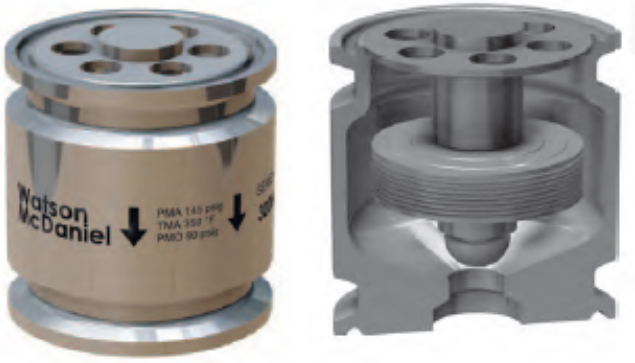
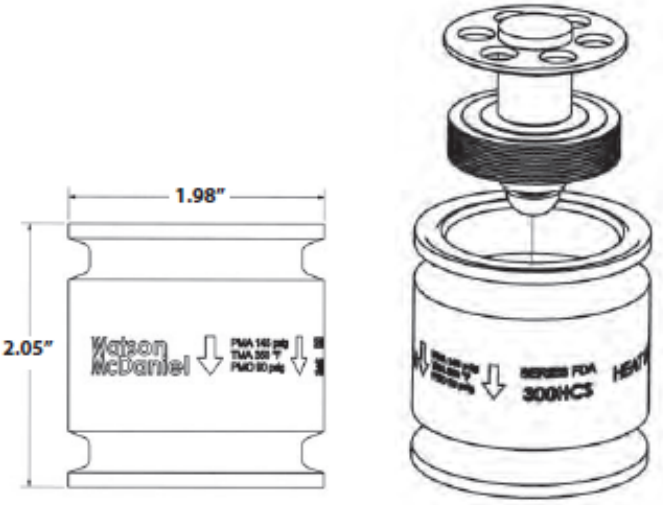
Clean Steam Thermostatic Steam Trap (Repairable)

High-Capacity Sanitary

FDA300
Thermostatic Clean Steam

Model	**FDA300**
Sizes	1 1/2"
Connections	Tri-Clamp
Body Material	Stainless Steel
PMO Max. Operating Pressure	**90 PSIG**
TMO Max. Operating Temperature	Saturated Steam Temperature
PMA Max. Allowable Pressure	145 PSIG up to 338°F
TMA Max. Allowable Temperature	350°F @ 132 PSIG





Typical Applications

PROCESS: FDA300 Series high-capacity thermostatic clean steams traps are used on clean steam applications, and for condensate drainage on CIP/SIP systems and various process vessels.

How It Works

This trap contains a welded 316L stainless steel thermal element that expands when heated and contracts when cooled. When air and subcooled condensate are present, the trap is in an open discharge position. When steam reaches the trap, the element expands, closing the trap tightly.

Features

- All wetted parts are 316L stainless steel
- Electro-polish finish of 20-25 microinches RA on internal surfaces of body
- Electro-polish finish of 25-32 microinches RA on external surfaces of body
- Operates close to saturation curve to minimize condensate back-up
- Completely self-draining in the vertical downward flow orientation

Sample Specification

The steam Trap shall be all 316L stainless steel thermostatic type with a balanced pressure bellows that operates close to saturated steam temperatures. Internal body parts shall have an electro-polish finish of 20-25 microinches RA internally and a 25-32 finish externally. The unit shall have a split-body sanitary clamp design for easy maintenance. Trap shall be completely self-draining when mounted vertically.

Installation and Maintenance

This trap is designed for installation in a vertical, downward flow orientation to ensure that the self-draining clean steam requirement is satisfied.

Options

Electropolish to 15 Ra internal or lower is available; Consult factory.

Size/Connection Inlet x Outlet	Model Code	Orifice Size	Weight lbs
1 1/2" TC x TC	**FDA300-16-TCTC**	0.394	2.25

MATERIALS

Body	Stainless Steel, AISI 316L
Element Plate	Stainless Steel, AISI 316L
Thermal Element	Stainless Steel, AISI 316L
Clamp	Stainless Steel, AISI 304

CAPACITIES — *Condensate (lbs/hr)*

Model	Orifice (inches)	Differential Pressure (PSI) 5	10	20	50	75	90
FDA300	**0.394**	216	368	702	2214	4300	5904

Note: Capacities at 9°F below saturated steam temperature

Steam Traps

Clean Steam Thermostatic Steam Trap

(Repairable)

FDA400

Thermostatic Clean Steam

Model	**FDA401, FDA402, FDA403**
Sizes	1/2", 3/4"
Connections	Tri-clamp
Body Material	Stainless Steel
PMO Max. Operating Pressure	**90 PSIG**
TMO Max. Operating Temperature	Saturated Steam Temperature
PMA Max. Allowable Pressure	145 PSIG up to 338°F
TMA Max. Allowable Temperature	350°F @ 132 PSIG

Material Traceability Reports (MTR) provided with all FDA400 Series Steam Traps.



