

INCH-POUND

MIL-DTL-29210/1A

1 April 2020

SUPERSEDING

MIL-DTL-29210/1

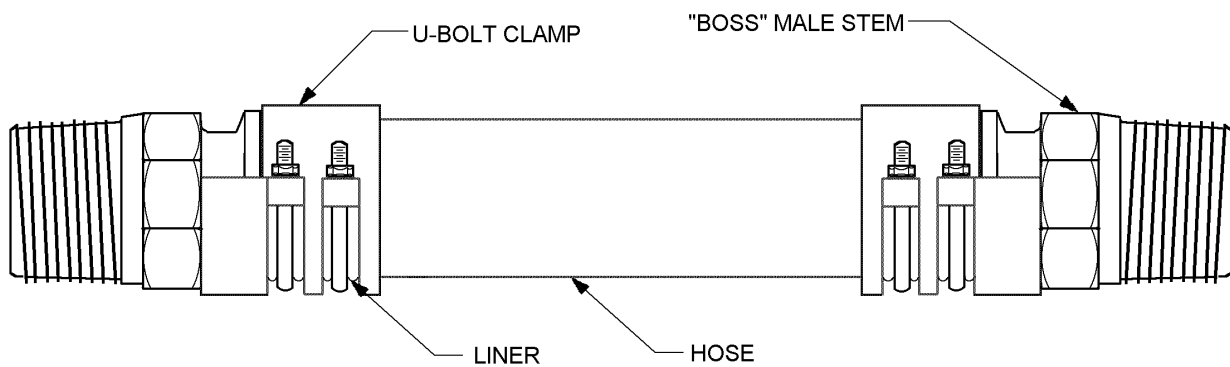
21 June 2010

DETAIL SPECIFICATION SHEET

HOSE ASSEMBLY, IRON, BRASS, AND CRES CONNECTORS, RUBBER,
METAL LINED, WIRE REINFORCED, .750 AND 1.00 INCH HOSE,
250 PSIG, SATURATED STEAM SERVICE

This specification is approved for use by all Departments and
Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and
MIL-DTL-29210.



NOTE: .750 inch (19.05 mm) hose clamp may be a single type U-Bolt design.

FIGURE 1. Hose assembly configuration.



REQUIREMENTS

Hose assemblies described herein shall be manufactured with BOSS male stem fittings or BOSS male stem and female spud as specified herein and hose in accordance with MIL-DTL-29210, metal lined.

The end fittings with the special stem design should be equal to end fittings with special stem design available from Dixon Valve and Coupling Company, <https://www.dixonvalve.com>. The male fitting should be "Easy Boss Style GM-28" and the female fitting should be either "Easy Boss Style GB-28C" using copper insert in the female spud or "Easy Boss Style GM-28" using polymer insert in the female spud.

Patent notice. The end fittings are covered by the following patent: U.S. patent number US4603888A; expires September 18, 1999. The Government does not have a royalty-free license.

Hose fittings shall be of the long shank, interlocking clamp type or U-type as applicable, having fingers or lugs on each half of the clamp to grip the collar on the stem, see figures 1 and 2. The fittings shall prevent the stem shank from being pulled forward in relation to the clamp. As applicable each clamp half shall interlock with the other half.

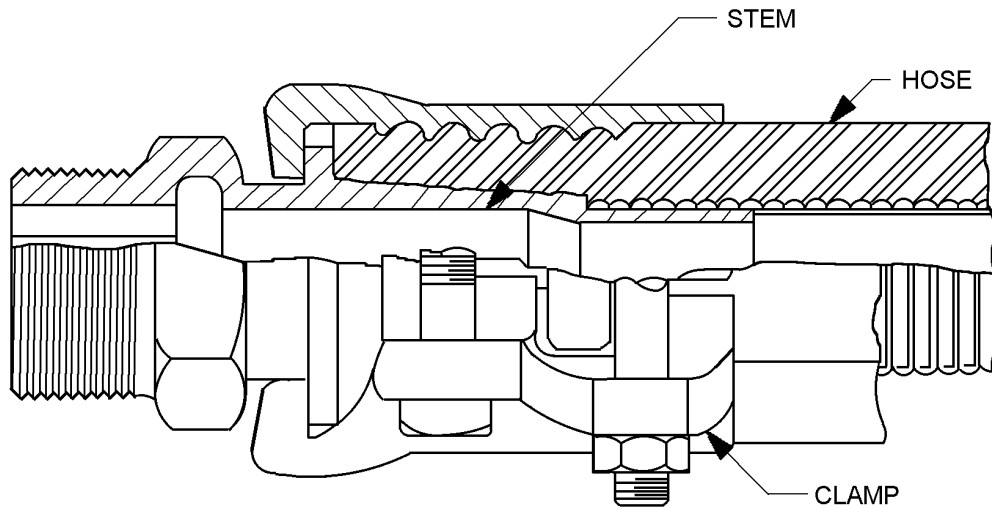


FIGURE 1. Male end fitting assembly.

