



TECHNICAL DATA

**HOLE CUT SYSTEM
MODEL V-723 SADDLE LET
MECHANICAL TEE**

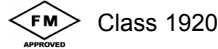
The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

VGS® Model V-723 Saddle Let small mechanical tees are available in sizes 1-1/4" through 2-1/2". The Models V-723 mechanical tees provide an easy take-out of a branch outlet without the need for welding. VGS® Mechanical Tees are manufactured at ISO9001 certified facilities and are designed to conform to ASTM and other standards where applicable. Threads are NPT per ANSI B1.20.1.

2. LISTINGS AND APPROVALS



3. TECHNICAL DATA

Specifications:
 Maximum working pressure: 300 psi (21 bar)
 Ductile iron conforming to ASTM A536
 Grade 65-45-12
 Standard black finish
 Hot dipped Zinc galvanized versions are available (conforming to ASTM A153);
 when ordering, add a "G" suffix to the Model number.
 Rubber compound EPDM Grade E conforming to ASTM D2000, AWWA C606,
 NSF 61 and IAPMO.
 Nuts and Bolts: Zinc plated, Carbon Steel conforming to ASTM A183 Grade 2
 (UNC nuts and bolts are a silver chromate color and ISO are a gold chromate color)

The latest VGS® Technical Data can be accessed at <http://www.vikinggroupinc.com>. Scan to visit our Mobile website:

<http://vikinggroup.mobi/p/46374>

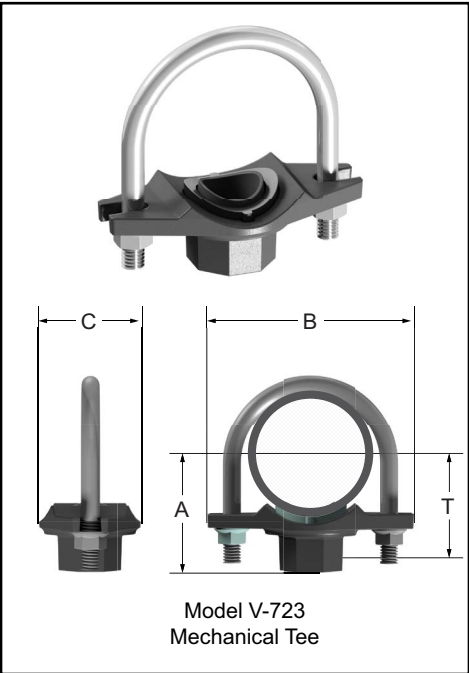


Table 1: V-723

| Nominal Size in (mm) | Hole Diameter* +1.6, -0 (+0.063, -0) in (mm) | Dimensions | | | T** in (mm) | Bolt Size in (mm) | Bolt Torque Lb-Ft (Nm) | Weight Lbs (Kgs) |
|--------------------------|---|--------------|---------------|--------------|----------------|----------------------|---------------------------|---------------------|
| | | A in (mm) | B in (mm) | C in (mm) | | | | |
| 1.25 x 0.5 (32 x 15) | 1.18 (30) | 1.87 (48) | 3.5 (89) | 2.2 (56) | 1.63 (42) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 0.9 (0.41) |
| 1.25 x 0.75 (32 x 20) | 1.18 (30) | 1.87 (48) | 3.5 (89) | 2.2 (56) | 1.63 (42) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 1.0 (0.45) |
| 1.25 x 1 (32 x 25) | 1.18 (30) | 2.04 (52) | 3.5 (89) | 2.2 (56) | 1.73 (44) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 1.0 (0.45) |
| 1.5 x 0.5 (40 x 15) | 1.18 (30) | 2.04 (52) | 3.5 (89) | 2.2 (56) | 1.79 (46) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 0.9 (0.41) |
| 1.5 x 0.75 (40 x 20) | 1.18 (30) | 2.04 (52) | 3.5 (89) | 2.2 (56) | 1.79 (46) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 0.9 (0.41) |
| 1.5 x 1 (40 x 25) | 1.18 (30) | 2.04 (52) | 3.5 (89) | 2.2 (56) | 1.69 (43) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 0.9 (0.41) |
| 2 x 0.5 (50 x 15) | 1.18 (30) | 2.30 (59) | 3.86 (98) | 2.2 (56) | 2.07 (53) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 0.9 (0.41) |
| 2 x 0.75 (50 x 20) | 1.18 (30) | 2.30 (59) | 3.86 (98) | 2.2 (56) | 2.07 (53) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 0.9 (0.41) |
| 2 x 1 (50 x 25) | 1.18 (30) | 2.30 (59) | 3.86 (98) | 2.2 (56) | 1.97 (50) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 1.0 (0.45) |
| 2.5 x 0.5 (65 x 15) | 1.18 (30) | 2.46 (63) | 4.37 (111) | 2.2 (56) | 2.22 (57) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 1.0 (0.45) |
| 2.5 x 0.75 (65 x 20) | 1.18 (30) | 2.46 (63) | 4.37 (111) | 2.2 (56) | 2.22 (57) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 1.0 (0.45) |
| 2.5 x 1 (65 x 25) | 1.18 (30) | 2.46 (63) | 4.37 (111) | 2.2 (56) | 2.13 (54) | U-Bolt (3/8ø) | 20 - 22 (27 - 30) | 1.0 (0.45) |