Sanitary Clamp for Trap Body

Typical Applications

DRIP, PROCESS: FDA400 Series thermostatic clean steam traps are used in clean steam applications such as drainage for CIP/SIP systems and various process vessels. The universal horizontal connection allows the trap body to swivel to any angle. The FDA400 Series allows for a 90 degree connection either the inlet or outlet capable of 360 degree orientation.

How It Works

This trap contains a welded 316L stainless steel thermal element that expands when heated and contracts when cooled. When air and subcooled condensate are present, the trap is in an open discharge position. When steam reaches the trap, the element expands, closing the trap tightly.

Features

- Universal horizontal connection swivels to any angle
- All wetted parts are 316L stainless steel
- Electro-polish finish of 20-25 microinches RA on internal surfaces of body
- Electro-polish finish of 25-32 microinches RA on external surfaces of body
- Operates close to saturation curve to minimize condensate back-up
- Completely self-draining in the vertical downward flow orientation

Sample Specification

The Steam Trap shall be all 316L stainless steel thermostatic type with a balanced pressure bellows that operates close to saturated steam temperatures. Inlet, outlet or both connections must contain a 90° swivel arrangement capable of 360° orientation. Internal body parts shall have an electro-polish finish of 20-25 microinches RA internally and a 25-32 finish externally. The unit shall have a split-body sanitary clamp design for easy maintenance. Trap shall be completely self-draining when mounted vertically.

Installation and Maintenance

Trap is designed for installation in a vertical, downward flow orientation to ensure that the self-draining clean steam requirement is satisfied.

Options

Electropolish to 15 Ra internal or lower is available; Consult factory.

Special Bellows available that sub-cools 2°F

Size/Connection Inlet x Outlet	Model Code	Port Configuration Inlet	Outlet	Weight lbs
9/64" Orifice (0.141)				
1/2" TC x TC	**FDA401-12-TCTC**	90°	90°	3
1/2" TC x TC	**FDA402-12-TCTC**	90°	Straight	3
1/2" TC x TC	**FDA403-12-TCTC**	Straight	90°	3
5/16" Orifice (0.312)				
3/4" TC x TC	**FDA411-13-TCTC**	90°	90°	3
3/4" TC x TC	**FDA412-13-TCTC**	90°	Straight	3
3/4" TC x TC	**FDA413-13-TCTC**	Straight	90°	3

MATERIALS	
Body	Stainless Steel, AISI 316L
Gasket	Teflon/Encapsulated Viton
Element Plate	Stainless Steel, AISI 316L
Thermal Element	Stainless Steel, AISI 316L
Clamp	Stainless Steel, AISI 304

CAPACITIES — *Condensate (lbs/hr)*

Model	Orifice (Inches)	Differential Pressure (PSI) 5	10	20	50	75	90
FDA400	9/64	140	240	400	690	850	950
FDA410	5/16	850	1200	1695	2690	3165	3400

Note: Capacities at 10°F below saturation.

Clean Steam Thermostatic Steam Trap

(Repairable)

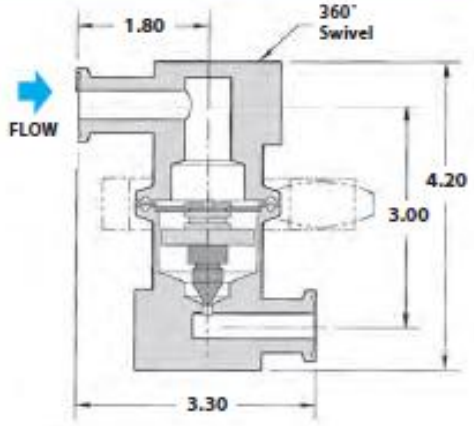
FDA400

Thermostatic Clean Steam

FDA400 Series **Connections: 1/2" & 3/4"**

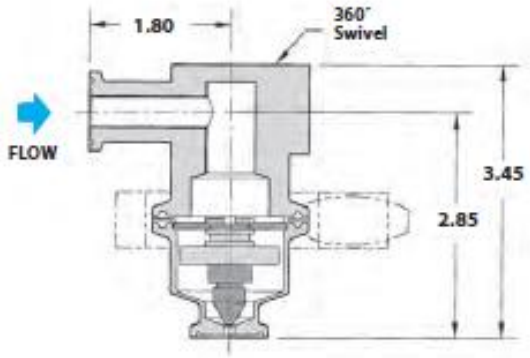
Units: inches

FDA401 9/64" Orifice (0.141) **Inlet: 90° Angle**
FDA411 5/16" Orifice (0.312) **Outlet: 90° Angle**

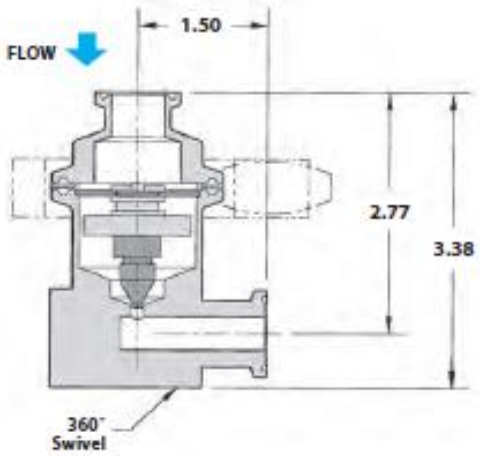




FDA402 9/64" Orifice (0.141) **Inlet: 90° Angle**
FDA412 5/16" Orifice (0.312) **Outlet: Straight**



