

**SVF MAST – 316SS Stems on SVF Flanged Valves**
**Nº. 1087**
**Definition:**

MAST is defined as the Maximum Allowable Stem Torque that a valve stem can undergo without mechanical failure occurring. Plastic deformation, unlike elastic deformation, is a permanent distortion that occurs when a material is subjected to tensile, compressive, bending, or torsional stress that exceed its yield strength. If plastic deformation is prolonged, it will lead to mechanical failure. Once the valve torque was exceeded, deformation was observed along the thread of the stem.

The MAST values below indicate the maximum allowable stem torque for SVF flanged valves:

| <b>MAST (Maximum Allowable Stem Torque) Results</b> |              |            |              |            |              |            |              |            |              |            |
|---|--------------|------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|
| <b>SIZE</b>   | <b>41C</b>   |            | <b>B41C</b>  |            | <b>B42C</b>  |            | <b>B43C</b>  |            | <b>B43T</b>  |            |
|   | <b>IN-LB</b> | <b>N-M</b> | <b>IN-LB</b> | <b>N-M</b> | <b>IN-LB</b> | <b>N-M</b> | <b>IN-LB</b> | <b>N-M</b> | <b>IN-LB</b> | <b>N-M</b> |
| <b>MATERIAL: 316 STAINLESS STEEL</b>                |              |            |              |            |              |            |              |            |              |            |
| ½"  | -            | -          | 283          | 32         | 283          | 32         | 283          | 32         | -            | -          |
| ¾"  | -            | -          | 283          | 32         | 283          | 32         | 283          | 32         | -            | -          |
| 1"  | -            | -          | 575          | 65         | 575          | 65         | 575          | 65         | -            | -          |
| 1-¼"  | -            | -          | 575          | 65         | 575          | 65         | 575          | 65         | -            | -          |
| 1-½"  | 1,151        | 130        | 1,151        | 130        | 1,151        | 130        | 1,151        | 130        | -            | -          |
| 2"  | 1,151        | 130        | 1,151        | 130        | 1,151        | 130        | 1,151        | 130        | -            | -          |
| 2-½"  | -            | -          | 2,301        | 260        | 2,301        | 260        | 2,301        | 260        | -            | -          |
| 3"  | 2,301        | 260        | 2,301        | 260        | 2,301        | 260        | 2,301        | 260        | -            | -          |
| 4"  | 5,133        | 580        | 5,133        | 580        | 5,133        | 580        | 5,133        | 580        | -            | -          |
| 6"  | 10,886       | 1,230      | 10,886       | 1,230      | 10,886       | 1,230      | -            | -          | 10,886       | 1,230      |
| 8"  | -            | -          | 13,275       | 1,500      | 13,275       | 1,500      | -            | -          | 13,275       | 1,500      |

