Universal Style Steam Traps feature a permanent installation of the Universal Connector with a 2-bolt mounting arrangement for the Universal Steam Trap Module, allowing the Steam Trap to be removed and replaced in minutes:
- without having to unthread piping
- by removing only 2-bolts with a socket or open-end wrench

7 different connectors • 6 different trap modules

Thermodynamic • Thermostatic • Inverted Bucket • Bi-Metallic • Float & Thermostatic

Any Universal Connector will work with any Universal Steam Trap Module

Universal Style Steam Traps are recommended in any application, particularly those which require simple and frequent replacement of steam traps.

Select a Trap Module for your application

<table>
<thead>
<tr>
<th>Model</th>
<th>WU450</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sizes</td>
<td>1/2&quot;, 3/4&quot;, 1&quot;</td>
</tr>
<tr>
<td>Connections</td>
<td>NPT, SW, FLG</td>
</tr>
<tr>
<td>Body Material</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>PMO Max. Operating Pressure</td>
<td>(trap module dependent)</td>
</tr>
<tr>
<td>TMO Max. Operating Temperature</td>
<td>(trap module dependent)</td>
</tr>
<tr>
<td>PMA Max. Allowable Pressure</td>
<td>750 PSIG @ 100°F</td>
</tr>
<tr>
<td>TMA Max. Allowable Temperature</td>
<td>800°F @ 400 PSIG</td>
</tr>
</tbody>
</table>

see following page for connector variations.
Universal Style Steam Traps
( Universal Style Connectors and Universal Trap Modules)

It all adds up.... a Universal Style Connector + a Universal Trap Module = the most convenient, time-efficient & cost effective solution to maintaining your steam traps.

STEP 1: Select an appropriate Universal STEAM TRAP MODULE (shown below) for your application. Consult following pages for Steam Trap details.

STEP 2: Select appropriate Universal CONNECTOR. Any connector shown below will work with any Universal Steam Trap Module (including those of other manufacturers).

STEP 3: Order configured Universal Style Steam Traps.

UNIVERSAL TRAP MODULES

- WD450
  - WD450L Thermodynamic “Top Mount”
  - Only recommended for Horizontal Piping Installations
- WD450SM
- WD450LSM
- WD600LSM-HP Thermodynamic “Side Mount”
- WT450 Thermostatic
- WB450 Bi-Metallic
- WSIB450
  - WSIB450H Inverted Bucket
- WFT450 Float & Thermostatic

UNIVERSAL CONNECTORS

- WU450
  - No Strainer
- WU450S Strainer
- WU450SB Strainer & Blowdown
- WU450S-LR Strainer
- WU450SB-LR Strainer & Blowdown
- WU450S-RL Strainer
- WU450SB-RL Strainer & Blowdown

FEATURES

- 2-bolt mounting allows Trap Module to be removed and replaced without having to unthread piping
- Trap module can swivel 360º on the universal connector allowing proper orientation
- Compatible with other manufacturers trap modules
- All stainless steel construction
- Flange connections available for connector

Models WU450-LR (left to right flow as viewed) are Standard.
Models WU450-RL (right to left flow as viewed) Connectors were made available for situations where problems occur due to obstructions or trap mounting orientation.
Universal Connectors are used in steam systems to simplify the replacement and maintenance of Steam Traps.

Universal Connectors allow Steam Traps to be removed and replaced in minutes without having to unthread piping.

Two bolts connect the steam trap module to the permanently-installed universal connector, allowing the trap module to be quickly and easily removed and replaced using an open-end or socket wrench. Universal Style Steam Traps are commonly used in chemical plants, petrochemical refineries, paper mills and most other industrial facilities. Watson McDaniel’s WU450 connectors conform to industrial standards, making them compatible with other manufacturers’ universal steam trap modules.

Watson McDaniel recommends using the Universal Style Steam Traps in any application, in particular those which require frequent maintenance or replacement of steam traps.