*Hole diameters are suggested hole saw diameters. **T: Take-out (Center of run to end of pipe to be engaged)



TECHNICAL DATA

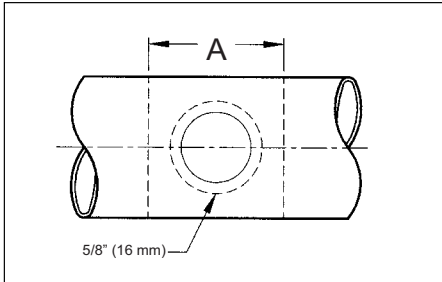
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4. HOLE CUTTING

The hole-cut method of pipe preparation is required when using mechanical tees, mechanical crosses, and saddle-lets. The method of pipe preparation requires the cutting or drilling of a specified hole size on the centerline of the pipe. Always use the correct hole saw size as shown this data sheet and never use a torch for cutting a hole. After the hole has been cut all rough edges must be removed and the area within 5/8" (16 mm) of the hole should be inspected to ensure a clean smooth surface, free of any indentations or projections that could affect proper gasket sealing. The area within the "A" dimension should also be inspected and must be free for dirt, scale or any imperfection that could affect proper seating or assembly of the fitting.



**Table 2: Hole Sizes for Mechanical Tees
Model V-723**

| Mechanical Tees Branch Size in (mm) | Hole Dimensions | | Surface Preparation "A" |
|---|-----------------|-----------------------------|----------------------------|
| | Hole Saw Size | Maximum Diameter Allowed | |
| 1/2, 3/4, 1 (15, 20, 25) | 1-3/16 (30) | 1-1/4 (32) | 3-1/2 (89) |

5. INSTALLATION

NOTES:

- Use a wrench to hold the threaded outlet in place when installing the sprinkler.
- Tighten the nuts evenly.

Table 3: K-factor of Saddle Lets

| Outlet Size | 1/2" | 3/4" | 1" |
|-------------------------|------|------|-----|
| K-factor of Saddle-Lets | K12 | K15 | K15 |

Do not install sprinkler directly into Saddle-Let with 1" outlet.

