FX Series Butterfly Valves

Sample Specification

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1. GENERAL

1.1 DEFINITIONS

A. EPDM: Ethylene Propylene Diene Monomer

B. FPM: Fluoropolymer

C. PP: Polypropylene

D. PTFE: Polytetrafluoroethylene Plastic (Teflon®)

E. PVC: Polyvinyl Chloride Plastic

F. SS: Stainless Steel

2. PRODUCTS

2.1 BUTTERFLY VALVES

- A. The basis of design is the IPEX FX Butterfly Valve:

  a. Design:

  1. All materials listed below shall conform to NSF Standard 61 for use with potable water.
  2. The liner shall completely isolate the valve body from the process flow.
  3. The liner shall function as a flange gasket on both sides of the valve.
  4. The disc, seats, and seals shall be the only wetted parts.
  5. PTFE seated o-ring seals shall prevent the SS shaft from becoming wetted.
  6. The valves shall be marked to indicate size, material designation, and manufacturers name or trade mark.

  b. Body Material: Dark grey color PVC

  c. Disc Material:

  1. PP Type 1 homopolymer per ASTM D4101.

  or PVC, cell class 12454 per ASTM D1784.

  d. Pressure Rating (psi / kPa): _____.

  e. Connection Type: ANSI 150 Wafer Style flange.

  f. Disc Liner & Stem Seals Material:

  a. EPDM

  b. or FPM

  g. Shaft: 316 SS Standard ISO square dimension for direct mount actuation

h. Accessories:

1. Lockable Lever Handle with transparent PVC plug and tag holder for valve identification.
2. Manual Gear box
3. 2" Square Nut Operator
4. Silicone Free valves shall:
    a. Be cleaned and assembled in an ISO 14644-1 clean room.
    b. Be double bagged within a dual skin silicone free package to prevent contamination during transportation.
    c. Use a factory applied silicone free lubricant.
    d. Have a factory applicable sticker indicating the valve is silicone free.

i. Factory Mounted Options

1. 90 degree Pneumatic Actuator
    a. Shall be sized for 80 psi compressed air
    b. Fluid type shall be:
        1. Air
        or Water
        or Nitrogen
    c. Configuration
        1. Dual acting (fluid to open, fluid to close)
        or Normally Open (spring to open, fluid to close)
        or Normally Closed (fluid to open , spring to close)
    d. Shall be dual piston rack and pinion design with linear torque output.
    e. Anti-blowout bidirectional pinion retention
    f. Pre-loaded spring cartiridges for ease of servicing
    g. ISO 5211 mounting
    h. High Visibility Beacon that indicates "OPEN" or "CLOSED"
    i. Body Material:
        1. Technopolymer
        or GFPP
        or Anodized Aluminum
        or 316 Stainless Steel
    j. All external fasteners shall be stainless steel.
    k. The pneumatic actuator shall be factory installed and tested by the valve manufacturer.

2. Namur solenoid valve
    1. Enclosure shall be:
        a. Standard: NEMA 4/4X (IP 67 watertight)
        b. Explosion Proof: NEMA 7/9
    2. 1/4" NPT connection
    3. CSA, UL & ATEX approval
    4. Voltage:
        a. 12V DC
        or 24V DC
        or 120V DC
        or OR 220V DC
    5. Operating temperature range
       -4°F to 158°F
    6. Working pressure: 0 – 120 PSI
    7. The solenoid control valve shall be supplied by the actuator manufacturer
3. 90 degree Electric Actuator
    a. Voltage & Duty Rating:

1.	12V DC	Duty: 50%
or	24V DC	Duty: 75%
or	24V AC	Duty: 75%
or	100V – 240V AC	Duty: 75%

    b. Internal torque limiters, thermal protection, auxiliary limit switches, and heater for corrosion protection.
    c. Enclosure:
        1. NEMA 4X technopolymer enclosure (indoor use only)
        2. NEMA 4X Aluminum enclosure (Indoor or Outdoor)
    d. Manual override
    e. Visual position indicator as standard to indicate the "OPEN" or "CLOSED" position.
    f. ISO 5211 mounting
    g. Options:
        1. Linear potentiometer (except VB015)
        2. Failsafe battery backup
    h. The electric actuator shall be factory installed and tested by the valve manufacturer.

4. Limit Switch
    a. Shall come with the following options:
    b. Voltage:
        1. Up to 12V to 250V DC or AC
        2. Material:
            a. Body, Box, Shaft, switches: Technopolymer
            b. Fastners: SS
            c. Seals: BUNA-N
            d. High Visibility Beacon that indicates “OPEN” or “CLOSED”
            e. NEMA 4/4X rating
            f. CSA & UL listing required.
            g. Supplied and installed by the valve manufacturer
5. Stem Extension
    a. Factory fabricated and installed by the valve manufacturer.
    b. Stem Material:
        1. Carbon Steel
        2. Stainless Steel
    c. Outer Casing
        1. PVC
        2. Other: _____
    d. Length shall be __ (rounded to nearest inch) OR as specified in the schedule.
        1. Minimum length 12”,
           Maximum length 360”

ii. Acceptable Manufacturers
    a. IPEX
    b. Or approved alternate
        1. Requests for alternate material must be approved by the consulting engineer prior to the bid closing date.

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