- Universal style steam traps with 2-bolt mounting allows for fast, easy replacement of trap module, making it more cost-effective than replacing conventional type steam traps
- All stainless steel construction
- Trap module can swivel 360° on the universal connector allowing any orientation during installation
- These universal connectors are compatible with most other manufacturer’s trap modules
- Universal connectors are available with integral strainer and blowdown valve
UNIVERSAL STYLE STEAM TRAPS

WU450 Series

Universal Connectors for Universal Steam Trap Modules

<table>
<thead>
<tr>
<th>Model</th>
<th>WU450, WU450S, WU450SB WU450S-LR, WU450SB-LR, WU450S-RL, WU450SB-RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sizes</td>
<td>1/2&quot;, 3/4&quot;, 1&quot;</td>
</tr>
<tr>
<td>Connections</td>
<td>NPT, SW, FLG</td>
</tr>
<tr>
<td>Body Material</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>PMO Max. Operating Pressure</td>
<td>(trap module dependent)</td>
</tr>
<tr>
<td>TMO Max. Operating Temperature</td>
<td>(trap module dependent)</td>
</tr>
<tr>
<td>PMA Max. Allowable Pressure</td>
<td>750 PSIG @ 100ºF</td>
</tr>
<tr>
<td>TMA Max. Allowable Temperature</td>
<td>800ºF @ 400 PSIG</td>
</tr>
</tbody>
</table>

Steam Trap Modules that mount to Universal Connectors are shown on the following pages. Trap modules available in: Inverted Bucket, Float & Thermostatic, Thermodynamic, Thermostatic and Bi-metallic type.

TYPICAL APPLICATIONS

DRIP, TRACER: The WU450 Series Universal Connectors are used in steam systems where a simplified and economical maintenance program of steam traps is desired. These universal connectors can be used for drip service on steam mains and steam supply lines, tracing, or small process equipment. Industrial standard 2-bolt universal connectors are commonly used in chemical plants, petrochemical refineries, paper mills and other industrial facilities. The WU450 connectors conform to industrial standards, making them compatible with other manufacturers’ universal steam trap modules.

Used with the following Watson McDaniel Steam Trap Modules:

- WSIB450 - Inverted Bucket
- WD450 - Thermodynamic
- WD450SM - Thermodynamic
- WD600LSM - Thermodynamic
- WT450 - Thermostatic
- WFT450 - Float & Thermostatic
- WB450 - Bi-Metallic

HOW IT WORKS

WU450 universal connectors remain permanently installed in the piping system. The convenient 2-bolt mounting system allows the trap module to be replaced quickly and easily using a socket or open-end wrench.

FEATURES

- Universal connector with 2-bolt mounting allows for fast, easy replacement of trap module making it more cost-effective than replacing conventional type steam traps
- All stainless steel construction
- Trap module can rotate 360° on the universal connector allowing any orientation during installation
- Compatible with most other manufacturers’ trap modules
- Available with integral strainer and blowdown valve

SAMPLE SPECIFICATION

The Universal Connector shall be all stainless steel construction with a two-bolt 360 degree swivel mount flange design and available with integral strainer and blowdown valve.

INSTALLATION

The universal connector can be installed in any position. Installation should include isolation valves.

MAINTENANCE

The strainer should be periodically cleaned by removal or use of the optional blowdown valve. For full maintenance details see Installation and Maintenance Manual.

MATERIALS

<table>
<thead>
<tr>
<th>Body</th>
<th>Stainless Steel, AISI 316</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strainer</td>
<td>40 Mesh Stainless Steel, AISI 304</td>
</tr>
<tr>
<td>Blowdown Valve</td>
<td>Stainless Steel, AISI 303</td>
</tr>
</tbody>
</table>

HOW TO SIZE/ORDER

Specify universal connector. See following pages for Steam Trap Modules.
**UNIVERSAL STYLE STEAM TRAPS**

**WU450 Series**

**Universal Connectors - Dimensions**

**WU450, WU450S, WU450SB, Universal Connectors**

Connectors available in 1/2”, 3/4” and 1” sizes in NPT or Socket-Weld Connections

**Dimensions - inches**

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2”</td>
<td>1.50</td>
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<tr>
<td>3/4”</td>
<td>1.50</td>
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</tr>
<tr>
<td>1”</td>
<td>1.75</td>
<td>3.35</td>
</tr>
</tbody>
</table>

Note: Optional Flange units available.

