

WATEROUS

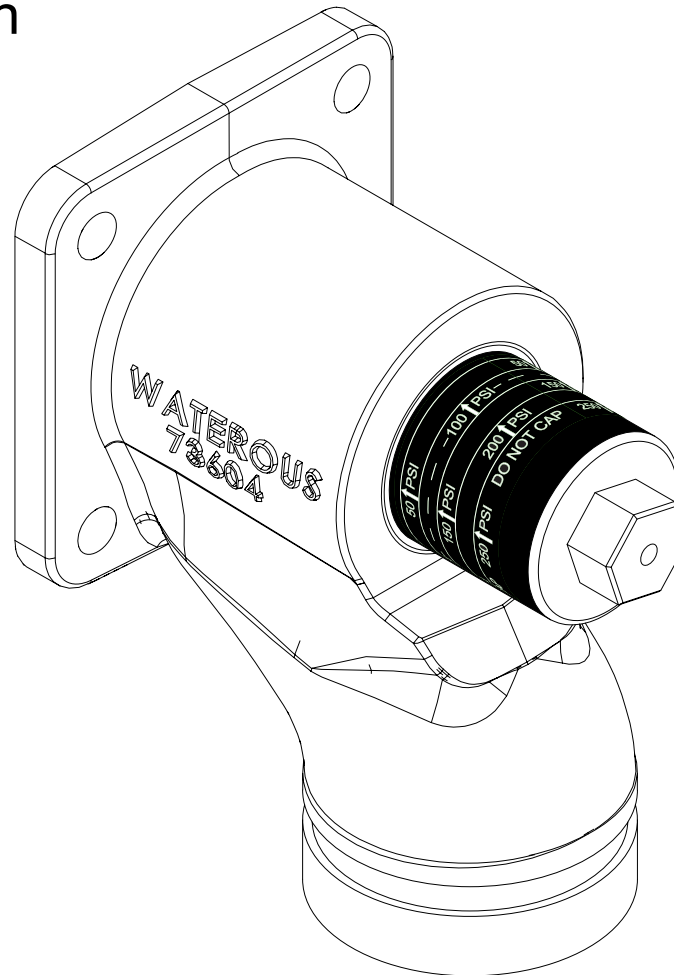
Form Number F-2863

Issue Date Nov 25, 2019

Revision Date May 18, 2020

Non-Piloted Intake Pressure Relief Valve

Installation and Operation



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Safety Precautions

- Read and understand all the associated documentation before you begin the installation.
- Read and understand all the notices and safety precautions.
- Be aware that these instructions are only guidelines and are not meant to be definitive. Contact Waterous when you have questions about installing, operating, or maintaining the equipment.
- Do not install the equipment if you are not familiar with the tools and skills needed to safely perform the required procedures—proper installation is the responsibility of the purchaser.
- Do not operate the equipment when safety guards are removed.
- Do not modify the equipment.
- Regularly check for leaks, worn, or deteriorated parts.

Safety Notices

 WARNING	
<p>High Pressure</p> <ul style="list-style-type: none"> • Liquid ejected at high pressure can cause serious injury. • Purge all pressure before servicing. 	

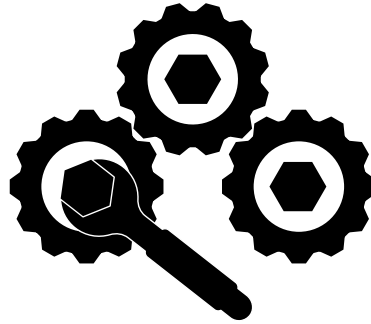
 WARNING	
<p>High Pressure</p> <ul style="list-style-type: none"> • Discharge ejected at high pressure can cause serious injury and damage. • Direct discharge away from people and equipment. 	

NOTICE	
<p>Before Operation</p> <ul style="list-style-type: none"> • Read and understand all the instructions provided. • Check all fluid levels and replenish if necessary. • Remove all shipping plugs and install the operation plugs or caps. 	

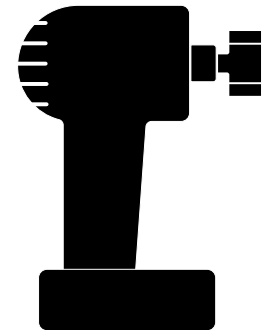
Safety Notices—Continued

NOTICE**Modification**

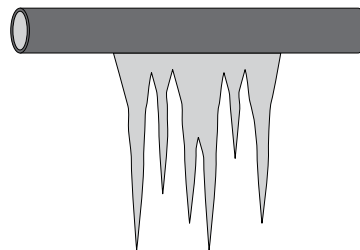
- Modifying the equipment can damage components and void your warranty.
- Do not modify the system or any of its components.

**NOTICE****Equipment Damage**

- Do not use an impact driver to adjust the valve.
- Use a drill or hand tools to make adjustments.

**NOTICE****Freeze Damage**

- Do not allow fluid in the lines to freeze.
- Remove all freezable fluid from the lines before storing the apparatus.



Use this document to install and operate your Waterous equipment. Understand the following conditions before continuing with the document:

- The instructions may refer to options or equipment that you may not have purchased with your system.
- The illustrations in this document are intended to convey concepts. Do not use the illustrations to determine physical attributes, placement, or proportion.
- Any equipment described in this document is intended to be installed by a person or persons with the necessary skills and knowledge to perform the installation.
- Any equipment described in this document is intended to be operated by a person or persons with the basic knowledge of operating similar equipment.

This document is divided into the following sections:

SAFETY

This section describes general precautions and alert symbols that are in this document.

