

OEM Equipment

Electrical Apparatus

600 A – 1400 A 1.2 kV Class Plastic (HTN) Molded Tri-Clamp Secondary Bushings

800-14

GENERAL

Cooper Power Systems Secondary Bushings are designed for external mounting on distribution transformers filled with transformer oil, R-Temp®, Envirotemp® FR3™ Fluid or an approved equivalent and are available with either spade or stud connections. They are designed for use indoors or inside cubicles of fluid-filled transformers or switchgear.

Internal spade/externally threaded stud secondary Tri-Clamp bushings are available with 5/8" and 1" diameter copper studs. An internally threaded stud option is also available. The 5/8" and 1" bushings come standard with 1 3/4" of usable external threads. The 1" bushing is also available with up to 3" externally usable thread lengths. Industry standard mounting configuration and compatibility with most available connectors allow use in a wide range of applications.

These secondary bushings are molded with DuPont Zytel® HTN high temperature nylon. The Zytel HTN high reliability fulfills the required application needs for temperature stability, strength, toughness, low moisture absorption and retention of viable mechanical and electrical properties in humid high-temperature environments. The gasket surfaces provide controlled compression and containment of the highly resilient Buna-N rubber gasket.

INSTALLATION

Clamping studs must be welded around the 1 7/8" hole to accommodate the clamp. The gasket is installed over the bushing shank onto the bushing gasket surface. The bushing assembly is installed through the tank hole and is placed over the studs against the shoulder flange of the bushing. A plated lockwasher and nut are installed on each stud and tightened to the recommended torque. Refer to installation instructions sheet S800-16-1 (5000050609) for details.



Figure 1. 600 A – 1400 A 1.2 kV Class Secondary Bushings, (5/8" spade internal shown).

TABLE 1
Voltage Ratings and Characteristics

Description	kV
Standard Voltage Class	1.2
AC 60 Hz 1 Minute Withstand	10
BIL and Full Wave Crest	30

TABLE 2
Current Ratings and Characteristics

Description	Amperes Continuous
5/8 inch Copper Stud	600 A rms
1 inch Copper Stud	1400 A rms

Current ratings and characteristics are in accordance with IEEE Standard C57.12™.

