

UC450 Series

Quick-Change Universal Style Trap-Connector System

The **UC450 Series QUICK-CHANGE Universal Trap-Connector System** with multiple choices for trap modules and multiple choices for connectors are used in steam systems where a simplified and economical maintenance program of steam traps is desired. These Universal Style quick replacement steam traps can be used on steam supply lines as well as for tracing and small process applications. They are commonly used in chemical plants, petrochemical refineries, paper mills and other industrial facilities.

The All Stainless Steel 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:

- Steam trap is replaced without having to unthread piping
- By removing only 2 bolts with a socket or open-end wrench
- Trap module can swivel 360° on the universal connector allowing proper orientation



“QUICK-CHANGE” Universal Trap Modules

STEP 1:
Select an appropriate Universal **STEAM TRAP MODULE**



UTD450
Thermodynamic
"Top Mount"



UTD450SM
Thermodynamic
"Side Mount"



UT450
Thermostatic
Bellows



UB450
Thermostatic
Adjustable Bi-Metal



USIB450
Inverted
Bucket



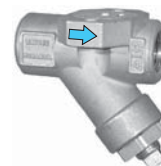
UFT450
Float &
Thermostatic

“QUICK-CHANGE” Universal Connectors

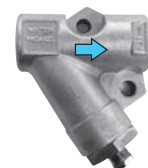
STEP 2:
Select appropriate Universal **CONNECTOR**. Any Universal Connector (shown right) will work with any Universal Steam Trap Module. (Including those of other manufacturers. See product catalog for full offering of Connectors.) Trap orientation must be considered.



UC450



UC450S



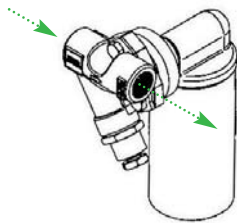
UC450SR

Why Use the UC450 Series "QUICK-CHANGE" Universal Style Trap-Connector System ?

Quick-Change Steam Traps are recommended in any application – particularly those which require simple and frequent replacement of steam traps

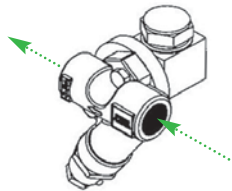
Universal Connectors These Connectors remain permanently installed in the piping system. The convenient 2-bolt mounting system allows the Trap Module to be replaced quickly and easily using a socket or open-end wrench without having to unthread piping.

Quick-Change Steam Trap Modules with Universal Connectors



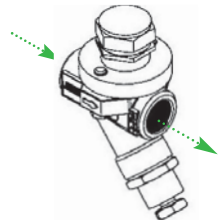
Inverted Bucket Trap

USIB450 Steam Trap
(shown with)
UC450S Connector



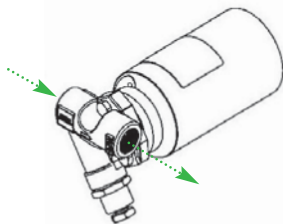
Thermodynamic "side-mount" Trap

UTD450SM Steam Trap
(shown with)
UC450SBL Connector



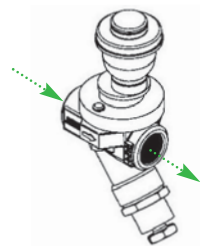
Thermodynamic "top-mount" Trap

UTD450 Steam Trap
(shown with)
UC450SB Connector



Float & Thermostatic Trap

UFT450 Steam Trap
(shown with)
UC450SBR Connector



Thermostatic Trap

UT450 Steam Trap
(shown with)
UC450SB Connector

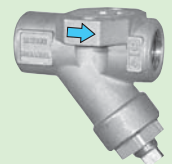
4 basic configurations of connectors are available:
UC450, UC450S & UC450R/
UC450L.

Choice is based on strainer orientation or if a piping interference exists.

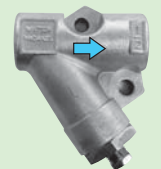
The UC450SR is the standard connector choice. The R & L versions are a mirror image of each other and are strictly a user's preference based on piping orientation.



UC450



UC450S



UC450SR

UC450 Series

Universal Style Quick-Change Connectors

(For use with Universal Quick-Change Trap Modules)

Model	UC450, UC450S, UC450SB UC450SR, UC450SBR, UC450SL, UC450SBL
Sizes	1/2", 3/4", 1"
Connections	NPT, SW, FLG
Body Material	Stainless Steel
PMO Max. Operating Pressure	(trap module dependent)
TMO Max. Operating Temperature	(trap module dependent)
PMA Max. Allowable Pressure	750 PSIG @ 100°F
TMA Max. Allowable Temperature	800°F @ 400 PSIG

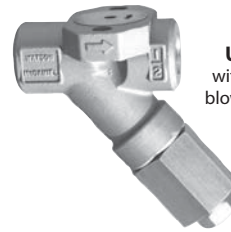
Steam Trap Modules that mount to Universal Connectors are shown on the following pages. Trap modules available in: Inverted Bucket, Float & Thermostatic, Thermodynamic, Thermostatic and Bi-metallic type.



UC450
no strainer



UC450S
with strainer



UC450SB
with strainer &
blowdown valve

Typical Applications

DRIP, TRACER: UC450 Series Universal Trap Connectors reduce the time and manpower to replace steam traps. The stainless steel Connector remains permanently in-line allowing steam trap module to be replaced in minutes. These universal connectors can be used for drip service on steam mains and steam supply lines, tracing, or for small process equipment. Industrial standard 2-bolt universal connectors are commonly used in chemical plants, petrochemical refineries, paper mills, and other industrial facilities. The UC450 connectors conform to industrial standards, making them compatible with other manufacturers' universal steam trap modules.