INTRODUCTION

This section is an overview of the document.

PRODUCT OVERVIEW

This section describes the components that make-up the system.

INSTALLATION

This section describes the installation and initial setup procedures.

OPERATION

This section describes the equipment operation.

MAINTENANCE

This section describes the maintenance procedures.

SERVICE PARTS

This section describes the service parts.

Using this Document

Use the guidelines below when viewing this document.

Viewing the Document Electronically

- View this document in landscape orientation.
- Use the table of contents to navigate directly to that section.
- Text **with this appearance** is linked to a reference.

Printing the Document

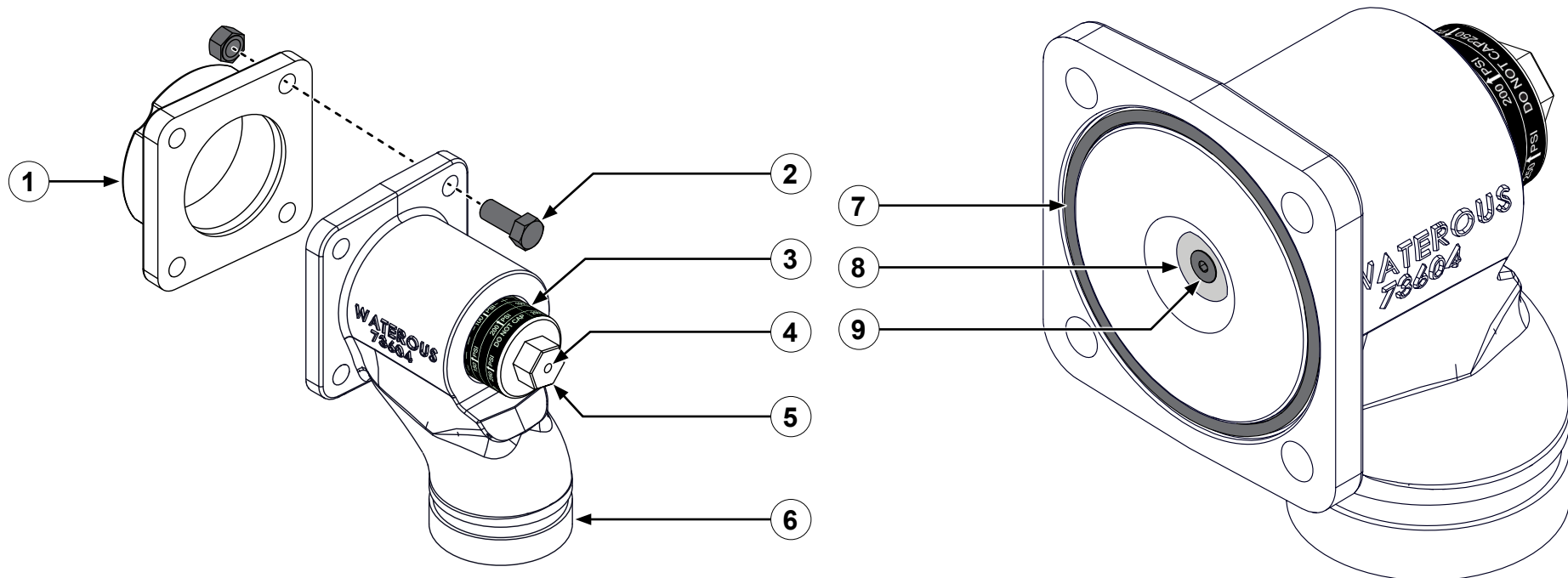
- The document is viewed the best when printed in color.
- The *print on both sides* and *flip on long edge* features can provide the best results.
- Use a 3-ring binder to store the document.

Additional Documentation

Additional documentation is available through the MyWaterous login at Waterousco.com. Use your serial number to gain access to the service parts list associated with your system. Dimensional drawings are available through the Waterous Service department.

Non-Piloted Intake Pressure Relief Valve Components

The pressure relief valve opens when the intake pressure reaches the operating set-point. The set-point value ranges from 50 to 250 psi. The valve is available as a factory installed and a separately mounted version. Your application may require additional plumbing to safely direct the discharge away from people and equipment. Make sure that you do not cap the discharge or breather hole. Doing so will injure people, damage your equipment, and void your warranty.



Feature	Description
1 Mounting flange	This secures the valve to the intake plumbing. Note: Included with separately mounted version only—2-1/2 inch NPT.
2 Mounting hardware	This secures the mounting flange to the valve.
3 Pressure scale	This indicates the pressure relief set-point value.
4 Breather hole	This allows air to evacuate the valve as it opens. Caution: Do not cap the breather hole.
5 Adjustment screw	This adjusts the pressure relief set-point value—7/8 inch.
6 Discharge	This is the valve discharge—2-1/2 inch Victaulic x 2 inch NPT. Caution: Do not cap the discharge.

Feature	Description
7 O-ring	This seals the valve.
8 Seal	This seals the discharge outlet until the pressure relief value is reached.
9 Screw	This secures the seal to the assembly.

Installation Overview

The non-piloted intake pressure relief valve is typically installed at the factory. However, you can install the separately-mounted version to an existing application. This equipment is intended to be installed by a person or persons with the basic knowledge of installing similar equipment. Contact Waterous with questions about installing the equipment.

Preparing for the Installation

Read and understand all the installation instructions before installing the equipment. Prepare a suitable, well-lit area, and gather all the necessary tools before you begin the installation.

