6 x 9mmL
PA70TE	PCS-4	POS-4	235x100x85	3.75	21	2.14	1.44	70	49.50	14	M8 x 12mmL
PA80TE	PCS-5	POS-5	285x115x90	4.75	32	3.26	2.22	70	49.50	14	M8 x 12mmL
PA90TE	PCS-6	POS-6	300x123x100	6.20	44	4.48	3.15				M8 x 12mmL
PA100TE	PCS-7	POS-7	357x140x110	7.30	62	6.32	4.3				M8 x 12mmL

**Principle of Operation**

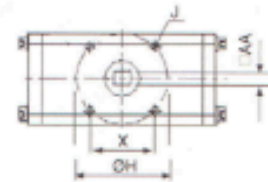
Application of 3/2 NAMUR valve in Single Acting pneumatic actuator



When the compressed air is applied to port A, the rack (piston) will move to the end cap then springs will be compressed between end cap and racks. Racks make the pinion rotate 90.

When the compressed air falls, the rotation will be in reverse direction because of the time force of springs. At this time, A port exhausts.

**Pneumatic Double Acting Actuator**  
90 & 180 Deg. Actuation



Technical Information					Air Consumption		Bracket Mounting Dimensions				
Maker's Part #	90 Deg. Actuation		180 Deg. Actuation		Liter		Unit: mm				
	DK Ordering#	Weight Kg	DK Ordering#	Weight Kg	open	close	OH	X	AA	J	
PA40CE	PD-1	0.75	PDH-1	1.5	100 x 90 x 50	0.3	0.3	42	29.70	11	M5 x 8mmL
PA50CE	PD-2	1.25	PDH-2	2.3	125 x 100 x 65	0.7	0.5	42	29.70	11	M5 x 8mmL
PA60CE	PD-3	1.85	PDH-3	2.65	145 x 110 x 70	1	0.9	50	35.35	11	M6 x 9mmL
PA70CE	PD-4	2.55	PDH-4	4.15	165 x 120 x 85	1.5	1.4	70	49.50	14	M8 x 12mmL
PA80CE	PD-5	3.55	PDH-5	5.15	180 x 135 x 90	2	2	70	49.50	14	M8 x 12mmL

Moment Values										
Supply Pressure (bar)										
Maker's Part #	DK Ordering#	DK Ordering#	Nm (kgf.m)							
			1	2	3	4	5	6	7	8
PA40CE	PD-1	PDH-1	2 (0.2)	4 (0.4)	6 (0.61)	8 (0.81)	10 (1.02)	12 (1.22)	14 (1.42)	16 (1.63)
PA50CE	PD-2	PDH-2	4 (0.4)	7 (0.71)	11 (1.12)	15 (1.52)	19 (1.93)	22 (2.29)	26 (2.65)	30 (3.05)
PA60CE	PD-3	PDH-3	7 (0.71)	13 (1.32)	20 (2.03)	26 (2.65)	33 (3.36)	35 (3.56)	46 (4.69)	52 (5.30)
PA70CE	PD-4	PDH-4	11 (1.12)	21 (2.14)	32 (3.26)	43 (4.38)	54 (5.50)	64 (6.52)	75 (7.64)	86 (8.70)
PA80CE	PD-5	PDH-5	15 (1.53)	30 (3.05)	46 (4.69)	61 (6.22)	76 (7.74)	88 (8.97)	106 (10.8)	142 (14.50)

**Principle of Operation**

Application of 5/2 NAMUR valve in Double Acting pneumatic actuator

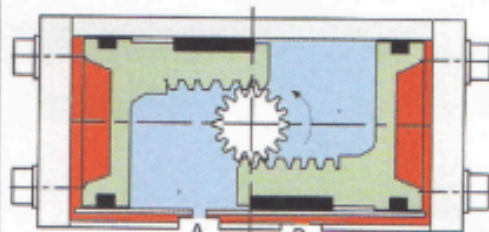


Figure :1

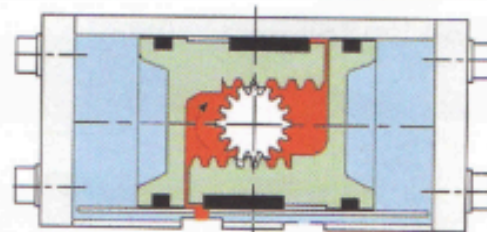
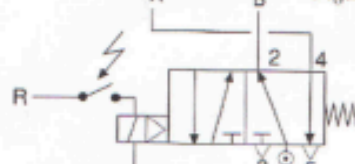
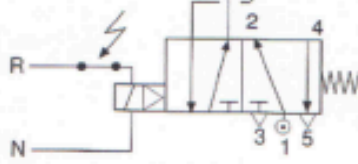


Figure :2



When compressed air is applied to port **A**, the racks (piston) will move to the end cap. Racks make pinion rotate 90. At this time **B** port exhausts.

When the compressed air is applied to port **B**, the rotation will be in reserve direction. At this time **A** port exhausts.

**Limit Switch Boxes**

Part#	Description
MB	2 Each mechanical switches and without indicator
MF	2 Each mechanical switches and with flat indicator
MH	2 Each mechanical switches and with high indicator
PB	2 Each proximity switches and without indicator
PF	2 Each proximity switches and with flat indicator
PH	2 Each proximity switches and with high indicator

Note: Indicator is valve on/off positioner.

**Material of construction**

Body Material	Black ABS
Protection	IP 65
Indicator	Polycarbonate
Switches	Crouzet