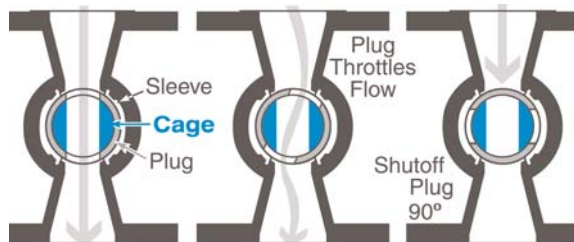


**Features and Benefits**

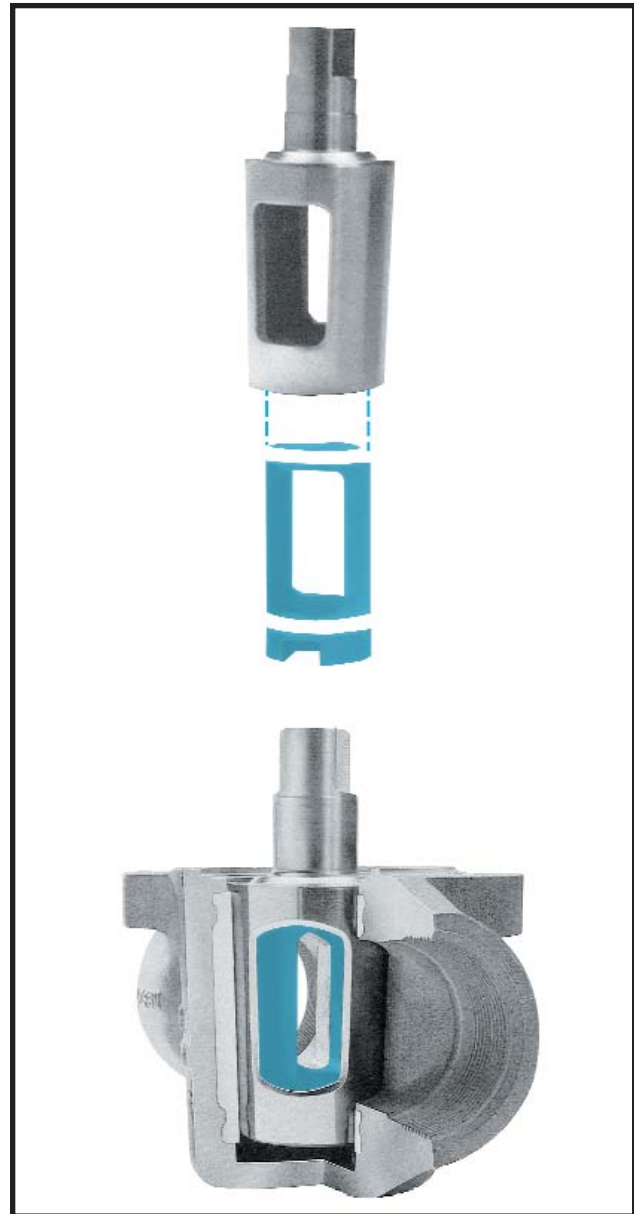
Tufline<sup>®</sup> Sleeved Plug Valves, can be furnished with caged plugs to provide soft seat protection in throttling applications and in services with high pressure drops through the valve. The caged plug design allows metal-to-metal throttling while providing metal-to-soft seat shutoff for both automatic and manually controlled applications.

The design is simple and efficient. The cage is located within the plug and is fixed in the valve body. Bearings on the flow cage provide clearance between the plug and cage, allowing the plug to rotate freely.

The cage plug assembly protects the seat from erosion in throttling applications by shielding the soft seat from direct flow impingement at the valve ports. The cage mechanism also serves to reduce turbulence and the cutting action of high velocity liquids, slurries and gaseous vapors by providing a more direct, contoured flow path through the valve.



Tufline Cage Control Flow Characteristics Cv factors for sizing 2-way valves.



