NAVSEA
STANDARD ITEM

FY-22

ITEM NO: 009-46
DATE: 31 AUG 2018
CATEGORY: II

1. SCOPE:

1.1 Title: Butterfly Valve, Synthetic and Metal Seated; repair

2. REFERENCES:

2.1 S9086-RJ-STM-010/CH-504, Pressure, Temperature and Other Mechanical and Electromechanical Measuring Instruments

3. REQUIREMENTS:

3.1 Matchmark each valve part.

3.2 Disassemble, clean each internal and external surface free of foreign matter (including paint), and inspect each part for defects.

3.3 Repair valve as follows:

3.3.1 Polish stem to remove raised edges and foreign matter.

3.3.2 Chase and tap exposed threaded areas.

3.3.3 Machine, grind, or lap and spot-in metal-to-metal seat to disc to obtain a leakage rate at or below that allowed in 3.5.5.

3.3.4 Polish seating surface of synthetic seated valve to remove high spots, nicks, and burrs.

3.4 Assemble valve installing new each bushing, each O-Ring, each V-Ring, each valve liner, each seat assembly, each washer, each pin, and each fastener for those removed in 3.2 in accordance with manufacturer's specifications or instructions.

3.5 Hydrostatically test valve as follows:

3.5.1 Hydrostatic test equipment must have the following capabilities:

3.5.1.1 Manual overpressure protection release valve.

3.5.1.2 Self-actuated and resetting relief valve with a set point no greater than 100 PSIG above the test pressure or 10 percent above the test pressure, whichever is less.

3.5.1.3 Master and backup test gauges with gauge range and graduation in accordance with Table 504-6-1 of 2.1. The backup gauge must be cross-checked to the master hydrostatic test gauge up to the maximum test pressure just prior to start of testing. Master and backup gauges must track within 2 percent of each other.

3.5.1.4 Protection equipment must be accessible and test gauges must be located where clearly visible and readable to pump operator and inspector.

(I) "SEAT TIGHTNESS"

3.5.2 Test for seat tightness alternately on each side of the disc with opposite side open for inspection.

3.5.3 Disc must be seated by hand force.

3.5.4 Test must be continued for a minimum of 3 minutes if there is no evidence of leakage, or in the event of visible leakage, until accurate determination of leakage can be made.

3.5.5 Leakage rate of metal-to-metal seated valves:

3.5.5.1 Valves conforming to MIL-V-22133, Type II must not exceed the following criteria:

Valve size inches	Leakage rate gal/min	Valve size inches	Leakage rate gal/min
2	l.5	10	35
2-1/2	2.25	12	50
3	3.25	14	60
4	6	16	80
5	9.5	18	100
6	14	20	140
8	25	24	200

3.5.5.2 Valves conforming to MIL-V-24624 must have a maximum seat leakage rate of 10 cubic centimeters per inch of nominal pipe size per hour.

3.5.6 Allowable leakage for synthetic seated valve: None.

4. NOTES:

4.1 The test pressure of 3.5.2 will be specified in Work Item.

4.2 Repair of valve operating gear will be specified in Work Item.

4.3 Test medium will be specified in Work Item.