Used with the following Watson McDaniel Steam Trap Modules:

USIB450	- Inverted Bucket
UTD450	- Thermodynamic
UTD450SM	- Thermodynamic
UTD600LSM	- Thermodynamic
UT450	- Thermostatic
UFT450	- Float & Thermostatic
UB450	- Bi-Metallic

How It Works

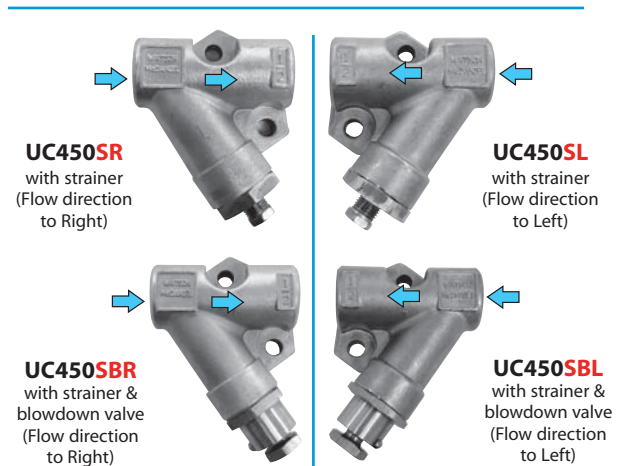
Universal connectors remain permanently installed in the piping system. The convenient 2-bolt mounting system allows the trap module to be removed and replaced quickly and easily using a socket or open-end wrench without disturbing the existing piping.

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 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.



Note: Optional Flanged units available.

Installation and Maintenance

The universal connector can be installed in vertical or horizontal piping and available in 1/2", 3/4" and 1" threaded NPT and socket weld (SW). In horizontal installations, orientation of connector body may be dependent on the specific type of trap module used. These connectors remain permanently installed in the piping system. The convenient 2-bolt mounting system allows the trap module to be easily replaced using a socket or open-end wrench without having to unthread piping.

MATERIALS

Body	Stainless Steel, AISI 316
Strainer	40 Mesh Stainless Steel, AISI 304
Blowdown Valve	Stainless Steel, AISI 303

How to Size / Order

Connectors and Trap Modules are ordered separately. See following pages for the Trap Modules.

UC450 Series

Universal Style Quick-Change Connectors

(For use with Universal Quick-Change Trap Modules)

Helpful Selection Information
 Choose the desired style connector:
 UC450, UC450S
 UC450SR (flow to right)
 UC450SL (flow to left)

Four basic configurations of connectors are available: UC450, UC450S, and UC450SR/UC450SL. The UC450SR (with strainer, flow to right) is the most common connector choice. Choice is based upon strainer orientation or if a piping interference exists. All connector styles operate with any trap module. The **R** and **L** versions are mirror images of each other and are selected based on which side the user prefers the trap mounted on.

UC450 Type

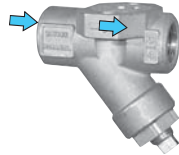
UC450
No Strainer



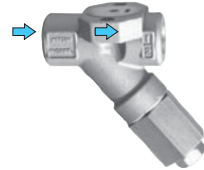
Size	Model Code Threaded - NPT	Model Code Socket Weld	Weight lbs
Connector			
1/2"	UC450-12-N	UC450-12-SW	1.5
3/4"	UC450-13-N	UC450-13-SW	1.5
1"	UC450-14-N	UC450-14-SW	3.0

UC450S Type

UC450S
Strainer



UC450SB
Strainer & Blowdown Valve

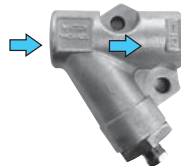


Size	Model Code Threaded - NPT	Model Code Socket Weld	Weight lbs
Connector (with Strainer)			
1/2"	UC450S-12-N	UC450S-12-SW	2.5
3/4"	UC450S-13-N	UC450S-13-SW	2.5
1"	UC450S-14-N	UC450S-14-SW	3.5
Connector (with Strainer & Blowdown Valve)			
1/2"	UC450SB-12-N	UC450SB-12-SW	2.5
3/4"	UC450SB-13-N	UC450SB-13-SW	2.5
1"	UC450SB-14-N	UC450SB-14-SW	4.5

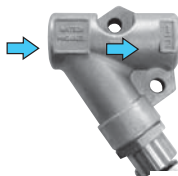
UC450SR Type

Flow to Right (as viewed)

UC450SR
Strainer



UC450SBR
Strainer & Blowdown Valve

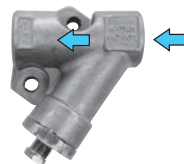


Size	Model Code Threaded - NPT	Model Code Socket Weld	Weight lbs
Connector (with Strainer) FLOW TO RIGHT			
1/2"	UC450SR-12-N	UC450SR-12-SW	2.5
3/4"	UC450SR-13-N	UC450SR-13-SW	2.5
1"	UC450SR-14-N	UC450SR-14-SW	2.5
Connector (with Strainer & Blowdown Valve) FLOW TO RIGHT			
1/2"	UC450SBR-12-N	UC450SBR-12-SW	2.5
3/4"	UC450SBR-13-N	UC450SBR-13-SW	2.5
1"	UC450SBR-14-N	UC450SBR-14-SW	2.5

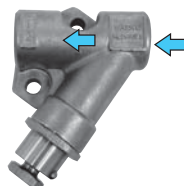
UC450SL Type

Flow to Left (as viewed)

