



# Flexflo® Top Entry Model 900TE OPERATIONS AND MAINTENANCE MANUAL

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### Scope

This instruction covers field assembly, disassembly, and maintenance of Model 900TE Flexflo's.

### General Description

The Flexflo Model 900 TE consists of 4 major parts, the housing, the closure, the core and the tube. The tube fits over the core and inside the body. The closure holds the core and tube in the body, and allows access to the tube and core without removal of the valve from the pipeline.

The opening of the Flexflo occurs when the tube lifts off the core, allowing flow between the tube and the core. The closing of the Flexflo happens in the opposite manner with the tube sealing on the core. The position of the tube is determined by four variables; the upstream pressure; the downstream pressure; the jacket pressure; and the tube characteristics. The jacket pressure is the pressure which is in the sealed annular space between the tube and the housing. When the jacket pressure equals the upstream pressure the valve will shut bubble tight; but if the jacket pressure is lower than the upstream pressure the valve will open as determined by the four variables.

### Installation on Pipeline (Suggestion)

1. Place valve with gasket in pipeline, with arrow on body pointing in direction of flow. Lubricate gaskets prior to installation on valves and piping. Support valve.
2. Replace and tighten evenly line flange bolting. Torque.
3. Replace pilot and associated tubing as required. (Ref. Document W-900TE-829S1-BOO-1 for pilot hook up).

### Removal from Pipeline

**CAUTION**

**Before starting removal, isolate Flexflo from pipeline pressure and release all pressure from body and jacket.**

1. Disconnect sense tubing from pilot. Disconnect any piping that will inhibit removal of the valve from the pipeline. If the pilot does not inhibit removal or disassembly it may be left on the valve.
2. Support valve and loosen line flange bolting so that the valve will clear from bolting.
3. Lift valve from pipeline.

### Dissassembly (See Figure 1)

**CAUTION**

**Before disassembly, isolate Flexflo from pipeline pressure and release all pressure from body and jacket.**

1. Remove hex head bolts that hold the closure to the housing. Remove closure.
2. Pull core and tube from housing. A tapped hole is provided to facilitate removal of the core by using a standard capscrew or eyebolt as a puller tool, (not provided). The capscrew or eyebolt should have threads as given below.

Core	Thread Sizes
1.5"	1/4-20 UNC
2"	1/4-20 UNC
3"	3/8-16 UNC
4"	3/8-16 UNC
6"	3/8-16 UNC

- Remove the tube from the core, either by cutting off or by prying with a screwdriver.

