



## Fig. 305 LT

# 150# Flanged Full Port Stainless Steel

## Transmitter Isolation Ball Valve

### *Installation, Operation and Maintenance Instructions*

#### INTRODUCTION

This instruction manual includes installation, operation, maintenance and engineering information for Trans-Valve Fig. 305 LT **Full Port** Stainless Steel Transmitter Isolation Ball Valves.

#### STORAGE

Valves are shipped inside plastic bags in individual boxes. They also have plastic flange area protection on each end. Valves should be stored in a clean, dry, sheltered area to prevent any possible contamination from weather or foreign materials. The valve seats and seals (soft goods) have an unlimited shelf life when properly stored

#### PRE-INSTALLATION

*It is the responsibility of the end user to ensure the valve materials, including soft goods, are compatible with the process media. All applicable valve/piping standards and best practices regarding valve installation procedures must be understood and followed. The following should be read and understood prior to the installation of the valve.*

**WARNING:** To avoid personal injury to yourself, fellow workers, or possible damage to property from accidental release of process media, the following steps should always be taken prior to valve installation:

- A. Shut off all operating lines to the valve installation location and isolate the area completely from the process.
- B. Release the process pressure.
- C. Vent and drain the process fluid or media from the valve location.
- D. Cycle the valve to release any trapped pressure.

## **INSTALLATION**

The flange on the tank side has both the standard ANSI 3" 150# flange drilling and the 26° to 28° offset knife gate valve flange pattern. The instrument side flange is drilled and tapped to accommodate a standard ANSI 3" 150# instrument. The use of standard 5/8-11 x 2.5" hex head cap screws for installation makes this valve "installer friendly".

**IMPORTANT: When installing the handle, be sure that the on/off indication on the plastic handle grip agrees with the position of the ball. Failure to properly install the handle in the correct position could result in the ball position being backwards and would allow the contents of the tank to spill through the purge port channel which is drilled through the ball and visible in the normally closed position.**

### **Instructions for mounting Fig. 305 LT to Knife Gate Valve pattern tank flange**

1. Install a gasket between the tank flange and tank side of the valve body.
2. Push the tank side of the valve up against the tank flange.
3. Install two 5/8-11 x 2.5" hex head cap screws with lock washers into the drilled-out offset holes at the top of the tank flange and two 5/8-11 x 2.5" hex head cap screws with lock washers into the drilled-out holes in the bottom of the tank flange. *\*If replacing an existing knife gate valve, the 2 existing threaded studs at the offset can be utilized instead of the two top of the tank hex head cap screws previously mentioned. If preferred, the 2 existing threaded studs at the offset can be removed and then the previously mentioned hex head cap screws should be used.*
4. Tighten the four hex head cap screws with lock washers in a staggered sequence to compress the gasket between the tank flange and the valve until a leak-tight seal is accomplished.
5. Install a gasket between the instrument side of the valve and the transmitter flange.
6. Push the transmitter flange up against the instrument side of the valve body.
7. Install four 5/8-11 x 2.5" hex head cap screws with lock washers into the transmitter flange holes and tighten all four in a staggered sequence until the gasket is compressed enough to form a leak-tight seal.
8. Connect purge port as needed (see section on purge port use and connection below).

### **Instructions for mounting Fig. 305 LT to 3" ANSI 150# tank flange**

1. Install a gasket between the tank flange and tank side of the valve body.
2. Push the tank side of the valve up against the tank flange.
3. Install four 5/8-11 x 2.5" hex head cap screws with lock washers into the tapped holes of the tank flange.
4. Tighten the hex head cap screws with lock washers in a staggered sequence to compress the gasket between the tank flange and the valve until a leak-tight seal is accomplished.
5. Install a gasket between the instrument side of the valve and the transmitter flange.
6. Push the transmitter flange up against the instrument side of the valve body.
7. Install four 5/8-11 x 2.5" hex head cap screws with lock washers and tighten in a staggered sequence until a leak-tight seal is accomplished.
8. Connect purge port as needed (see section on purge port use and connection below).

## OPERATION

The Fig. 305 LT is designed for service in level transmitter isolation applications that meet the pressure/temperature limits of the valve materials (see chart below).

The valve has a 45° handle that clears a thickly insulated tank wall and prevents the handle from contacting or interfering with the instrument. This handle provides adequate torque for smooth opening and closing of the valve and is supplied with a latch lock device that holds the valve in the selected position. It also allows the handle to be padlocked in either position, if desired.

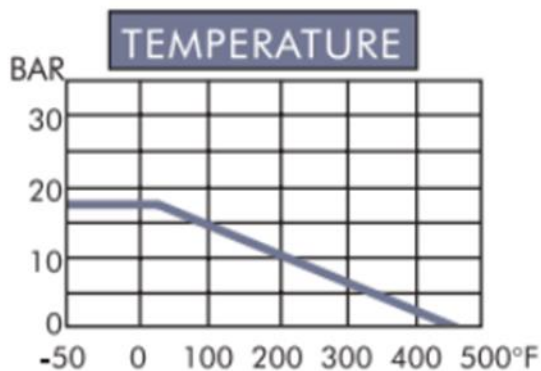
To operate the valve, a simple 90° turn of the handle is all that is required. The Fig. 305 LT is designed to operate in either the open or closed positions only. It is **NOT** designed to be used for modulating or throttling service.