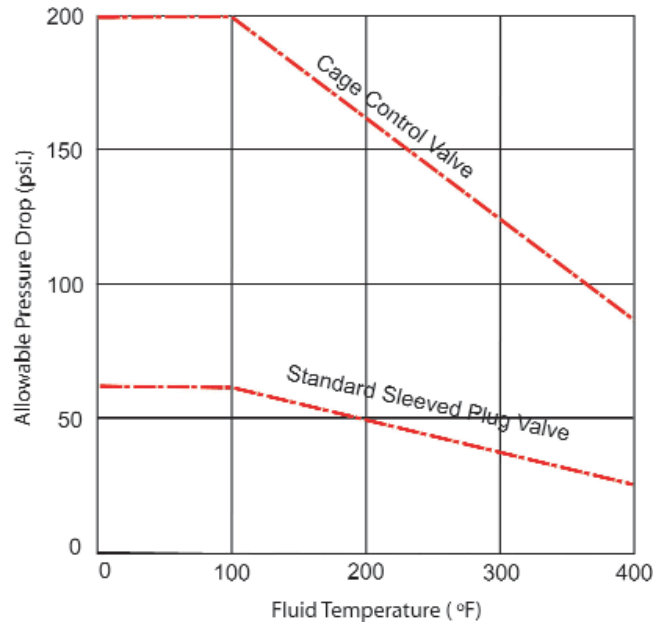
**Available Materials & Sizes**

Cage Control Valves are available in sizes 1” through 12”. Standard body material are WCB or CF8M while the standard plug and cage material are CD4MCU. Other sizes and materials are available upon request.

# Throttling Pressure Drop Limitations for Plug Control Valves

1. The chart to the right may be used for evaluating throttling pressure drop at any position for valves 4 inch and smaller. Consult the factory for 6" to 12" pressure drop information. *(Note: In the closed position, valve can withstand full pressure drop).*

2. Cage Control Valves have the same pressure-temperature rating as standard valves. Refer to the standard sleeved plug valve pressure-temperature chart for specific material rating.



## Plug Valve Trim Options

- Reduced ports: 50%, 25%, 12-1/2%, 6-1/4%, and 3-1/8% of standard Tufline Valve Cv
- V-ports
- Special port shapes for unusual processes are available upon request

## Dimensional Data

The Tufline Cage Control modification does not effect or change the dimensions from the standard valve design. Please refer to the appropriate valve type for dimensional information.

