

ES-660 Series Retrofit Center Instructions

Table of Contents

Introduction..... 1

Product Description 1

Principle of Operation..... 2

Tagging Information..... 3

Installation 3



Figure 1. ES-660 Series Spring-loaded Hatch

WARNING

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion, fire and/or chemical contamination causing property damage and personal injury or death.

Enardo spring-loaded hatch must be installed, operated and maintained in accordance with federal, state and local codes, rules and regulations and Emerson Process Management Regulator Technologies Tulsa, LLC instructions.

Failure to correct trouble could result in a hazardous condition. Call a qualified service person to service the unit. Installation, operation and maintenance procedures performed by unqualified person may result in improper adjustment and unsafe operation. Either condition may result in equipment damage or personal injury. Only a qualified person shall install or service the spring-loaded hatch.

Introduction

Scope of the Manual

This Instruction Manual provides instructions for installing ES-660 Series center assembly as a retrofit into an existing 660 Series hatch.

Product Description

The ES-660 Series is a spring loaded thief hatch intended for use in applications where ultra-tight sealing is required such as sour crude/gas or where strict environmental emissions standards are enforced. The ES-660 Series is available as a complete replacement for any standard API 8 in. thief hatch, or as a simple retrofit for any 660 Series hatch.

North America Only

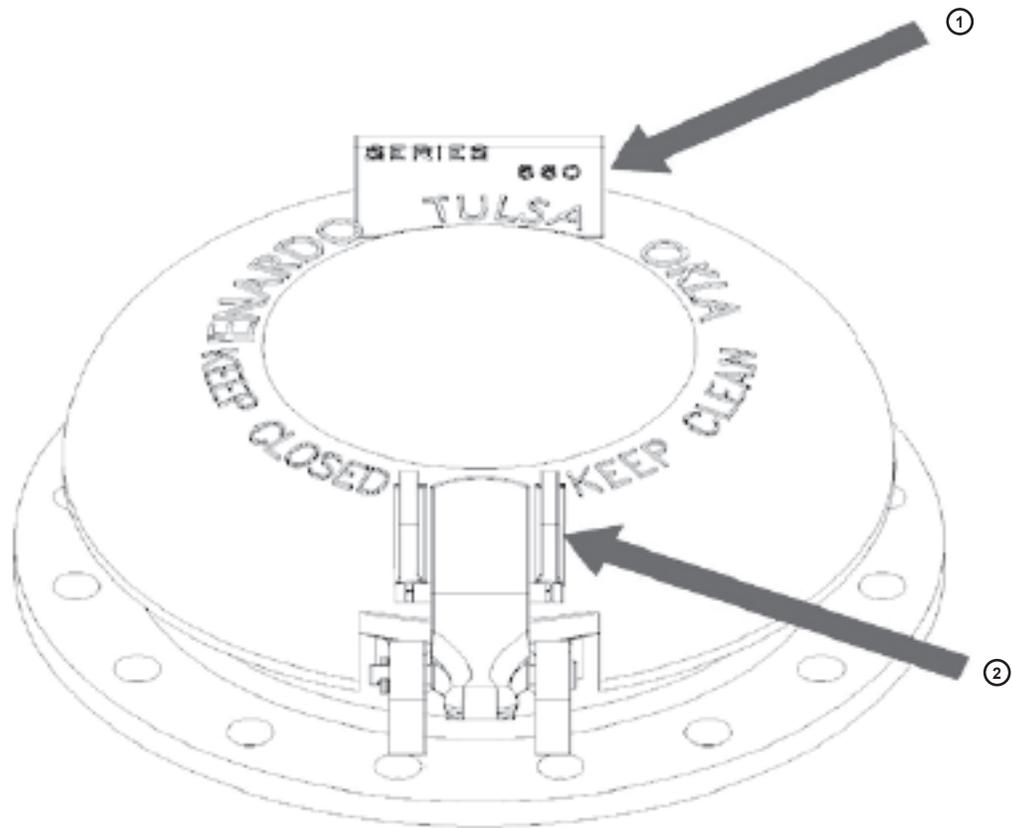


Figure 2. ES-660 Series Retrofit Center Assembly Installation

Principle of Operation

Enardo gauge hatches are designed to control evaporation losses and protect tanks against excessive pressure or vacuum. When the tank pressure is above the setpoint of the hatch, the center assembly opens to relieve excess pressure. When the overpressure has dissipated, the center assembly reseats onto the base to provide tight seal.

