KANA

Energy Services, Inc.

KEPA ACTUATOR SERIES

ACTUATOR SPECIFICATIONS

- API Material Class AA
- Temperature Range 0 to 150˚ F
  (API Temp Rating P) (-18˚ to 66˚ C)
- API Product Specification Level (PSL) 1
- API Performance Rating (PR) PR-2
- Actuator Working Pressure 170 psi (12 Bar)
- API Actuator Test Pressure 255 psi (18 Bar)
- SSV Certified (Offshore)

BONNET / VALVE SPECIFICATIONS

- Size
  - 2-1/16 5,000 psi wp
  - 2-9/16 5,000 psi wp
  - 1-13/16 10,000 psi wp
  - 2-1/16 10,000 psi wp
- API Material Class
  AA, BB, CC (Non Nace), DD-0,5; DD-1,5; DD-NL
  EE-0,5; EE-1,5; EE-NL; FF-0,5; FF-1,5; FF-NL; HH-NL
- API Material Rating L Through X
- API Product Specification Level (PSL) 1,2,3
- API Performance Rating (PR) PR-1 and PR-2
- SSV Certified (Offshore)

KANA Energy Services, Inc., Sales and Services, Houston, Texas

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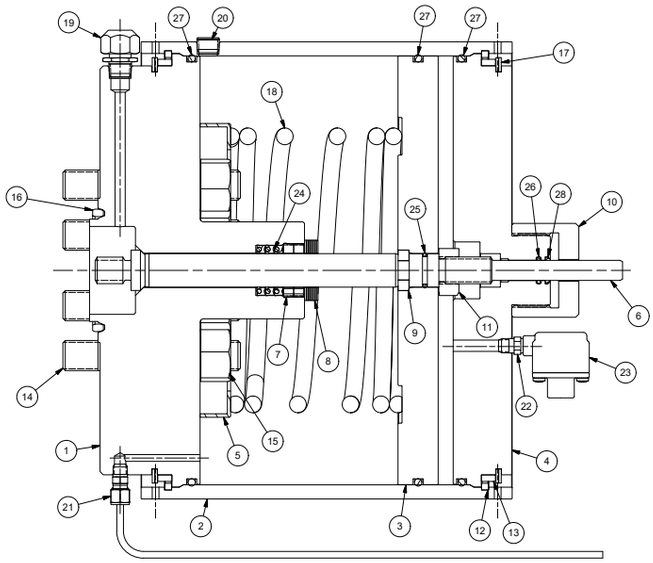

MATERIAL TAKE-OFF BY ITEM			
ITEM	QTY	DESCRIPTION	MATL SPEC
1	1	BONNET	AISI 4130 NQT, 75KSI YIELD; 90KSI TENSILE
2	1	HOUSING	ASTM A36 TUBING
3	1	PISTON	ASTM A36 PLATE: 36 KSI MIN YIELD, 58K MIN TENSILE
4	1	TOP PLATE	ASTM A36: 36 KSI MIN YIELD, 58KSI MIN TENSILE
5	1	RING GUIDE	AISI 4130 NQT: 60 KSI MIN YIELD, 85 KSI MIN TENSILE
6	1	STEM	17-4 Ph PER ASTM A693 GR 630 (H1150): 105 KSI MIN YIELD, 135 KSI MIN TENSILE
7	2	PACKING RING	AISI 316 SS
8	8	SHIM	AISI 316 SS
9	1	SHEAR RING	17-4 Ph PER ASTM A693 GR 630 (H1150): 105 KSI MIN YIELD, 135 KSI MIN TENSILE
10	1	THREAD PROTECTOR	AISI 1018/1020 : 51 KSI MIN YIELD, 61 KSI MIN TENSILE
11	1	HEX NUT, 1-5 STUB ACME-2G	ASTM A194 GR 8
12	2	SHEAR RING, PISTON	SPRING STEEL: 105K MIN YIELD
13	2	SPLIT RING	AISI 4130 NQT: 60 KSI MIN YIELD, 85 KSI MIN TENSILE
14	8	PAD STUD, 1 1/8-8UN-2A X 6 5/8 LG GR B7	COMMERCIAL A193 GR B7
15	8	HEAVY HEX NUT, 1 1/8-8UN-2B GR 2H	COMMERCIAL A194 GR 2H
16	1	BONNET GASKET	AISI 316 SS
17	2	RTNG RING, SPIROLOX WHM-1602	
18	1	COMPRESSION SPRING	
19	1	BLEEDER PLUG/INJECTION FITTING, 1/2 LP	
20	2	PIPE PLUG, SOCKET HEAD, 1/2 NPT	
21	1	TUBING CONNECTOR, 1/4 TUBE X 1/4 NPT	
22	1	HEX NIPPLE, 1/4 NPT M X M	
23	1	QUICK EXHAUST VALVE	
24	3	POLYPAK , 3120-1250-312	
25	1	O-RING, AS568-214	
26	1	O-RING, AS568-210	
27	3	O-RING, AS568-460	
28	1	WIPER RING, PARKER PN SH959-5	

FEATURES AND BENEFITS

- The cylinder housing is reversible thereby doubling the life of the part. Should it become worn or corroded it can simply be flipped around and have a fresh sealing surface.
- Patented compact design that makes this unique piston actuator both economical and practical.
- Fire Seal - A Metal to Metal back seat design between the Bonnet and Actuator stem serves as a secondary fire seal if a fire burns out the Bonnet packing.
- No Special Tools Required - The spring can be installed or removed with standard tools.
- Corrosion Resistant - All components are Phosphate coated.
- Safety Shear Ring - The Safety Shear Ring prevents the Actuator from being removed when the quick exhaust valve and/or control pressure line has trapped pressure in the top of the actuator.
- Over Pressure Device Protection - A pressure relief valve set at 170 PSI is located in the top plate and prevents over pressurization.
- Backset Test Port - A test port is located above the metal to metal back seat. This fitting provides verification of stem to bonnet metal to metal sealing.
- Ease of Assembly and Disassembly - A single person can easily assemble the Actuator to the Bonnet.
- High compression spring ensures valve body closure with 0 PSI.

OPERATION

- The KANA Energy Pneumatic Piston Actuator is operated by application of air or gas pressure to the actuator. Pneumatic pressure on the piston will force the bonnet stem to either open or close the gate valve, depending upon whether the valve is direct acting or reverse acting. The proper amount of air supply needed per operation is found on the pressure table.
- In a closed reverse acting valve mode, having a pressure differential across the gate, the initial opening or cracking action might be quite rapid as the pressure differential is reduced. This is normal and neither causes damage nor hinders the valve function. This is commonly called slamming. The remainder of the stroke can be expected to be normal.
- Upon loss of pressure to the actuator, the closing motion should be smooth without any hesitation until the valve comes to the end of its travel. This closing action should be smooth, whether or not the actuator is operating a pressured or un-pressured valve. This Pneumatic Actuator incorporates a large compression spring for greater assistance in closing. This linear motion is described in troubleshooting.

INSTALLATION

- The KANA Energy Pneumatic Actuator should be the second valve in the wellhead flow-stream. If two master valves are used, the SSV should be the top master valve; if a single master valve is used, the SSV should be the wing valve. Other installations are flow lines, header valves, gathering lines, and pipelines. The Surface Safety Valves are designed to provide automatic valve shut-in protection where needed. These SSV applications are ideal for oil and gas installations where corrosive (H2S or CO2), abrasive and/or paraffin laden products are produced.