UC450SL
Strainer



UC450SBL
Strainer & Blowdown Valve

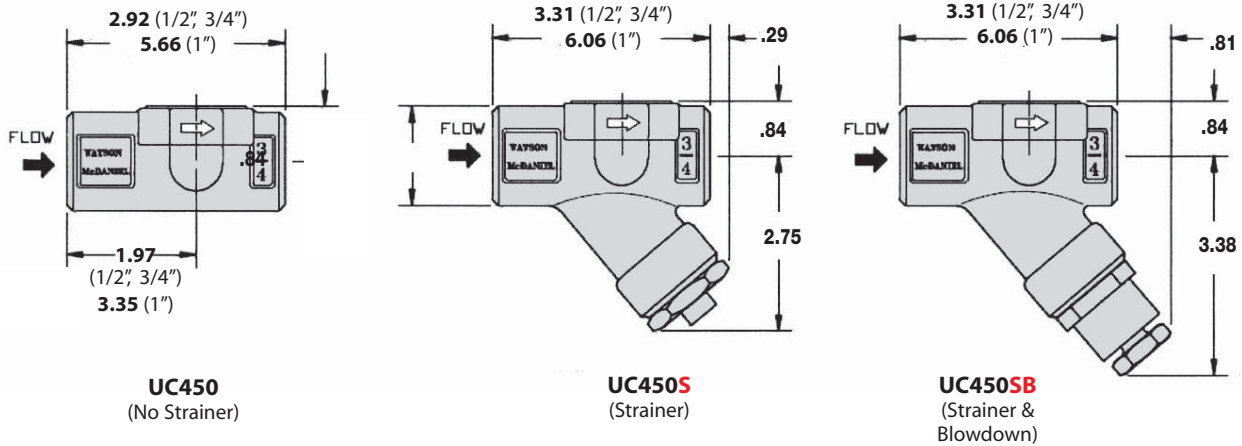


Size	Model Code Threaded - NPT	Model Code Socket Weld	Weight lbs
Connector (with Strainer) FLOW TO LEFT			
1/2"	UC450SL-12-N	UC450SL-12-SW	2.5
3/4"	UC450SL-13-N	UC450SL-13-SW	2.5
1"	UC450SL-14-N	UC450SL-14-SW	2.5
Connector (with Strainer & Blowdown Valve) FLOW TO LEFT			
1/2"	UC450SBL-12-N	UC450SBL-12-SW	2.5
3/4"	UC450SBL-13-N	UC450SBL-13-SW	2.5
1"	UC450SBL-14-N	UC450SBL-14-SW	.5

UC450, UC450S, UC450SB Universal Connectors

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

Note: Optional Flange units available.

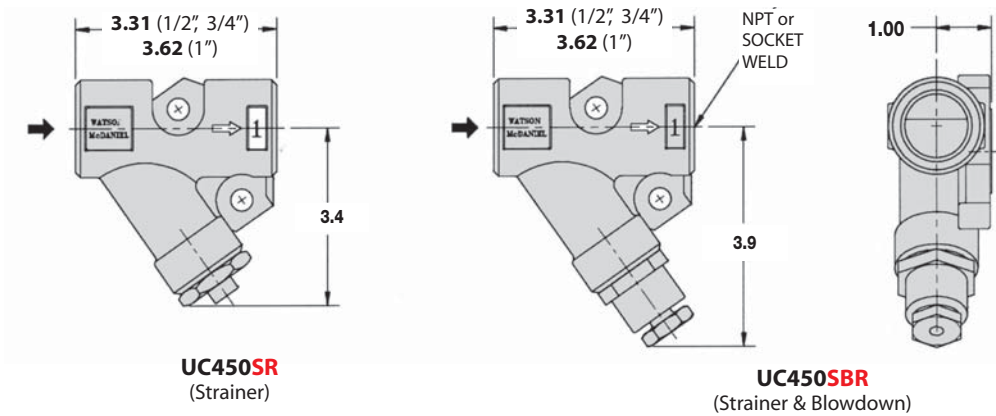


UC450SR & UC450SBR Universal Connectors

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

Flow Direction - To RIGHT

Note: Optional Flange units available.

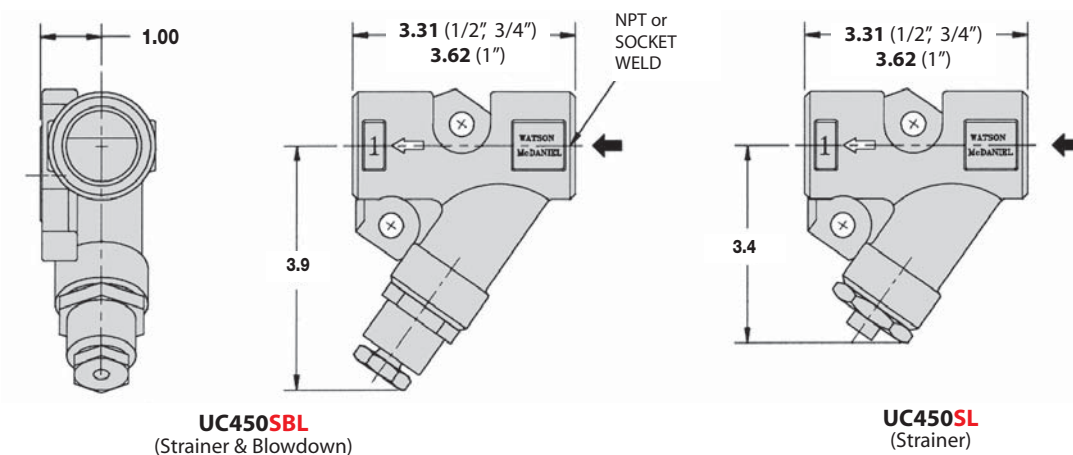


UC450SL & UC450SBL Universal Connectors

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

Flow Direction - To LEFT

Note: Optional Flange units available.

