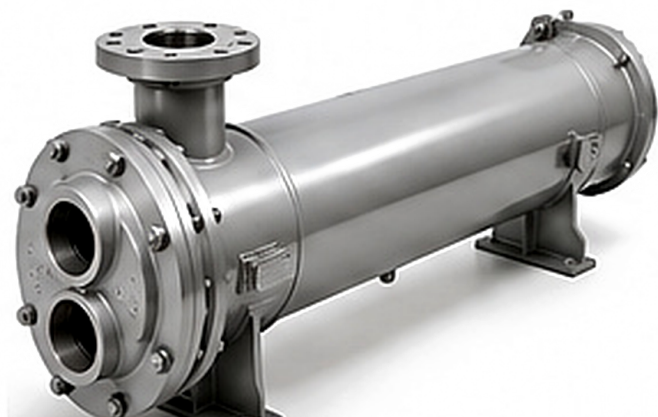


# Steam U-Tube Tank Heaters TCS Series

## STEAM TANK HEATER

SHELL & TUBE

REMOVABLE HEAT-TRANSFER BUNDLE



## Performance Notes

- TCS tank heaters are U-tube immersion heaters intended for steam service. The bundle extends into a tank so steam condenses inside the tubes while the stored liquid is heated around the bundle.
- Shell diameter range in supplied data: 4-14 in..
- Tube length range in supplied data: 12-120 in..
- Tube-pass arrangements in supplied data: 2-Pass.

| Ratings                             | Materials                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Shell pressure</b><br>150 PSI    | <b>Shell</b><br>Steel                                                                                  |
| <b>Tube pressure</b><br>150 PSI     | <b>Tubes</b><br>Copper                                                                                 |
| <b>Maximum temperature</b><br>375°F | <b>Tubesheet / bonnets</b><br>Steel, Steel or Brass, Brass / Cast Iron, Cast Iron or Brass, Cast Brass |

## Series Configuration

| Shell diameter | Tube OD   | Tube passes | Tube lengths | Surface area |
|----------------|-----------|-------------|--------------|--------------|
| 4-14 in.       | 3/4" O.D. | 2-Pass      | 12-120 in.   | 2.1-292 ft²  |

Ratings, materials and dimensional ranges above are summarized from the supplied HeatX/Bell & Gossett catalog spreadsheet. Exact construction varies by model and option code.

# TCS Series Size Range & Model Guide



## CATALOG RANGE FROM SUPPLIED DATA

| Shell dia. | Catalog records | Tube length | Surface area             | Passes | Tube-side conn. |
|------------|-----------------|-------------|--------------------------|--------|-----------------|
| 4"         | 52              | 12-96 in.   | 2.1-18.6 ft <sup>2</sup> | 2-Pass | 1.25" NPT       |
| 6"         | 52              | 12-96 in.   | 3.3-36.2 ft <sup>2</sup> | 2-Pass | 2.0 " NPT       |
| 8"         | 48              | 18-96 in.   | 11-67 ft <sup>2</sup>    | 2-Pass | 3.0" NPT        |
| 10"        | 48              | 24-108 in.  | 27-131 ft <sup>2</sup>   | 2-Pass | 4.0" NPT        |
| 12"        | 48              | 36-120 in.  | 61-212 ft <sup>2</sup>   | 2-Pass | 4.0" NPT        |
| 14"        | 24              | 36-120 in.  | 86-292 ft <sup>2</sup>   | 2-Pass | 6.0" NPT        |

## Construction Summary

| Feature                | Catalog summary                            |
|------------------------|--------------------------------------------|
| Tube construction      | 3/4" O.D.                                  |
| Shell material         | Steel                                      |
| Tube material          | Copper                                     |
| Tubesheet              | Steel, Steel or Brass, Brass               |
| Bonnet / head          | Cast Iron, Cast Iron or Brass, Cast Brass  |
| Tube passes            | 2-Pass                                     |
| Pressure / temperature | Shell: 150 PSI; Tube: 150 PSI; Temp: 375°F |

The range table is intended as a family-level guide. Use the complete part number and current dimensional submittal when replacing an installed exchanger.

# Representative TCS Models

## SELECTED FROM THE SUPPLIED PART-NUMBER FILE

| Part / model     | Shell | Length | Surface | Tube conn. | Passes |
|------------------|-------|--------|---------|------------|--------|
| TCS-412          | 4"    | 12"    | 2.1     | 1.25" NPT  | 2-Pass |
| 5-270-04-096-001 | 4"    | —      | 18.6    | 1.25" NPT  | 2-Pass |
| 5-271-04-084-002 | 4"    | —      | 16.3    | 1.25" NPT  | 2-Pass |
| 5-270-06-066-001 | 6"    | —      | 24.1    | 2.0 " NPT  | 2-Pass |
| 5-271-06-072-002 | 6"    | —      | 26.8    | 2.0 " NPT  | 2-Pass |
| 5-270-08-060-001 | 8"    | —      | 41      | 3.0" NPT   | 2-Pass |
| 5-271-08-084-001 | 8"    | —      | 58      | 3.0" NPT   | 2-Pass |
| 5-270-10-054-001 | 10"   | 54"    | 63.5    | 4.0" NPT   | 2-Pass |
| 5-271-10-108-001 | 10"   | 108"   | 131     | 4.0" NPT   | 2-Pass |
| 5-271-12-066-002 | 12"   | 66"    | 115     | 4.0" NPT   | 2-Pass |
| 5-271-12-120-002 | 12"   | 120"   | 212     | 4.0" NPT   | 2-Pass |
| TCS-14120        | 14"   | 120"   | 292     | 6.0" NPT   | 2-Pass |

## Model / Part-Number Identification

Bell & Gossett heat-transfer equipment exists under multiple numbering generations. The supplied data includes current 5-xxx drawing-style numbers as well as legacy model designations on some series. For replacement work, retain the complete original model, part number and nameplate information rather than inferring construction from a shortened designation.

## Selection Inputs

- Heat load or required duty
- Hot- and cold-side fluids
- Entering and leaving temperatures
- Flow rates on both sides
- Available pressure drop
- Design pressure and temperature
- Fouling allowance and fluid properties
- Required materials, code stamping and double-wall requirement where applicable

# TCS Application & Specification Guide



## ENGINEERING CHECKLIST

### Typical Applications

- Storage tank heating
- Domestic hot-water storage
- Process tank heating
- Industrial wash-water heating

### Specification Notes

- Series: Bell & Gossett TCS
- Configuration: Steam Tank Heater
- Size the exchanger on the actual fluid properties, temperatures, flow rates and allowable pressure drops.
- Confirm the exact model pressure rating, connection size, materials and tube-pass arrangement before release.
- Provide service clearance for bonnet/head removal and bundle withdrawal where the construction is removable.
- For steam service, provide proper condensate drainage and venting. For liquid service, arrange piping to keep the exchanger flooded and ventable.
- Where potable or contamination-sensitive fluids are involved, confirm local code requirements for double-wall construction and leak detection.

### Source & Data Basis

Catalog values and representative part numbers in this HeatX guide are derived from the supplied Bell & Gossett series spreadsheet dated 8/9/2026. Product-family descriptions were cross-checked against official Bell & Gossett / Xylem literature, including: Bell & Gossett TCS/TCW U-Tube Tank Heaters; Xylem heat exchanger literature.

This document is a HeatX selection and replacement reference, not a substitute for the current manufacturer-certified submittal. Dimensions and ratings should be verified for the exact part number before fabrication, purchase or installation.

