A-T Controls, Inc.
9955 International Blvd. • Cincinnati, Ohio 45246
Phone: 513.247.5465 Fax: 513.247.5462
www.atcontrols.com

Engineer: CMB **No.:** DI00009
Date Created: 1/05/2015
Date Modified: 07/01/2021

Caustic Service

Caustics are compounds that corrode certain materials that they come in contact with. Two common caustics are Sodium Hydroxide (Caustic Soda) and Potassium Hydroxide (Caustic Potash). These chemicals are dangerous: skin contact may produce severe burns and inhalation could cause damage to the respiratory system. Knowing these facts, careful selection of materials of construction and characteristics of valves is imperative to sustain a safe, stable caustic system.

Fugitive Emissions

The inherent dangers of caustics may cause applications to require a fugitive emissions requirement. A-T Controls provides a way to control fugitive emissions with a live-loaded pyramidal stem packing system. This system includes a patented 45° pyramidal stem and stem seal with Belleville washer and PTFE stem packing. **These valves are TA-Luft Certified for low emissions.**

Cleaning and Lubrication

The reactivity of caustics makes removal of materials that can react with caustics such as organic residues and acids imperative. Compatible lubricants are required for the construction of the valves. Water should be removed from the valve to avoid strong exothermic reactions at room temperature.

Standard Material

Please consult A-T Controls for material selection for your caustic application. These parameters are guidelines, and customers are responsible for materials of construction, preparation of the valves for service, and lubricants being compatible with their caustic application:

No RTFE or glass filled seals should be used to avoid chemical attack

Auxiliary Stem Seal: Grafoil®, Kalrez® or other FFKM (Viton® susceptible to chemical attack), PTFE, TFM™-1600
Body: 316 SST[1], Carbon Steel[2]
Seats: PTFE, TFM™-1600, 50/50 STFE
Trim: 316 SST[1], 304 SST[3,4]

Valve Packages

Series D9- Sizes 1/2”-6”, 150# and 300# ANSI, Full Port Design, ISO5211 Actuator Mounting Pad, Anti-Static Device, Traceable Valve. (Viton® O-ring will need to be swapped for compatible material)

Literature Download & Web Content

Series 88- Sizes ¼”-4”, Direct Mounting Pad, Threaded, Socket Weld or Butt Weld (Viton® O-ring will need to be swapped for compatible material)

Literature Download & Web Content

1. Sodium Hydroxide: Good for most concentrations up to 150 °F. Potassium Hydroxide: Good for all concentrations up to 70°F.
2. Acceptable for Sodium Hydroxide ≤ 50% concentrations and ≤ 120°F
3. Sodium Hydroxide: Good for all concentrations up to 125°F
4. Potassium Hydroxide: Good for all concentrations up to 70 °F, Good up to 70% concentrations at 150°F