

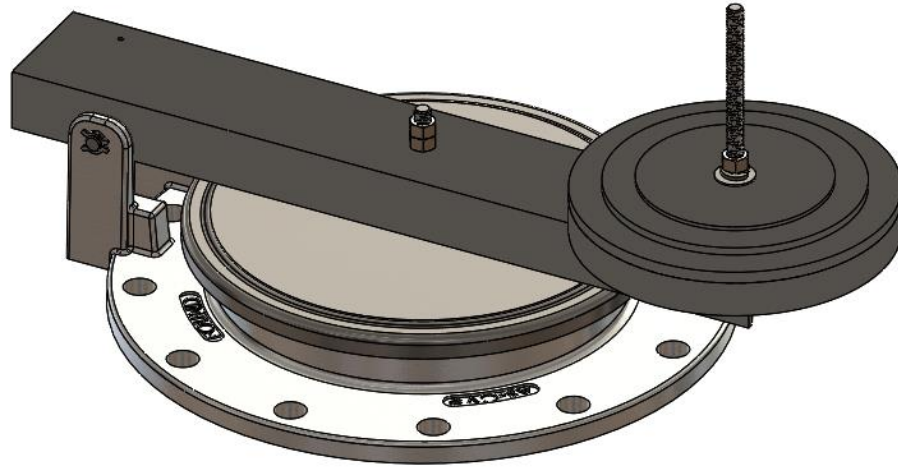
**LAMOT**

VALVE & ARRESTOR

A GROTH CORPORATION BRAND

# Installation, Operation and Maintenance Manual for Emergency Relief Valve

**Model L22E**



## TABLE OF CONTENTS

<b>SAFETY WARNINGS</b>	<b>3</b>
<b>INTRODUCTION</b>	<b>4</b>
<b>INSTALLATION</b>	<b>4</b>
<b>DESIGN AND FUNCTION</b>	<b>5</b>
<b>MAINTENANCE</b>	<b>6</b>
<b>MODEL NUMBER IDENTIFICATION</b>	<b>6</b>
<b>PRODUCT LIMITED WARRANTY</b>	<b>7</b>

## **SAFETY WARNINGS**

**THIS SECTION IS AN OVERVIEW OF SAFETY GUIDELINES THAT SHOULD BE FOLLOWED DURING THE INSTALLATION, OPERATION AND MAINTENANCE OF EMERGENCY RELIEF VALVES. TO UNDERSTAND THE CONTEXT OF THESE INSTRUCTIONS AND WARNINGS, IT IS NECESSARY TO COMPLETELY READ AND UNDERSTAND THE CONTENTS OF THIS MANUAL.**

**THE PURPOSE OF AN EMERGENCY RELIEF VALVE IS TO PREVENT EXCESSIVE PRESSURE IN A TANK OR PROCESS SYSTEM. THE VALVE MUST BE DESIGNED FOR THE PROPER MAWP AND FLOW REQUIREMENTS OF THE SYSTEM. CONSULT API STANDARD 2000 FOR TANK PROTECTION SIZING PROCEDURES. AN IMPROPERLY SPECIFIED OR FUNCTIONING RELIEF VALVE MAY RESULT IN STRUCTURAL DAMAGE TO THE TANK OR SYSTEM AND CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.**

**THE ERV SET PRESSURE IS SET AT THE FACTORY PER PURCHASE ORDER SPECIFICATIONS. THE SET PRESSURE AND NOMINAL FLOW CAPACITY ARE STAMPED ON THE VALVE NAMEPLATE. DO NOT ATTEMPT TO READJUST THE SET PRESSURE. DO NOT CHANGE PRESSURE RATING BY ADDING ADDITIONAL WEIGHTS TO THE PALLET ASSEMBLY WITHOUT CONSULTING FACTORY. ADDING MORE WEIGHTS THAN RECOMMENDED WILL RESULT IN AN INCREASE IN SETTING. DO NOT ATTEMPT TO LIFT PALLET ASSEMBLIES BY HAND. THESE ASSEMBLIES CAN WEIGHT IN EXCESS OF 400 LBS. AND COULD CAUSE BODILY INJURY WITHOUT THE USE OF AN EXTERNAL LIFTING METHOD.**

