

FEDERAL

WATER JACKETS FOR WATER COOLED TUBES



AVAILABLE TYPES

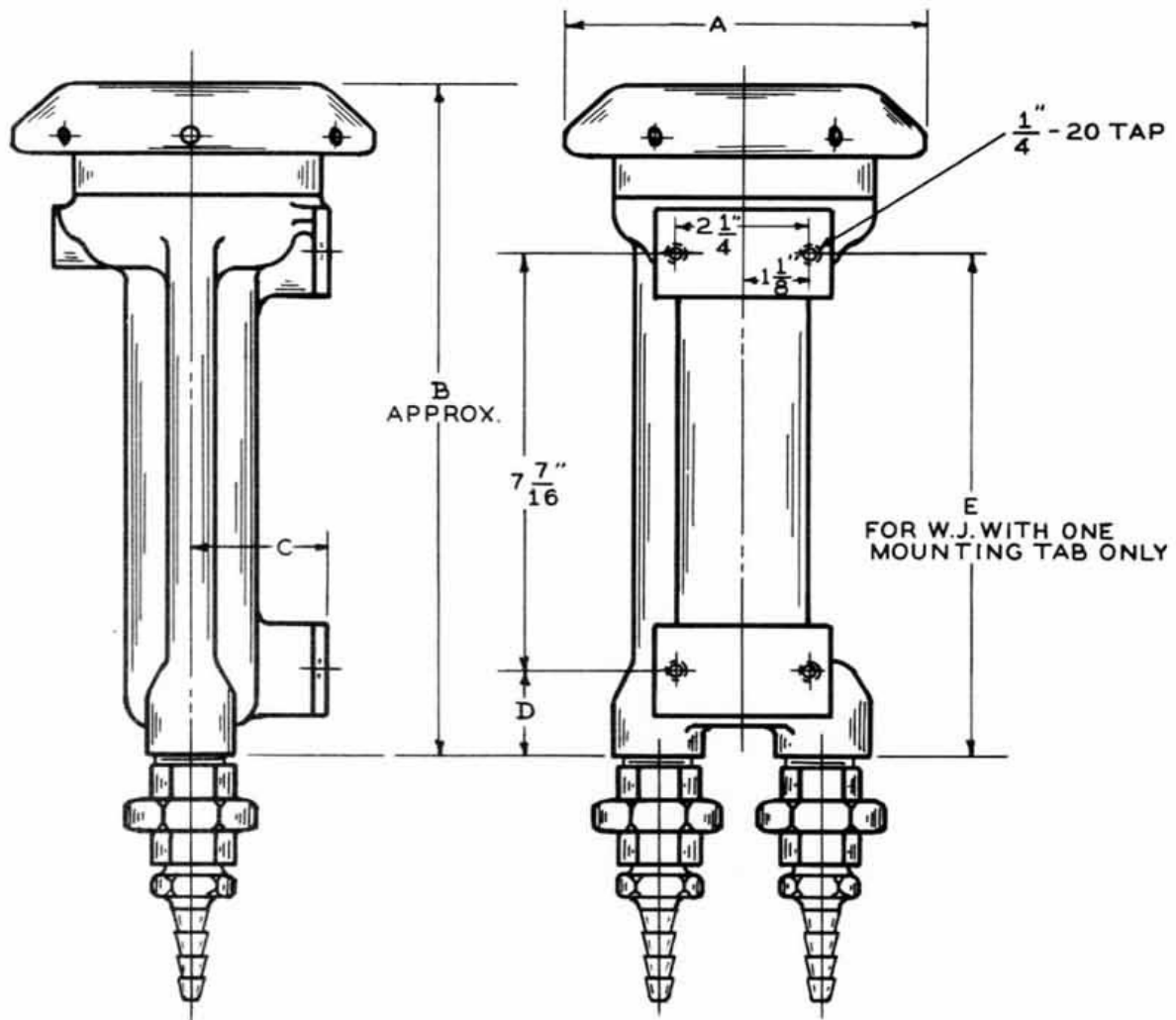
<u>Water Jacket</u>	<u>Tubes</u>
1000	F-307-A F-348-A F-363-A F-891 F-892
1001	F-101-B F-110-A
1005	F-126-A F-320-B F-322-A F-116-A F-337-A F-343-A F-342-A F-131-A
1006	F-328-A F-328-B
1010	F-124-A F-125-A
1012	F-129-B

Manufactured by

FEDERAL TELEGRAPH CO.