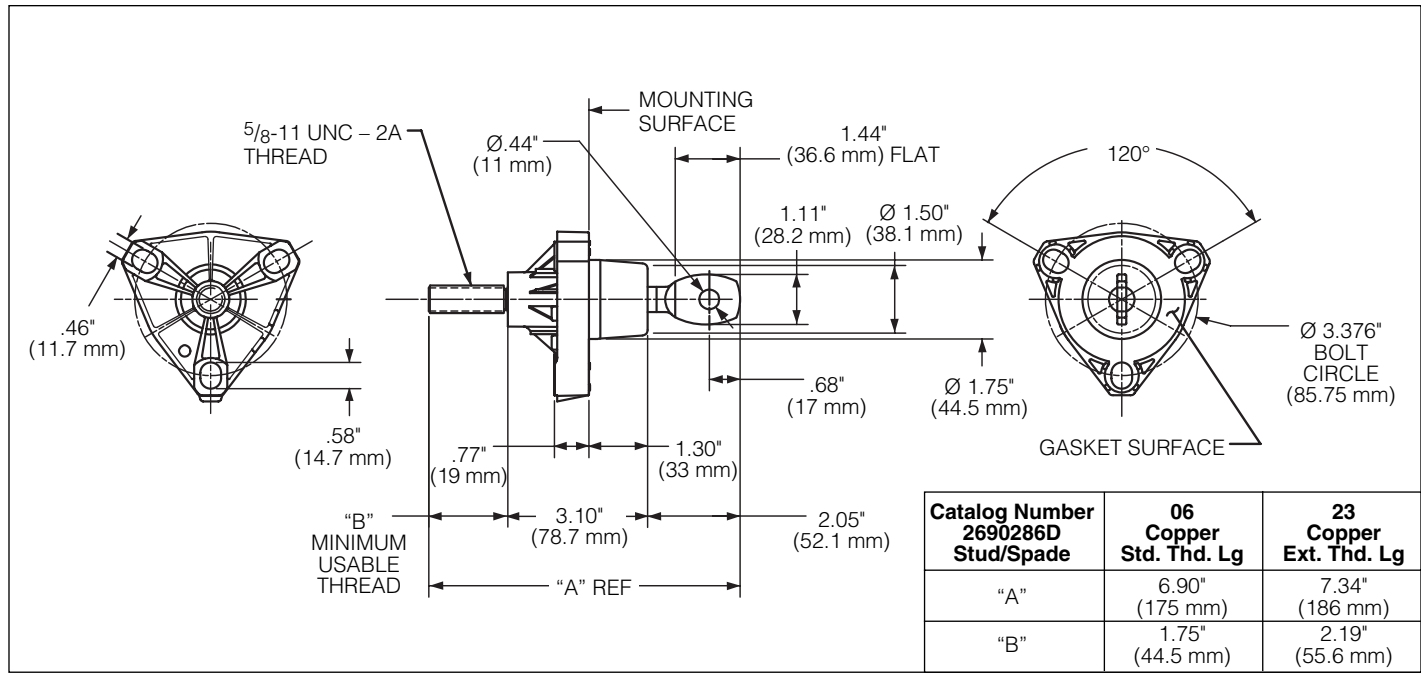


Figure 2.
5/8" – 11 spade internal – copper (with 1.75" usable external thread).