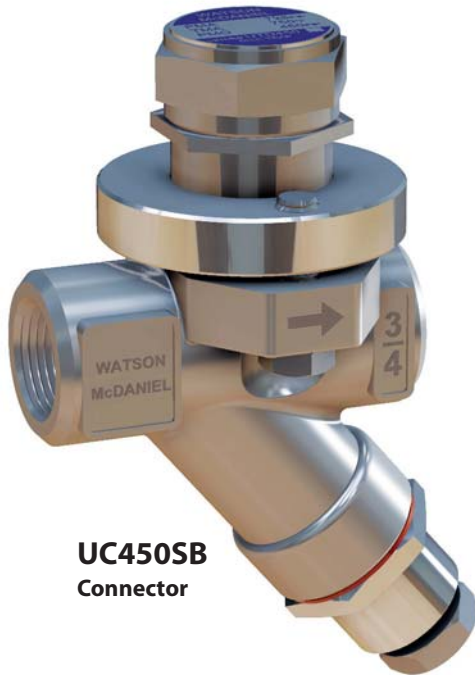


UC450SBR
Connector



USIB450
Trap Module

UTD450
Trap Module



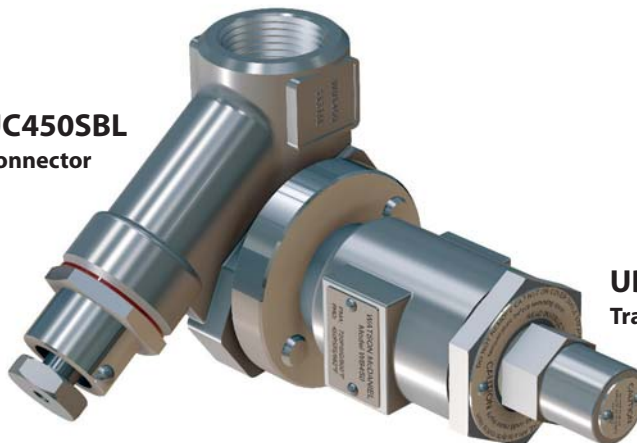
UC450SB
Connector

UC450SL
Connector



UT450
Trap Module

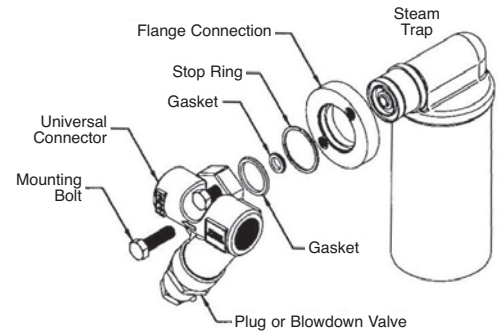
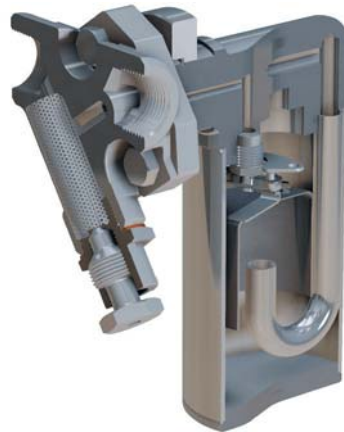
UC450SBL
Connector



UB450
Trap Module

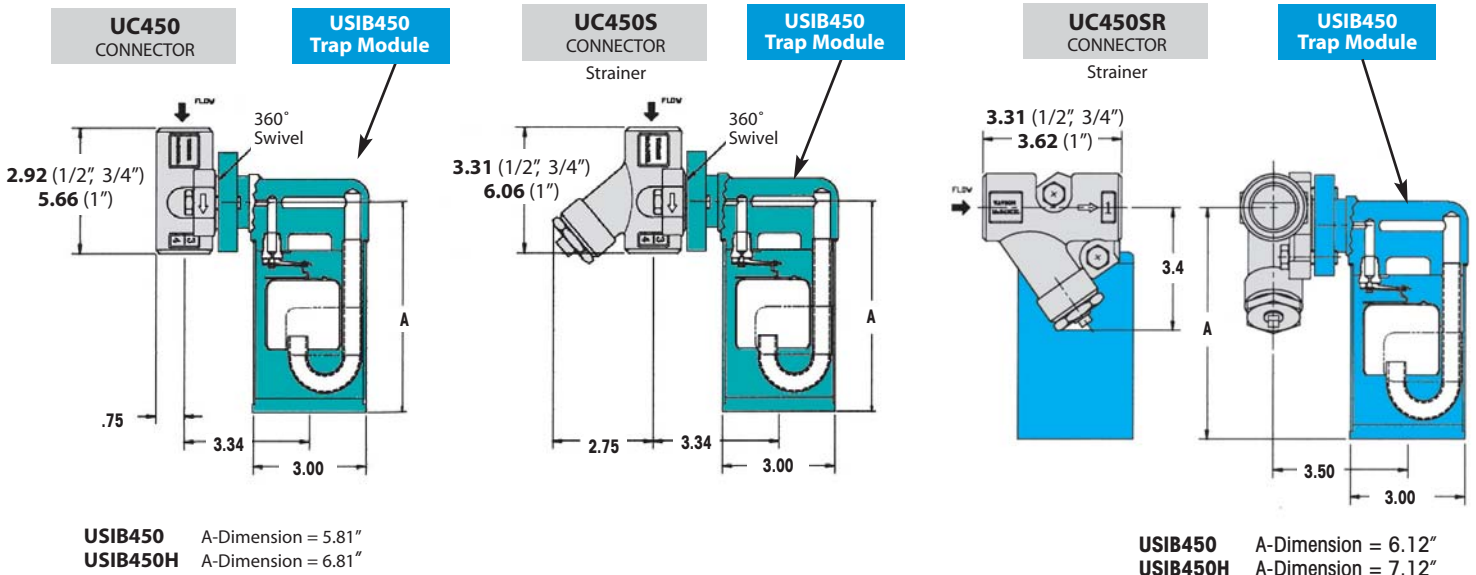
USIB450

Inverted Bucket Steam Trap Module (mounts to UC450 Universal Connectors)



Horizontal Piping (Connector with Strainer)	Vertical Piping (Connector with Strainer)	Vertical or Horizontal Piping (No Strainer)
<p>Steam Flow to the Right (Standard)</p> <p>Trap shown with UC450SR Connector (Use L Style if a Piping Constraint exists)</p>	<p>Steam Flow Downward</p> <p>Trap shown with UC450SR Connector</p>	<p>Steam Flow Any Direction</p> <p>Trap shown with UC450 Connector</p>

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



UFT450

Universal Style Quick-Change Trap Module

Float & Thermostatic Steam Trap Module (mounts to UC450 Universal Connectors)

Model	UFT450
Connections	Fits UC450 Series Universal Connectors
Body Material	Stainless Steel
PMO Max. Operating Pressure	225 PSIG
TMO Max. Operating Temperature	397°F
PMA Max. Allowable Pressure	720 PSIG @ 100°F
TMA Max. Allowable Temperature	800°F @ 400 PSIG



UFT450
Float & Thermostatic
Steam Trap Module

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

Typical Applications

PROCESS, DRIP: The **UFT450** Float & Thermostatic steam trap module can be used on small process equipment which generate light condensate loads. F&T traps have excellent air handling capability. These F&T trap modules can also be used in drip service on steam mains and steam supply lines. Mounts to any universal connector.