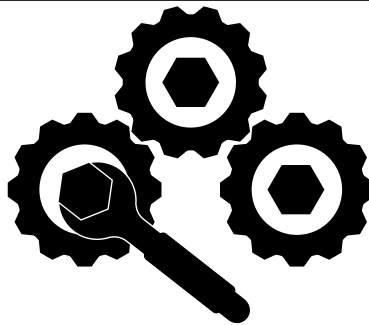
Modifying the Equipment

This equipment is intended to operate as designed. Do not remove, modify, or change the components in the system. Doing so will void the warranty. Contact Waterous for more information.

NOTICE

Modification

- Modifying the equipment can damage components and void your warranty.
- Do not modify the system or any of its components.



Do not modify the system or any components. Doing so will void your warranty.

Determining the Discharge Location

The valve discharges water under pressure. Your application may require additional plumbing to achieve safe operation. Consider the following when the valve activates:

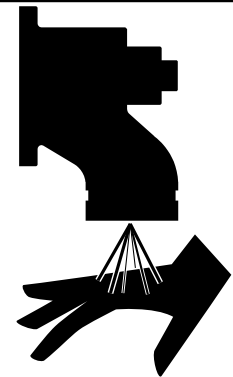
- Make sure that the valve discharges away from people and equipment.
- Make sure that you do not install equipment where it hinders the valve operation.
- Make sure that you do not install equipment where it is effected by the valve operation.



WARNING

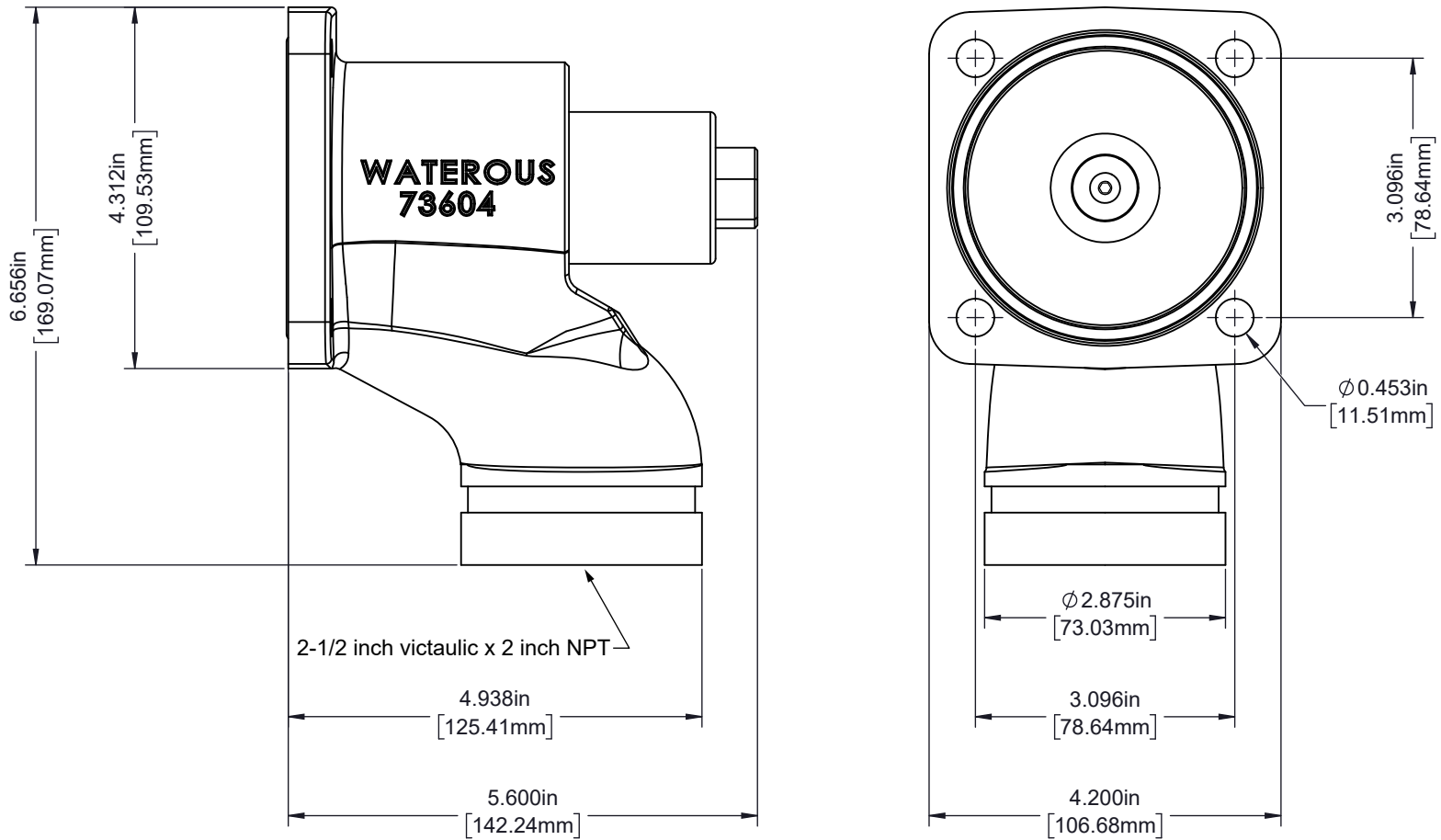
High Pressure

- Discharge ejected at high pressure can cause serious injury and damage.
- Direct discharge away from people and equipment.