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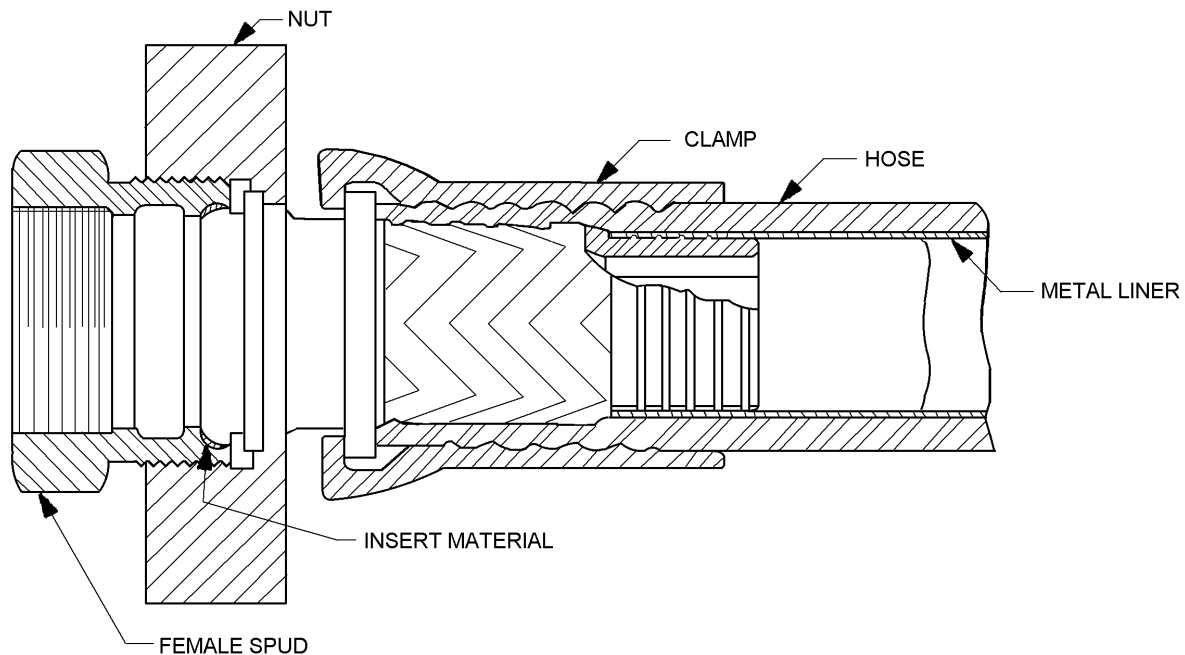


FIGURE 2. Female end fitting assembly.

Coupling components shall consist of a serrated stem with a raised continuous collar, a swivel nut and spud (for female section). Coupling components shall also consist of a two-part interlocking clamp type or U-type as applicable with two bolts for the .75-inch (19.05 mm) size hose and four bolts for the larger size hoses.

The seating surface of the female stem shall be round to fit the beveled copper insert or polymer insert in the female spud, as specified. There shall be no sharp edges on the nipples or the clamps to cause damage to the tube or cover. When assembled, there shall be provisions for additional take-up of clamps in service.

The male and female stems shall be designed with rib type right hand spirals at the end of the stem to screw into the stainless steel liners providing positive gripping and retention. The pitch of the rib type spirals shall be .312-inch (7.92 mm) for the 1.5-inch (38.10 mm) and 2-inch (50.80 mm) hose fittings and .25-inch (6.35 mm) for the .75-inch (19.05 mm), 1-inch (25.40 mm), and 1.25-inch (31.75 mm) hose fittings.

The spiral on the male and female stems shall be of sufficient length to ensure that part of the metal liner is always under the clamp which provides additional gripping and retention when the clamps are torqued over the hose.

Female threads on spud and male connections shall be American Standard Taper Pipe (NPT) meeting the requirements of FED-STD-H28. The female threads on the swivel shall be American Standard Straight Pipe (NPSM).