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WU450 Series Universal Connectors

WU450S-LR & WU450SB-LR Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT or Socket-Weld Connections

Flow Direction - LEFT TO RIGHT

WU450S-LR (Strainer)
WU450SB-LR (Strainer & Blowdown)

Note: Optional Flange units available.

WU450S-RL & WU450SB-RL Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT or Socket-Weld Connections

Flow Direction - RIGHT TO LEFT

WU450SB-RL (Strainer & Blowdown)
WU450S-RL (Strainer)
**UNIVERSAL STYLE STEAM TRAPS**

**WSIB450**

Inverted Bucket Steam Trap Module (mounts to Universal Connectors)

- **Model**: WSIB450, WSIB450H
- **Connections**: Fits WU450 Series universal connectors
- **Body Material**: Stainless Steel
- **PMO Max. Operating Pressure**: 450 PSIG*
- **TMO Max. Operating Temperature**: 800°F
- **PMA Max. Allowable Pressure**: 720 PSIG @ 100°F
- **TMA Max. Allowable Temperature**: 800°F @ 400 PSIG

*750°F @ operating pressures below 400 PSIG. See installation note regarding using trap in superheated applications.

Steam trap modules can be used with other manufacturers' Universal Connectors.

**TYPICAL APPLICATIONS**

**DRIP, TRACER**: The WSIB450 inverted bucket steam trap module, mounted to a universal connector, is typically used for drip and tracing applications. Also used on process equipment with light loads and where air removal is not critical. The WSIB450 trap module mounts to any universal connector.

**HOW IT WORKS**

The universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module is bolted to the universal connector with two bolts and sealed with a gasket. When a new trap module is needed, it can be easily removed and replaced with a standard open-end or socket wrench without disturbing the existing piping.

**SAMPLE SPECIFICATION**

The steam trap shall be an all stainless steel modular design, inverted bucket type with a frictionless valve lever assembly. The trap shall have a 360 degree swivel mount on a stainless steel Universal Connector that is available with integral strainer and blowdown valve options.

**INSTALLATION & MAINTENANCE**

Trap module must be installed in orientation shown. Installation should include isolation valves. With superheated steam, a check valve must be installed at inlet of trap. For full maintenance details, see Installation and Maintenance Manual.

**CAPACITIES – Condensate (lbs/hr)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Orifice Size</th>
<th>PMO Size</th>
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<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>40</th>
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<th>60</th>
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<th>450</th>
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</thead>
<tbody>
<tr>
<td>WSIB450-20</td>
<td>3/16”</td>
<td>0.20</td>
<td>450</td>
<td>560</td>
<td>640</td>
<td>690</td>
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<tr>
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<td>WSIB450H-30</td>
<td>3/16”</td>
<td>0.30</td>
<td>530</td>
<td>700</td>
<td>820</td>
<td>880</td>
<td>950</td>
<td>1000</td>
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<tr>
<td>WSIB450H-70</td>
<td>5/32”</td>
<td>0.70</td>
<td>380</td>
<td>500</td>
<td>560</td>
<td>620</td>
<td>680</td>
<td>710</td>
<td>770</td>
<td>840</td>
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<td>WSIB450H-200</td>
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<td>205</td>
<td>265</td>
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<td>810</td>
<td>840</td>
<td>860</td>
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<td>WSIB450H-250</td>
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<td>WSIB450H-450</td>
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<td>198</td>
<td>208</td>
<td>215</td>
<td>228</td>
<td>248</td>
<td>263</td>
</tr>
</tbody>
</table>

