



# SU / WU

## U-Tube Heat Exchangers

For Steam to Liquid and Liquid to Liquid Applications



# Bell & Gossett SU/WU

## U-Tube Heat Exchangers

SU/WU heat exchangers utilize a U-Tube removable bundle construction. The SU product is designed for applications using steam on the shell to heat fluids in the tubes and the WU product is designed as a liquid to liquid heat exchanger. All welded rugged carbon steel shell, with an option of stainless steel, provides maximum durability.

- Removable bundle for ease of inspection and replacement.
- This design allows for differential thermal expansion between shell and tubes as well as between individual tubes.
- The result is a heat exchanger capable of withstanding thermal shock.
- The bundle design and tube layout allow for the maximum heat transfer surface area per given shell size.
- The SU/WU exchangers are also available with Diamondback double wall tube construction and heavy duty construction for high temperature applications as well as tank heater designs.



### Construction

	Materials
Shell	Fabricated Carbon Steel with Stainless options
Tube sheets	Fabricated Carbon Steel with Stainless, 90/10 CuNi and Brass options
Tubes	Copper with option for Stainless Steel, 90/10 or 70/30
Bonnets	Cast Iron with Cast Stainless Steel 316 and Cast Bronze options
Feet and Bolting	Cast Iron / Carbon Steel

### Design Capabilities

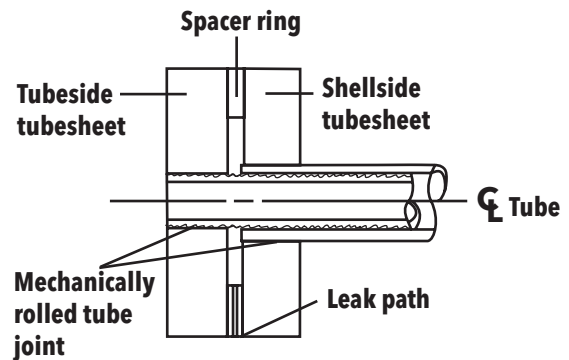
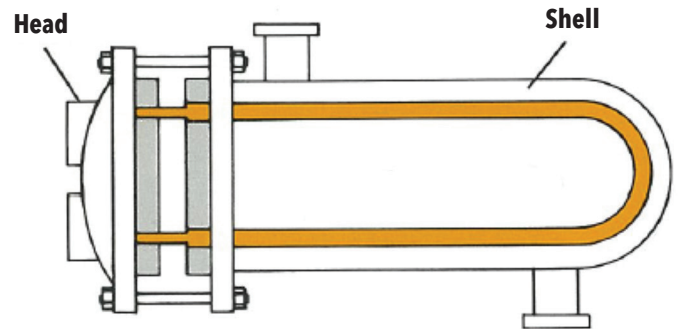
	Pressure	Temperature
Tube Side	4" thru 8" Dia. 150 PSI 10" thru 20" Dia. 125 PSI 22" thru 30" Dia. 150 PSI Options to 300 PSI	375°F
Shell Side	150 PSI Options to 300 PSI	375°F

Designed and stamped to ASME Section VIII Division 1. May be designed and certified for CRN and PED. Other endorsements available.

# Bell & Gossett DSU/DWU Double-Wall Heat Exchangers

The DSU product is designed for applications using steam on the shell to heat fluids in the tubes and the DWU product is designed as a liquid to liquid heat exchanger. Both are well suited for use in heating or cooling domestic water.

- Diamondback DSU and DWU shell and tube heat exchangers are designed with a unique double wall U-tube bundle construction with an air gap between each tube that is vented to atmosphere. Each inner and outer tube end is roller expanded into stationary tube sheets.
- This construction permits detection of a telltale leak to the exterior of the heat exchanger in the event of a failure in either the inner or outer tube wall.



