11269.8 SERIES WF-3 WATERFLEX CHECK VALVES

PART 1 GENERAL

1.01SUBMITTALS

A. Submit product literature that includes information on the performance and operation of the valve, materials of construction, dimensions and weights, elastomer characteristics, headloss and flow data, and pressure ratings.

B. Upon request, provide shop drawings that clearly identify the valve dimensions.

1.02QUALITY ASSURANCE

A. Supplier shall have at least ten (15) years experience in the manufacture of “duckbill” style elastomeric check valves.

PART 2 PRODUCTS

2.01 WATERFLEX WF-3 CHECK VALVES

A. The perforated disc shall be fabricated of stainless steel plate with welded support gussets. The disc shall be flanged and drilled to mate with ANSI B16.1, Class 125/ ANSI B16.5 Class 150 flanges. The disc shall have three (3) tapped holes used for fastening the membrane and support rod to the disc with stainless steel bolts, nuts, and lock washers. The top of the disc shall be tapped and supplied with lifting eyebolt for installation.

B. The Waterflex membrane shall be circular, one piece rubber construction with fabric reinforcement. The diameter of the membrane shall allow adequate clearance between the membrane O.D. and the pipe I.D. The membrane shall be vulcanized with a specified convex radius to produce a compression set to allow the membrane to seal against the perforated disc at low reverse differential pressure.

C. The support rod shall be stainless steel and drilled with three (3) longitudinal holes to allow fastening of rod to membrane and perforated disc.

D. Manufacturer must have available flow test data from an accredited hydraulics laboratory to confirm pressure drop data. Company name and location shall be vulcanized on the membrane. Valves are to be manufactured in the USA.

2.02 FUNCTION

A. When line pressure inside the valve exceeds the backpressure outside the valve, the line pressure forces the membrane to open, allowing flow to pass thru the perforations in the disc. When backpressure exceeds the line pressure, the membrane seats on the perforated disc preventing backflow.

2.03 MANUFACTURER

A. All valves shall be of the Series WF-3 as manufactured by the Red Valve Co., Inc. of Carnegie, PA 15106 or approved equal.

PART 3 EXECUTION

3.01INSTALLATION

A. Valve shall be installed in accordance with manufacturers written Installation and Operation Manual and approved submittals.

3.02MANUFACTURER’S CUSTOMER SERVICE

A. Manufacturer’s authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

B. Manufacturer shall also make customer service available directly from the factory in addition to authorized representatives for assistance during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

11269.3 SERIES 35 FLANGED-END CHECK VALVES

PART 1 GENERAL

1.01 SUBMITTALS

A.) Submit product literature that includes information on the performance and operation of the valve, materials of construction, dimensions and weights, elastomer characteristics, headloss and flow data, and pressure ratings.

B.) Upon request, provide shop drawings that clearly identify the valve dimensions.

1.02 QUALITY ASSURANCE

A.) Supplier shall have at least fifteen (15) years experience in the manufacture of “duckbill” style elastomeric valves, and shall provide references and a list of installations upon request.

B.) Manufacturer shall have performed hydraulic tests on valves through 48″ for flow capacity, headloss, and jet velocity at an accredited flow laboratory. Manufacturer shall provide test data upon request.

C.) Upon request, manufacturer shall provide installation data for existing valves of similar size and type to the project scope.

PART 2 PRODUCTS

2.01 “DUCKBILL” ELASTOMERIC CHECK VALVES

A.) Duckbill Check Valves are to be all rubber and the flow operated check type with a flanged end connection. The port area shall contour down to a duckbill which shall allow passage of flow in one direction while preventing reverse flow. The flange and flexible duckbill sleeve shall be one piece rubber construction fabricated of NSF61 approved elastomers with nylon reinforcement.

B.) The flange drilling shall conform to ANSI B16.1 Class 125/ANSI B16.5, Class 150 standards. The valve shall be furnished with stainless steel back-up rings for installation.

C.) Company name, plant location, valve size and serial number shall be bonded to the check valve. Elastomeric duckbill check valves shall be manufactured in the United States of America. A single manufacturer shall supply all duckbill check valves.

2.02 FUNCTION

A.) When line pressure inside the valve exceeds the backpressure outside the valve, the line pressure forces the bill of the valve open, allowing flow to discharge. When backpressure exceeds the line pressure, the bill of the valve is forced closed preventing backflow.

2.03 MANUFACTURER

A.) All valves shall be of the Series 35 as manufactured by the Red Valve Co., Inc. of Carnegie, PA 5106 or approved equal.

PART 3 EXECUTION

3.01 INSTALLATION

A. Valve shall be installed in accordance with manufacturer's written Installation and Operation Manual and approved submittals.