### Purge / Calibration Port Use

The valve has a single 1/4" NPT purge / calibration port. Only one port is needed because purge and calibration can be accomplished through the single port.

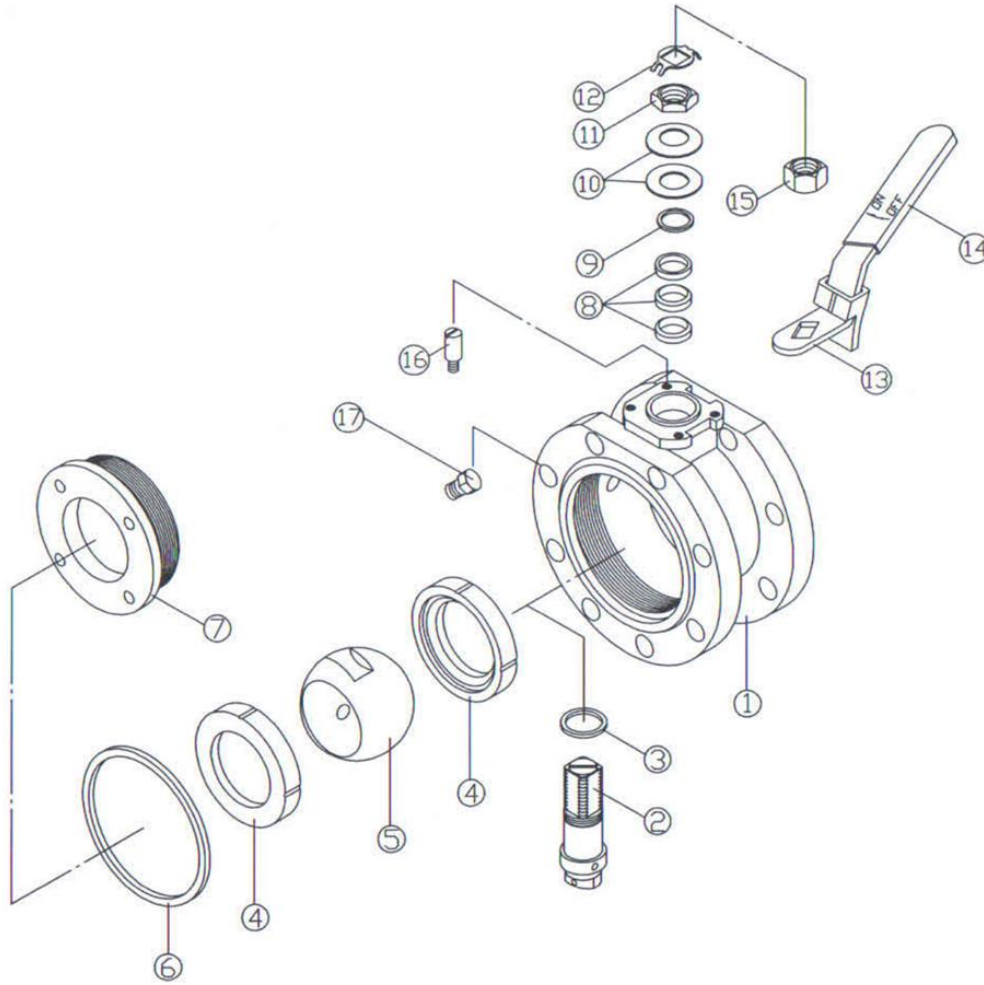
**For purging:** With the ball in the **open** position the port washes the face of the instrument diaphragm and cleans the body cavity all in one motion. Purge pressure must be higher than tank pressure and purge media must be compatible with tank contents.

**For calibration:** With the ball in the **closed** position, the tank is fully isolated which allows for calibration of the instrument.



## MAINTENANCE

Since the valve is not frequently cycled, the need for maintenance will be minimal. It is possible to tighten the stem packing nut if leakage at the stem should ever occur. Under normal operating conditions, this should be the only maintenance that might ever be needed.



<b>MATERIALS LIST</b>			
<b>No.</b>	<b>Part Name</b>	<b>Material</b>	<b>Set / Qty.</b>
1	Body	317 L SS	1
2	Stem	Titanium Gr. 5	1
3	Thrust Washer	PTFE	1
4	Ball Seat	RPTFE	2
5	Ball	Titanium Gr. 5	1
6	Body Seals	PTFE	1
7	End Cap	317 L SS	1
8	Gland Packing	PTFE	1
	Gland Packing	PTFE	1
	Gland Packing	PTFE	1
9	Gland Ring	AISI 304	1
10	Disc Washer	AISI 304	2
11	Nut	ASTM A194 Gr. 8	1
12	Stop Washer	AISI 304	1
13	Handle	AISI 304	1
14	Handle Cover	Vinyl Plastic	1
15	Nut	ASTM A194 Gr. 8	1
16	Stop Pin	AISI 304	1
17	1/4" NPT	Titanium Gr. 5	1