14" Series
Type “SU” Heat Exchangers
“U” Tube Design

DESCRIPTION
B&G “SU” Heat Exchangers are of the shell and tube type. The tube bundle is of “U” bend construction with tube ends expanded into a stationary tube sheet. This construction permits ample expansion or contraction for wide temperature variations. A fluid entering the tubes is heated by steam condensing in the single pass shell. Tube spacers properly support and space each tube for maximum efficiency in steam condensing and drainage.

Standard “SU” Heat Exchangers are constructed according to ASME requirements for pressures and temperature. A manufacturers’ Data Report for Pressure Vessels, Form No. U-1, as required by the provisions of the ASME Code Rules, is furnished with each unit upon request. This form is signed by an authorized inspector, holding a National Board Commission, and who is employed by an authorized inspection agency, certifying that construction conforms to the latest ASME Code for pressure vessels. The ASME “U” symbol is stamped on each vessel. In addition, each unit is registered with the National Board of Boiler and Pressure Vessel Inspectors.

MODEL NO.
HEATING SURFACE (SQ. FT.)

OPERATING DATA

<table>
<thead>
<tr>
<th>TUBE SIDE</th>
<th>SHELL SIDE</th>
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<tbody>
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<td>/</td>
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</table>

Note: Following applies only for fluids other than water.
8. Specific Gravity
9. Specific Heat
10. Latent Heat
11. Viscosity**
12. Thermal Conductivity

** Expressed in Proper Units and Temperature such as centipoises @ °F.
14" SERIES TYPE "SU" HEAT EXCHANGERS ("U" TUBE DESIGN)

Standard Cast Iron Heads

Optional Cast Iron
150 psi Design Pressure Heads (Flanged Connections)

2 PASS HEAD (Flanged Connections) 4 PASS HEAD

Shellside flange connections for field piping are 150RF ANSI flanges.

CAST IRON or bolted steel legs can be supplied when specified.

Room for removal of tube bundle, equal to or greater than "A", should be provided.

OPTIMAL CAST IRON

Optional cast iron flange connections for field piped drilled and faced per 150RF ANSI standards.

SU type U tube
Shell diameter in inches
Tube length in feet
Number of tube passes

Complete sales number consists of example: SU-146-2

DIMENSIONS

UNIT NUMBER 2 PASS 4 PASS 6 PASS 2, 4 & 6 PASS HEATING SURFACE SO. FT. APPRX. SHIP. WT. (LBS.)

SU-143 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 44" 15/16" 21/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 1 1/4 NPT 86 83 72 449

SU-144 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 56" 15/16" 33/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 2 NPT 118 111 97 554

SU-145 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 68" 15/16" 45/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 2 NPT 146 139 122 619

SU-146 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 80" 15/16" 57/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 2 NPT 175 167 147 704

SU-147 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 92" 15/16" 69/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 2 NPT 204 196 171 789

SU-148 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 104" 15/16" 81/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 2 NPT 234 224 196 874

SU-149 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 116" 15/16" 93/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 2 NPT 263 252 221 959

SU-150 + 5/8" 6 NPT 8 4/8" 3/4" 1/8" 1/4" 6 NPT __ __ 128" 15/16" 105/16 1/4" 1/4" 1/2" 11/16" 11/2" 6 FLG 3 NPT 292 280 246 1044

Dimensions are subject to change. If exact dimensions are needed for layout, write for certified prints. *Number of tube side passes (2, 4, or 6).

**All 6 pass are built to order. Consult factory for dimensions.

DESIGN PRESSURES - ASME CONSTRUCTION
CAST IRON & BRASS UNITS

<table>
<thead>
<tr>
<th>TUBE SIDE</th>
<th>DESIGN PRESSURES*</th>
<th>DESIGN TEMPERATURES*</th>
<th>CAST IRON</th>
<th>BRASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGN</td>
<td>TEST</td>
<td>DESIGN</td>
<td>TEST</td>
<td>375°F</td>
</tr>
<tr>
<td>125 psi</td>
<td>250 psi</td>
<td>150 psi</td>
<td>300 psi</td>
<td>375°F</td>
</tr>
<tr>
<td>2 &amp; 4 PASS HEAD (FLANGED CONNECTIONS) CAST IRON ONLY</td>
<td>150 psi</td>
<td>300 psi</td>
<td>150 psi</td>
<td>300 psi</td>
</tr>
</tbody>
</table>

* For design pressures and temperatures higher than shown or materials of construction not shown, consult B & G Representative.

MATERIALS

<table>
<thead>
<tr>
<th>PART</th>
<th>STANDARD CAST IRON UNIT</th>
<th>BRASS UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 4 &amp; 6 Pass</td>
<td>2 &amp; 4 Pass</td>
<td>2 &amp; 4 Pass</td>
</tr>
<tr>
<td>Head</td>
<td>Cast Iron</td>
<td>Cast Brass</td>
</tr>
<tr>
<td>Shell</td>
<td>Steel</td>
<td>Steel</td>
</tr>
<tr>
<td>Tube Sheet</td>
<td>Steel</td>
<td>Rolled Naval Brass</td>
</tr>
<tr>
<td>Tubing</td>
<td>Copper</td>
<td>Copper</td>
</tr>
<tr>
<td>3/4&quot; O.D.</td>
<td>3/4&quot; O.D.</td>
<td></td>
</tr>
<tr>
<td>Tube Supports</td>
<td>Steel</td>
<td>Steel</td>
</tr>
<tr>
<td>Nuts &amp; Bolts</td>
<td>Steel</td>
<td>Steel</td>
</tr>
</tbody>
</table>

TYPICAL INSTALLATION OF "SU" HEAT EXCHANGER

Steam hammer can cause serious damage to the tubes of any Heat Exchanger. A careful consideration of the following points before an installation is made can prevent costly repairs which may be caused by steam hammer.

(a) A vacuum breaker and/or vent, should be used in accordance with the type of steam system installed.
(b) The proper trap for the steam system installed should be used.
(c) The trap and the condensate return line to the trap should be properly sized for the total capacity of the convorset.
(d) The trap should be sized for the pressure at the trap, not the inlet pressure to the steam controller.

CAUTION: A properly sized relief valve must be installed on the heated water side to protect heat exchangers from possible damage due to volumetric expansion.

For further information, contact Bell & Gossett Heat Transfer Products,
175 Standard Parkway, Cheektowaga, NY 14227, Phone: (716) 862-4171 - Facsimile: (716) 862-4176 -