How It Works

The UC450 universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module, which functions like any F&T steam trap, is fastened to the universal connector with two bolts. 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 and Maintenance

Universal connector is first permanently threaded or welded into piping system. The UFT450 mounts to any 2-Bolt Quick-Change Universal Connector. Trap module must be installed in orientation shown. The trap module is bolted to the universal connector with two bolts. 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
- Hardened stainless steel valves and seat
- Freeze-resistant
- Connectors available with integral strainers and blowdown valves
- 360° swivel design for convenient installation

Options

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

Helpful Selection Information

Select a model with a PMO (maximum operating pressure) that meets or exceeds the steam pressure of the system. For example, the UFT450-65 has a maximum operating pressure of 65 PSI. Any universal connector can be used. Recommended connector: UC450SR

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)

Model	PMO (PSIG)	Differential Pressure (PSI)																		
		1/4	1/2	1	2	5	10	15	20	30	40	50	65	75	100	125	145	200	225	
UFT450-15	15	390	490	620	780	1050	1320	1500												
UFT450-65	65	115	155	205	270	390	520	610	685	810	910	995	1110							
UFT450-145	145	55	75	100	135	200	270	320	365	435	490	540	600	640	725	795	850			
UFT450-225	225	40	50	70	95	135	185	220	245	290	330	360	405	430	485	530	565	645	680	

UFT450

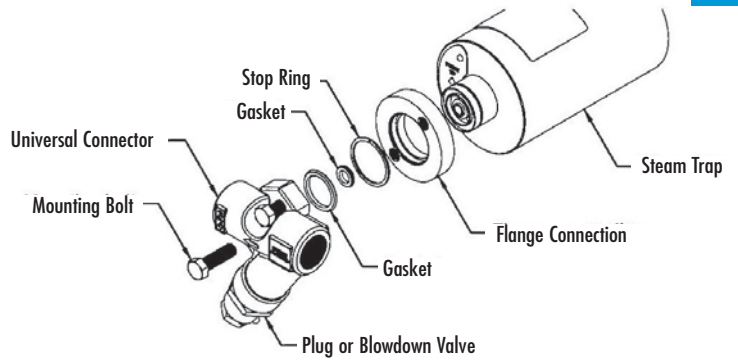
Universal Style Quick-Change Trap Module


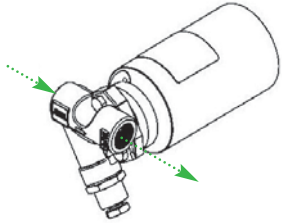
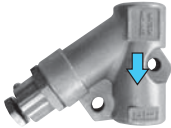
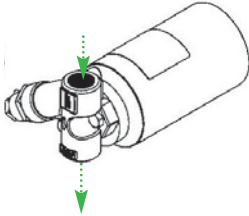
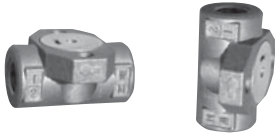
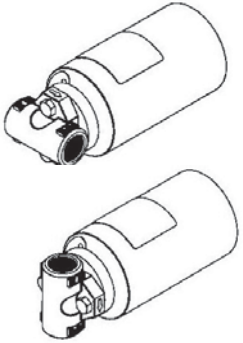
Universal Style

Float & Thermostatic Steam Trap Module (mounts to UC450 Universal Connectors)

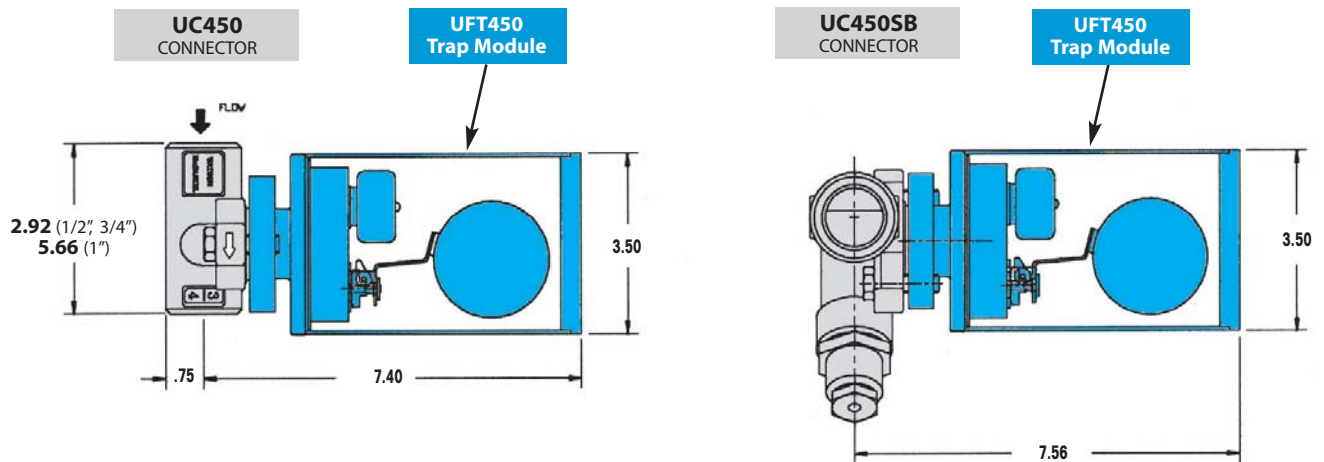


UFT450 Trap Module must be oriented Horizontally, as shown.



Horizontal Piping (Connector with Strainer)	Vertical Piping (Connector with Strainer)	Vertical or Horizontal Piping (No Strainer)
<p>Steam Flow to the Right UC450SBR Connector (with Blowdown Valve) shown below</p>  <p>Trap shown with UC450SBR Connector (Use L Style Connector to reverse orientation as an alternative if a Piping Constraint exists)</p> 	<p>Steam Flow Downward UC450SBR Connector (with Blowdown Valve) shown below</p>  <p>Trap shown with UC450SBR Connector</p> 	<p>Steam Flow Any Direction UC450 Connector shown below</p>  <p>Trap shown with UC450 Connector</p> 

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



UTD450 UTD600

Universal Style Quick-Change Trap Module

Thermodynamic Steam Trap Module (mounts to UC450 Universal Connectors)

Model (Side Mount Style)	UTD450LSM UTD450SM	UTD600LSM
Connections	Fits UC450 Series Universal Connectors	
Body Material	Stainless Steel	Stainless Steel
PMO Max. Operating Pressure	450 PSIG	600 PSIG
TMO Max. Operating Temperature	750°F	750°F
PMA Max. Allowable Pressure	720 PSIG @ 100°F	720 PSIG @ 100°F
TMA Max. Allowable Temperature	800°F @ 400 PSIG	800°F @ 600 PSIG



**UTD450
&
UTD600**
**Thermodynamic
Steam Trap Module**
(Side Mount Style)
For vertical or horizontal
piping installations.

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

Typical Applications

DRIP, TRACER: Designed for drip applications for the draining of condensate from steam mains and other steam supply lines as well as for tracing applications. The **UTD450 & UTD600** Steam Trap Modules can be used anywhere conventional thermodynamic steam traps are used. This trap module can be used on either vertical or horizontal piping installations and can mount to any 2-bolt Quick-Change Universal Connector.

