

March 2021

# Nicholson STV Combination Trap Test and Blocking Steam Valve



## 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.

The STV test and block valve must be installed, operated and maintained in accordance with federal, state and local codes, rules and regulations and Emerson instructions.

If leak develops in the system, service to the unit may be required. Failure to correct trouble could result in a hazardous condition.

Installation, operation and maintenance procedures performed by unqualified personnel 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 STV combination trap test and blocking steam valve.

## Introduction

### Scope of the Manual

This manual provides instructions for the operation and installation for the STV test and block valve.



Figure 1. STV Test and Block Valve

## Product Description

The STV combination trap test and blocking steam valve is commonly in use for test steam traps and sample fluids or gases from process lines. It has a stainless steel Latch-lok handle option and body is made of WCB Carbon steel with black oxide and oil coat.

# STV Series

## Specifications

The specifications section on this page provide the ratings and other specifications for the STV combination trap test and blocking steam valve.

### Sizes

NPS 1/2 and 3/4 / DN 15 and 20

### Connection

NPT

### Maximum Operating Temperature<sup>(1)</sup>

406°F / 208°C

### Maximum Operating Pressure<sup>(1)</sup>

250 psig / 17.2 barg

### Maximum Allowable Temperature<sup>(1)</sup>

406°F / 208°C

### Maximum Allowable Pressure<sup>(1)</sup>

250 psig / 17.2 barg

### Materials of Construction

**Body:** Carbon steel

**Adapter and Packing Nut:** Carbon steel or Stainless steel

**Ball and Stem:** Stainless steel

**Seat and Body Seal:** Virgin Teflon

**Insulator:** Plastisol

**Packing Gland:** Carbon Reinforced Teflon

**Handle Nut:** Steel

**Handle:** Carbon steel Zinc plated

**Thrust Washer:** Glass reinforced Teflon

1. The pressure/temperature limits in this Instruction Manual and any applicable standard or code limitation should not be exceeded.

## Principle of Operation

On normal operation, valve is in open position with unrestricted flow through trap into the return system. See Figure 3, Valve Open - Operating. One quarter turn (90°) of the STV Series blocks flow from the return and vents trap discharge to atmosphere. See Figure 3 Valve Closed - Test. The STV test and block valve provides quick, visual check of trap operation.

## Installation



### WARNING

**Personal injury, property damage, equipment damage or leakage due to escaping steam or bursting of pressure containing parts may result if this valve is over pressured or is installed where service conditions could exceed the limits given in the specifications or where conditions exceed any ratings of the adjacent piping or piping connections.**

**To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices (as required by the appropriate code, regulation, or standard) to prevent service conditions from exceeding those limits.**

The STV test and block valve is installed on the downstream side of steam trap.

Install the STV test and block valve as part of trap stations in Emerson steam traps' piping.

## Maintenance

The STV test and block valve is a maintenance-free valve, composed of corrosion-resistant stainless steel internal components and pressure retaining steam and packing nut threaded to body, which provides extra margin of safety. No adjustments in fittings are necessary.

## Parts Ordering

When corresponding with your local Sales Office about this equipment, always reference the equipment regulator size, service and serial number.

When ordering replacement parts, reference the key number of each needed part as found in the following parts list.

## Parts List

Key	Description
1	Body, Carbon steel or Stainless steel
2	Adapter, Carbon steel
3	Ball, Stainless steel
4	Seat, Mineral Fill Virgin Teflon
5	Stem, Stainless steel
6	Insulator, Plastisol
7	Packing Gland, Carbon reinforced Teflon
8	Packing Nut, Carbon steel
9	Handle Nut, Steel
10	Handle, Carbon steel
11	Thrust Washer, Glass reinforced Teflon
12	Body Seal, Virgin Teflon

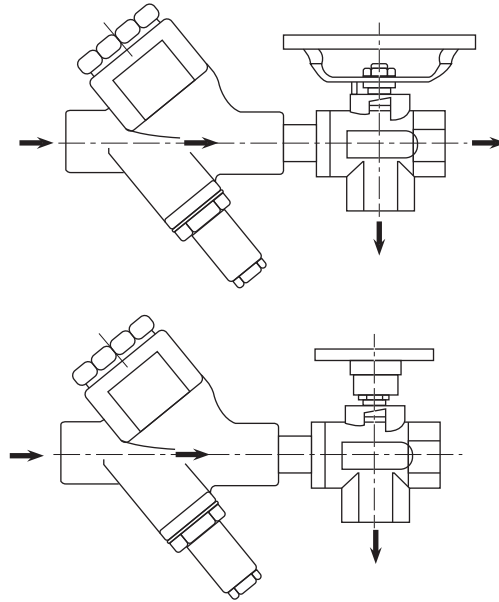


Figure 2. STV Test and Block Valve Flow Orientation

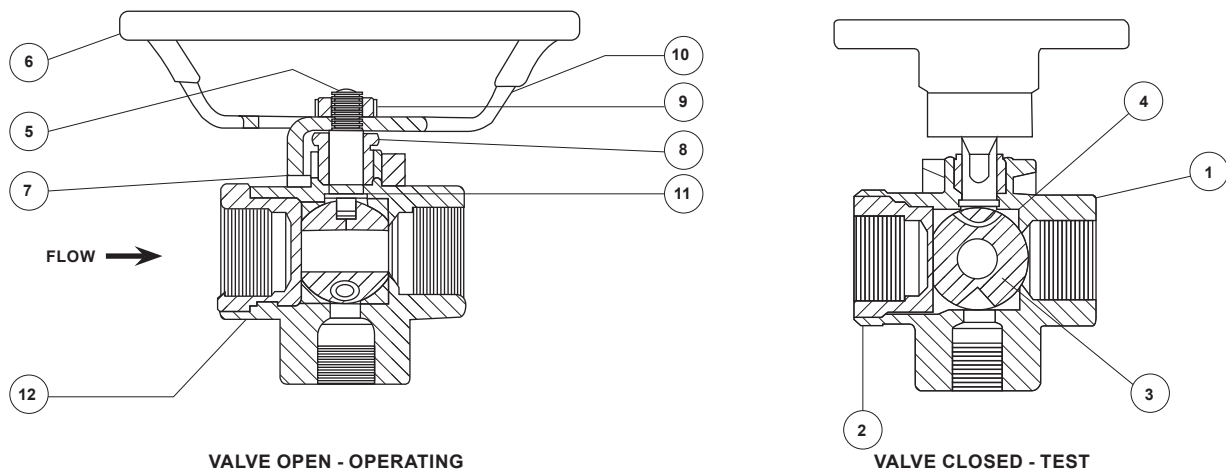



Figure 3. STV Test and Block Valve Assembly

# STV Series

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