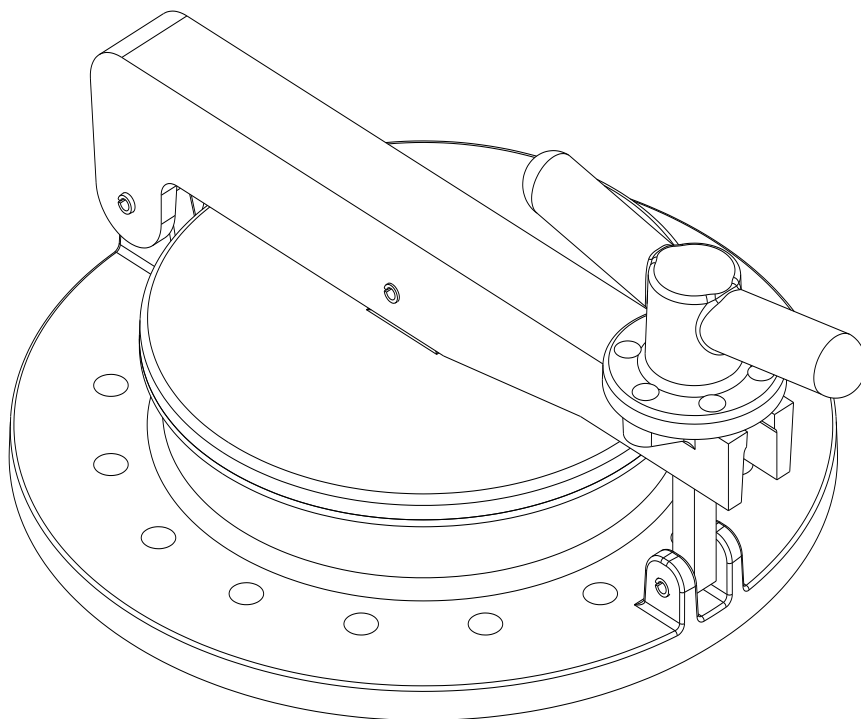


# Installation and Maintenance Manual for the Lock Down Hatch

Model L61T



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## INTRODUCTION

The Lock Down Hatch provides secure access to storage tanks without pressure or vacuum relief capability. When closed, it ensures a vapor tight seal that prevents leakage and evaporation loss. The latch mechanism allows for the use of a padlock or security seal.