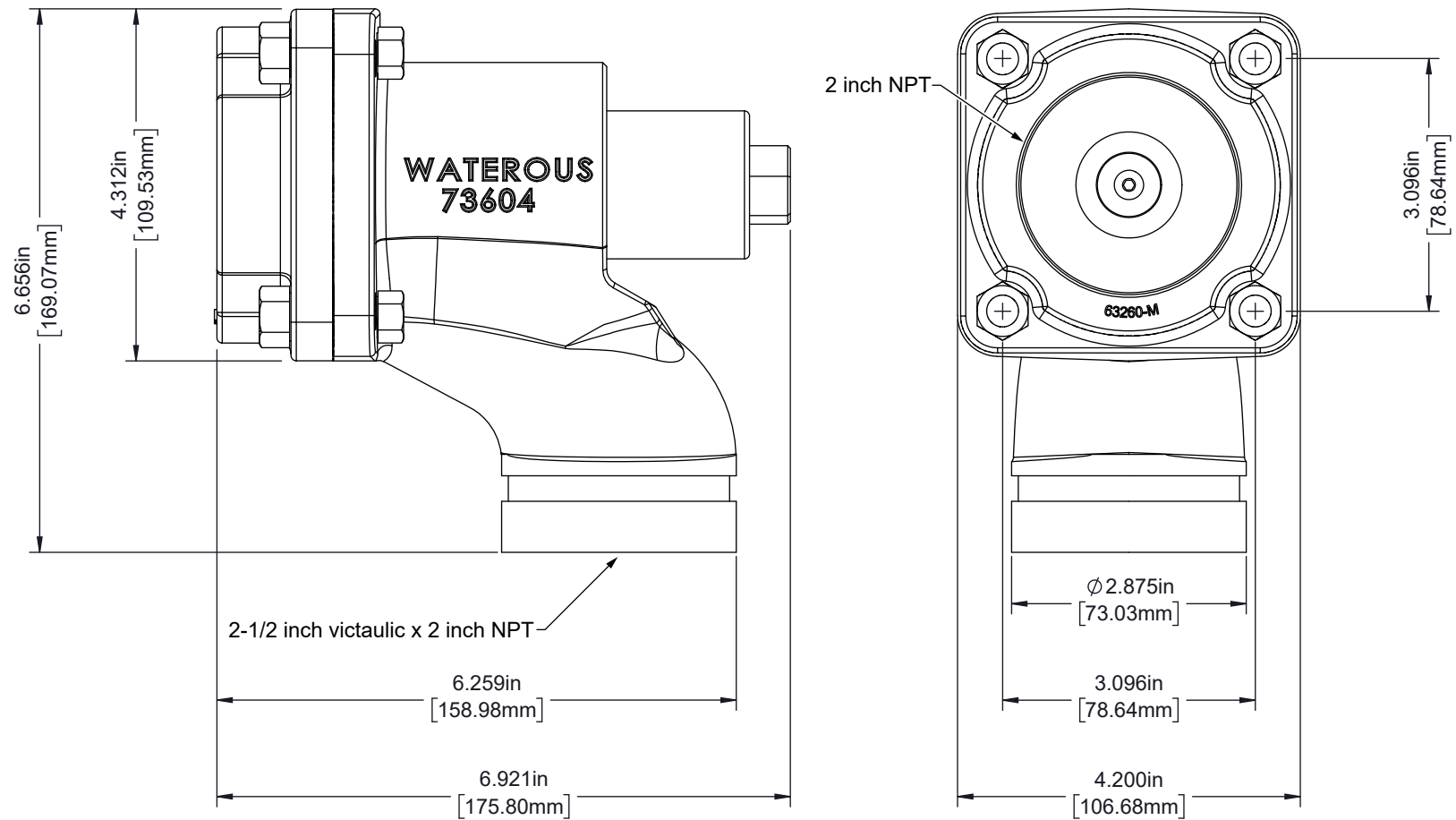


Make sure that the discharge is directed safely away from people and equipment.

