SURFACE VEHICLE STANDARD

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Type “F” Clamps for Plumbing Applications

RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future.

STABILIZED NOTICE

This document has been declared “Stabilized” by the SAE Non-Hydraulic Hose Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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1. SCOPE

This SAE Standard covers complete dimensional and general specifications for worm drive hose clamps for general use in the plumbing industry.

1.1 Purpose

To establish minimum functional guidelines for worm drive hose clamps intended for use in Plumbing application, herein referred to as Type "F" clamps.

2. REFERENCES

There are no referenced publications specified herein.

3. GENERAL DESCRIPTION

Worm drive hose clamps with tangentially mounted buttress-like threaded screws, enclosed in a housing which is securely fastened to the band, which, in turn, is engaged with the screw. When the screw is rotated in a clockwise direction, the clamp becomes smaller and conversely a counterclockwise motion of the screw will eventually open the clamp.

4. GENERAL DIMENSIONS

The following specifications tables and illustrations apply to Type "F" worm drive hose clamps.

4.1 Shipping Diameter

Type "F" worm drive clamps will be supplied in an "A" Diameter, full open, still engaged. See Table 1.

4.2 Identification

Type “F” worm drive hose clamps will be permanently marked with Country of Origin and/or manufacturer's identification.

4.2.1 The SAE clamp size number shall be clearly marked on the band.

5. SCREWS

The screws shall conform to the specifications designated as follows:

5.1 The screw head shall have an 8 mm (5/16 in) hex collar head screw as specified in Figure 1, slot optional.

5.1.1 Screw threads shall be modified buttress external thread standard with manufacturer.

6. MATERIALS

Bands, screws and housings shall be fabricated from 200 or 300 series austenitic stainless steel.

7. WORKMANSHIP

All clamps and components thereof shall be free of burrs, seams, loose scale, and other defects that might affect the performance.

8. TEST AND PERFORMANCE REQUIREMENTS

Clamp acceptability shall be determined by compliance with the following methods.

8.1 Clamping Diameter Range

Clamps shall assemble over and close tight upon round mandrels equal to the corresponding open and closed diameters listed in Table 1. Diameters smaller than the diameters shown are permissible. For diameters greater than listed, contact the manufacturers.

8.1.1 When tested for minimum and maximum open diameter, all threads must be fully engaged.

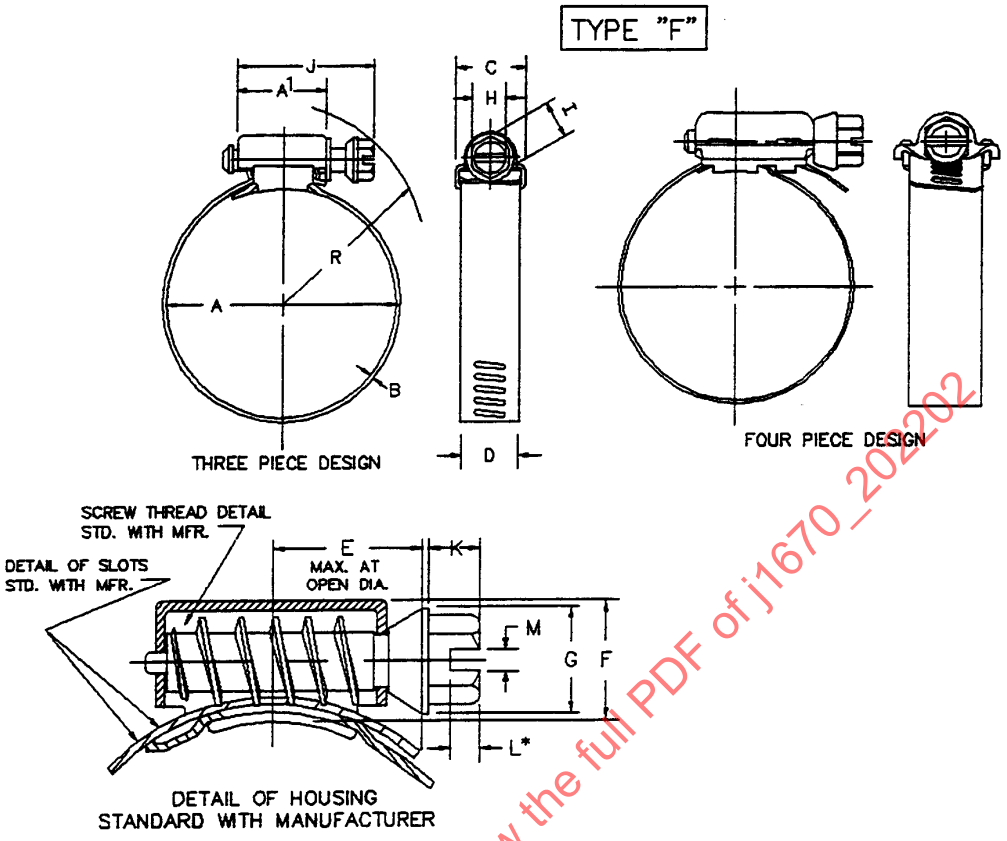
8.2 Free Running Torque

8.2.1 Free Torque

The torque value shall be expressed in newton-meters (pound-inches) when the clamp is tightened four complete revolutions of the screw or nut, while in the free state. This value does not include any break-away effects due to staking or passage of the band ends beyond the screw head.

8.3 Durability Torque

Clamps shall be tightened once, over a round steel mandrel of the specified open diameters less 1.52 mm (0.06 in) with hand-applied torque of 5.6 N·m (50 lb-in) There shall be no failure occurring in the clamp nor evidence of deformation of the threads on the screw and/or in the band. There shall be no deformation of the housing.



DIMENSIONS OF CLAMPS

Dimension		Type F mm	Type F in
A[1]	HSG Length (Ref.)	19.30	0.76
B	Thickness	0.533/0.787	0.021/0.031
C	HSG Width (Ref.)	20.570	0.81
D	Band Width	12.57/14.45	0.495/0.569
E	Max. at Open Dia.	19.050	0.75
F	Height (Ref.)	14.450	0.56
G	Collar Diameter	9.398/10.79	0.370/0.425
H	Across Flats	7.747/7.925	0.305/0.312
I	Across Corners (Min.)	8.636	0.340
J	Lg. of Screw (Max.)	34.29	1.35
K	Hex Height	3.556/6.350	0.140/0.250
L	Slot Depth (*Optional)	1.956/3.048	0.077/0.120
M	Slot Width	1.422/1.936	0.056/0.076

* Slot optional
[1] Reference dimension only

FIGURE 1 - STAINLESS STEEL HOSE CLAMPS