**DO NOT ATTEMPT TO CHANGE DISTANCE OR LOCATION OF DEAD WEIGHTS ON CANTILEVER ARM. EMERGENCY RELIEF VALVES ARE DESIGNED TO PROVIDE FULL RATED CAPACITY AT 100% OVER-PRESSURE. IF THE VALVE IS TO BE OPERATED AT A REDUCED OVER-PRESSURE, CONSULT FACTORY FOR ACTUAL FLOW CAPACITY UNDER SPECIFIED CONDITIONS.**

**DO NOT MIX PALLET ASSEMBLIES FROM DIFFERENT VALVES. FAILURE TO ENSURE THAT THE PALLET ASSEMBLIES ARE INSTALLED IN THE ORIGINAL AND CORRECT LOCATION CAN CHANGE THE PRESSURE OR VACUUM RELIEF SETTINGS. THIS CAN CAUSE A TANK FAILURE.**

**DO NOT ATTEMPT TO REMOVE THE VALVE FROM THE TANK OR PROCESS VESSEL WITHOUT FIRST BLEEDING ALL PRESSURE FROM THE SYSTEM. ALTERNATIVE MEANS OF PRESSURE RELIEF MUST BE PROVIDED WHEN THE VALVE IS OUT OF SERVICE.**

**ANY VALVE THAT HAS BEEN EXPOSED TO PROCESS VAPORS WHILE IN SERVICE SHOULD BE HANDLED APPROPRIATELY. OBSERVE ALL PLANT PROCEDURES AND MATERIAL SAFETY DATA SHEETS (MSDS) FOR THE PRODUCTS IN THE SYSTEM WHEN INSPECTING, ADJUSTING OR SERVICING THE VALVE. TAKE APPROPRIATE SAFETY PRECAUTIONS REGARDING EYE PROTECTION, RESPIRATION AND SKIN CONTACT.**

**MOUNT THE VALVE WITH THE PALLET ASSEMBLY IN THE HORIZONTAL PLANE.**

**WEIGHTS ARE TO BE SHIPPED SEPARATELY, AFTER INSTALLATION OF VALVE ON THE TANK, WEIGHTS ARE TO BE STACKED AT THE RIGHT SIDE OF THE CANTILEVER ARM.**

**DO NOT LIFT ASSEMBLY FROM CENTER OF THE BASE (COVERING PALLET AND CANTILEVER ARM MATING AREA).**

## INTRODUCTION

This manual is intended to provide recommended procedures and practices for installation, operation and maintenance of the LAMOT Model L22E Emergency Relief Valve. Any standard procedures and practices developed for a specific plant or process should supersede this manual. Although this manual cannot cover all possible contingencies, following these guidelines will provide safe, reliable emergency pressure relief service. The emergency relief valve shall be treated as a safety device and must be maintained by a knowledgeable repair technician. Carefully read and understand this manual before installing or servicing this product.

For information not contained in this manual, please contact:

*Groth Corporation*  
*13650 N. Promenade Blvd.*  
*Stafford, TX, 77477 USA*  
*Phone: 281-295-6800*  
*Fax: 281-295-6999*  
*[www.grothcorp.com](http://www.grothcorp.com)*

## INSTALLATION

The ERV is packed and supported to prevent damage or contamination during shipping. It should be similarly protected during subsequent handling and storage. Before installation, inspect the unit visually. If there are indications of physical damage or internal contamination, the valve must be disassembled, cleaned and inspected before installation.

Inspect the valve for any sign of damage that may have occurred in shipment and report this to the carrier.

To avoid damage to the lower flange surface, set the valve on a soft clean gasket material until it is ready to be installed. It should be stored in a clean environment until it is to be mounted on the tank.

The LAMOT Model L22E Emergency Relief Valve is a device that must be handled carefully to ensure seat tightness. The body can be damaged by over-tightening the studs or mounting on a tank nozzle that is not flat.

NOTE: The flange or mating surface that the L22E is to be installed on must be level in order for the valve to function properly.