**Double-wall Tube Joint**

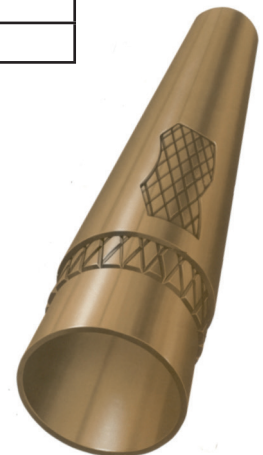
## Construction

	Materials
Shell	Fabricated Carbon Steel with Stainless options
Tube sheets	Rolled Naval Brass with Stainless Steel options
Tubes	Copper inner Copper Outer with 90/10 Inner Copper Outer Option
Bonnets	Cast Iron with Cast Stainless Steel 316 and Cast Bronze options
Bolting	Carbon Steel

## Design Capabilities

	Pressure	Temperature
Tube Side	4" thru 8" Dia. 150 PSI 10" thru 12" Dia. 125 PSI	375°F
Shell Side	150 PSI	375°F

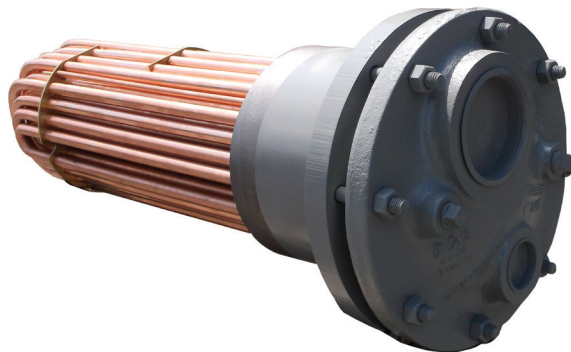
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# Bell & Gossett TCS/TCW U-Tube Tank Heaters

TCS and TCW tank heaters are U -Tube type bundle construction. A fluid in the tank is heated by a fluid or steam circulated through the tubes through natural convection in the tank.

- This construction provides for expansion or contraction of the bundle over a wide range of temperature variations.
- Available in single and in double wall tube construction.



## Construction

	Materials
Collar	Fabricated Carbon Steel with Stainless options
Tube sheets	Fabricated Carbon Steel with Stainless, 90/10 CuNi and Brass options
Tubes	Copper with option for Stainless Steel, 90/10 or 70/30
Bonnets	Cast Iron with Cast Stainless Steel 316 and Cast Bronze options
Bolting	Carbon Steel

## Design Capabilities

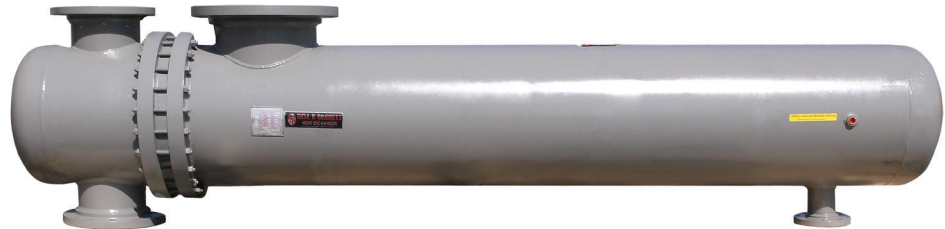
	Pressure	Temperature
Tube Side	4" thru 8" Dia. 150 PSI 10" thru 14" Dia. 125 PSI	375°F
Tank Side	150 PSI	375°F

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# Bell & Gossett HTWU High Temperature Heat Exchangers

HTWU heat exchangers utilize a U-Tube removable bundle construction specifically designed for high temperature water heating applications with the high temperature water flowing through the tube side of the heat exchanger.

- Special cast ductile iron or fabricated steel tube side heads are designed for the higher design pressures associated with high temperature water systems.
- Available in single and in double wall tube construction.



## Construction

	Materials
Shell	Fabricated Carbon Steel with Stainless options
Tube sheets	Fabricated Carbon Steel with Stainless, 90/10 CuNi and Brass options
Tubes	Copper with option for Stainless Steel, 90/10 or 70/30
Bonnets	Cast Ductile Iron
Feet and Bolting	Cast Iron / Carbon Steel

## Design Capabilities

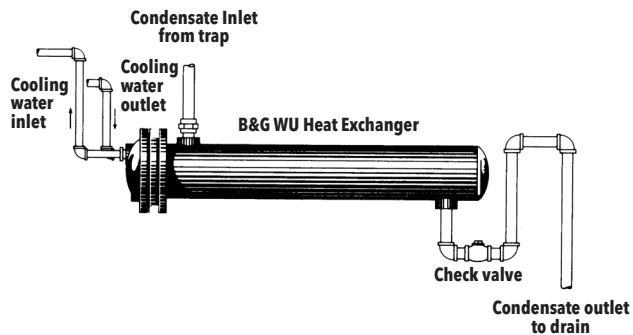
	Pressure	Temperature
Tube Side	4" thru 12" Dia. 400 PSI Options to 300 PSI	400°F
Shell Side	150 PSI Options to 300 PSI	375°F

Designed and stamped to ASME Section VIII Division 1. May be designed and certified for CRN and PED. Other endorsements available.

