

PART 1 - GENERAL

1.1 Work Included

- .1 The following list generally describes the scope of this Section:
 - .1 Ball Valves.
 - .2 Butterfly Valves.
 - .3 Backflow prevention valves.
 - .4 Sample tap.
- .2 Work involves supplying and installing all valves shown on the Drawings.
- .3 City of Winnipeg will remove existing backflow prevention valve and install new 65 mm reduced pressure backflow prevention valve (BFP-101) horizontally on the wall at no cost to this Contract.
- .4 The Contractor will be responsible for the installation of the second 65 mm reduced pressure backflow prevention valve (BFP-102) on the splash pad supply line. City of Winnipeg to supply backflow prevention valve.

1.2 Related Work

- .1 Piping Section 11250
- .2 Mechanical Division 15

1.3 Manufacturer

- .1 Provide valves of the same type and same manufacturer throughout.
 - .1 All materials and products to be NSF/ANSI Standard 61 certified.
- .2 Provide valves with the manufacturer's name and pressure rating clearly marked on the outside of the body.

1.4 Standards

- .1 All materials and products in contact with potable water to be NSF61 approved.

PART 2 - PRODUCTS

2.1 Butterfly Valves

- .1 Field replaceable seat, disc and shaft.
- .2 Cast iron body.
- .3 Stainless steel, or Teflon coated disc c/w EPDM seat.
- .4 304 or 316 stainless steel stem.
- .5 Lug style: Keystone AR-2, Bray Series 31, Challenger CS4EG, Ultraflo Series 422, Kitz 6132 or approved equal in accordance with B7.

2.2 Electric Actuators

- .1 120 VAC electric motor driven compound epicyclic gear type.
- .2 Guarantee a minimum 10,000 cycles (open - close - open) based on AWWA C540-02. Test with 80% of nominal torque along the stroke and stop with seating torque at 100% of nominal torque against travel stop at each end of the stroke. The motor duty cycle at 40°C to be S3-100%.
- .3 Size and equip each actuator with sufficient closing torque to suit its intended application.
- .4 Provide mechanical hand wheel override with spinner.
 - .1 Mechanical switch to cut power to unit when manual mode is engaged.
- .5 Visually indicate position of valve ie. Open, closed or other.
- .6 Painting: ESPC suitable for 1000 hours resistance to salt spray.
- .7 Local interface: provides local / remote selector, open /close pushbuttons and 2 LEDs for local indication.
- .8 Travel stops: mechanical stops fixed on the base of the actuator to provide the following setting range: +/- 10° over travel in each direction of rotation. (70° minimum/110° maximum angular stroke).
- .9 Heater: 10 Watts powered from the internal PCB. Provide an internal thermostat to activate the heater when the temperature on the control enclosure drops below + 30°C.
- .10 Provide open and closed limit switches (SPDT) that indicate open end of travel and closed end of travel (as required).
- .11 BUUV-101: Provide an electronic servo-amp plug in module to accept a 4-20 mA dc input signal to modulate the valve (as required).
- .12 Acceptable type Keystone EPI2, Bray 70 continuous duty series, UltraFlo series 200 continuous duty or approved equal in accordance with B7.

2.3 Ball Valves (PVC body)

- .1 Full port full blocking true union with minimum working pressure of 1,000 kPa.
- .2 All PVC construction.
- .3 Double stem o-rings.
- .4 Seats: Teflon with elastomer cushions.
- .5 Seals: EPDM.
- .6 NSF 61 certified.
- .7 Base mounting pad.
- .8 Socket ends.
- .9 Valves shall be "Chemline Type 21", Chemtrol/Nibco Tru-Bloc/Tru Union or approved equal in accordance with B7.

2.4 Reduced Pressure

Zone Backflow Preventer

- .1 City of Winnipeg to supply and install one 65 mm FPT reduced pressure zone backflow prevention assembly (BFP-101) in similar location as existing unit.
- .2 City of Winnipeg to supply second 65 mm FPT reduced pressure zone backflow prevention assembly (BFP-102) to be installed on the splash pad supply piping by Contractor.
- .3 Unit supply by City of Winnipeg to be Watts Series 957 or approved equal in accordance with B7.

2.5 Sample Tap

- .1 Each sample tap and related equipment shall include the tap complete with a backflow vacuum breaker to prevent possible contamination of water to filters. Vacuum breaker shall be Watts LF8, integral to the sample tap (boiler drain) or approved equal in accordance with B7.
- .2 Each sample tap shall be 20 mm Watts Series BD, Watts Series HB-1 (c/w integral vacuum breaker) or approved equal in accordance with B7.
- .3 Utilize brass fittings directly tapped into fittings or piping for all sample taps.

PART 3 - EXECUTION

3.1 Equipment

- .1 Install valves in accordance with the manufacturer's recommendations and as shown on the drawings.
- .2 Place valves in "open" position prior to tightening flange bolts unless otherwise stated by Manufacturer.
- .3 Co-ordinate Work with piping installation in accordance with Section 11250.

3.2 Backflow Preventer

- .1 One reduced pressure Watts Series 957 Backflow preventer (BFP-101) will be installed by City of Winnipeg at no cost to this contract, and the second reduced pressure Watts Series 957 backflow preventer (BFP-102) will be installed by the Contractor in accordance to the following specifications: Meet with City to review installation and location of unit BFP-101 at time of install.
 - .1 Install backflow preventers as follows:
 - .1 For BFP-101: In the location of the existing backflow preventer on the 50 mm copper city water service piping after the meter. Installation will require two 50 mm x 65 mm reducers and fittings as necessary to install the 65 mm backflow valve on 50 mm piping.
 - .2 For BFP-102: On the 50 mm PVC splash pad supply piping before the removable spool piece as shown on drawings. Installation will require two 50 mm x 65 mm reducers and fittings as necessary to install the 65 mm backflow valve on 50 mm piping.
 - .2 Remove existing backflow preventers and install new units horizontally in the locations shown on drawings.

- .3 Install as per manufacturer's recommendations, provincial plumbing code, CSA B64.10-01 and by a certified backflow installer.
- .4 Test operation of device by a certified backflow tester and tag valve with test tag.
- .5 Pipe vents to a near existing drain in floor.
- .6 Due to weight of Series 957 backflow prevention devices, provide support to the floor as required. Contactor is responsible for providing supports for both backflow preventers whether installation is by the Contractor or City. Contractor to coordinate schedule and location of the installation of BFP-101 with the City of Winnipeg.

End Section 11240