

Rotary shear valve 13 port, 12 position

VD13122PKPKPK0170

- Rated to 117 bar (1,700 psi)
- High precision position sensing by absolute encoder
- Stepper motor with planetary gearing system
- High performance and cost effective
- Saving space and reducing complexity
- Proven and robust design



Technical features

Type:
13 port, 12 position valve

Pressure rating:
117 bar (1,700 psi)

Port threads:
1/4-28 UNF-2B

Fitting type:
Flat

Power requirements:
1.26A 24V

Gear box ratio:
18.3:1

Motor specification:
2 phase, 1.8° step angle

Connector:
Molex 0151340606

Communication Protocol:
RS-485

*Available with PCB Step Master

Dimensions:
Height: 180.9 mm (7.125 in)
Width: 42.1 mm (1.66 in)
Depth: 42.1 mm (1.66 in)

Flow passage diameters:
1.5 mm (0.06 in)

Port to port volume:
72.5 µL

Stator port volume:
46.0 µL

Seal volume:
17.1 µL

Rotor channel volume:
9.4 µL

Weight:
0.58 kg (1.28 lbs)

Operating temperature:
+4 ... +80°C (+39 ... +176°F)

Storage temperature:
–30 ... +80°C (–86 ... +176°F)

Storage humidity:
< 95% humidity, non-condensing

Switching time:
< 0,25s

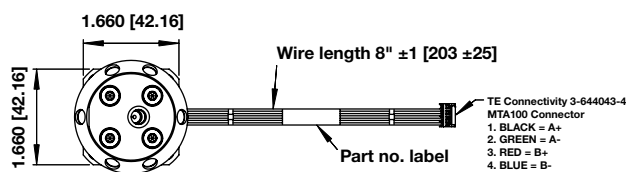
Wetted materials:
Stator: PEEK
Rotor: PEEK
Seal: PEEK

Compliance:
RoHS, REACH

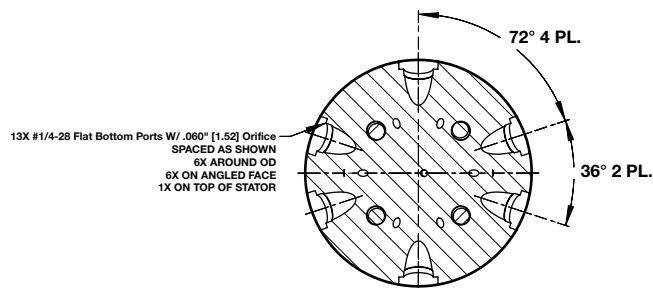
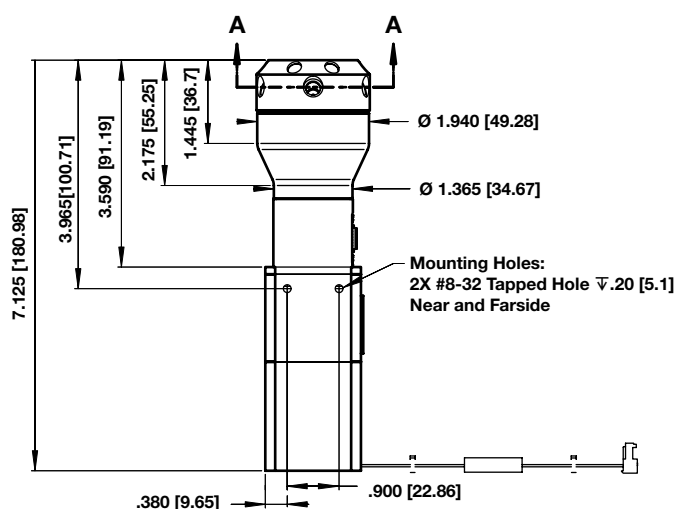
Dimensions

Dimensions in inches [mm]

Projection/third angle



Section A-A 2:1 Scale

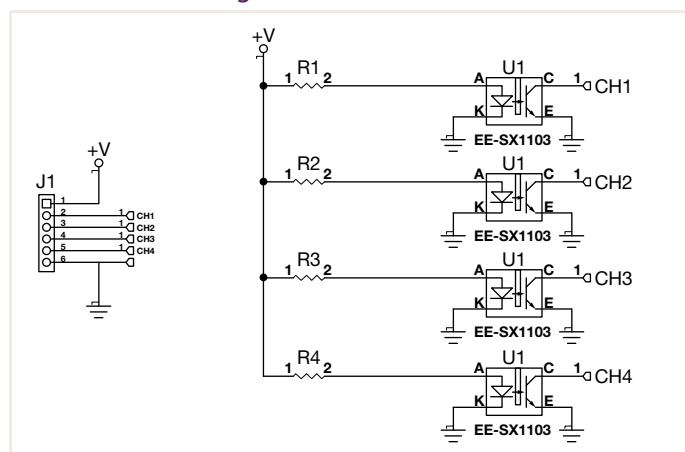


Typical working cycle

Position	Angle	Channel				Readout
		1	2	3	4	
P0	0	1	1	0	0	3
P1	30	0	0	1	0	4
P2	60	1	0	1	0	5
P3	90	0	1	1	0	6
P4	120	1	1	1	0	7
P5	150	0	0	0	1	8
P6	180	1	0	0	1	9
P7	210	0	1	0	1	10
P8	240	1	1	0	1	11
P9	270	0	0	1	1	12
P10	300	1	0	1	1	13
P11	330	0	1	1	1	14