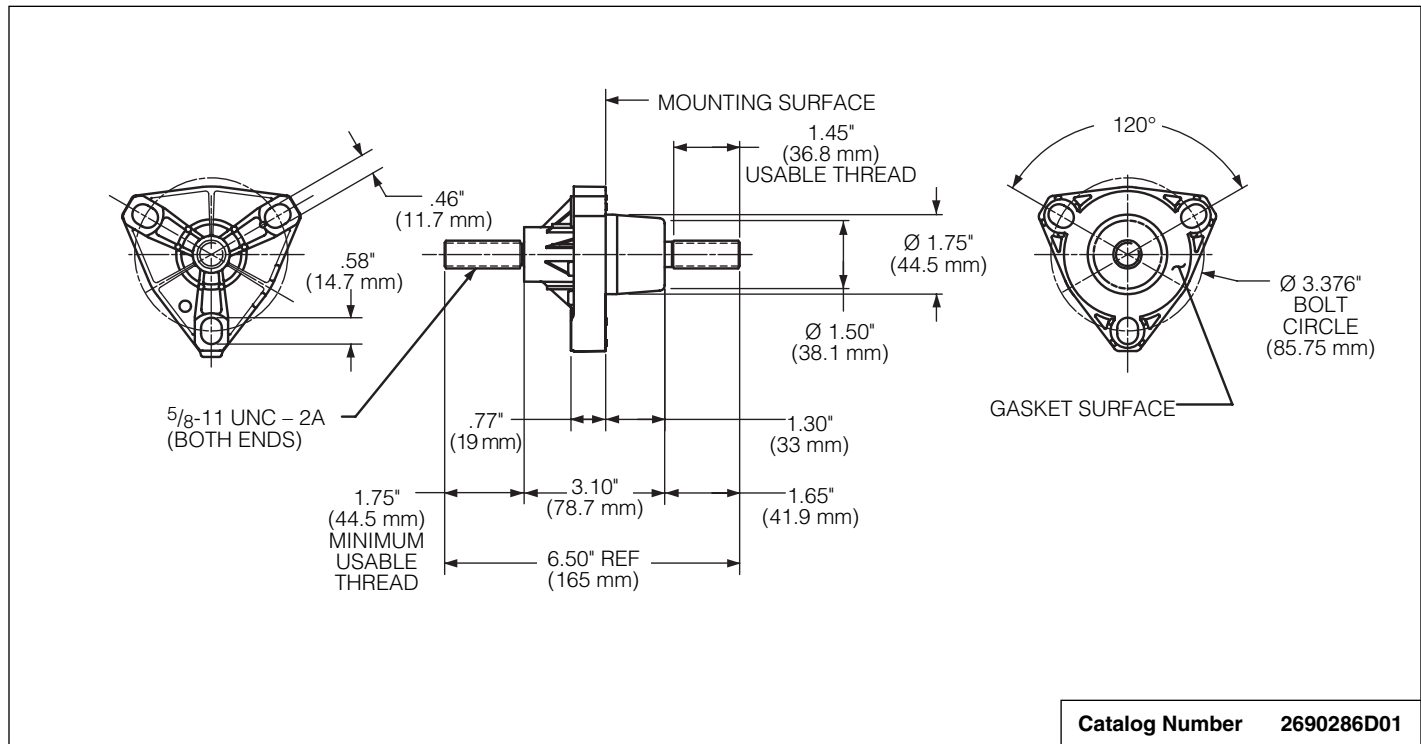


Figure 3.
5/8" – 11 double thread – copper (with 1.75" usable external thread).

Note: Dimensions given are for reference only.