How It Works

The UC450 universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module, which functions like any thermodynamic steam trap, is fastened to the universal connector with two bolts. 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 and Maintenance

Universal connector is first permanently installed (threaded, welded, flanged) into piping system. Trap module should be installed in orientation shown with cap facing upwards. The trap module is fastened to the universal connector using two bolts. If the trap fails for any reason, replace only the trap module. In vertical piping installations with upward flow, use of a blowdown valve is not recommended. Discharge would be in upward and unsafe direction.

Options

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

Helpful Selection Information

Connector selection to use with the UTD450SM and UTD600LSM: UC450 (no strainer), UC450SR (strainer), UC450SBR (strainer and blowdown).

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

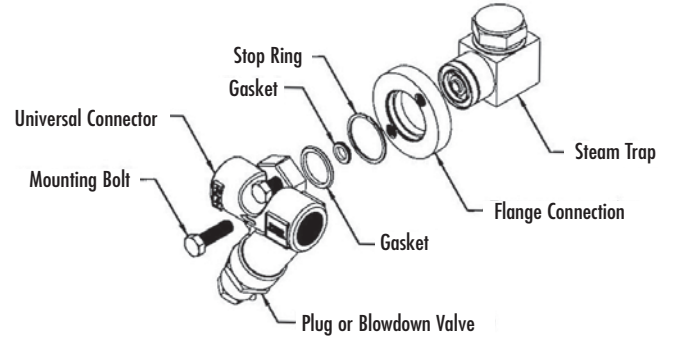
CAPACITIES – Condensate (lbs/hr)

Model	Differential Pressure (PSI)																
	4	10	15	20	25	30	40	50	75	100	150	200	250	300	400	450	600
UTD450LSM	140	215	242	270	295	320	355	390	455	510	600	670	730	790	880	925	
UTD450SM	247	370	420	475	520	560	625	685	800	900	1060	1185	1300	1400	1560	1630	
UTD600LSM											465	500	550	600	632	675	730

UTD450 UTD600

Universal Style Quick-Change Trap Module

Thermodynamic Steam Trap Module (mounts to UC450 Universal Connectors)



UTD450/UTD600 Trap Module should be oriented with cap facing Upwards, As shown.

Horizontal Piping (Connector with Strainer)	Vertical Piping (Connector with Strainer)	Vertical or Horizontal Piping (No Strainer)
<p>Steam Flow to the Right or to the Left</p> <p>Trap shown with UC450SBR Connector</p> <p>Trap shown with UC450SBL Connector</p>	<p>Steam Flow Downward</p> <p>Trap shown with UC450SBR Connector</p>	<p>Steam Flow Vertically or Horizontally</p> <p>Trap shown with UC450 Connector</p>

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

UC450SR
CONNECTOR
Strainer

UC450SBR
CONNECTOR
Strainer & Blowdown

**UTD450SM
or
UTD600LSM
Steam Trap**

UC450SBL
CONNECTOR
Strainer & Blowdown

DIMENSIONS - inches			
Size	A	B	C
1/2"	3.31	3.25	3.78
3/4"	3.31	3.25	3.78
1"	3.62	3.44	3.95

UTD450

Quick-Change Trap Module

Thermodynamic Steam Trap Module (mounts to UC450 Universal Connectors)

Model (Top Mount Style)	UTD450 UTD450L
Connections	Fits UC450 Series Universal Connectors
Body Material	Stainless Steel
PMO Max. Operating Pressure	450 PSIG
TMO Max. Operating Temperature	750°F
PMA Max. Allowable Pressure	720 PSIG @ 100°F
TMA Max. Allowable Temperature	800°F @ 400 PSIG



UTD450
Thermodynamic Steam Trap Module
(Top Mount Style)
Recommended for horizontal piping installations only so that cap can be oriented upwards as shown.

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

Typical Applications

DRIP, TRACER: Designed to work as a drip trap for the draining of condensate from steam mains and other steam supply lines, the **UTD450** Thermodynamic Steam Trap Module can be used anywhere conventional thermodynamic steam traps are used. Can also be used on tracing applications. This model is only recommended for horizontal piping installations to allow the cap to be oriented upwards. The UTD450 mounts to any 2-bolt Quick-Change Universal Connector.

The UTD450 is recommended for horizontal piping only so that cap can be oriented upwards, as shown.

How It Works

The UC450 universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module, which functions like any thermodynamic steam trap, is fastened to the universal connector with two bolts. 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 and Maintenance

The UTD450 Trap module was intended for horizontal piping installations so the trap can be installed with cap facing upwards. Trap module is attached to the connector using two bolts. If the trap fails for any reason, replace only the trap module. 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.

Options

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

Helpful Selection Information

Connector selection to use with the UTD450: UC450 (no strainer), UC450S (strainer), UC450SB (strainer and blowdown). Select this model for steam systems with maximum working pressure of 450 PSIG.

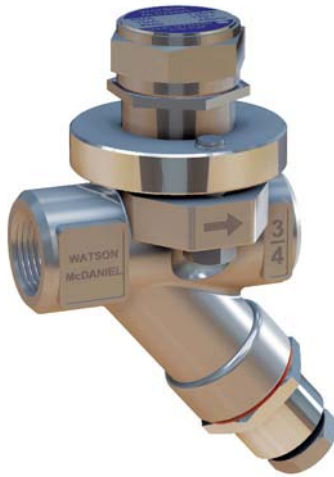
MATERIALS	
Body	Stainless Steel, AISI 420
Disc	Stainless Steel, AISI 420
Cap	Stainless Steel, AISI 416
Insulation Cover	Stainless Steel, AISI 304
Bolts	Steel, ASTM A193 GR B7
Gaskets (2)	Spiral Wound 304 Stainless Steel with Grafoil Filler

CAPACITIES – Condensate (lbs/hr)																	
Model	Differential Pressure (PSI)																
	4	10	15	20	25	30	40	50	75	100	150	200	250	300	350	400	450
UTD450L	140	215	242	270	295	320	355	390	455	510	600	670	730	790	840	880	925
UTD450	247	370	420	475	520	560	625	685	800	900	1060	1185	1300	1400	1485	1560	1630

