Allegheny Bradford Corporation

Custom Sanitary Shell & Tube Heat Exchangers

Allegheny Bradford Corporation

P.O. Box 200
Bradford, PA 16701

814-362-2590 or 800-542-0650
Fax: 814-362-4674
sales@alleghenybradford.com
www.alleghenybradford.com

BRC-HES

Allegheny Bradford offers a full range of products:

ABC Global
ABC Facility

ABC also designs and fabricates industrial shell and tube heat exchangers

Allegheny Bradford Corporation produces a range of shell & tube industrial heat exchangers in 304, 316L, high chromium alloys and titanium for the most demanding applications.

Whether straight-tube, U-tube, or coil design, ABC provides a custom designed heat exchanger tailored to your exacting requirements to maximize the performance and efficiency for your process.

Features include:

• 100% vibrational and acoustic resonance analysis.
• All multi-pass exchangers, straight-tube or U-tube, include accurate counter-current and co-current flow analysis.
• U-tube exchangers can include removable tube bundles allowing for cleaning, maintenance and inspections.
• Precise expansion and contraction calculations are performed on all straight-tube exchangers to determine expansion joint necessity. (Expansion joints are not needed for U-tube designs).
• Reynolds numbers are reported with each design to report the efficiency of the design.
• Precise tube side and shell side pressure drop calculations are reported with every design. (Based on the allowable pressure drop per your specifications).
• TEMA recommended fouling factors are calculated and provided with every design.
• Unsurpassed document control department to ensure receipt of all necessary validation documentation.

Allegheny Bradford heat exchangers are used in many industries:

Food and Beverage
Chemical/Industrial
Electronic/Semiconductor
Wood/Paper
We set the standard in the pharmaceutical industry!

ABC knows BPE

- Allegheny Bradford is actively involved in multiple Bioprocessing Equipment (BPE) subcommittees, ensuring we have a voice in every specification decision.

- We provide the highest quality BPE-compliant heat exchangers and an unsurpassed Turn Over Package, which exceeds all pharmaceutical industry validation requirements.

ABC Custom Heat Exchangers =
Consistent Performance, Reduced Maintenance, and Extended Equipment Life.

Types of heat exchangers we design include:

- **U-Tube**
  - Two-pass
  - Multi-pass

- **Straight-Thru**
  - Single-pass
  - Multi-pass

- **Coil**
  - Low Flow Application

Complete SS or high alloy construction
- 304L & 316L
- UNS N10276
- UNS N08367
- Other alloys upon request

Your ABC Custom Heat Exchanger =
Consistent Performance, Reduced Maintenance, and Extended Equipment Life.

Allegheny Bradford Corporation produces a range of shell & tube industrial heat exchangers in 304, 316L, high chromium alloys and titanium for the most demanding applications.

Whether straight-tube, U-tube, or coil design, ABC provides a custom designed heat exchanger tailored to your exacting requirements to maximize the performance and efficiency for your process.

Features include:
- 100% vibrational and acoustic resonance analysis.
- All multi-pass exchangers, straight-tube or U-tube, include accurate counter-current and co-current flow analysis.
- U-tube exchangers can include removable tube bundles allowing for cleaning, maintenance and inspections.
- Precise expansion and contraction calculations are performed on all straight-tube exchangers to determine expansion joint necessity. (Expansion joints are not needed for U-tube designs).
- Reynolds numbers are reported with each design to report the efficiency of the design.
- Precise tube side and shell side pressure drop calculations are reported with every design. (Based on the allowable pressure drop per your specifications).
- TEMA recommended fouling factors are calculated and provided with every design.
- Unsurpassed document control department to ensure receipt of all necessary validation documentation.

**Allegheny Bradford heat exchangers are used in many industries:**

- Food and Beverage
- Chemical/Industrial
- Electronic/Semiconductor
- Wood/Paper

**Allegheny Bradford Corporation**

814-362-2590 or 800-542-0650

sales@alleghenybradford.com

www.alleghenybradford.com
Every Allegheny Bradford heat exchanger is custom designed to meet your exact requirements.

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Tube Sheet</td>
<td>Eliminates the possibility of cross contamination</td>
</tr>
<tr>
<td>ABC's insulation jacket</td>
<td>Allows for independent expansion of the heat exchanger eliminating stress on the shell side inlet and outlet ports</td>
</tr>
<tr>
<td>ABC utilizes hydraulic tube expansion</td>
<td>Eliminates spiral stress and work hardening, Minimizes damage to tube finish</td>
</tr>
<tr>
<td>Fully radiused pass pockets</td>
<td>Offers industry's best drainability</td>
</tr>
<tr>
<td>Advanced thermal &amp; mechanical design</td>
<td>Ensures: 100% analysis of process vibration and acoustic resonance, Process - specific Reynolds Numbers, Precise pressure drop calculations (tubeside and shellside), TEMA - recommended fouling factors to your specific media</td>
</tr>
</tbody>
</table>

Prior to shipment, every heat exchanger undergoes rigorous testing and documentation procedures that can include:

- Hydrostatic pressure testing
- Dye penetration examination
- Radiography
- Steam testing
- Positive material identification (PMI)
- Profilometer readings of surface finish to ensure surface finishes to less than 10 microinches Ra.
- Fiber optic, borescopic tube inspection and videotaping of product contact surfaces on DVD
- Fennite testing
- Drainage testing
- Saline testing
- Computer-verified performance

You receive complete documentation to comply with your requirements, including data reports, seismic calculations, production drawings, material test reports, and certifications of hydrotest, passivation, surface finish and electropolishing.

Complete Certification

Codes & Standards

- UL-508A
- ASME
- CRN
- Bioprocessing Equipment Standards Committee (BPE)
- OMP
- 3-A
- Ministry of Manpower (MOM)
- The National Board of Boiler and Pressure Vessel Inspectors
- R stamp
- ASTM
- TEMA
- SEP

Team of dedicated professionals who are committed to the responsive customer service YOU need!

Provide you with products that deliver unparalleled performance and dependability.
Allegheny Bradford offers a full range of products:

ABC Global

ABC Facility

Allegheny Bradford Corporation

P.O. Box 200
Bradford, PA 16701
814-362-2590 or 800-542-0650
Fax: 814-362-4674
sales@alleghenybradford.com
www.alleghenybradford.com