**MATERIALS**

- **Body**: Stainless Steel GR CF3
- **Cover**: 304L Stainless Steel
- **Internals**: 300 Series Stainless Steel
- **Valve Plug & Seat**: 420F Stainless Steel
- **Bolts**: ASTM A193 GR B7
- **Gasket**: Spiral-Wound 304 Stainless Steel with Grafoil Filler
- **Swivel Flange**: 303 Stainless Steel

**OPTIONS**

Universal Connectors are available with an integral strainer and blowdown valve. Connector is purchased separately. See the WU450 Universal Connectors section for more information.

**FEATURES**

- Trap module can be easily removed and replaced in minutes without having to disconnect any piping
- Hardened stainless steel valves and seat
- Freeze resistant
- Connectors available with integral strainers and blowdown valves
- 360° swivel design for convenient installation

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UNIVERSAL STYLE STEAM TRAPS

WFT450

Float & Thermostatic Steam Trap Module (mounts to Universal Connectors)

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity (lbs/hr)</th>
<th>PMO Differential Pressure (PSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WFT450-15</td>
<td>15</td>
<td>390, 490, 620, 780, 1050, 1320, 1500</td>
</tr>
<tr>
<td>WFT450-65</td>
<td>65</td>
<td>115, 155, 205, 270, 390, 520, 610, 685, 810, 910, 995, 1110</td>
</tr>
<tr>
<td>WFT450-145</td>
<td>145</td>
<td>55, 75, 100, 135, 200, 270, 320, 365, 435, 490, 540, 600, 640, 725, 795, 850</td>
</tr>
<tr>
<td>WFT450-225</td>
<td>225</td>
<td>40, 50, 70, 95, 135, 185, 220, 245, 290, 330, 360, 405, 430, 485, 530, 565, 645, 680</td>
</tr>
</tbody>
</table>

Steam trap modules can be used with other manufacturers’ Universal Connectors.

**Typical Applications**

**Process, Drip:** The WFT450 Float & Thermostatic trap module mounted to a universal connector, is typically used on process equipment that generate light condensate loads and require excellent air handling capabilities. These low capacity float & thermostatic trap modules can also be used in drip service on steam mains, tracer systems and steam supply lines. The WFT450 trap module mounts to any universal connector.

**How It Works**

The universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module is bolted to the universal connector with two bolts and sealed with a gasket. When a new trap module is needed, it can be easily removed and replaced with a standard open-end or socket wrench without disturbing the existing piping.

**Sample Specification**

The steam trap shall be an all stainless steel modular design, float & thermostatic unit. The thermostatic air vent to be pressure balanced welded bellows. The trap shall have a 360 degree swivel mount on a stainless steel Universal Connector that is available with integral strainer and blowdown valve options.

**Installation & Maintenance**

Trap module must be installed in orientation shown. Installation should include isolation valves. For full maintenance details, see Installation and Maintenance Manual.

**Options**

Universal Connectors are available with an integral strainer and blowdown valve. Connector is purchased separately. See the Universal Connectors section for more information.

**Features**

- Trap module can be easily removed and replaced in minutes without having to disconnect any piping
- Hardened stainless steel valves and seat
- Freeze resistant
- Connectors available with integral strainers and blowdown valves
- 360° swivel design for convenient installation

**Materials**

- Body: Stainless Steel GR CF3
- Cover: 304L Stainless Steel
- Internals: 300 Series Stainless Steel
- Valve Disc: 420F Stainless Steel
- Valve Seat: 17-4 PH Stainless Steel
- Bolts: ASTM A193 GR B7
- Gasket: Spiral-Wound 304 Stainless Steel with Grafoil Filler
- Swivel Flange: 303 Stainless Steel