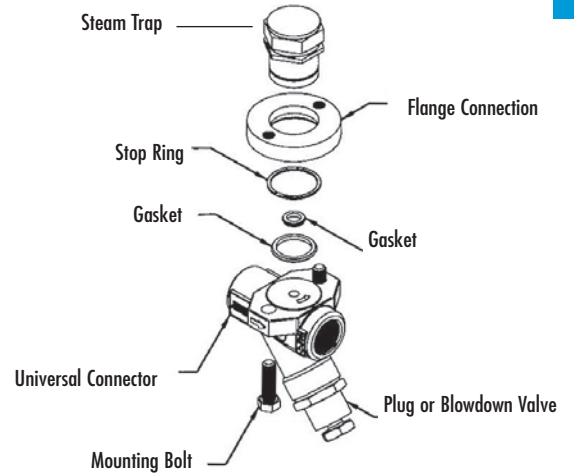
UTD450

Universal Style Quick-Change Trap Module

Thermodynamic Steam Trap Module (mounts to UC450 Universal Connectors)

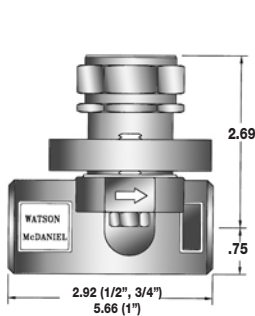


UTD450 Trap Module should be oriented with cap facing Upwards. Therefore it should only be used with Horizontal Piping, as shown.

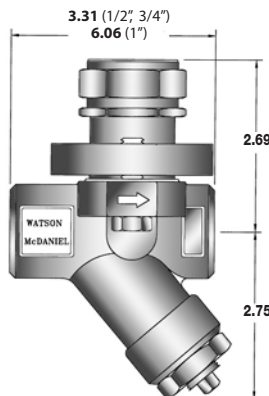


Horizontal Piping (Connector with Strainer)	Horizontal Piping (No Strainer)
<p>Steam Flow to the Right or to the Left UC450SBR & UC450SB Connector (with Blowdown Valve) shown below</p> <p>Trap shown with UC450SBR Connector Strainer & Blowdown Valve is directed to the side</p> <p>Trap shown with UC450SB Connector Strainer & Blowdown Valve is directed downwards</p>	<p>Steam Flow Horizontally UC450 Connector shown below</p> <p>Trap shown with UC450 Connector</p>

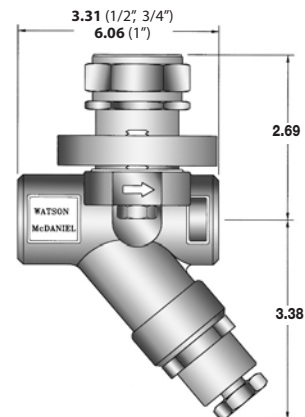
Connectors available in 1/2", 3/4" and 1" sizes in NPT and Socket-Weld Connections



UTD450 Trap Module with UC450 Connector



UTD450 Trap Module with UC450S Connector (Strainer)



UTD450 Trap Module with UC450SB Connector (Strainer & Blowdown)

UT450

Universal Style Quick-Change Trap Module

Thermostatic Steam Trap Module (mounts to UC450 Universal Connectors)

Model	UT450
Connections	Fits UC450 Series Universal Connectors
Body Material	Stainless Steel
PMO Max. Operating Pressure	450 PSIG
TMO Max. Operating Temperature	Saturated Steam Temp.
PMA Max. Allowable Pressure	720 PSIG @ 100°F
TMA Max. Allowable Temperature	800°F @ 400 PSIG

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



UT450
Thermostatic
Steam Trap
Module

Typical Applications

DRIP, TRACER, PROCESS: The **UT450** Thermostatic Steam Trap Module can be used anywhere conventional thermostatic steam traps are used. Used for drip, tracing and light process applications. Trap module mounts to any 2-bolt Quick-Change Universal Connector.

How It Works

The UC450 universal connector is permanently installed into the pipeline where the steam trap would normally be placed. The trap module is fastened to the universal connector with two bolts. 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.

Installation and Maintenance

Mounts to any two-bolt quick change universal connector. Trap module is attached to the connector using two bolts and two sealing gaskets. When a new trap module is needed, it can be easily removed and replaced with a standard open-end or socket wrench without unthreading the existing piping. In vertical piping installations with upward flow, use of a blowdown valve is not recommended. Discharge would be in upward and unsafe direction.

Options

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

Helpful Selection Information

Connector selection to use with the UT450: UC450 (no strainer), UC450SR (strainer), UC450SBR (strainer and blowdown). Select this model for steam systems with maximum working pressure of 450 PSIG.

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

CAPACITIES — Condensate (lbs/hr)

Model	Orifice Size	Steam Inlet Pressure (PSIG)												
		5	10	20	50	100	125	150	200	250	300	350	400	450
UT450	3/16"	441	625	882	1391	1827	1969	2095	2305	2483	2636	2777	2903	3019

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

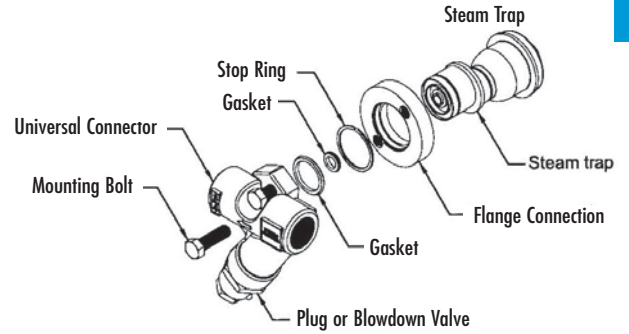
UT450

Universal Style Quick-Change Trap Module

Thermostatic Steam Trap Module (mounts to **UC450** Universal Connectors)



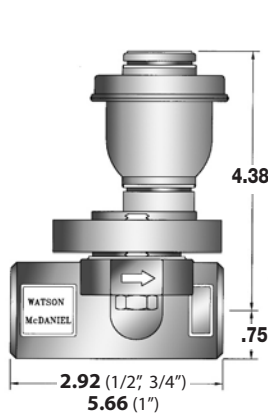
UT450
Thermostatic Steam Trap Module shown with **UC450SL** Connectors