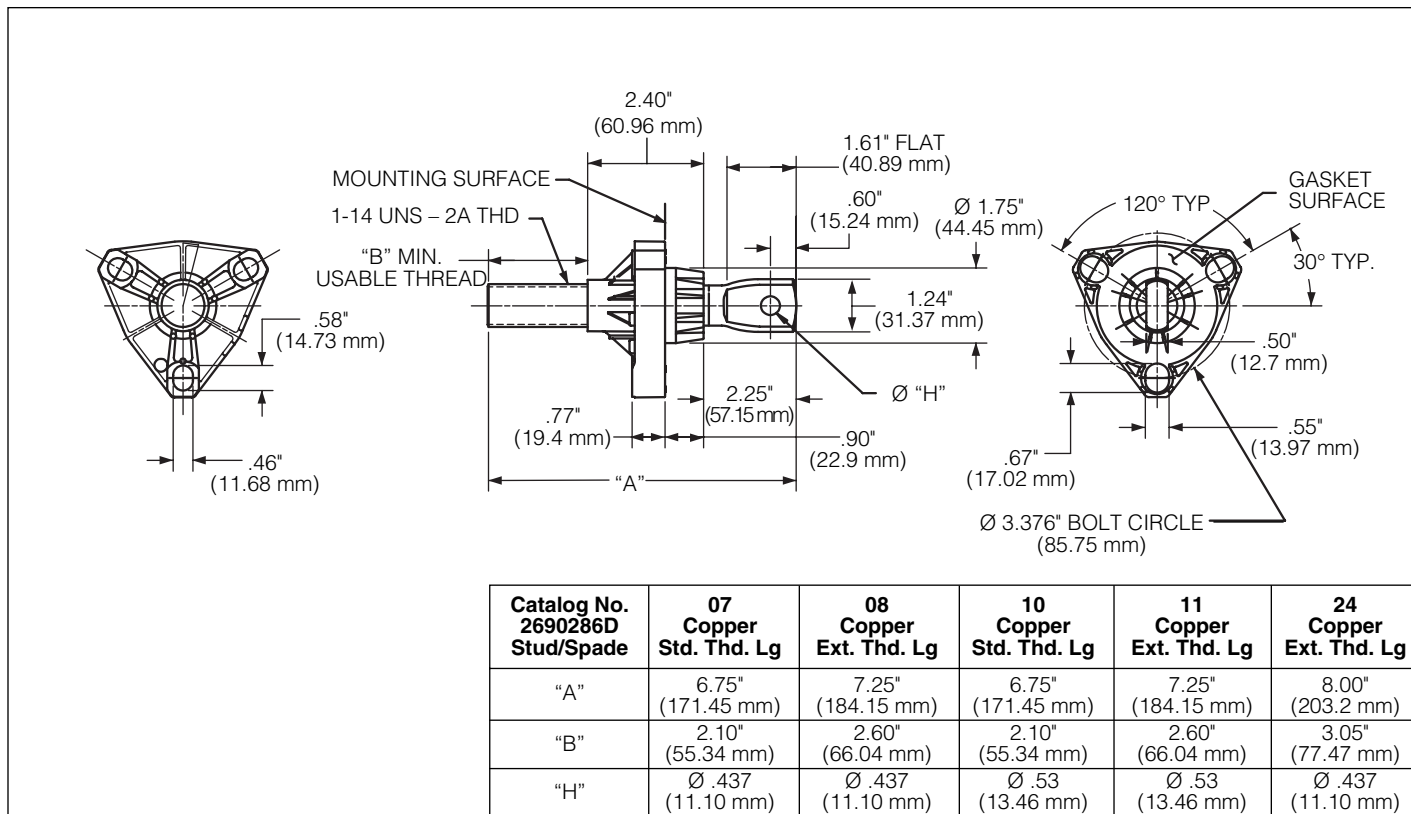


Figure 4.
1" - 14 spade internal - copper (with 1.75" usable external thread).

Note: 2.25" usable external thread is optional for 1" - 14 spade internal.