**Capacities – Condensate (lbs/hr)**

- **PMO (PSIG):** 15, 65, 145, 225
- **Differential Pressure (PSI):** 1/4, 1/2, 1, 2, 5, 10, 15, 20, 30, 40, 50, 65, 75, 100, 125, 145, 200, 225

Watson McDaniel

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**UNIVERSAL STYLE STEAM TRAPS**

**WD450 & WD450SM**

Thermodynamic Steam Trap Module (mounts to Universal Connectors)

<table>
<thead>
<tr>
<th>Model</th>
<th>WD450SM, WD450LSM (Side Mount Style)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WD450</td>
<td>WD450L (Top Mount Style)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connections</th>
<th>Fits WU450 Series Universal Connectors</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Body Material</th>
<th>Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMO Max. Operating Pressure</td>
<td>450 PSIG</td>
</tr>
<tr>
<td>TMO Max. Operating Temperature</td>
<td>750°F</td>
</tr>
<tr>
<td>PMA Max. Allowable Pressure</td>
<td>720 PSIG @ 100°F</td>
</tr>
<tr>
<td>TMA Max. Allowable Temperature</td>
<td>800°F @ 400 PSIG</td>
</tr>
</tbody>
</table>

Steam trap modules can be used with other manufacturers’ Universal Connectors.

**TYPICAL APPLICATIONS**

**DRIP, TRACER:** The WD450SM & WD450 steam trap modules mounted to a universal connector can be used anywhere conventional thermodynamic steam traps are used. Used on drip, tracing and light process applications where removal of air is not critical. The WD450 & WD450SM trap modules mount to any Universal Connector. The WD450 is recommended for horizontal piping only so that cap can be oriented upwards, as shown.

**HOW IT WORKS**

The universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module is bolted to the universal connector with two bolts and sealed with two gaskets. When a new trap module is needed, it can be easily removed and replaced with a standard open-end or socket wrench without disturbing the existing piping.

**FEATURES**

- Trap module can be easily removed and replaced in minutes without having to disconnect any piping
- Trap modules can be used with most manufacturers’ 2-bolt universal connector
- All stainless steel construction with hardened seat

**SAMPLE SPECIFICATION**

The steam trap module shall be designed to attach to the industry standard two-bolt universal connector. Trap module shall be of a thermodynamic design. Universal connector shall conform to the two bolt industry standard with integral strainer and blowdown options.

**INSTALLATION**

Trap module must be installed in orientation shown. Isolation valves should be installed before and after the universal connector to facilitate maintenance. Trap module is attached to the connector using two bolts and two sealing gaskets.

**MAINTENANCE**

If the trap fails for any reason, replace only the trap module. If universal connector is equipped with an integral strainer it should be cleaned periodically. For full maintenance details see Installation and Maintenance Manual.

**OPTIONS**

Universal Connectors are available with an integral strainer and blowdown valve. Connector is purchased separately. See the Universal Connectors section for more information.

**MATERIALS**

- **Body**  Stainless Steel, AISI 420
- **Disc**  Stainless Steel, AISI 420
- **Cap**  Stainless Steel, AISI 416
- **Insulation Cover**  Stainless Steel, AISI 304
- **Bolts**  Steel, ASTM A193 GR B7
- **Gaskets (2)**  Spiral Wound 304 Stainless Steel with Grafoil Filler

**CAPACITIES**

<table>
<thead>
<tr>
<th>Model</th>
<th>4</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>75</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
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<tbody>
<tr>
<td>WD450L</td>
<td>140</td>
<td>215</td>
<td>242</td>
<td>270</td>
<td>295</td>
<td>320</td>
<td>355</td>
<td>390</td>
<td>455</td>
<td>510</td>
<td>600</td>
<td>670</td>
<td>730</td>
<td>790</td>
<td>840</td>
<td>880</td>
<td>925</td>
</tr>
<tr>
<td>WD450LSM</td>
<td>247</td>
<td>370</td>
<td>420</td>
<td>475</td>
<td>520</td>
<td>560</td>
<td>625</td>
<td>685</td>
<td>800</td>
<td>900</td>
<td>1060</td>
<td>1185</td>
<td>1300</td>
<td>1400</td>
<td>1485</td>
<td>1560</td>
<td>1630</td>
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High-Pressure Thermodynamic Steam Trap Module (mounts to Universal Connectors)