1 = BLOCKED,
0 = OPEN

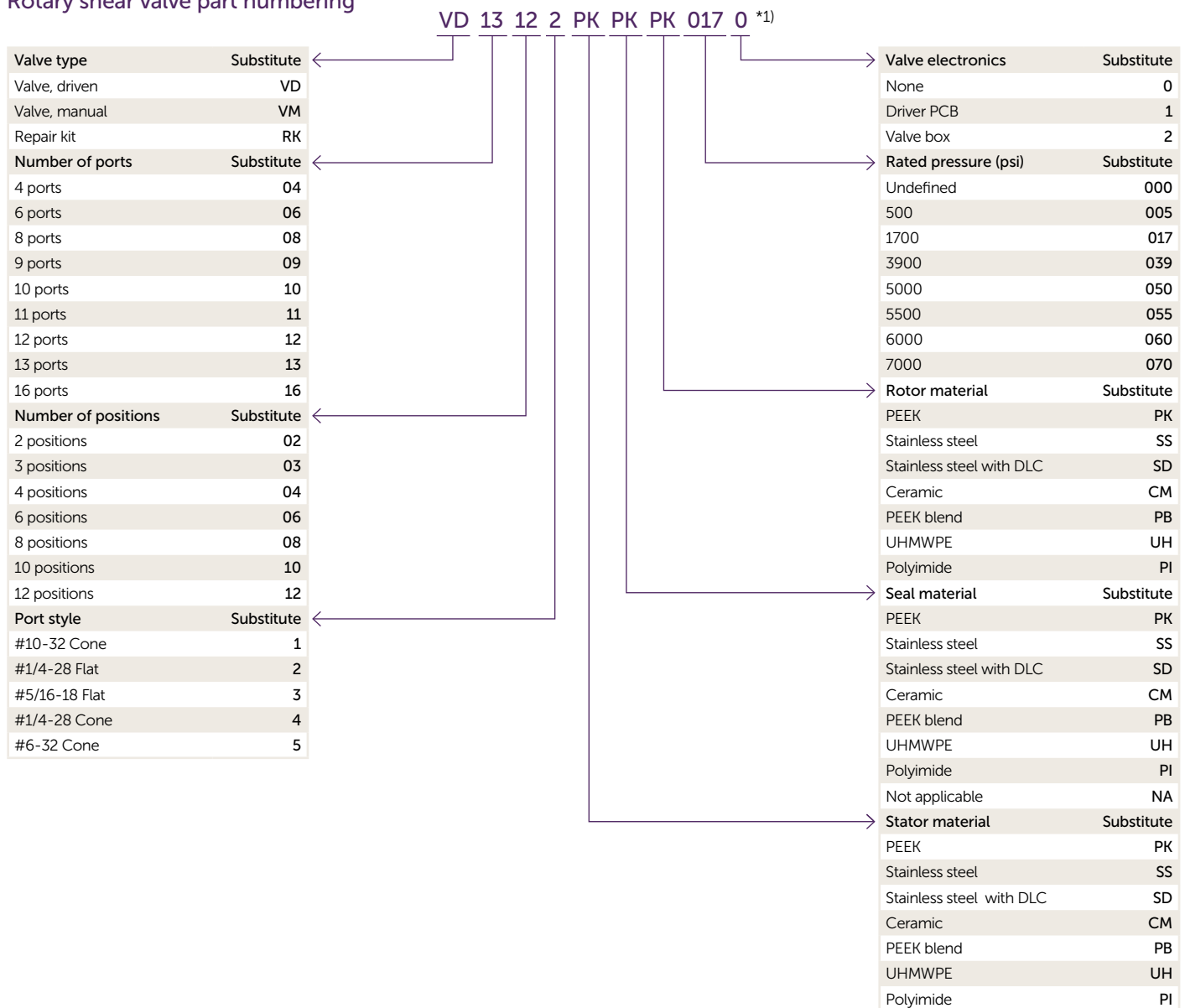
Encoder circuit diagram



Connector

Molex 0151340606

Rotary shear valve part numbering



Configurations available

Type	Operating pressure (bar)	Operating pressure (psi)	Part no. *2)
6 port, 2 position manual	483	7000	VM06021SSPKPI0700
6 port, 2 position	379	5500	VD06021SSNAPI0550
4 port, 3 position	117	1700	VD04032PKPKPK0170
8 port, 4 position	269	3900	VD08042PKPKPK0390
9 port, 8 position	117	1700	VD09082PKPKPK0170
13 port, 12 position	117	1700	VD13122PKPKPK0170
4 port shuttle valve	38	550	VD04002PKNAUH0050
Available on request:			
4 port, 2 position	269	3900	VD04022PKPKPK0390
8 port, 2 position	34	500	VD08021PKPKPK0050
Coming soon:			
VALVE BOX (6/2)	483	7000	VD06021SDNAPB0702-1
6 port, 2 position	483	7000	VD06021SDNAPB0700-1
6 port, 2 position	483	7000	VD06021SDNAPB0700-2

*2) Step Master PCB available to all models.

*1) Modifier (if needed, at the end):
 "-000" (tbd)
 "-KIT" (accessories included)