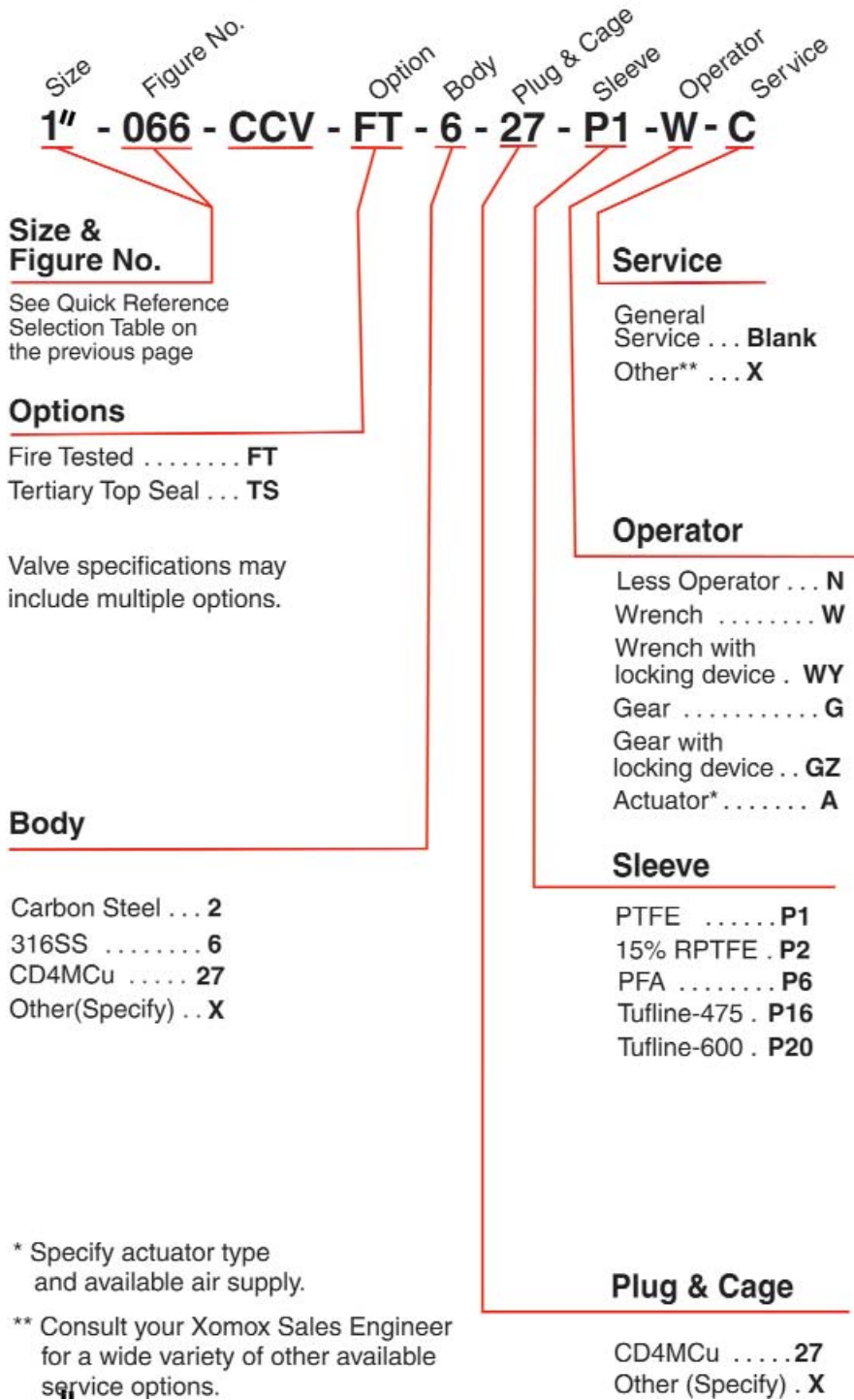
## Operating Torques

The Tufline Cage Control modification does not effect or change the operating torque from the standard valve design. Please refer to the appropriate valve type for operating torque informaton.

## Typical Applications

- |                                |                          |
|--------------------------------|--------------------------|
| Waste Sludge                   | Dilution Liquor          |
| Raw River Water                | Green Liquor             |
| Alum                           | Heavy Black Liquor       |
| Brine                          | Lime Mud                 |
| Sulfuric Acid with Zinc Powder | Digester Relief          |
| 45%-50% KOH in water           | Caustic Soda             |
| Phosphoric Acid Slurry         | Clay Slurry              |
| Borax One Supply               | Starch Slurry            |
| Trona Slurry                   | Calcium Carbonate        |
| Soda Ash                       | Fly Ash Slurry           |
| Titanium Dioxide               | Tank Bottom Residues     |
| Scrubber Effluent              | Sodium Chlorate Solution |

## How to specify



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- 16 Manufacturing Facilities
- 18 Service Centers
- 50 Sales Offices
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- Saunders® Diaphragm Valves
- Matryx® Rack & Pinion, Vane Actuators
- Xomox XRP™ Actuators

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World Headquarters  
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Process Valves & Actuators

## Product responsibility.

Xomox's concern for product performance extends to the product's period of service. We feel it is important for users to also be aware of their responsibilities. Our products are manufactured and used in numerous applications with a wide variety of service conditions. While general guidelines are often furnished, it obviously is not possible to provide complete and specific performance data for every conceivable service condition.

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