# Miscellaneous Applications



Typical installation of WU Heat Exchanger as a condensate cooler.



## Liquid to Liquid Heating and Cooling

When ever liquids need to be heated or cooled the WU heat exchanger may be the first choice for many. Applications are found in the HVAC, chemical industry, pool heating, snow melting, oil cooling or where ever a liquid requires heating or cooling. The WU heat exchanger with it's variety of optional materials, efficient design and competitive pricing makes it a wise choice in a wide field of varied applications.

## Swimming Pool and Storage Tower Heating

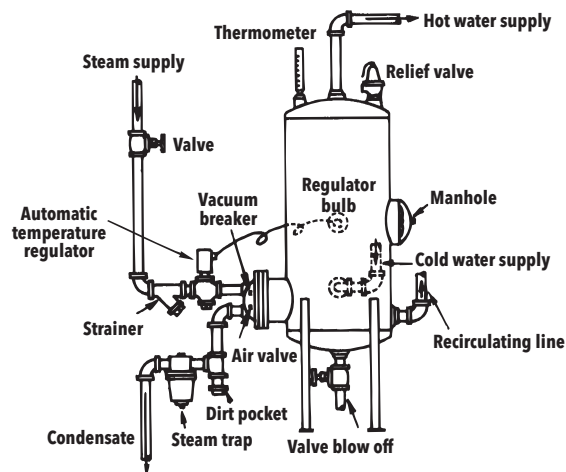
When swimming pool or storage tower water are to be heated by the same hot water boiler used for space heating, a WU heat exchanger offers a practical economical solution. Even when the boiler is to be used solely for heating swimming pool water, a WU heat exchanger should be installed to protect the more expensive and harder-to-clean boiler against liming.

When using a WU heat exchanger as a storage tower heater, the local office of the Fire Underwriters' Board should be consulted for specific approval of the installation.

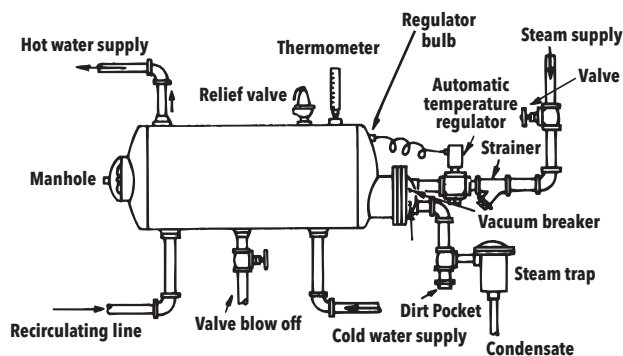
## Condensate Cooling

When used to transfer heat from hot condensate, the WU heat exchanger utilizes heat which would otherwise be wasted. Water thus heated can be used for space heating, washrooms or process work. In come communities, local ordinances states that water above a certain temperature, 100°F to 125°F, cannot be discharged into the sewers. A WU heat exchanger can be used to reduce the condensate temperature.