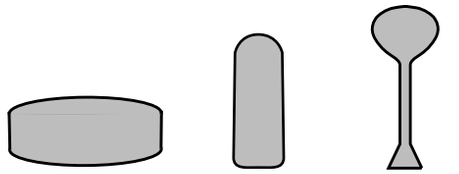
3.02 MANUFACTURER'S CUSTOMER SERVICE

A.) Manufacturer's authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

B.) Manufacturer shall also make customer service available directly from the factory in addition to authorized representatives for assistance during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

Tideflex® Mixing System

FOR FINISHED WATER STORAGE FACILITIES
DESIGN DATA SHEET



I. GENERAL INFORMATION

RESERVOIR/TANK NAME:	PROJECT LOCATION:
OWNER COMPANY NAME:	OWNER COMPANY ADDRESS:
PHONE:	FAX:
OWNER CONTACT:	E-MAIL:
CONSULTING ENGINEERING FIRM:	CONSULTANT'S ADDRESS:
PHONE:	FAX:
ENGINEER CONTACT:	E-MAIL:

TIDEFLEX REPRESENTATIVE:

COMPLETE WITH AS MUCH INFORMATION KNOWN OR APPLICABLE

II. SYSTEM INFORMATION

INSTALLATION:
NEW TANK ☐ EXISTING TANK ☐ TANK ON SCADA? ○ Yes ○ No

WATER SOURCE:
SURFACE WATER ☐ RECLAIMED WATER ☐
GROUND WATER ☐

TYPE OF DISINFECTION:
CHLORINE ☐ CHLORAMINE ☐
CHLORINE DIOXIDE ☐ OZONE ☐

OPERATION:
DISTRIBUTION SYSTEM RESERVOIR ☐
CLEARWELL ☐
COMBINATION ☐

MODE:
FILL & DRAW ☐
FLOW THRU ☐

HIGH WATER LEVEL SHUT-OFF CONTROL:
BY ALTITUDE VALVE ☐ NONE, FLOATS ON SYSTEM ☐
BY PRESSURE SWITCH ☐

III. RESERVOIR/TANK DATA

TYPE OF RESERVOIR/TANK:
GROUND LEVEL ☐
- ☐ CIRCULAR
- ☐ RECTANGULAR
- ☐ IRREGULAR

☐ AT GRADE
☐ BURIED
☐ SEMI-BURIED

STANDPIPE ☐
ELEVATED TANK ☐ ○ DRY RISER ○ WET RISER
- ☐ SPHEROID
- ☐ TOROSPHERICAL
- ☐ HYDROPILLAR
- ☐ TOROPILLAR
- ☐ DOUBLE ELLIPSOIDAL
- ☐ OTHER _____

TANK MANUFACTURER: _____
SHELL DIMENSIONS: _____ ○ ft ○ m
(LxWxH) or (Dia.xH)

III. RESERVOIR/TANK DATA (CONT'D)

VOLUME OF TANK: _____ ○ gallons ○ m^3

BOTTOM ELEVATION: _____ ○ ft ○ m (above m.s.l.)

OVERFLOW ELEVATION: _____ ○ ft ○ m (above m.s.l.)

WATER DEPTH or HEAD RANGE: _____ ○ ft ○ m

TYPE OF ROOF/COVER:
☐ FIXED ROOF
INTERNAL COLUMN SUPPORTS ○ Yes ○ No
☐ FLOATING COVER
☐ NONE, OPEN RESERVOIR

MATERIALS OF CONSTRUCTION:
☐ WELDED STEEL ☐ COMPOSITE
☐ BOLTED STEEL ☐ EARTHEN LINED
☐ RIVETED STEEL
☐ REINFORCED CONCRETE OTHER _____

IV. HYDRAULIC DATA

FILL RATE: _____ MIN ○ gpm ○ l/s
_____ MAX ○ gpm ○ l/s
○ PUMPED ○ BY GRAVITY

DRAW RATE: _____ MAX or FIRE FLOW ○ gpm ○ l/s
○ PUMPED ○ BY GRAVITY

DIST. SYSTEM LINE PRESSURE AT RESERVOIR DURING FILLING
_____ MIN ○ psi ○ kN/m^2
_____ MAX ○ psi ○ kN/m^2

V. CATHODIC PROTECTION SYSTEM

☐ PASSIVE SACRIFICIAL ☐ NONE
☐ IMPRESSED CURRENT

VI. INLET/OUTLET PIPING (NEW OR EXISTING TANK):

☐ **NEW TANK**
PIPE DIA. SUPPLYING RESERVIOR _____ ○ in ○ mm
PIPE MATERIAL _____

TANK PENETRATION ☐ FLOOR ☐ SIDE WALL

☐ **EXISTING TANK**

COMMON INLET/OUTLET
PIPE DIA. _____ ○ in ○ mm
IS PIPE LOCATED IN A SUMP? ○ Yes ○ No
PIPE MATERIAL _____
TANK PENETRATION ☐ FLOOR ☐ SIDE WALL

