

**AMERICAN NATIONAL STANDARD**

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**Installed Face-to-Face Dimensions  
for Shell and Tube Flanged Pinch Valves  
(Classes 125 and 150)**

**Approved 21 January 2015**

ANSI/ISA-75.10.03-2015  
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## 1 Scope

This document applies to directly pneumatically operated pinch valves, sizes 1/2 inch through 24 inches, of the shell and tube design which have flanges that mate with ASME B16.1 Class 125 (PN20) and/or ASME B16.5 Class 150 (PN20) flanges. This document excludes solenoid-actuated valves, electric motor operated valves, cylinder operated valves, diaphragm operated valves, pressure-reducing valves, and manually (hand wheel) operated valves. This document applies only to pinch valves of the shell and tube design.

## 2 Purpose

The purpose of this document is to aid users in their piping design by providing installed face-to-face dimensions for pinch valves, of the shell and tube design, without giving special consideration to the manufacturer of the equipment to be used.

## 3 Definitions

For definitions of terms used in this document, see ANSI/ISA-75.05.01, "Control Valve Terminology."

### 3.1 shell and tube valve

A shell and tube valve is a valve consisting of a single-piece flexible element or liner installed in a body with the element or liner extending over the flange faces and acting as a gasket between the valve and connecting piping. See Table 1 for dimensions.

### 3.2 face-to-face

Each of the face-to-face dimensions in the table is to be applied to the installed length of the valve after installation into a piping system. The uncompressed free length face-to-face dimension of a valve (known as the "soft face-to-face dimensions in pinch valves") before installation into a piping system may be slightly longer than the dimensions (compressed) shown in Table 1.

**CAUTION — THE USER IS ADVISED TO PROVIDE SUFFICIENT FLEXIBILITY IN THE PIPING SYSTEM TO ALLOW FOR COMPRESSION OF THE VALVE END FLANGES DURING INSTALLATION AND REMOVAL.**

### 3.3 Type I valve

Full diameter molded in flange gasket

### 3.4 Type II valve

Molded-in gasket that fits inside the bolt circle and fits into a groove like a tire, or full diameter molded in flange gasket

### 3.5 Type III valve

Complies with at least one of the face-to-face dimensions of Table 1 in ANSI B16.10

### 3.6 Type IV valve

CNC Machined Body and CNC Machined or Cast Cones w/ molded gasket (CNC cones and Cast cones depend on material selection)