**Model**  
WD600LSM-HP (Side Mount Style)

**Connections**  
Fits WU450 Series Universal Connectors

**Body Material**  
Stainless Steel

**PMO Max. Operating Pressure**  
600 PSIG

**TMO Max. Operating Temperature**  
750°F

**PMA Max. Allowable Pressure**  
720 PSIG @ 100°F

**TMA Max. Allowable Temperature**  
800°F @ 600 PSIG

Steam trap modules can be used with other manufacturers’ Universal Connectors.

**TYPICAL APPLICATIONS**

**DRIP, TRACER:** The WD600LSM-HP steam trap module mounted to a universal connector can be used anywhere conventional thermodynamic steam traps are used. Used on drip, tracing and light process applications where removal of air is not critical. The WD600LSM-HP trap module mounts to any Universal Connector.

**HOW IT WORKS**
The universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module is bolted to the universal connector with two bolts and sealed with two gaskets. When a new trap module is needed, it can be easily removed and replaced with a standard open-end or socket wrench without disturbing the existing piping.

**FEATURES**

- Trap module can be easily removed and replaced in minutes without having to disconnect any piping
- Trap modules can be used with most manufacturers’ 2-bolt universal connector
- All stainless steel construction with hardened seat

**SAMPLE SPECIFICATION**
The steam trap module shall be designed to attach to the industry standard two-bolt universal connector. Trap module shall be of a thermodynamic design. Universal connector shall conform to the two bolt industry standard with integral strainer and blowdown options.

<table>
<thead>
<tr>
<th><strong>Capacities</strong></th>
<th>Condensate (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>600</td>
</tr>
<tr>
<td>WD600LSM-HP</td>
<td>465</td>
</tr>
<tr>
<td></td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>550</td>
</tr>
<tr>
<td></td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>675</td>
</tr>
<tr>
<td></td>
<td>730</td>
</tr>
</tbody>
</table>

**MATERIALS**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Stainless Steel, AISI 420</td>
</tr>
<tr>
<td>Disc</td>
<td>Stainless Steel, AISI 420</td>
</tr>
<tr>
<td>Cap</td>
<td>Stainless Steel, AISI 416</td>
</tr>
<tr>
<td>Insulation Cover</td>
<td>Stainless Steel, AISI 304</td>
</tr>
<tr>
<td>Bolts</td>
<td>Steel, ASTM A193 GR B7</td>
</tr>
<tr>
<td>Gaskets (2)</td>
<td>Spiral Wound 304 Stainless Steel with Grafoil Filler</td>
</tr>
</tbody>
</table>
**UNIVERSAL STYLE STEAM TRAPS**

**WT450**

Thermostatic Steam Trap Module (mounts to Universal Connectors)

<table>
<thead>
<tr>
<th>Model</th>
<th>WT450</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>Fits WU450 Series Universal Connectors</td>
</tr>
<tr>
<td>Body Material</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>PMO Max. Operating Pressure</td>
<td>450 PSIG</td>
</tr>
<tr>
<td>TMO Max. Operating Temperature</td>
<td>Saturated Steam Temp.</td>
</tr>
<tr>
<td>PMA Max. Allowable Pressure</td>
<td>720 PSIG @ 100°F</td>
</tr>
<tr>
<td>TMA Max. Allowable Temperature</td>
<td>800°F @ 400 PSIG</td>
</tr>
</tbody>
</table>

Steam trap modules can be used with other manufacturers' Universal Connectors.

**TYPICAL APPLICATIONS**

**DRIP, TRACER, PROCESS:** The WT450 steam trap module mounted on a universal connector can be used anywhere conventional thermostatic steam traps are used. Used on drip, tracing and light process applications. The WT450 trap module mounts to any universal connector.