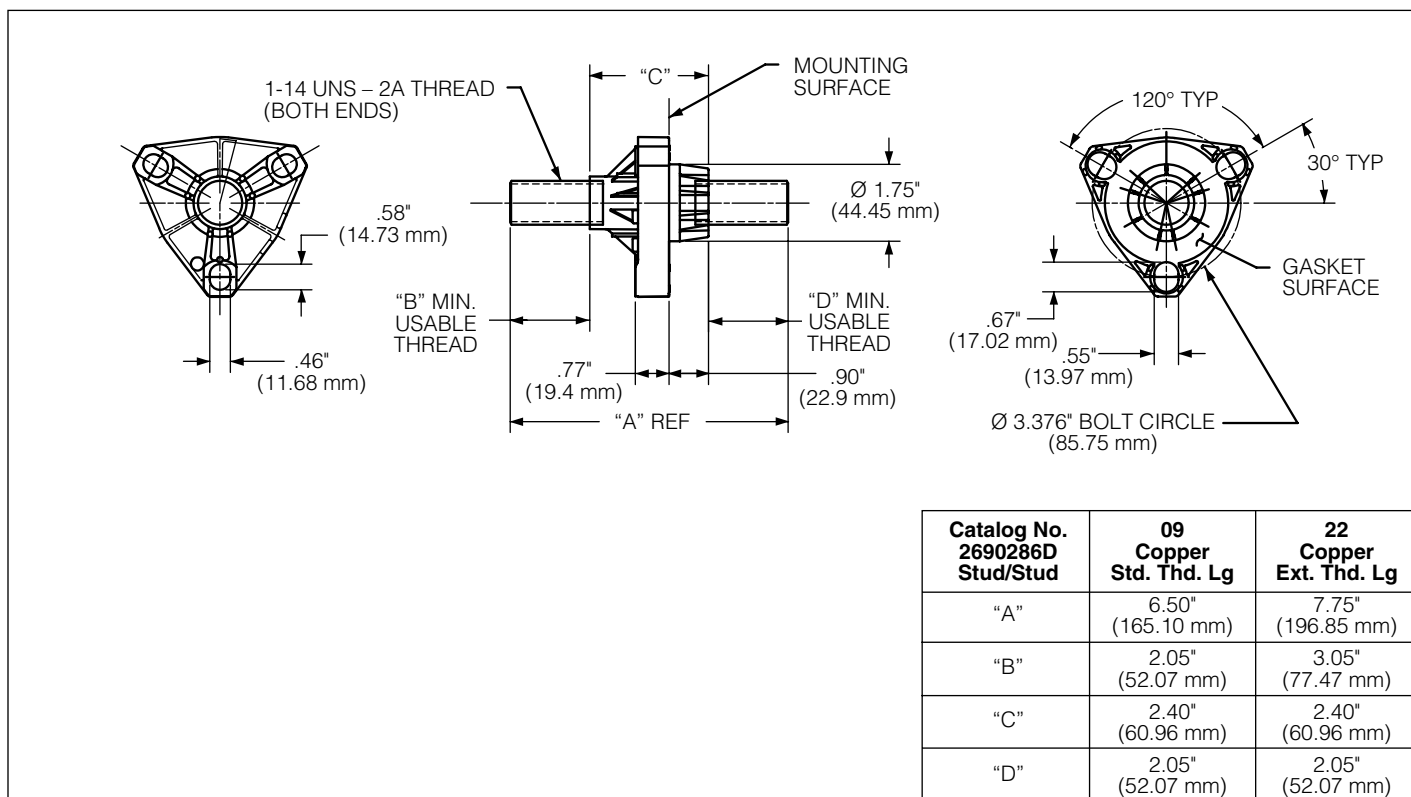


Figure 5.
1" - 14 double thread - copper (with 1.75" usable external thread).

Note: Dimensions given are for reference only.

ORDERING INFORMATION

To order a Cooper Power Systems Secondary Bushing, specify the item desired from Figures 2 – 5.

TABLE 3
Secondary Bushings

Figure	Description	Catalog Number
3	5/8 inch-11 w/1.75 inch External Threaded Stud and 1.4 inch Internal Threaded Stud, Copper-600 A	2690286D01
2	5/8 inch-11 w/1.75 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-600 A	2690286D06
4	1 inch-14 w/1.75 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-1400 A	2690286D07
4	1 inch-14 w/2.25 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-1400 A	2690286D08
5	1 inch-14 w/1.75 inch External Threaded Stud and Internal Threaded Stud, Copper-1400 A	2690286D09
4	1 inch-14 w/1.75 inch External Threaded Stud and Internal Spade w/0.53 inch Dia. Hole, Copper-1400 A	2690286D10
4	1 inch-14 w/2.25 inch External Threaded Stud and Internal Spade w/0.53 inch Dia. Hole, Copper-1400 A	2690286D11
5	1 inch-14 w/3.05 inch External Threaded Stud and 2.05 inch Internal Threaded Stud, Copper-1400 A	2690286D22
2	5/8 inch-11 w/2.13 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-600 A	2690286D23
4	1 inch-14 w/3.05 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-1400 A	2690286D24

Note: Gasket part number, 0537980C20, is INCLUDED with bushing.

TABLE 4
Recommended Internal (Oil Side) Connections for 1 Hole Internal Spade

Nominal Current Rating (Amperes)	Maximum Current (Amperes)	Number of Holes	Sides of Spade
600	420	1	1
	600	1	2
1400	835	1	1
	1400	1	2

Notes:

1. Ratings are the maximum current level that can be used with a particular configuration.
2. Ratings are based on maintaining a bushing temperature rise that is no more than 15° above 85° top oil temperature (20° ambient) when the bushings are conducting rated current (**IEEE Standard C57.12.00 – 1987™, Section 5.11**).
3. Ratings are based on maintaining a bushing absolute temperature below the level that would damage the insulation system or seal integrity (with top oil temperature in the range of 113 – 114° absolute) when the bushing is conducting 150% peak load for 24 hours and 191% peak load for 2 hours. (**IEEE Standard C57.92 – 1981™, Table 3 {d}**).

(All temperature references are in degrees Celsius.)

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 IEEE Standard C57.12.00 – 1987™ and IEEE Standard C57.92 – 1981™ are trademarks of the Institute of Electrical and Electronics Engineers, Inc.

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