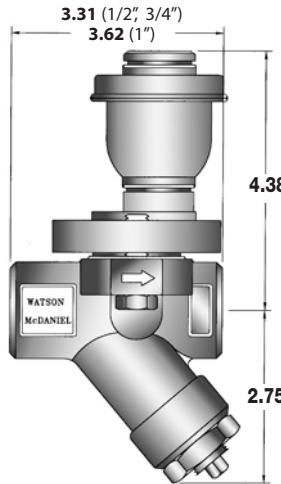
UT450 Trap Module may be mounted in any orientation

Horizontal Piping (Connector with Strainer)	Vertical Piping (Connector with Strainer)	Vertical or Horizontal Piping (No Strainer)
<p>Steam Flow to the Right or to the Left UC450SBR & UC450SB Connector shown below</p> <p>Trap shown with UC450SBR Connector</p> <p>Trap shown with UC450SB Connector</p>	<p>Steam Flow Downward UC450SBR & UC450SB Connector shown below</p> <p>Trap shown with UC450SBR Connector</p> <p>Trap shown with UC450SB Connector</p>	<p>Steam Flow Vertically or Horizontally UC450 Connector shown below</p> <p>Trap shown with UC450 Connector</p>

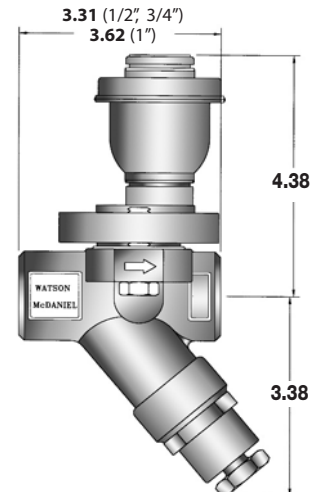
Connectors available in 1/2", 3/4" and 1" sizes in NPT and Socket-Weld Connections



UT450 Trap Module with UC450 Connector



UT450 Trap Module with UC450S Connector (Strainer)



UT450 Trap Module with UC450SB Connector (Strainer & Blowdown)

UB450

Universal Style Quick-Change Trap Module

Bi-Metallic Steam Trap Module (mounts to UC450 Universal Connectors)

Model	UB450
Connections	Fits UC450 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	800°F @ 400 PSIG

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

Typical Applications

The **UB450** Series Bi-Metallic Steam Trap Modules are used in steam tracing applications (for process line heating, instrumentation and winterization, general steam jacketing). In tracing applications, the externally-adjustable (temperature adjustment) bi-metal element provides accurate control of condensate discharge temperature as required to maintain a specific product temperature as well provide maximum usage of energy.

How It Works

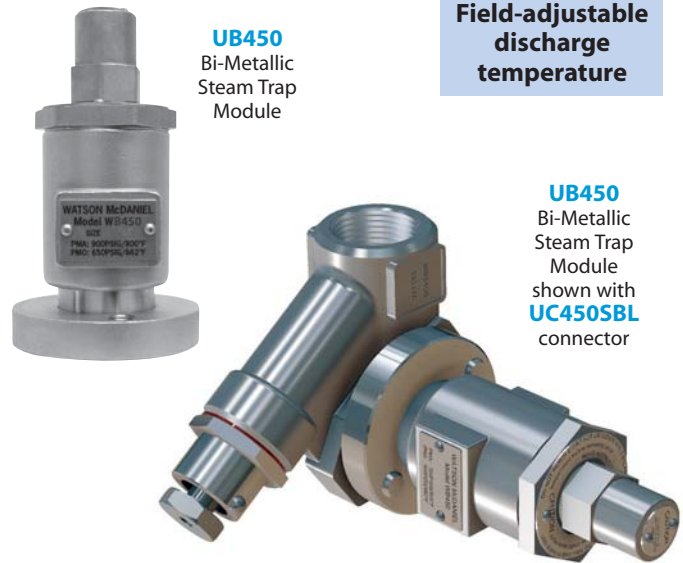
Bi-metallic plates of dissimilar metals which are connected to the valve seat assembly respond to temperature variations. At relatively cool conditions, the trap is open for the discharge of condensate. When the temperature of the condensate is equal to or higher than the set temperature, the metals react and expand, closing the trap. External field-adjustability of the bi-metal element allows control of the condensate discharge temperature. Trap module is fastened to the universal connector using 2 bolts.

Features

- Excellent for various steam tracing and small process applications where maximum energy usage is desired
- Field-adjustable bimetal element allows 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

Installation and Maintenance

Universal connector is first permanently threaded or welded into piping system. Trap module is attached to the universal connector using two bolts. If the trap fails for any reason, replace only the trap module. In vertical piping installations with upward flow, use of a blowdown valve is not recommended. Discharge would be in upward and unsafe direction.



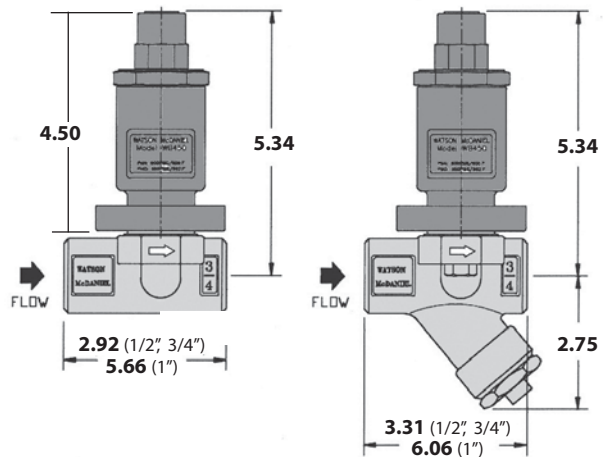
UB450
Bi-Metallic
Steam Trap
Module

**Field-adjustable
discharge
temperature**

UB450
Bi-Metallic
Steam Trap
Module
shown with
UC450SBL
connector

MATERIALS

Body and Cover	Stainless Steel, A-351, Gr. CF8
Bimetal Element	GB14
Valve Seat	17-4 Ph Stainless Steel
Gaskets (2)	Spiral Wound 304 Stainless Steel with Grafoil Filler



Shown with
UC450 & UC450S Connectors

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

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

- Notes:**
- 1) Capacities in chart are based on discharging condensate to atmosphere with a condensate temperature of 200° F.
 - 2) Contact factory for additional information including other condensate set and discharge temperatures.
 - 3) 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).