



## CHEMICAL DIFFUSER SPECIFICATION

Chemical Injection is an important component of a well designed chemical feed system.

Saf-T-Flo has developed an outline of an engineering specification for chemical injection. Please consult with a Saf-T-Flo Application Engineer for assistance in creating a specification for your application.

Important factors, such as chemical solution, concentration, materials of construction, solution flow rates, water main pressure, and maximum pump discharge pressure can have a significant impact on the safety, maintenance, operation, and service life of the chemical feed system.

AutoCAD drawings are available to support engineering specifications. Please contact Saf-T-Flo to request a drawing for your application.

## ENGINEERING SPECIFICATION

1. **Chemical Diffuser:** Diffuser configuration shall provide multiple feed points along a cross section within the water main. Materials of construction shall be compatible with chemical solution and be capable of withstanding maximum pump discharge line pressure and water main pressure. Specify number of holes, hole size and spacing.
  - 1.1 **Water Main Connection:** Shall be Brass Corporation Stop or Stainless Steel Ball Valve. Thread connection shall be male NPT or AWWA (CC) inlet and capable of withstanding maximum water main pressure. Corporation Stop must include an acceptable safety device to prevent accidental release of diffuser tube while under maximum water main pressure and/or surge conditions.
  - 1.2 **Diffuser Solution Tube:** Diffuser tube shall be sized to match pump discharge line or injection flow rate. An acceptable locking device must be included to prevent accidental release of the diffuser tube from the water main while under pressure. A ball check valve shall be included to prevent backpressure from the main from entering chemical feed system. A stainless steel safety chain shall be included to prevent withdrawal of diffuser tube past corporation stop. Safety chain length shall be preset by manufacturer for closure of the corp. stop before withdrawal of diffuser tube.
  - 1.3 **Pump Discharge Line Connection to Diffuser:** Shall be hard pipe, flexible tubing, or hose. Hard pipe requires disassembly of pump discharge line from the diffuser before removing diffuser tube from water main. Flexible tubing or hose allows for removal of diffuser from main without disassembly of pump discharge line. Piping, flex tubing, or hose must be capable of withstanding maximum pump discharge line pressure.
  - 1.4 **Caution:** Operator's should use extreme caution when withdrawing or inserting a diffuser tube into a pressurized water main. Make sure diffuser holes are facing away from the operator during withdrawal an insertion.
  - 1.5 **Diffuser Assembly shall be Saf-T-Flo or approved equal.**