Hose shall be in accordance with MIL-DTL-29210.

Hose assembly working pressure 250 psi (1.7 MPa) at 406°F (208°C).

All hose assemblies shall be subjected to the individual inspections of MIL-DTL-29210.

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Hose ID designators shall be as specified in table I.

TABLE I. Hose size code number. 1/ 2/

Hose size code number	Hose size ID inches (mm)
075	.750 (19.05)
100	1.000 (25.40)

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

Hose reinforcement wires shall be in accordance with MIL-DTL-29210. Designators shall be as specified in table II.

TABLE II. Reinforcement wire.

Code	Material
B	Brass plated high tensile carbon steel
S	CRES
Z	Zinc-plated high tensile carbon steel wire

Hose assembly configurations shall be as specified on figure 1.

Hose fittings shall be of the long shank, interlocking clamp type or U-type as applicable, having fingers or lugs on each half of the clamp to grip the collar on the stem.

Material for male stem, see table IV for designators:

Malleable iron in accordance with ASTM A47/A47M, grade 32510, or ductile iron in accordance with ASTM A536, grade 60-40-18 or grade 65-45-12, and shall be protected with a corrosion-resisting coating to withstand 90 hours of salt spray testing in accordance with ASTM B117. Gray iron castings in accordance with ASTM A48/A48M shall not be acceptable.

Brass in accordance with ASTM B61 or alloys C92200 or C90300 in accordance with ASTM B271/B271M, ASTM B505/B505M or ASTM B584.

Corrosion resistant steel (CRES) alloy 316 in accordance with SAE-AMS-5653.

TABLE III. Stem material designators.

Material designator	Material
M	Malleable iron
B	Brass
S	CRES

Nipple: The nipple shall be Dixon "BOSS" Male Stem or equal, see table IV for size designators.

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TABLE IV. Male stem hose and thread sizes. 1/ 2/

Male stem size designator	Male stem hose size inch (mm)	Thread size NPT
-12-8	.750 (19.05)	1/2 - 14
-12-12	.750 (19.05)	3/4 - 14
-12-16	.750 (19.05)	1 - 11.5
-16-12	1.000 (25.40)	3/4 - 14
-16-16	1.000 (25.40)	1 - 11.5

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

TABLE V. Male and female stem hose and thread sizes. 1/ 2/

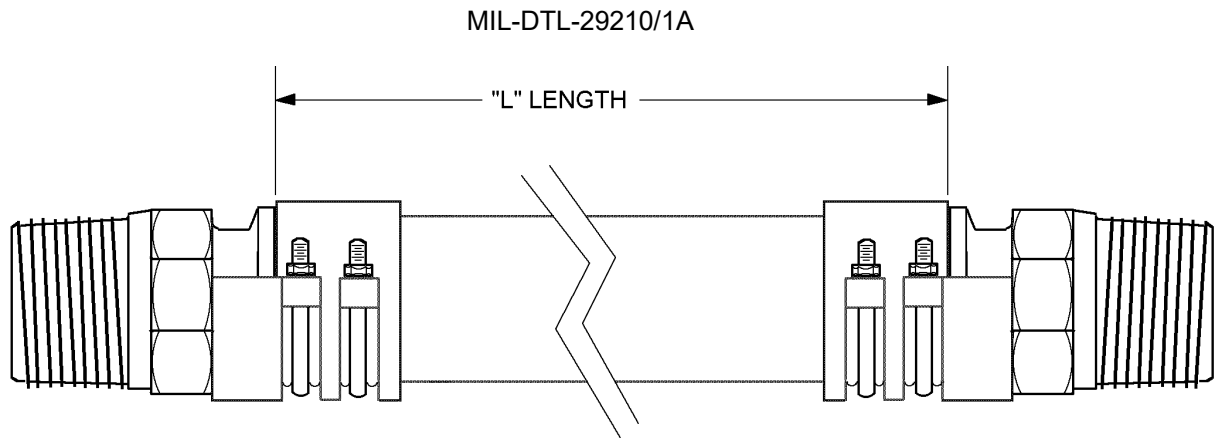
Male/Female stem size designator	Male stems hose size inch (mm)	Thread size NPTM		Female stems Hose size Inch (mm)	Thread size NPTF
-12-8F	.750 (19.05)	3/4 - 14		.500 (19.05)	1/2 - 14
-12-12F	.750 (19.05)	3/4 - 14		.750 (19.05)	3/4 - 14
-12-16F	.750 (19.05)	3/4 - 14		1.000 (25.40)	1 - 11.5
-16-12F	1.000 (25.40)	1 - 11.5		.750 (19.05)	3/4 - 14
-16-16F	1.000 (25.40)	1 - 11.5		1.000 (25.40)	1 - 11.5
Female/Male stem size designator	Female stems Hose size Inch (mm)	Thread size NPMS		Male stems hose size inch (mm)	Thread size NPTF
-12F-8	.750 (19.05)	3/4 - 14		.750 (19.05)	1/2 - 14
-12F-16	.750 (19.05)	3/4 - 14		.750 (19.05)	1 - 11.5
-16F-12	1.000 (25.40)	1 - 11.5		1.000 (25.40)	3/4 - 14

