

# Model 49 Overfill Protection Valve

## Installation Instructions

Approved for use in both pressure and gravity fill applications.

UST / AST Tanks

(MH21139)



Universal Valve Company, INC.  
478 Schiller St – Elizabeth, NJ 07206  
800-223-0741

[www.universalvalve.com](http://www.universalvalve.com)

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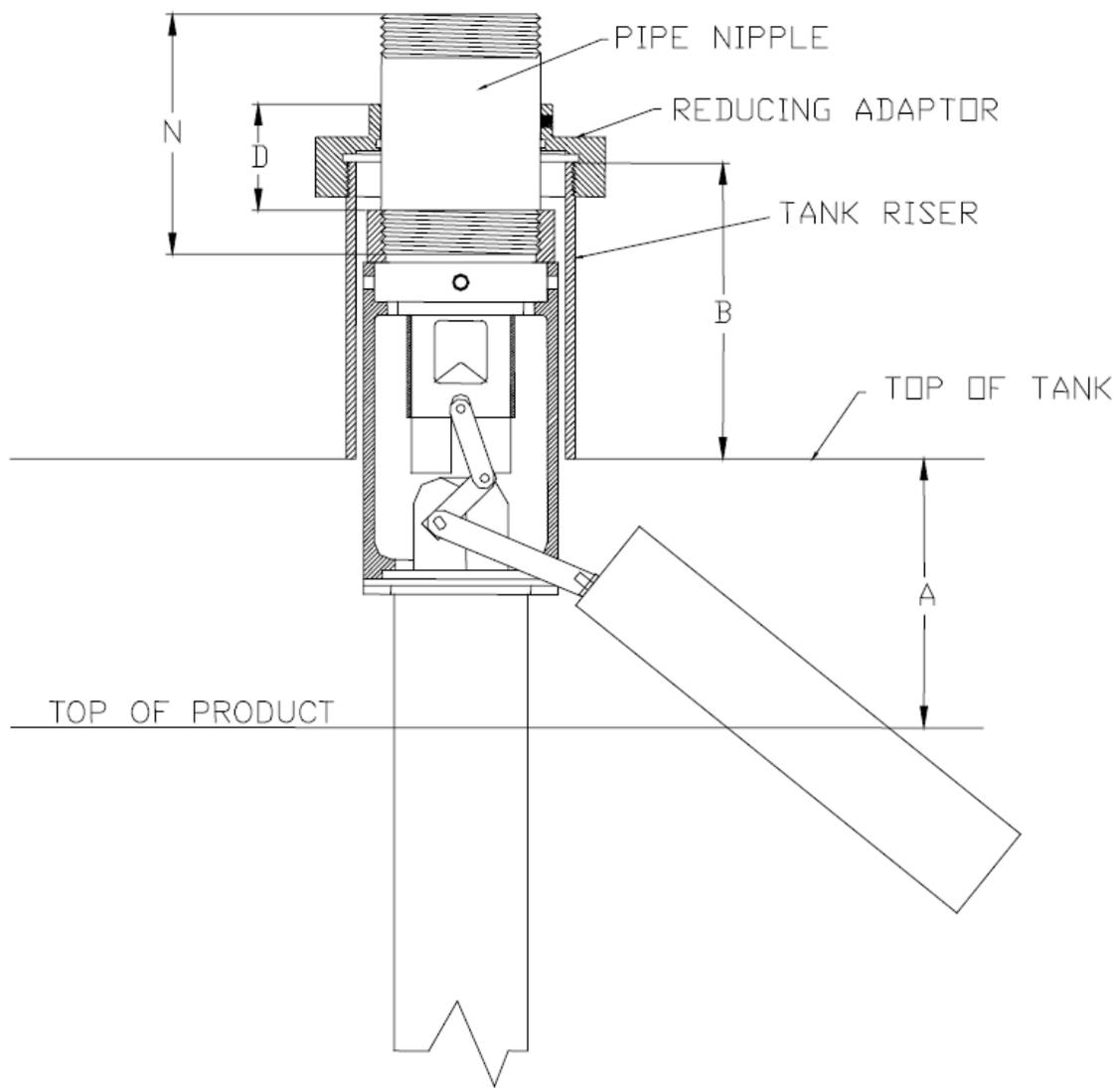
## Installation Instructions