**HOW IT WORKS**

The universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module is bolted to the universal connector with two bolts and sealed with two gaskets. When a new trap module is needed, it can be easily removed and replaced with a standard open-end or socket wrench without disturbing the existing piping.

**FEATURES**

- Trap module can be easily removed and replaced in minutes without having to disconnect any piping
- Trap modules can be used with most manufacturers’ 2-bolt universal connector
- All stainless steel construction with hardened seat

**SAMPLE SPECIFICATION**

The steam trap module shall be designed to attach to the industry standard two-bolt universal connector. Trap module shall be of a thermostatic design. The universal connector shall conform to the two-bolt industry standard with integral strainer and blowdown options.

**CAPACITIES – Condensate (lbs/hr)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Orifice Size</th>
<th>5</th>
<th>10</th>
<th>20</th>
<th>50</th>
<th>100</th>
<th>125</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
</tr>
</thead>
<tbody>
<tr>
<td>WT450</td>
<td>3/16”</td>
<td>441</td>
<td>625</td>
<td>882</td>
<td>1391</td>
<td>1827</td>
<td>1969</td>
<td>2095</td>
<td>2305</td>
<td>2483</td>
<td>2636</td>
<td>2777</td>
<td>3019</td>
<td></td>
</tr>
</tbody>
</table>

Note: 5/64” low capacity orifice is available upon request.

**INSTALLATION**

Isolation valves should be installed before and after the universal connector to facilitate maintenance. Trap module is attached to the connector using two bolts and two sealing gaskets.

**MAINTENANCE**

When a new trap module is needed, it can be easily removed and replaced with a standard open-end wrench without disturbing the existing piping. If the universal connector is equipped with an integral strainer it should be cleaned periodically. For full maintenance details see Installation and Maintenance Manual.

**OPTIONS**

Universal Connectors are available with an integral strainer and blowdown valve. Connector is purchased separately. See the Universal Connectors section for more information.

**MATERIALS**

| Body | Stainless Steel, AISI 420 |
| Thermal Element | Stainless Steel, AISI 302 |
| Disc & Seat | Stainless Steel, AISI 420 |
| Insulation Cover | Stainless Steel, AISI 304 |
| Bolts | Steel, ASTM A193 GR B7 |
| Gaskets (2) | Spiral Wound 304 Stainless Steel with Grafoil Filler |

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STEAM TRAPS
Bi-Metallic **Steam Trap Module** (mounts to Universal Connectors)

**Model**: WB450

**Connections**: Fits WU450 Series Universal Connectors

**Body Material**: Stainless Steel

**PMO Max. Operating Pressure**: 450 PSIG

**TMO Max. Operating Temperature**: 662˚F

**PMA Max. Allowable Pressure**: 720 PSIG @ 100˚F

**TMA Max. Allowable Temperature**: 800ºF @ 400 PSIG

Steam trap modules can be used with other manufacturers’ Universal Connectors.

**TYPICAL APPLICATIONS**

The **WB450** Series Bi-Metallic Module is used in steam tracing applications (process lines, instrumentation and winterization, general steam jacketing) and small process applications where accurate control of condensate discharge temperature is required to provide maximum usage of energy.

**HOW IT WORKS**

Bi-Metallic plates of dissimilar metals respond to steam temperature variations, whereby the metals are relaxed at relatively cool conditions, such as start-up, and the trap is open for the discharge of condensate. As temperature nears the preset subcool temperature below saturation, the metals react and expand, closing the trap and preventing the loss of live steam. Field adjustability of the bimetal element allows precise control of the condensate discharge temperature.