Tagging Information

For ES-660 Series retrofit center assemblies, the order includes a tag, stainless steel wire and a drive screw. The tag can be attached with wire to the existing hatch lid, or drill a small hole and attach the tag with a drive screw on the top of the lid. Examples of tag locations are shown in Figure 2. Location 1 is the hinge pin on the back of the hatch, and location 2 is the holes in the ears on the front of the hatch.

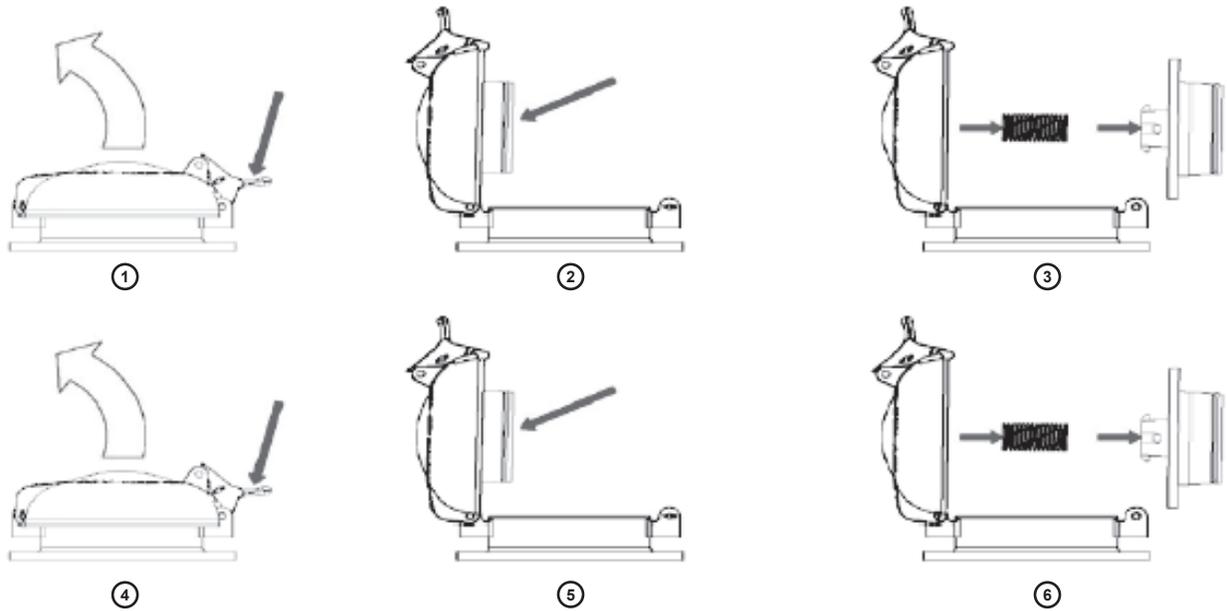


Figure 3. ES-660 Series Retrofit Center Assembly Installation

Installation

CAUTION

Ensure the tank is at atmospheric pressure before opening. A pressure build-up inside the tank can cause a spray to be emitted from the hatch if opened under pressure.

Springs are energy storage devices and are dangerous if handled improperly. Always use appropriate safety equipment including safety glasses or shields anytime you are working with a spring loaded hatch.

1. Open existing ES-660 Series hatch by pushing down on lid and opening latch.
2. Remove the existing center assembly by pressing the center assembly inward against the spring pressure and turning one quarter rotation to the right or left.
3. Remove existing center assembly and associated pressure spring.
4. The new ES-660 Series center assembly can be identified by bright red anodized vacuum pallet.
5. Install existing or new pressure spring and ES-660 Series center assembly. Place the pressure spring into center assembly, then pressing this combination into the lid. Once the center assembly is pressed fully into lid, turn center assembly one quarter rotation to the right or left, then slowly allow spring to push the center assembly back out until center assembly is secured in the grooves in the lid. If center assembly comes back out fully, follow instructions in this step again until the center assembly is properly secured in the lid.
6. Close the hatch by pressing down on the lid and latching the hatch.

ES-660 Series

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