

# Stem Guides and Extension Stem Operation & Maintenance

**IMPORTANT: Valve flanges and stem guides must be level and extension stems plumb for proper operation.**

**Stem Guides** are used to provide vertical support for extension stems, preventing bending or buckling of the stem. Guide placement may be affected by the type, weight and arrangement of the valve operator.

*A general rule of thumb is that support should be provided so that the slenderness ratio (length / radius) shall not exceed 200.*

**Ductile Iron Stem Guides** are higher strength and lighter weight than standard cast iron, but cost no more. They are easier to install and include a bronze bushing bored to your specification. Troy Valve guides are adjustable in two directions for proper alignment and can be supplied to reach as little as 2.5" to 35" face of wall to center line of the stem. Longer reaches can be fabricated.

Guides are not designed to support weight. If weight bearing is needed, we recommend our floor stand with a thrust bearing. Contact Troy Valve for more information.

**Cast 316 Stainless Steel Stem Guides** Are adjustable in two directions for proper alignment during installation and can be supplied to reach 2.5" to 39.5" face of wall to centerline of the stem. They can be bored to your specification.

**Extension Stems** Can be supplied in carbon or stainless steel in either pipe or rod. Troy Valve can supply custom extensions for any application. Various end operators are available.

When properly installed, extensions should not be forcefully pressing against any side of guide bushings. Extensions with U-Joints cannot be vertically plumb so it is imperative that they be horizontally plumb.