The Model 49 Overfill Protection Valve is designed to prevent the overfill of fuel storage tanks during pressurized and gravity product drops. (UL approved MH21139). The valve operates automatically when product reaches a predetermined level and gradually slows flow down to allow the operator time to shut the product drop off. After the product drop has been shut off, the remaining fluid in the line is drained automatically into the tank by means of a bleed hole. For safety, it is recommended that the valve be used in conjunction with a Spill Containment Manhole. *Tight Fill adapters are included with this system and are to be used in conjunction with tight fill nozzles only. Do not remove pin in adapter or remove adapter to nozzle fill without tight seal or overspill will occur.*

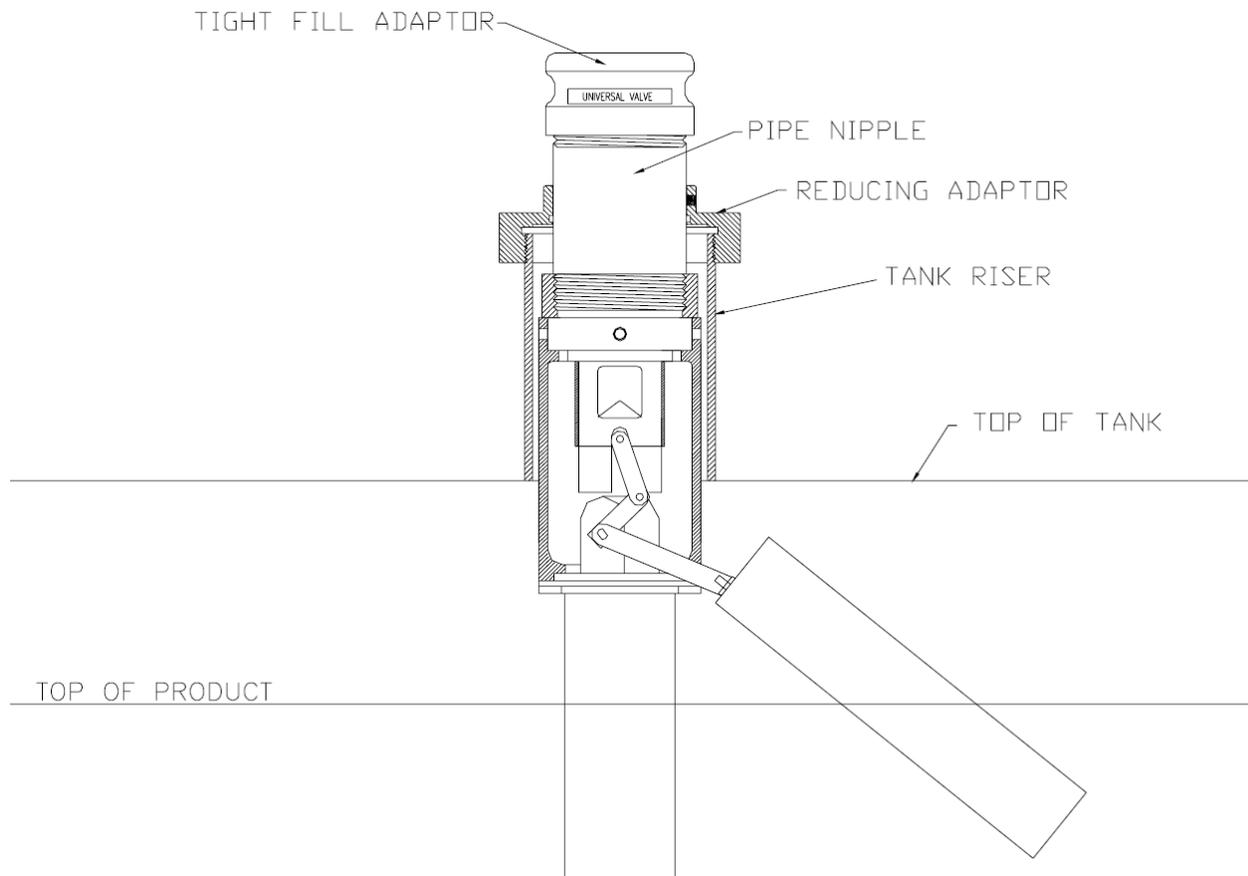
**Important Note** *Prior to installation read these instructions completely. Check to make sure all parts are included. Do not substitute parts for those provided, unless specified. Failure to properly follow these instructions may result in improper operation of the valve.*