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## DESIGN AND FUNCTION

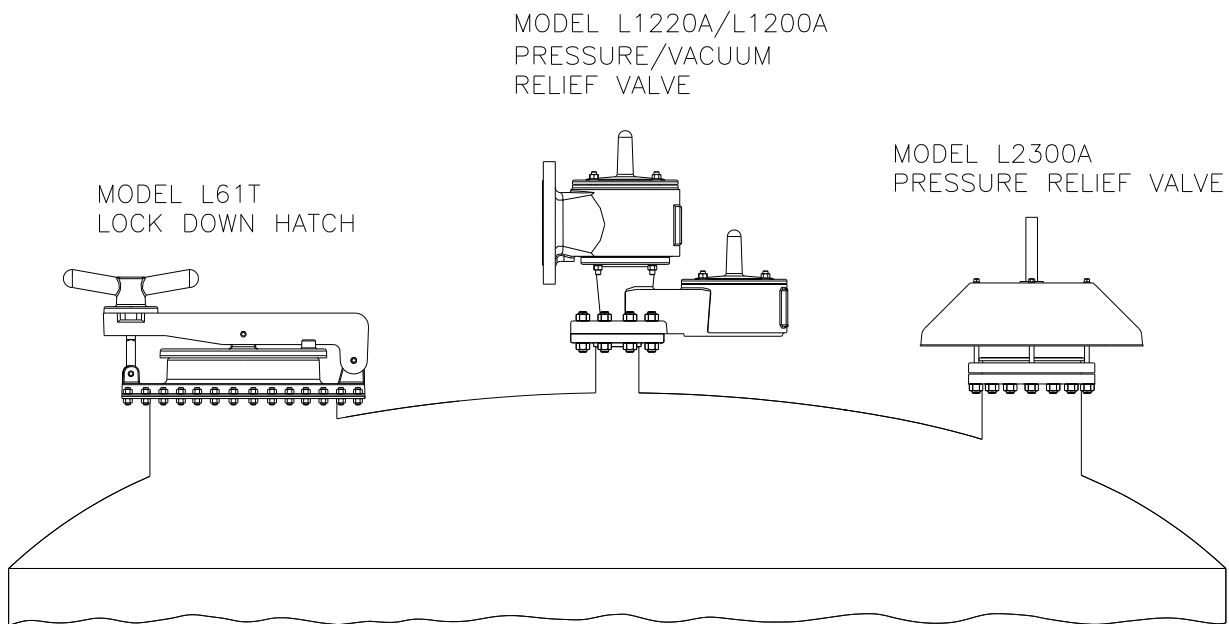


Figure 1: Typical Tank Installation

A typical tank installation is shown in **Figure 1** which includes the following LAMOT products:

Model L61T Lock Down Hatch

Model L1200A/L1220A Pressure/Vacuum Weight Loaded Valve

Model L2300A Pressure Weight Loaded Valve

## SAFETY WARNINGS

This section is an overview of safety guidelines that should be followed during the installation, operation and maintenance of the LAMOT Lock Down Hatch. To understand the context of these instructions and warnings, it is necessary to completely read and understand the contents of this manual.

DO NOT attempt to remove the Lock Down Hatch from the tank or process vessel without first bleeding all pressure from the system.

## INSPECTION AND STORAGE

The Lock Down Hatch is carefully packaged to prevent damage or contamination during shipping. Inspect all equipment when it is received; report any damage to the carrier immediately. The hatch should be protected during handling and storage. Before installation, inspect the unit for indications of physical damage or internal contamination. If these are observed, the hatch must be disassembled, cleaned and repaired before installation.

## INSTALLATION

A typical Lock Down Hatch installation on a tank or vessel is illustrated in **Figure 1**, Page 3. **WARNING: The Lock Down Hatch must be installed in a vertical position as shown in Figure 1, Page 3.** Torque guidelines are listed in **Table 1**. The hatches are NOT rated for full flange pressure and do not require high bolting torque. Consult factory for special applications.

The following guidelines should be observed at installation:

1. Inspect the gasket seating surface of the tank nozzle flange. It must be clean, flat and free of scratches, corrosion and tool marks.
2. Aluminum valves are furnished as a standard with flat face flanges; they should only be installed on a mating flat face flange with a full faced gasket. Note: 1/8" thick full faced non-asbestos gaskets are recommended for aluminum.
3. Inspect the gasket; make sure that the material is suitable for the application.
4. Lubricate all bolts and nuts with an appropriate thread lubricant. If the valve will see high temperature service or if stainless steel fasteners are used, apply an anti-seize compound such as moly-disulfide.
5. Center the gasket within the bolt circle.
6. Set the hatch carefully on the nozzle and install the bolts and nuts.
7. Torque all fasteners to half the value listed in **Table 1**, in a cross torqueing pattern.
8. Make sure that the flanges are not distorted and that the gasket is evenly compressed. Make up the final torque and check that no further nut rotation occurs at the torque value specified in **Table 1**.