**FEATURES**

- Excellent for various steam tracing and small process applications where maximum energy usage is desired
- Field-adjustable bimetal element allows precise control of condensate discharge temperature, providing maximum use of additional energy in the condensate
- Internal screen and seat/plug design help prevent pipe scale and debris from accumulating on seating surfaces to provide trouble-free operation

### Maximum Trap Capacities at Various Inlet Pressures and Set Temperatures – Condensate (lbs/hr)

<table>
<thead>
<tr>
<th>Set Temperature (˚F)</th>
<th>15</th>
<th>30</th>
<th>50</th>
<th>100</th>
<th>125</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
</tr>
</thead>
<tbody>
<tr>
<td>220˚F</td>
<td>56</td>
<td>70</td>
<td>102</td>
<td>144</td>
<td>161</td>
<td>177</td>
<td>204</td>
<td>228</td>
<td>250</td>
<td>270</td>
<td>289</td>
<td>306</td>
</tr>
<tr>
<td>240˚F</td>
<td>116</td>
<td>164</td>
<td>212</td>
<td>300</td>
<td>336</td>
<td>368</td>
<td>425</td>
<td>475</td>
<td>520</td>
<td>562</td>
<td>600</td>
<td>637</td>
</tr>
<tr>
<td>260˚F</td>
<td>134</td>
<td>190</td>
<td>245</td>
<td>346</td>
<td>387</td>
<td>424</td>
<td>490</td>
<td>548</td>
<td>600</td>
<td>648</td>
<td>693</td>
<td>735</td>
</tr>
<tr>
<td>280˚F</td>
<td>143</td>
<td>202</td>
<td>261</td>
<td>370</td>
<td>413</td>
<td>453</td>
<td>523</td>
<td>584</td>
<td>640</td>
<td>691</td>
<td>739</td>
<td>784</td>
</tr>
</tbody>
</table>

**Notes:**

1) Capacities in chart are based on discharging condensate to atmosphere with a condensate temperature of 200˚F.
2) Maximum discharge capacity up to 970 lbs/hr, depending on operating condition requirements.
3) Contact factory for additional information including other condensate set and discharge temperatures.
4) To ensure proper operation and eliminate possible steam loss, the Set Temperature should be lower than 27˚F subcool (degrees below inlet steam saturation temperature).
UNIVERSAL STYLE STEAM TRAPS

450 Series

WT450 & WD450 Steam Traps with Universal Connectors

WT450 Trap Module with Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT and Socket-Weld Connections

Units: inches

WT450 Trap Module with WU450 Connector

WD450 Trap Module with Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT and Socket-Weld Connections

Units: inches

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WSIB450 Trap Module with Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT or Socket-Weld Connections

Units: inches

WSIB450
A-Dimension = 5.81"

WSIB450H
A-Dimension = 6.81"

WSIB450
A-Dimension = 6.12"

WSIB450H
A-Dimension = 7.12"

Note: Optional Flange units available.
UNIVERSAL STYLE STEAM TRAPS

450 Series
WFT450 Steam Trap Modules with Universal Connectors - Dimensions

WFT450 Trap Module with Universal Connectors
Connectors available in 1/2”, 3/4” and 1” sizes in NPT or Socket-Weld Connections

Units: inches

WFT450 Trap Module

WU450 CONNECTOR

WU450SB CONNECTOR
Strainer & Blowdown

WU450SB-RL CONNECTOR
Strainer & Blowdown

WU450SB-LR CONNECTOR
Strainer & Blowdown

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WB450 Trap Module with Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT and Socket-Weld Connections

WD450SM & WD600LSM-HP Trap Module with Universal Connectors
Connectors available in 1/2", 3/4" and 1" sizes in NPT and Socket-Weld Connections

**DIMENSIONS — inches**

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
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<tbody>
<tr>
<td>1/2&quot;</td>
<td>3.31</td>
<td>3.25</td>
<td>3.78</td>
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<tr>
<td>3/4&quot;</td>
<td>3.31</td>
<td>3.25</td>
<td>3.78</td>
</tr>
<tr>
<td>1&quot;</td>
<td>3.62</td>
<td>3.44</td>
<td>3.95</td>
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