Parts List	
49-02	49-03
Overfill Prevention Valve Assembly	Overfill Prevention Valve Assembly
Adjustable 4" x 2" Reducing Adapter	Adjustable 4" x 2" Reducing Adapter
2" Tight Fill Adapter	3" Tight Fill Adapter
12" long 2" dia. Pipe Nipple	12" long 2" dia. Pipe Nipple

Optional Parts
2" Fill Cap (49-cap)
3" Fill Cap (726-30)
Drop Tube Connector Adapter (49-DTC)



**Figure 1 – Model 49 Overfill Prevention Valve  
(Shown in Fully Closed Position)**



**Figure 2 Typical Fuel Storage Tank with Model 49**

## **Model 49 Installation Instructions**

1. You must first determine the minimum length for the pipe nipple included with the kit to see if it is adequate for your application. To find the minimum pipe nipple length for the installation of the Model 49 overflow valve determine the following.

2. Determine the riser height, which is the vertical distance from riser pipe lip to top of tank. This will be dimension B as shown in Figure 1.

3. If valve is to be installed in cylindrical tank, determine distance, "A" for shut off point from chart below. If tank is rectangular, then shut off point, A is 10% of the height of the tank. (Minimum allowable is 3 ¼")

Tank Diameter [ft]	"A" Dimension for 95% Shut Off	"A" Dimension for 90% Shut Off
4	4 ¾"	7 ½"
5	6"	9 ½"
6	7"	11 ¼"
7	8 ¼"	13 ¼"
8	9 ½"	15"
9	10 ½"	17"
10	11 ¾"	18 ¾"
11	13"	20 ¾"
12	14"	22 ½"

*Values given are approximate. Exact values can be calculated from the following equations:  
 For 95% shut off, Distance from top (in inches) = 1.1677 \* Diameter of Tank (in feet)  
 For 90% shut off, Distance from top (in inches) = 1.8777 \* Diameter of Tank (in feet)*

The minimum pipe nipple length equals (N):

$N = A + B - 5-5/8"$  The 5-5/8" allows for the body and adaptor offset

This calculation provides for approximately 1" of the nipple to be above the top of the reducing adaptor and 1" of the nipple to be threaded into the Model 49.

### **Standard length 2" pipe nipple adjustment calculations**

**1)** The distance from the top of the 49 to the top of the reducing adaptor can be calculated (from Figure 1. length D):  $D = N - 2"$

This distance can be used to adjust the 2" pipe nipple so the Model 49 is at the correct level in the tank.

**2)** Screw and tighten the included pipe nipple into the top of the Model 49 and make a mark (D inches) from the top of the Model 49 on the pipe (Figure 1.). This mark will be used to align the pipe until the mark is level with the top of the adaptor.

**3)** Install the proper length fill pipe (or drop tube, when using optional 49-DTC.) into the bottom of the Model 49 and tighten. *The #49 will not operate if the fill pipe is not installed*

**4)** Slide the reducing adaptor over the end of the pipe nipple using grease to lubricate the o-ring.

**5)** Install the fill adaptor onto the top end of the pipe nipple.

**6)** Place the Model 49 assembly with the fill pipe (or drop tube) attached to the bottom of the Model 49 into the tank through the riser. (Figure 2.)

*Care must be taken to be sure that the float is aligned with the centerline of the tank and away from the wall(s) or other obstructions. If the float is not installed so it has free motion the Model 49 will fail to operate and an overflow condition may result. (Figure 2.)*

**7)** Install the reducing adapter onto the riser on the top of the tank. The adapter should be tightened until the gasket seats properly on the top of the riser. *Caution: hold the pipe nipple to prevent the #49 assembly from rotating or falling into the tank.*

**8)** Adjust the height of the Model 49 to the correct level in the tank as determined from the pipe nipple length calculations, by aligning the mark created in step # 2.

**9)** To lock the pipe in the reducing adaptor, the 3 set screws must be tightened equally. This positions the pipe in the center of the reducing adaptor for a secure seal between the pipe and the o-ring.