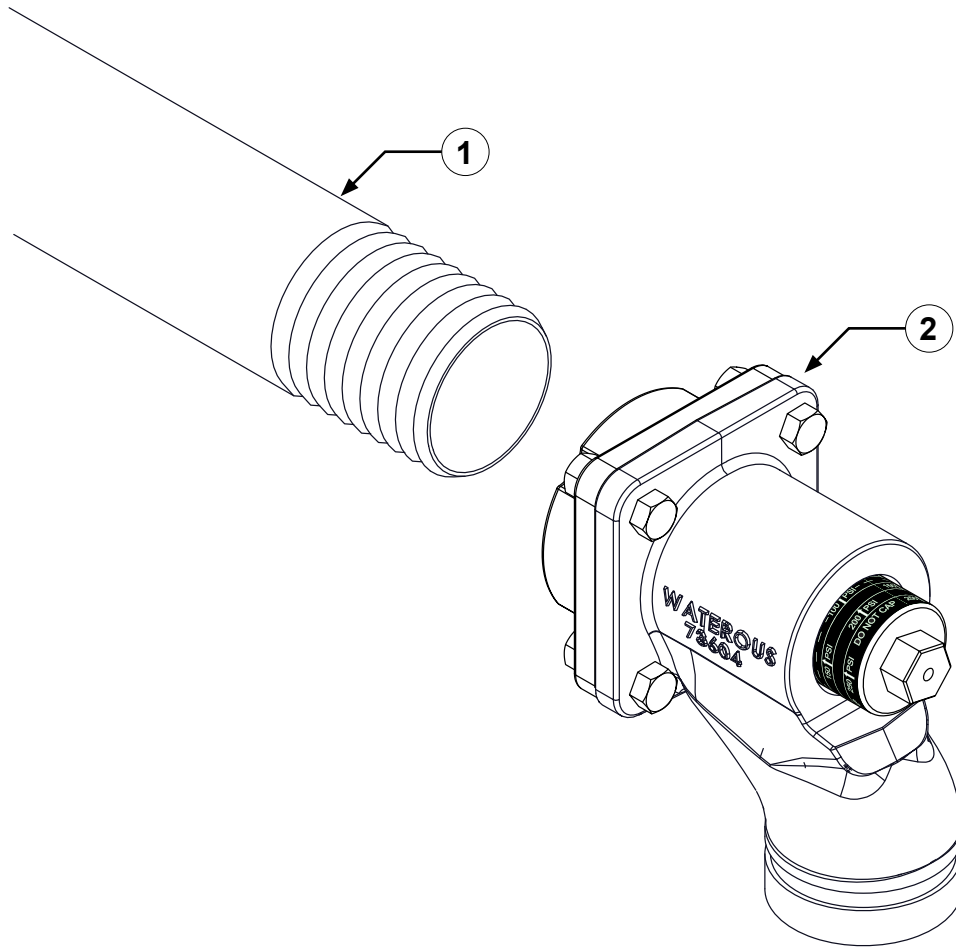
Dimensions—Factory Installed



Dimensions—Separately Mounted



Installing the Separately Mounted Valve



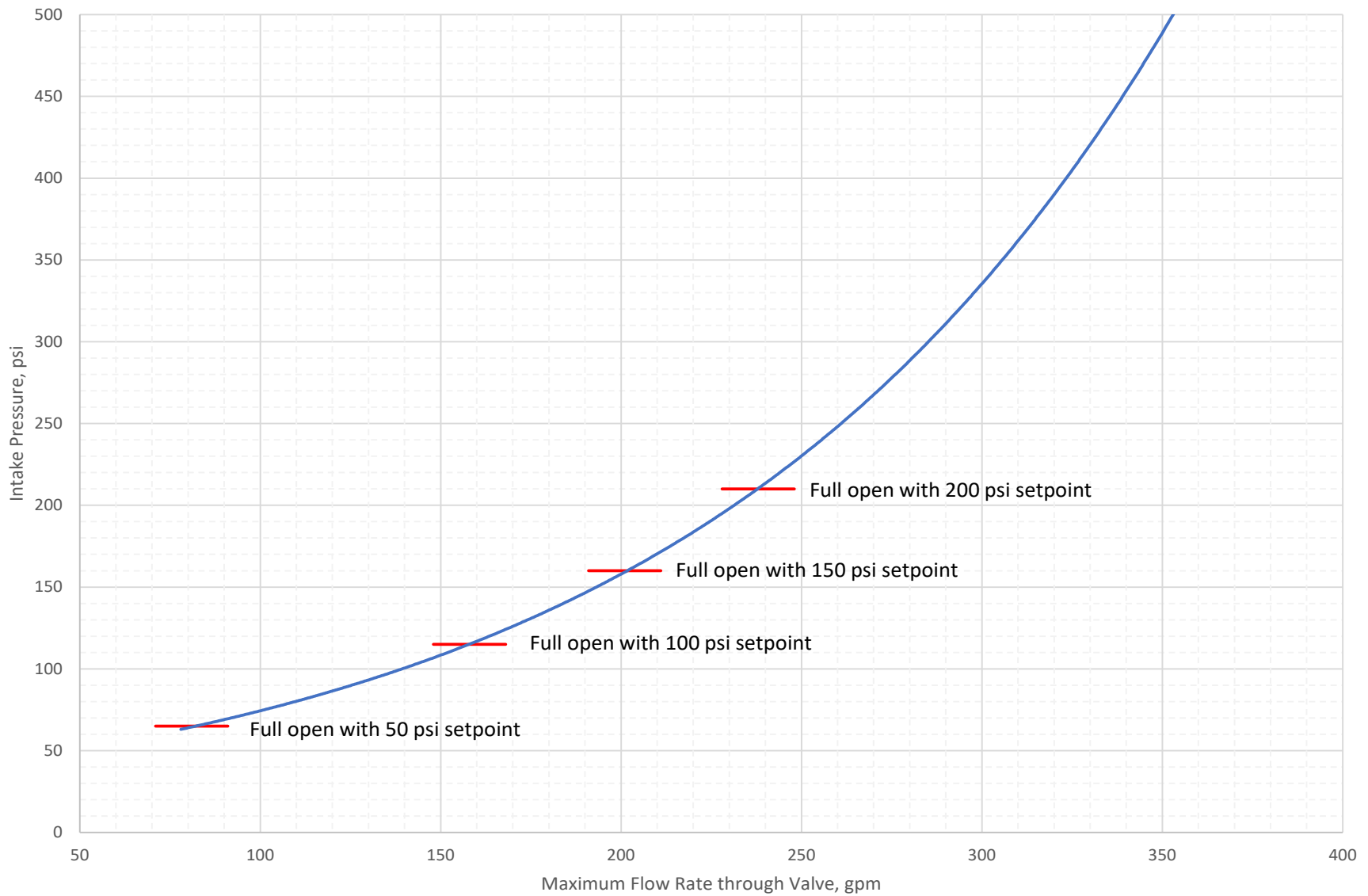
The valve is typically installed at the factory. Use the illustration and instructions to install the separately mounted valve into an existing application.

- 1 Locate the appropriate 2-1/2 inch NPT intake plumbing.
- 2 Install the valve to the plumbing.
- 3 Verify that the valve operates as expected in your application.

Note: Your application may require additional plumbing to safely direct the discharge away from people and equipment.