U-Bolt:

Casting, if used, for U-bolt shall be malleable iron in accordance with ASTM A47/A47M, grade 32510.

The U-bolt bolts shall be factory set at the manufactures torque value.

Hose assembly length. The hose assembly length is calculated as specified on figure 2.

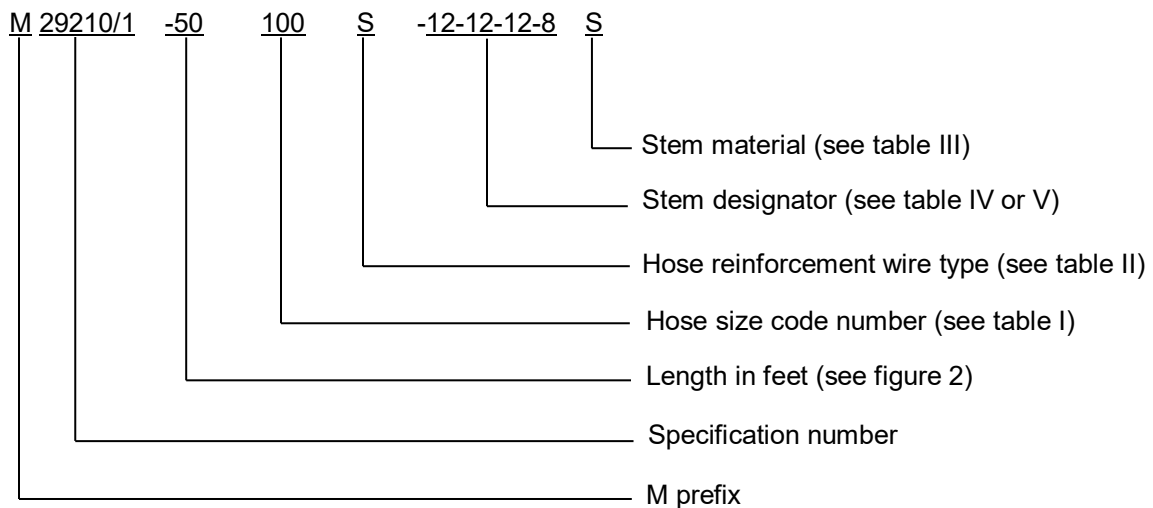


NOTES:

1. Lengths of hose "L" are represented by feet (25, 50, 75, and 100).
2. Hose length tolerance shall be in accordance with MIL-DTL-29210.
3. Figure is for illustration purposes only and is not meant to restrict designs.

FIGURE 2. Hose assembly dimensions.

Part or Identifying Number (PIN) example:



M29210/1-50100S-12-12-12-8S indicates - Hose assembly 50 feet long, .100 inch hose ID, CRES fittings with CRES reinforcement wires, one hose stem is for .750 inch hose with .750 inch NPT threads and the other male stem is for .750 inch hose with .500 inch NPT threads.

Intended use: Temporary services from docks or barges to ships 250 psi, saturated steam service at a temperature of up to 406°F (208°C).

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Referenced documents. In addition to MIL-DTL-29210, this document references the following:

FED-STD-H28	ASTM B117
ASTM A47/A47M	ASTM B271/B271M
ASTM A48/A48M	ASTM B505/B505M
ASTM A536	ASTM B584
ASTM B61	SAE-AMS-5653

CONCLUDING MATERIAL

Custodians:

Army - AT
Navy - SH
Air Force - 71
DLA - CC

Preparing activity:

DLA - CC

(Project 4720-2020-004)

Review activities:

Army - AR
Navy - MC, SA
Air Force – 11

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.