# OVERFILL PROTECTION VALVES

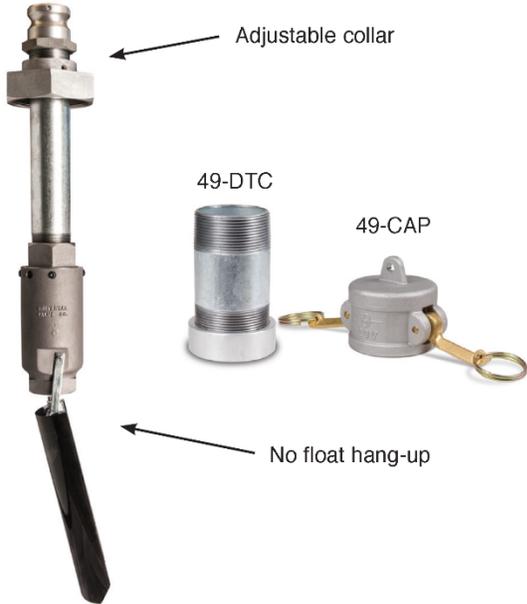
## AST/UST VALVE

**UNIVERSAL  
Advantage**

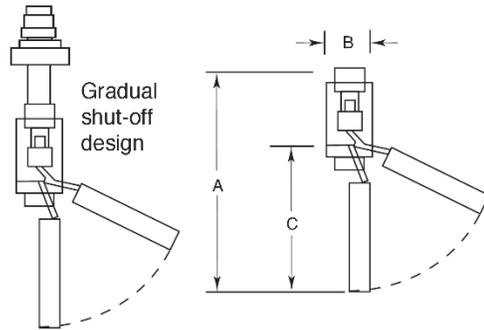
**Application -**

Prevent overfills in AST's and UST's.

**Part Number - 49**



The best overfill protection available today.  
No line shock and gradual shut-off to eliminate any stress on the system.



U.L. Approved for both Pressure and Gravity Fill Applications. No Minimum Flow Rate Required.

**Features -**

- ✓ No line shock, gradual shut-off design
- ✓ No stress on system
- ✓ No float hang-up
- ✓ Prevents overfills reducing contamination and costly clean-up
- ✓ Completely automatic operation
- ✓ Easily retro-fitted to existing tanks
- ✓ Shipped with fill adapter
- ✓ Adjustable collar provides simple installation
- ✓ Minimal pressure drop
- ✓ Compatible with E-85 (Model E-49)

**Construction -**

- Hard coated aluminum pipe adapter
- Zinc plated steel linkage
- Reinforced closed cell float

Model	Fill Adapter Size	Weight (lbs.)	A	B	C
49-02	2"	10.0	22-3/8"	3-11/16"	15-3/4"
49-03*	3"	10.0	22-3/8"	3-11/16"	15-3/4"
E-49-02	2"	10.0	22-3/8"	3-11/16"	15-3/4"
E-49-03*	3"	10.0	22-3/8"	3-11/16"	15-3/4"

49-DTC attaches standard 2" Aluminum Drop Tube (sold separately)

49-Cap 2" Fill Cap (sold separately)

**Replacement Parts**

Part Numbers	Description
49-C-3	3x2 Adapter
49-C	2" Fill Adapter (Model 49-02)
49-CAP	2" Dust Cap (Model 49-02)
49-D	2" x 4" Adapter (Model 49-02)
49-L	Adapter O-Ring (Model 49-02)
49-O	Float (Model 49-02)
49-V	2" x 12" Nipple (Model 49-02)

\*Model 49-03 is a 49-02 with a 3" fill coupler.

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**LIMITED WARRANTY:** All Universal products are thoroughly tested before shipment and guaranteed to the extent of replacing only products found to be defective in manufacture. Claims must be made within one year from date of invoice. We cannot, however, allow claims for labor or consequential damage resulting from purchase, installation or misapplication of our products.

**CLAIMS:** Our responsibility ceases when products are accepted by transportation carriers. All goods are at the risk of the purchaser after they have been delivered by us to the carrier and receipt obtained for same (in good order).

**PRODUCT CHANGES:** The right is reserved to make changes in pattern, design, or materials when deemed necessary, without prior notice. Products which have become obsolete by reason of design change, or discontinued as a manufactured item, may not be returned for credit.

**PRICE CHANGES:** Due to changes in design and manufacture, all prices listed herein are subject to change without notice.

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