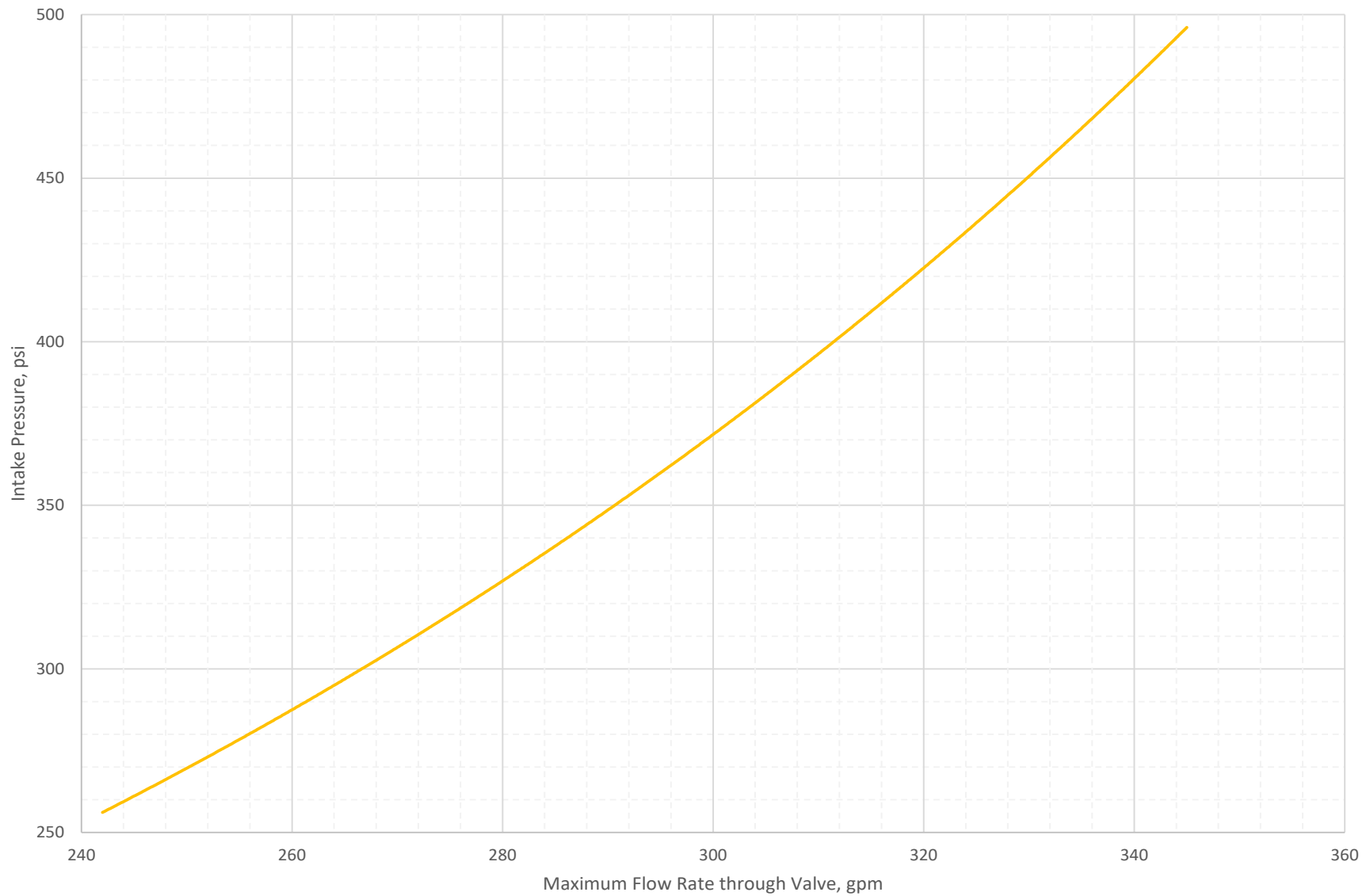
Maximum Flow Rate Chart—50 to 250 PSI

Maximum Flow Rate, 50-200 psi

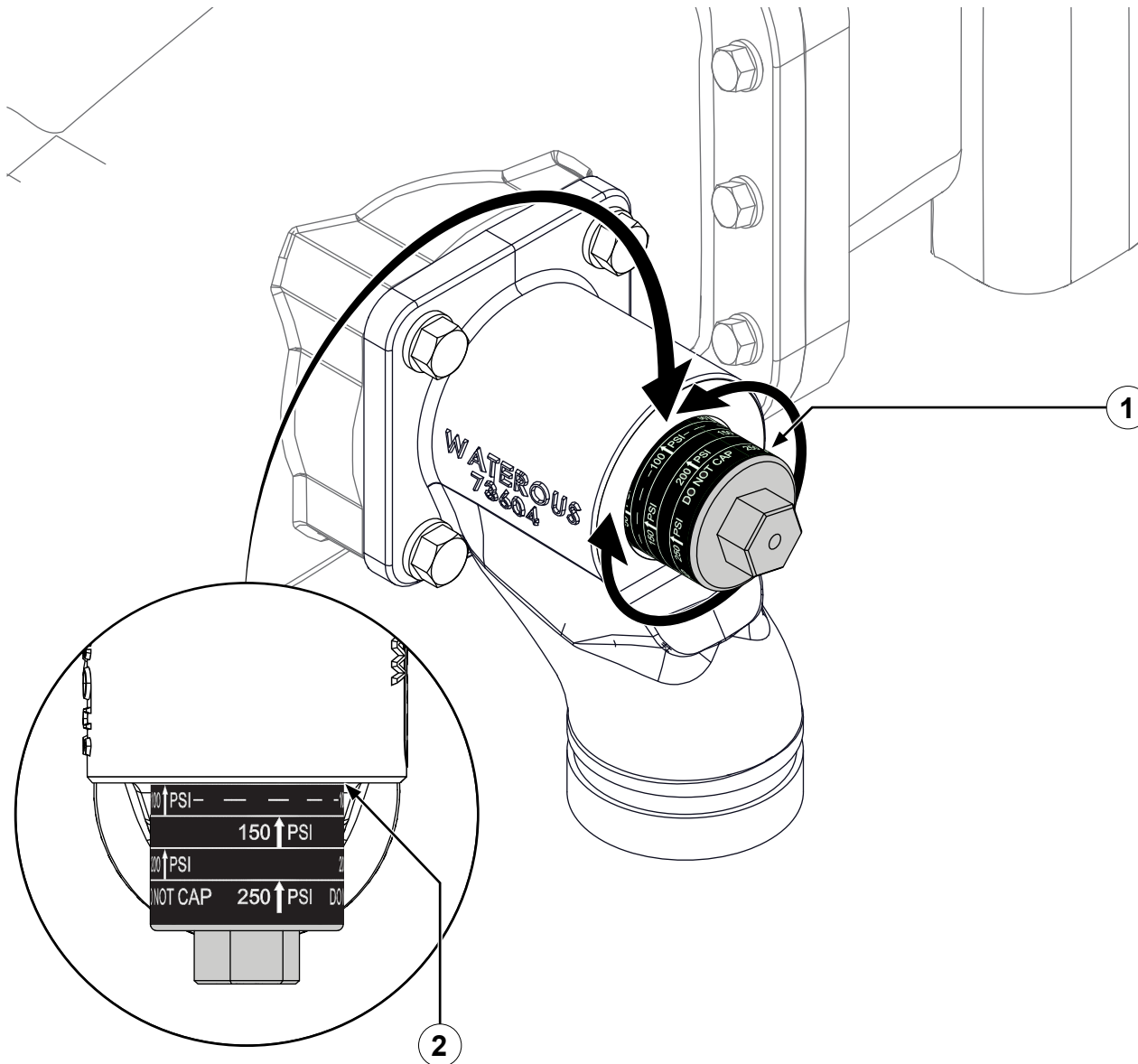


Maximum Flow Rate Chart—250 PSI

Maximum Flow Rate, 250 psi



Adjusting the Valve



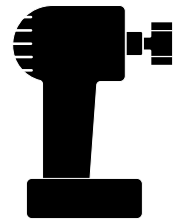
The pressure relief set-point is adjustable. The set-point ranges from 50 to 250 psi. A dashed-line represents a value of 125 psi—this is the typical testing pressure. Use the following illustration and instructions to adjust the operating set-point for your application.

- 1 Rotate the adjustment screw to adjust the operating set-point:
 - Rotate the adjustment screw clockwise to increase the value.
 - Rotate the adjustment screw counterclockwise to decrease the value.

NOTICE

Equipment Damage

- Do not use an impact driver to adjust the valve.