## Typical Installations - Tank and Heater Units



Vertical Installation



Horizontal Installation

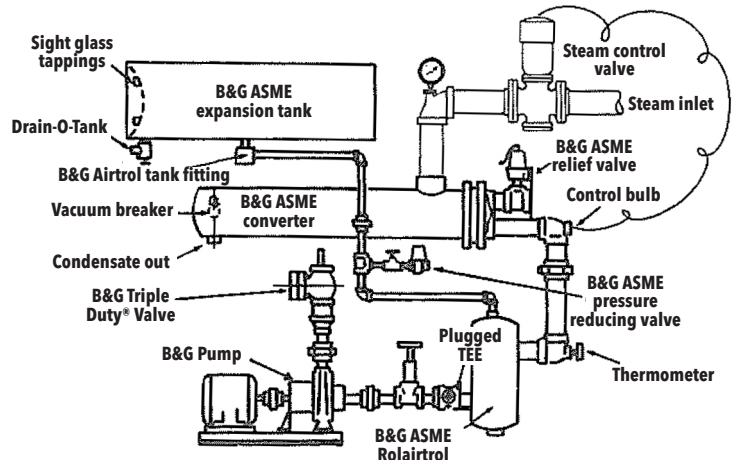
# Water Heaters

- SU heat exchangers are widely used for comfort heating of Apartment Buildings, Hotels, Hospitals, Schools, Industrial and Process Plants and Office Buildings.
- High Rise Buildings utilize the SU heat exchanger to withstand high static pressures so that low pressure steam boilers can be used instead of costly high pressure boilers.
- A SU heat exchanger can be controlled to produce the relatively low temperatures required for radiant panel heating systems. In industrial plants where steam boilers are used for process work, this affords an opportunity to provide the most comfortable type of heating for the building.
- Snow melting panels are widely used to eliminate labor and dangerous conditions. Sidewalks and driveways are easily kept clear of snow and ice by means of antifreeze solutions circulated through pipe coils imbedded in concrete.

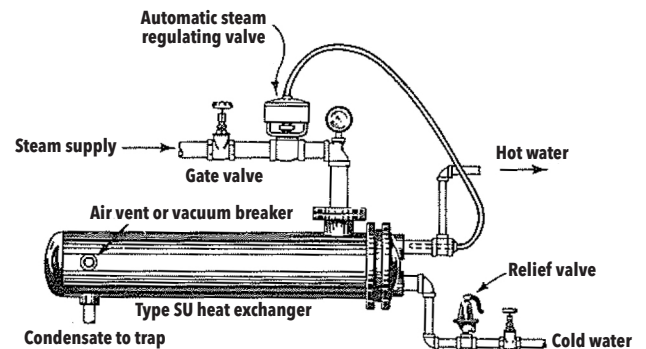
## As an Instantaneous Water Heater

- SU heat exchanger provides an efficient, low cost method of heating faucet water for Apartment Buildings, Hotels, Hospitals, Schools and Industrial Plants. Comparatively small units produce large volumes of hot water, when a proper steam control valve is used.
- When sufficient steam is not available to instantaneously heat water, or when large capacities are required for short intervals, the SU heat exchanger may be used in conjunction with a storage tank.
- SU heat exchanger also may be used as a swimming pool heater. Normally, the smallest unit that can handle the flow rate of the filter pump will adequately heat pool water.

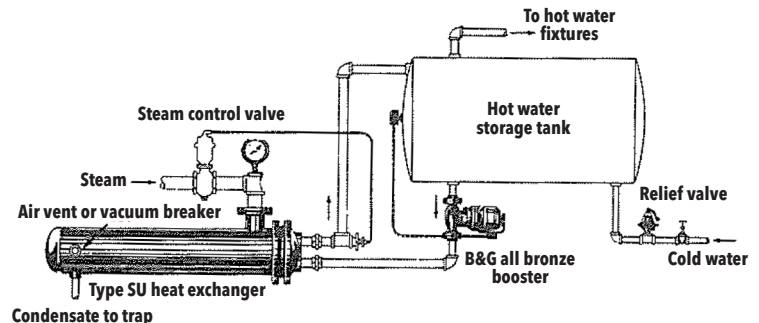
**Typical installation of SU heat exchanger when used as a convertor.**



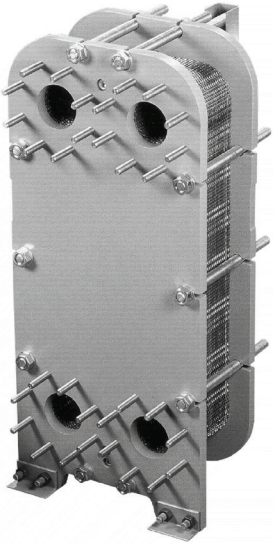
**Typical installation of SU heat exchanger when used as an instantaneous heater.**



**Typical installation of SU heat exchanger when used with a storage tank.**



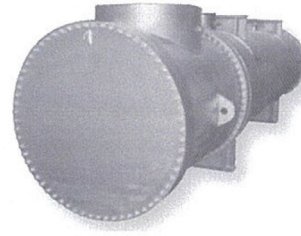
## Other Bell & Gossett Heat Transfer Solutions



**GPX**  
Gasketed plate and  
frame heat



**Brazen Plate**  
Brazen plate heat  
exchanger



**OF/OC**  
Engineered shell  
and tube heat  
exchanger



**CHX/CHXS**  
Pre-engineered  
heat exchanger

## Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're 12,700 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

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