1. Inspect the gasket; make sure that the material is suitable for the service.
2. Lubricate all studs and nuts with an appropriate thread lubricant. If stainless steel fasteners are used, select an anti-seize lubricant such as moly-disulphide.
3. Align the gasket with the bolt circle.
4. Set the valve body carefully on the nozzle; keep the gasket between the flanges. Install the studs and tighten nuts hand tight.
5. Torque all fasteners to half the recommended value (see Table 2) in a cross torquing pattern or follow appropriate plant maintenance guidelines and standards.

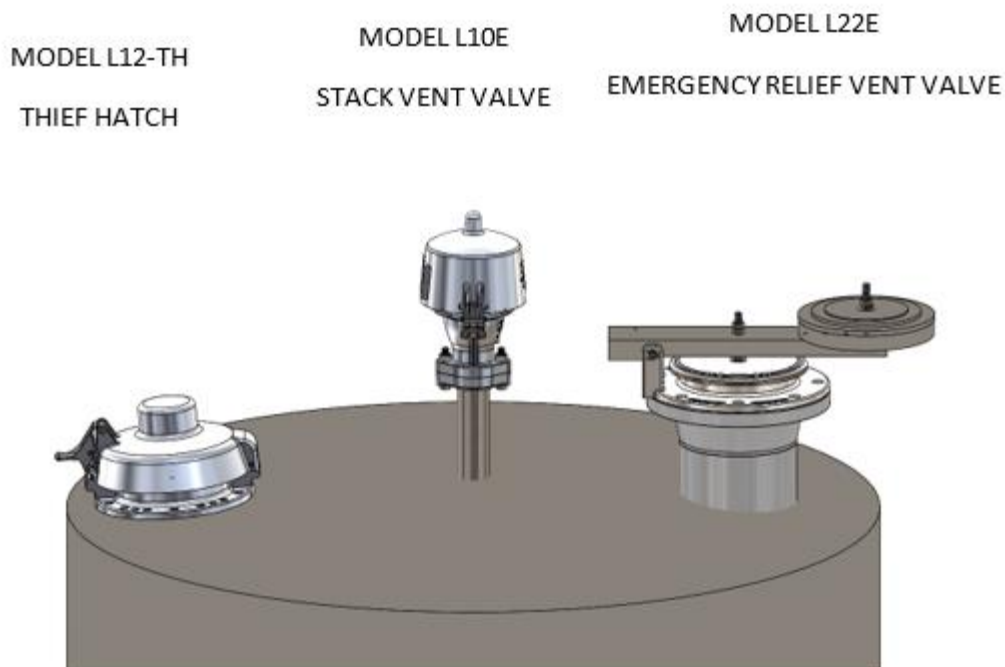
Table 2: Recommended Torque Values*					
	Size	Number of Bolts	Bolt (in) (UNC)	Torque (ft-lbs)	
				Raised Face	Flat Face
150# ASME	8"	8	3/4-10	72	N/A
	12"	12	7/8-9	87	N/A
API 12	8"	16	1/2-13	NA	35

6. Make sure that the flanges are not distorted and that the gasket is evenly compressed.
7. Make up the final torque and check that no further nut rotation occurs.
8. Install the weight at the proper location to ensure set pressure.

**DESIGN AND FUNCTION**

The model L22E was designed as a cost effective valve that would protect a tank by providing emergency pressure relief caused by fire or atmospheric conditions that could make the pressure rise. Model L22E provides pressure relief only; vacuum relief must be supplied by a separate breather valve. Model L22E cantilever design provides a cantilever action to minimize weight. The L22E is not a manhole cover or a gauging device and may cause serious injury. *Note: Depending on pressure setting, it may be necessary to use a crane or other lifting device to open or remove the cover assembly.* A typical tank installation is shown in Figure 1 which includes a Pressure/Vacuum Relief Valve, a Thief Hatch and the Emergency Relief Valve which provides emergency pressure relief. LAMOT Valve & Arrestor manufactures all these devices.

**Figure 1: Typical Tank Installation**



## MAINTENANCE

The L22E Series valves do not require routine lubrication or adjustments, but should be checked periodically to confirm that the valve is functioning properly.