200 Mt. Pleasant Avenue Newark, N. J., U.S.A.

MOUNTING DIMENSIONS OF STANDARD WATER JACKETS



Reference Table

Water Jacket	A	B	C	D	E
1012	5 ³ / ₈ "	7 ¹ / ₂ "	2 ⁷ / ₈ "	—	4 ⁷ / ₈ "
1010	7 ¹ / ₂ "	15 ³ / ₈ "	3 ⁷ / ₈ "	3 ¹³ / ₃₂ "	—
1006	5 ¹³ / ₁₆ "	11 ⁷ / ₈ "	2 ¹ / ₄ "	1 ¹ / ₂ "	—
1005	6 ¹ / ₄ "	11 ³ / ₄ "	2 ⁹ / ₁₆ "	1 ¹ / ₂ "	—
1001	6 ¹ / ₄ "	12"	2 ¹ / ₈ "	1 ¹ / ₂ "	—
1000	6 ¹ / ₂ "	12 ⁵ / ₈ "	2 ³ / ₄ "	1 ¹ / ₂ "	—

WATER JACKETS FOR WATER COOLED TUBES

Federal water jackets are precision built and are made of the finest materials obtainable.

In addition to fool proof operation, they include a number of features designed to insure ease in handling when mounting the tube.

- Jacket is designed to facilitate flow of fast, thin stream of water evenly distributed over anode of tube to insure adequate cooling.
- Interior of the jacket is so constructed as to prevent the anode of the tube from coming into contact with the jacket interior wall, thereby insuring free circulation of water at all times.
- Clamping ring used in mounting the tube in the water jacket is designed to act also as a corona shield.
- Both inlets and outlets for water are placed at the bottom of the water jacket to facilitate connection with water supply.
- Connections with water hose may be made with a union supplied with the water jacket to eliminate the necessity of breaking the hose in order to disconnect the water supply.
- Mounting pads are an integral part of the casting, each with two tap holes to facilitate mounting.
- Water jacket proper consists of one piece of cast special alloy to insure ruggedness and long life.
- Stand-off insulators, also available, are of isolantite with a bronze base, to insure strength and effective insulation.

Hose nipples supplied with these water jackets are available in three sizes for 1/2 inch, 3/4 inch and 1 inch hose respectively. Unless otherwise specified, nipples for 3/4 inch hose are furnished.

Approximate Net Weights

1000.....	20 lbs.	1005.....	21 lbs.	1010.....	44 lbs.
1001.....	19 lbs.	1006.....	18 lbs.	1012.....	11 lbs.

Water jackets designed by Federal Telegraph Company provide rates of flow as shown in the table below which may be used as a guide.

Tubes	Water Jacket	Min. Flow (Gal. per min.)
F-307-A, F-348-A, F-363-A, F-891, F-892	1000	5
F-101-B, F-110-A	1001	10
F-126-A, F-320-B, F-322-A, F-343-A	1005	5
F-116-A, F-337-A, F-342-A, F-131-A	1005	10
F-328-A, F-328-B	1006	3
F-124-A, F-125-A	1010	15
F-129-B	1012	3

The amount of pressure required may be approximated from the following formulas:

$$\begin{aligned}
 \text{Pounds per sq. in drop} &= Kf^2 \text{ per ft. length of hose} \\
 f &= \text{water flow gal./min.} \\
 K &= .00065 \text{ for } 1'' \text{ hose} \\
 &\quad .00315 \text{ for } 3/4'' \text{ hose} \\
 &\quad .0145 \text{ for } 1/2'' \text{ hose} \\
 &\quad .055 \text{ for water jacket}
 \end{aligned}$$

For further information, see Federal Telegraph Co. publication entitled, "Water Cooled and Air Cooled Tubes, Suggestions for Use".