SEPARATE INLET/OUTLET
INLET PIPE DIA. _____ ○ in ○ mm
IS PIPE LOCATED IN A SUMP? ○ Yes ○ No
PIPE MATERIAL _____
TANK PENETRATION ☐ FLOOR ☐ SIDE WALL

OUTLET PIPE DIA. _____ ○ in ○ mm
IS PIPE LOCATED IN A SUMP? ○ Yes ○ No
PIPE MATERIAL _____
TANK PENETRATION ☐ FLOOR ☐ SIDE WALL

FINAL TANK DRAIN THRU:

☐ COMMON INLET/OUTLET PIPE ☐ SEPARATE DRAIN PIPE
☐ OUTLET PIPE ONLY

VII. OVERFLOW PIPE PROTECTION

Check method used to prevent birds, rodents, ect. from entering tank through overflow pipe

☐ TIDEFLEX VALVE
☐ FLAP VALVE
☐ SCREEN
☐ NONE

VIII. RETROFIT INFORMATION (In addition to III.)

YEAR TANK CONSTRUCTED _____
DATE OF LAST INSPECTION _____
DATE OF LAST REHAB./REPAINT _____
DESCRIBE WORK DONE

NEXT SCHEDULED REHAB: _____
INTERNAL BAFFLES: ○ Yes ○ No
ICE FORMATION: ○ Yes ○ No
AVERAGE DRAWDOWN: _____ ○ ft ○ m
WATER TEMPERATURE RANGE _____ MIN ○ °F ○ °C
_____ MAX ○ °F ○ °C
SIZE OF LARGEST ROOF HATCH (☐ DIA. ☐ SQ.) _____ ○ in ○ mm
SIZE OF LARGEST SHELL HATCH (☐ DIA. ☐ SQ.) _____ ○ in ○ mm
SILT STOP ○ Yes ○ No
☐ FIXED PIPE EXTENSION ☐ REMOVABLE
RECHLORINATION/RECIRCULATION SYSTEMS ○ Yes ○ No
ARE SAMPLING TAPS INSTALLED? ○ Yes ○ No
HAS WATER QUALITY BEEN MONITORED AT THE TANK? ○ Yes ○ No
HAS A TRACER STUDY OR CFD MODEL BEEN DONE? ○ Yes ○ No

VIII. RETROFIT INFORMATION (CONT'D)

IDENTIFY WATER QUALITY ISSUES ASSOCIATED WITH RESERVOIR

☐ LOSS OF DISINFECTANT RESIDUAL
☐ COLIFORM BACTERIA
☐ ELEVATED HPC BACTERIA
☐ NITRIFICATION
☐ ALGAE GROWTH
☐ BIOFILM GROWTH
☐ DISINFECTION BY PRODUCTS (DBP)
  ☐ THM'S
  ☐ HAA'S
☐ TASTE & ODOR
☐ INCREASED pH
☐ IRON & MANGANESE BUILD-UP
☐ LEAD/COPPER
☐ HYDROGEN SULFIDE
☐ LEACHATE FROM COATINGS
☐ SEDIMENT BUILD-UP
☐ COLOR
☐ TURBIDITY

IDENTIFY POSSIBLE CAUSATIVE FACTORS TO THE ABOVE

☐ POOR MIXING
☐ SHORT-CIRCUITING/STAGNANT ZONES
☐ POOR TURNOVER
☐ THERMAL STRATIFICATION
☐ LONG DETENTION TIME
☐ ELEVATED TEMPERATURE
☐ INCREASE IN pH
☐ LEACHING OF COATINGS
☐ EXPOSURE TO UV
☐ HIGH LEVEL ORGANICS

IX. COMMENTS

PLEASE MAIL, FAX OR E-MAIL COPIES OF PLANS, DETAILS AND SHOP DRAWINGS OF TANK, INLET/OUTLET PIPING, ETC. TO:

TIDEFLEX TECHNOLOGIES, INC.
300 BILMAR DRIVE • PITTSBURGH, PA 15205 USA

PHONE: 412-919-0919 • **FAX:** 412-919-0918

E-MAIL: mduer@tideflex.com
or
info@tideflex.com