- Use a drill or hand tools to make adjustments.



- 2 Use the flat face on the housing as a guide to sight-in the set-point.

Maintaining the Valve

The valve does not require scheduled maintenance. However, you should regularly inspect the valve for corrosion or damage. You should also include the valve in your quarterly equipment test.

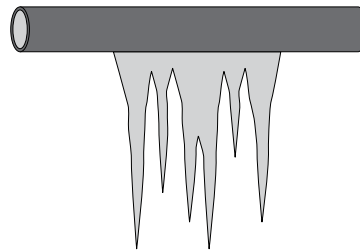
Preventing Valve Damage

Make sure that you drain all freezable fluid from the valve when freezing conditions are present. Freezing fluids can expand and damage the valve or its components.

NOTICE

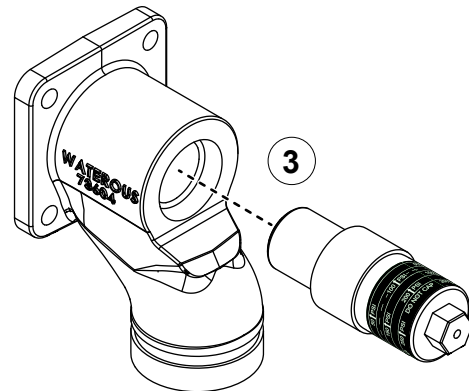
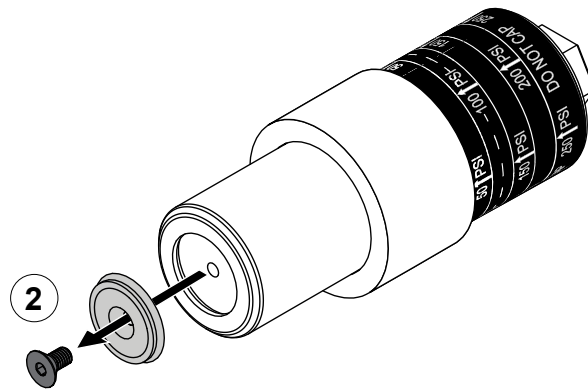
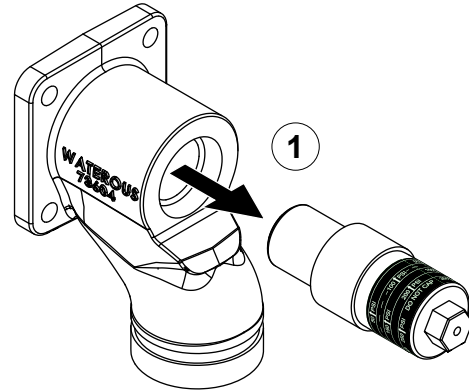
Freeze Damage

- Do not allow fluid in the lines to freeze.
- Remove all freezable fluid from the lines before storing the apparatus.