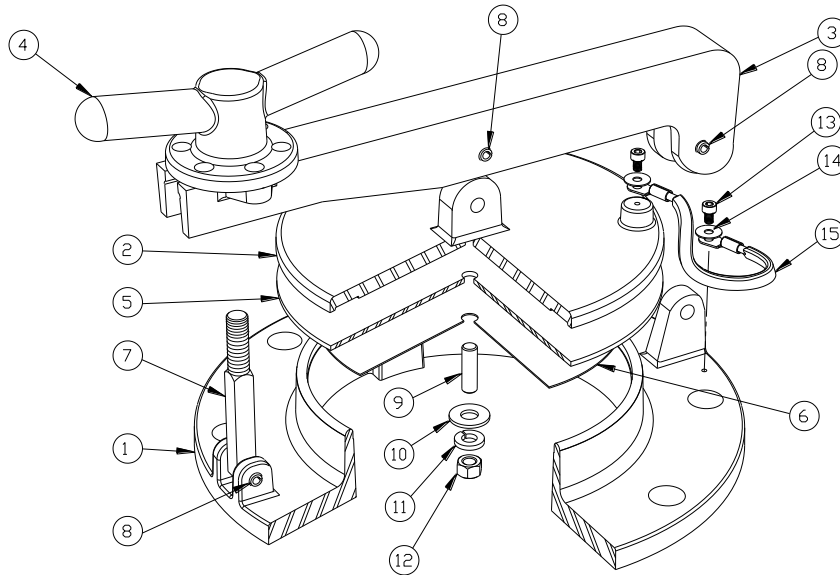
Table 1 - Recommended Torque Values\*

BASE-TO-FLANGE Ft•Lb (N•m)									
Size	Raised Face Steel	Flat Face Steel	Flat Face Aluminum	ASME 150#		EN 1092-1 PN 10		EN 1092-1 PN 16	
				NO. OF BOLTS	SIZE OF BOLT	NO. OF BOLTS	SIZE OF BOLT	NO. OF BOLTS	SIZE OF BOLT
4"	60 (82)	60 (82)	50 (68)	8	5/8-11 UNC-2B	8	M16	8	M16
6"	105 (143)	105 (143)	90 (122)	8	3/4-10 UNC-2B	8	M20	8	M20
8"	105 (143)	105 (143)	90 (122)	8	3/4-10 UNC-2B	8	M20	12	M20
10"	140 (190)	170 (231)	140 (190)	12	7/8-9 UNC-2B	12	M20	12	M24

\*Note: Torque values are based on a gasket factor  $m=3.5$ , Gasket factor  $y=2000$  psi, maximum pressure = 2 psi.

## MAINTENANCE

Maintenance should be performed every (6) six months or more frequently in corrosive or dusty environments. Normal maintenance should consist of inspecting both the lid gasket and the base gasket. Under normal operating conditions, the lid gasket should be replaced annually. To ensure efficient operation, the lid gasket and the seat should be wiped down each time the hatch is accessed.



**Table 2 – Bill of Materials**

Item #	Part	Part Description	Part Number	Qty.
1	Base	Base 61T 8" 150# ASME Aluminum FF	BAS61T0801A	1
		Base 61T 8" 150# ASME CS FF	BAS61T0820A	
		Base 61T 8" 150# ASME 316 SS FF	BAS61T0805A	
		Base 61T 8" API Aluminum FF	BAS61T0801D	
2	Cover	Cover 61T 8" Aluminum	CVR61T0801	1
		Cover 61T 8" CS	CVR61T0820	
		Cover 61T 8" SS	CVR61T0805	
3	Arm	Arm 61T 8" Aluminum	ARM61T0801	1
		Arm 61T 8" CS	ARM61T0820	
		Arm 61T 8" SS	ARM61T0805	
4	Wing Nut	Wing Nut 61T 4"-10" Aluminum	WNG61T0801	1
		Wing Nut 61T 4"-10" CS	WNG61T0820	
		Wing Nut 61T 4"-10" SS	WNG61T0805	
5	Diaphragm	Diaphragm 61T 8" BUNA-N	DPH61T0835	1
		Diaphragm 61T 8" Blue FKM	DPH61T08CJ	
		Diaphragm 61T 8" EPDM	DPH61T0886	
		Diaphragm 61T 8" FEP (20 Mil)	DPH61T0873	
6	Retainer Plate	Retainer Plate 61T 8" 316 SS	RPL61T0805	1
7	Swing Bolt	Swing Bolt 1/2-13 X 4-1/2" 316	498401805	1
8	Roll Pin	Roll Pin 5/16" X 1 1/2" Zinc Plated Steel	0253406M8	3
9	Stud	Stud 3/8-16 X 1" 316 SS	005360405	1
10	Washer	Washer Flat 3/8" 316 SS	009360005	1
11	Lock Washer	Lock Washer 3/8" 316 SS	064360005	1
12	Nut	Nut 3/8-16 316 SS	007360005	1
13	Cap Screw	Cap Screw M5 X 0.8-6g 18-8 SS	0010510D3	2
14	Lock Washer	Lock Washer M5 18-8 SS	0640500D3	2
15	Bonding Strap	Bonding Strap	497000305	1

## **PRODUCT LIMITED WARRANTY**

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