Because these valves provide emergency protection, they will not normally cycle in service. Inspection of seat tightness should be done to ensure compliance with local air pollution control requirements as needed. When inspecting the diaphragms, gaskets and seals should also be checked. Please refer to handling instructions listed in the Installation section of this manual. Always keep records of maintenance performed.

### WARNING:

**If the valve must be removed from the tank for any reason, make sure that all pressure has been released before the flange fasteners are loosened. Refer to your company procedures before venting the tank pressure and when handling toxic or otherwise hazardous materials.**

**The main valve body, gaskets and all other components are exposed to the process vapor. Observe all standard safety precautions as specified on Material Safety Data Sheets for the product[s] in the system while removing the valve and when repairing it. Take appropriate safety precautions regarding eye protection, respiration & skin contact.**

### WARNING:

**Operator must connect to electrical ground before performing maintenance activity.**

**Model L22E should be treated as a safety device and maintained by knowledgeable repair technician. Installation, operation and maintenance procedures performed by unqualified person may result in improper adjustment and unsafe operation. Either condition may result in personal injury or property damage.**

Inspect the soft goods, the seat, and the flanges to ensure seal tightness. Replace components as necessary.

## MODEL NUMBER IDENTIFICATION

L22E Model Number Format									
Model	- Size	- MC Base (Arm)	MC Pallet	MC Diaphragm	- MC Weight	- Bolting Class	- Pressure	-	Option Code
L22E	- 08	- 3 (CS)	1 (Alum)	V (Blue FKM)	- 3 (CS)	- A (150# ASME)	- 040 (4 osig)	-	0 (No Reinforcement Plate)
	12	5 (SS)	5 (SS)	B (Buna-N)	S (SS)	D (API 12 - 8" only)	045 (4.5 osig)		R (Reinforcement Plate)
				T (FEP)			320 (32 osig)		

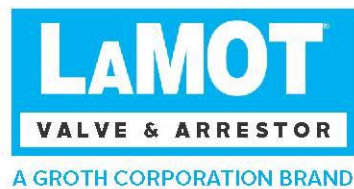
## PRODUCT LIMITED WARRANTY

- A. Seller warrants that products which are manufactured by Seller, are manufactured in accordance with published specifications and free from defects in materials and/or workmanship for a period of (12) twelve months. Seller, at its option, will repair or replace any products returned intact to the factory, transportation charges prepaid, which Seller, upon inspection, shall determine to be defective in material and/or workmanship. The foregoing shall constitute the sole remedy for any breach of Seller's warranty.
- B. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, REPRESENTATIONS, OR WARRANTIES, EXPRESS OR IMPLIED, (INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING PRODUCTS) UNLESS SPECIFIED IN THE SALES CONTRACT. THIS CONTRACT STATES THE ENTIRE OBLIGATION OF SELLER.

Seller makes no warranties, either express or implied, except as provided herein, including without limitation thereof, warranties as to marketability, merchantability, for a particular purpose or use, or against infringement of any patent of products. In no event shall Seller be liable for any direct, incidental or consequential damages of any nature, or losses or expenses resulting from any defective new product or the use of any such product, including any damages for loss of time, inconvenience, or loss of use of any such product.

- C. The original Manufacturer shall be solely responsible for the design, development, supply, production, and performance of its products hereunder, and the protection of its trade name or names, if any. It assumes no responsibility, for products modified or changed in any way by its agent or customer. Any such modifications or changes to products sold by Seller hereunder shall make the product limited warranty null and void.
- D. The Manufacturer shall be under no obligation to manufacture, sell, or supply, or to continue to manufacture, sell or supply any of the Products.

LAMOT® Valve & Arrestor has representatives throughout North America.  
Contact us or visit us on the web for the authorized representative in your area.



**GROTH CORPORATION**

13650 N Promenade Blvd  
Stafford, TX 77477

phone: 281-295-6800  
fax: 281-295-6999  
toll-free: 800-354-6844  
e-mail: ValveSales@lamot.com  
website: www.lamot.com