Leaving fluid in the apparatus that can freeze causes damage to the equipment.

Replacing the Valve Seal



Replace the valve seal if it leaks or becomes damaged. Use the illustrations and instructions to install new valve seal.

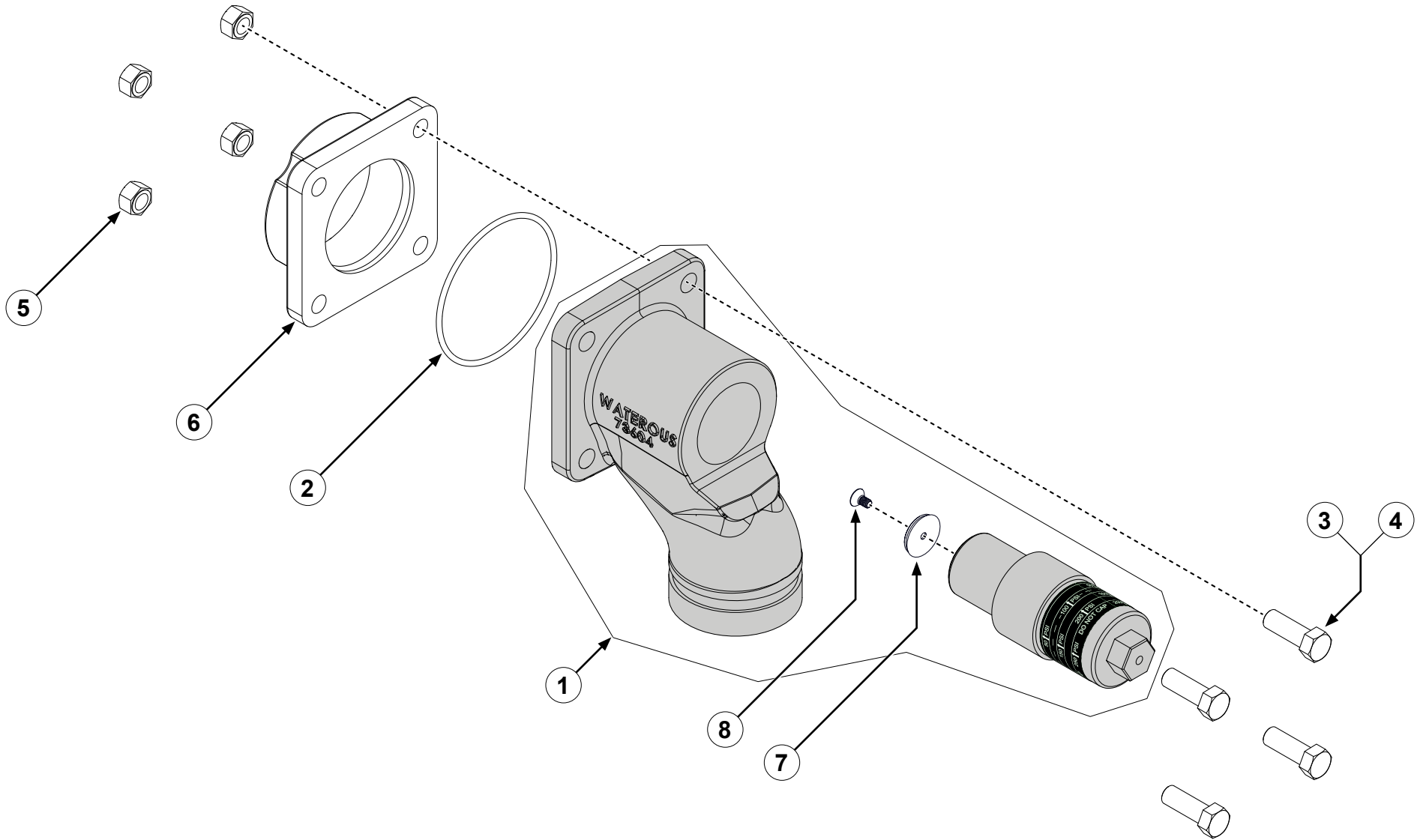
! WARNING	
<p>High Pressure</p> <ul style="list-style-type: none"> • Liquid ejected at high pressure can cause serious injury. • Purge all pressure before servicing. 	

- 1 Make sure that the pressure in the system is purged, then remove the adjustment screw from the valve body.
- 2 Perform the following to replace the seal:
 - Remove the screw securing the seal to the adjustment screw and set it aside.
 - Remove and discard the seal.
 - Use the screw that you set aside to secure the new seal to the adjustment screw.

Note: Do not apply thread-locker to the threads.

- 3 Install the adjustment screw to the valve and adjust the valve to the desired setting. Refer to: **"Adjusting the Valve" on page 14.**

Valve Components



Valve Components

Description	
1	Non-piloted intake relief valve sub-assembly
7	Seal
8	Screw—#10-32 x 3/8 inch (Note: Do not apply thread-locker to the threads.)
2	O-ring—3-3/8 x 3-5/8 inches
3	Screw—7/16-14 x 1 inch, hex head (Note: Supplied with factory installed version.)
4	Screw—7/16-20 x 1-1/4 inches, hex head (Note: Supplied with separately mounted version.)
5	Nut—7/16-20 inch (Note: Supplied with separately mounted version.)
6	Tapped flange—2-1/2 inches NPT (Note: Supplied with separately mounted version.)

WATEROUS

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