**CAUTION**

**Take care not to scratch sealing surface on core barrier when removing tube.**

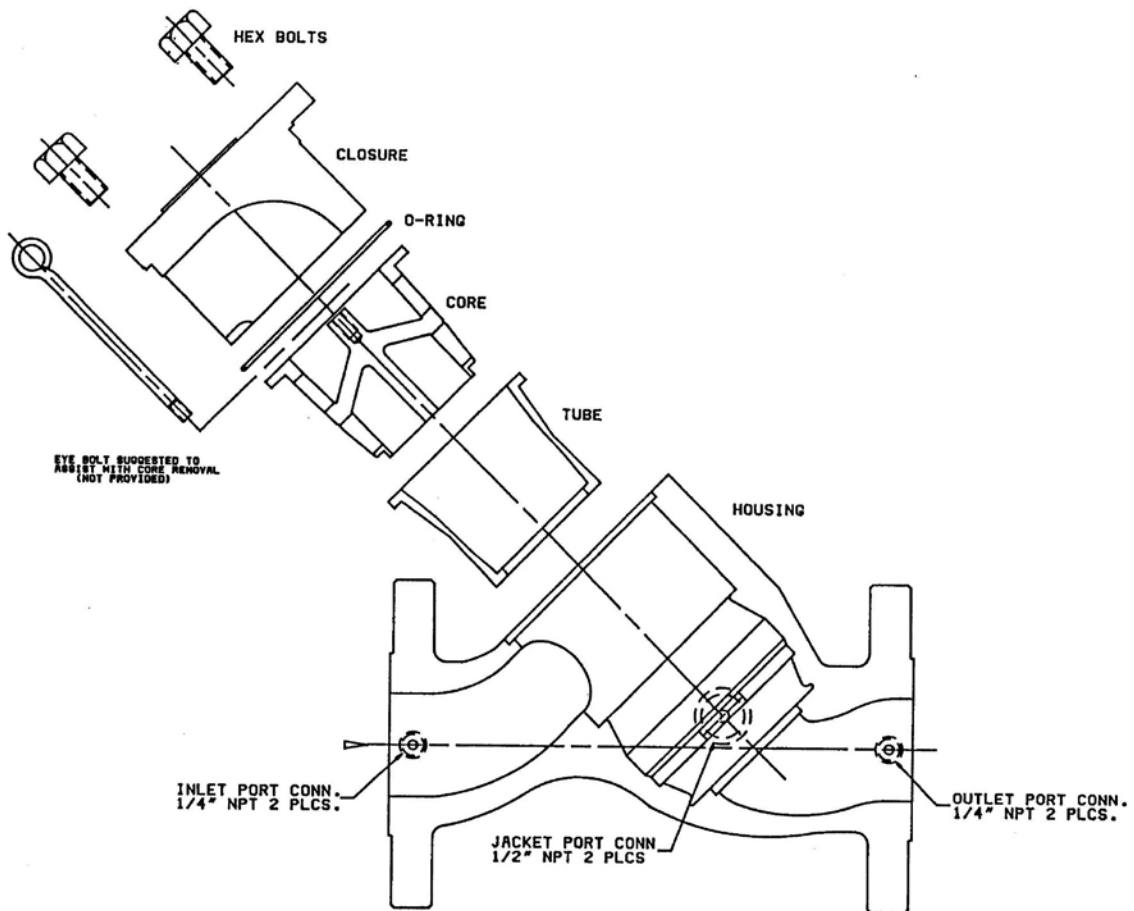
**Cleaning and Inspection**

- All parts should be thoroughly cleaned before inspection.
  - Inspect tube for blisters, tears or cracks. Replace if damaged.
  - Examine o-rings and replace if damaged.
  - Examine all hex head bolts and corresponding tapped holes in housing for damage. Replace or repair if damaged.
  - Examine the core for damage. Replace if damaged.
- See **Table 2** for standard replacement part numbers.

**Assembly (See Figure 1)**

- Lubricate interior surface of the tube and exterior surface of the core with silicone grease (Dow Corning Molykote 55M or equal) or glycerine.
- Press tube on core.
- Clean and inspect o-ring. Replace as necessary. Install in body.
- Clean hex head bolts and mounting holes in housing. Lubricate threads with an anti-seize grease.
- Seat tube and core firmly in the housing cavity. Install closure.
- Install hex head bolts. Tighten bolts evenly to torque values specified in Table 1.

**Figure 1**



**Table 1**

Valve Size ANSI Class	Bolt (Lubed)	Torque (ft-lbs) +5% allowed
6" CL600	7/8" – 9 NC	155-160
6" CL300	7/8" – 9 NC	50-55
6" CL150	7/8" – 9 NC	50-55
4" CL600	1/4" – 10 NC	90-95
4" CL300	1/4" – 10 NC	50-55
4" CL150	1/4" – 10 NC	50-55
3" CL600	5/8" – 11 NC	73-75
3" CL300	5/8" – 11 NC	50-55
3" CL150	5/8" – 11 NC	50-55
2" CL600	1/4" – 13 NC	41-45
2" CL300	1/4" – 13 NC	41-45
2" CL150	1/4" – 13 NC	41-45
1.5" CL600	3/8" – 16 NC	21-25
1.5" CL300	3/8" – 16 NC	21-25
1.5" CL150	3/8" – 16 NC	21-25

**Table 2**

Size	O-Ring	Tube <sup>1</sup>	Core		Hex Bolt <sup>2</sup>
			100% Capacity	50% Capacity	
1-1/2"	N95-01001-XXX	355-01004-XXX	364-01001	364-01002	N20-56122
2"	N95-61576	355-02001-XXX	364-02001	364-02002	N20-58122
3"	025-05408-615	355-03001-XXX	364-03001	364-03002	N20-60162
4"	025-06706-615	355-04001-XXX	364-04001	364-04002	N20-62202
6"	N91-61545	355-06001-XXX	364-06001	364-06002	N20-64262

**NOTES:**

1 For tube material, specify material code,-XXX from Flexflo brochure.

2 Standard trim (Non-NACE).