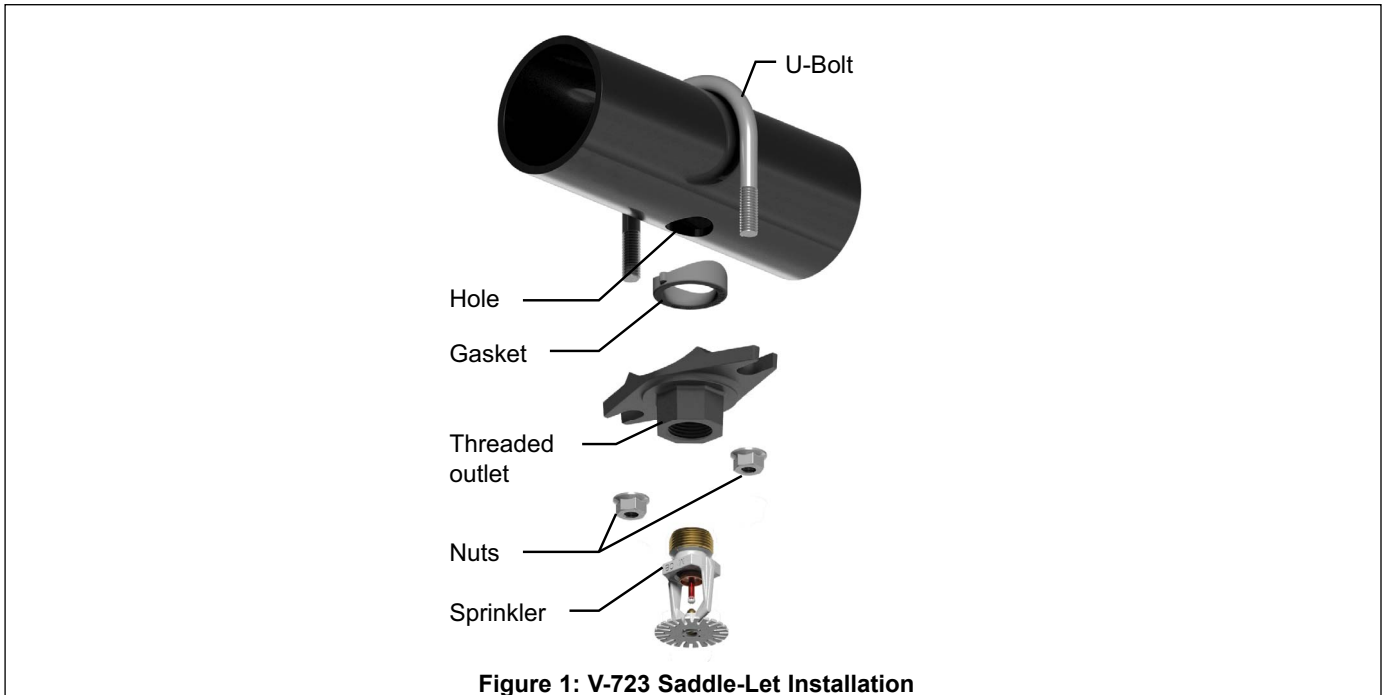


Figure 1: V-723 Saddle-Let Installation

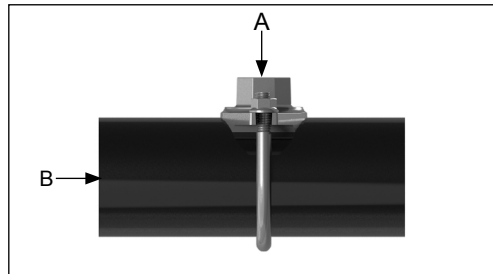
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6. FLOW DATA

| Equivalent Length of Outlet Size Schedule 40 Carbon Steel Pipe Per UL 213, Section 16 C=120 | | | | |
|---|------------------------------|-------------------------------|---------------------------|-----------------------|
| Model | Nominal Inlet Size Inches | Nominal Outlet Size Inches | Equivalent Length Feet | C _v Values |
| V-723 | 1.25 | 1 | 6 | 27 |
| V-723 | 1.5 | 1 | 6 | 27 |
| V-723 | 2 | 1 | 6 | 27 |
| V-723 | 2.5 | 1 | 3 | 38 |

Flow test data has shown that the total head loss between point A and B for the fittings can be expressed in terms of the pressure difference across the inlet and branch. The pressure difference can be obtained from the relationship below.



Formulas for Cv Values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

Where:

Q = Flow (GPM)

ΔP = Pressure Drop (psi)

C_v = Flow Coefficient