FDA403 9/64" Orifice (0.141) **Inlet: Straight**
FDA413 5/16" Orifice (0.312) **Outlet: 90° Angle**



Steam Traps

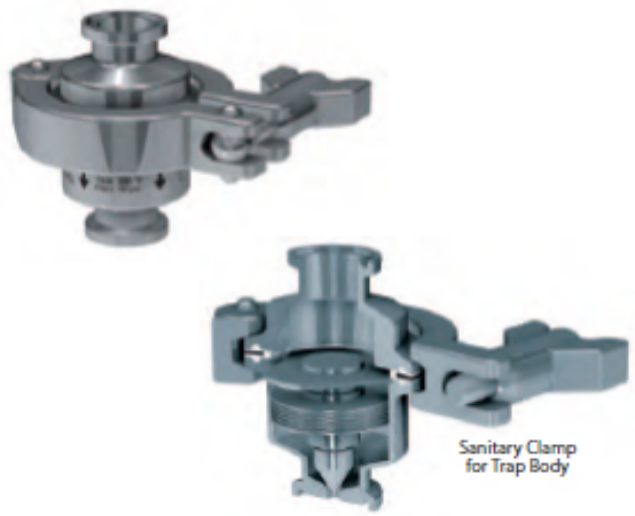
Clean Steam Thermostatic Steam Trap (Repairable)

FDA500

Thermostatic Clean Steam

Model	**FDA500, FDA510**
Sizes	1/2", 3/4", 1", 1 1/2"
Connections	Tri-clamp, NPT, Tube Weld
Body Material	Stainless Steel
PMO Max. Operating Pressure	**90 PSIG**
TMO Max. Operating Temperature	Saturated Steam Temperature
PMA Max. Allowable Pressure	145 PSIG up to 338°F
TMA Max. Allowable Temperature	350°F @ 132 PSIG

Material Traceability Reports (MTR) provided with all FDA500 Series Steam Traps.



Sanitary Clamp for Trap Body

Typical Applications

DRIP, PROCESS: **FDA500 Series** thermostatic clean steam traps are used in clean steam applications as drip traps on piping runs as well as for drainage for CIP/SIP systems and various process vessels.

How It Works

This trap contains a welded 316L stainless steel thermal element that expands when heated and contracts when cooled. When air and subcooled condensate are present, the trap is in an open discharge position. When steam reaches the trap, the element expands, closing the trap tightly.

Features

- All wetted parts are 316L stainless steel
- Electro-polish finish of 20-25 microinches RA on **internal** surfaces of body. Consult factory for 15RA max surface finish option.
- Electro-polish finish of 25-32 microinches RA on **external** surfaces of body
- Operates close to saturation curve to minimize condensate back-up
- Completely self-draining in the vertical downward flow orientation

Sample Specification

The steam Trap shall be all 316L stainless steel thermostatic type with a balanced pressure bellows that operates close to saturated steam temperatures. Internal body parts shall have an electro-polish finish of 20-25 microinches RA internally and a 25-32 finish externally. The unit shall have a split-body sanitary clamp design for easy maintenance. Trap shall be completely self-draining when mounted vertically.

Installation and Maintenance

This trap is designed for installation in a vertical, downward flow orientation to ensure that the self-draining clean steam requirement is satisfied. If purchased with tube weld connections with the intention of welding in-line, the thermal element and gasket must be removed during the welding process or heat damage may occur.

Options

Electropolish to 15 Ra internal or lower is available; Consult factory.

Special Bellows available that sub-cools 2°F

Size/Connection Inlet x Outlet	Model Code	Orifice Size	Weight lbs
1/2" TC x TC	**FDA500-12-TCTC**	9/64"	2.00
3/4" TC x TC	**FDA500-13-TCTC**	9/64"	2.00
1" TC x TC	**FDA500-14-TCTC**	9/64"	2.25
1 1/2" TC x TC	**FDA500-16-TCTC**	9/64"	2.25
1/2" TC x TC	**FDA510-12-TCTC**	5/16"	2.00
3/4" TC x TC	**FDA510-13-TCTC**	5/16"	2.00
1" TC x TC	**FDA510-14-TCTC**	5/16"	2.25
1 1/2" TC x TC	**FDA510-16-TCTC**	5/16"	2.25
1/2" TC x NPT	**FDA500-12-TCNP**	9/64"	2.00
3/4" TC x NPT	**FDA500-13-TCNP**	9/64"	2.00
1" TC x NPT	**FDA500-14-TCNP**	9/64"	3.00
1 1/2" TC x NPT	**FDA500-16-TCNP**	9/64"	2.25
1/2" TC x NPT	**FDA510-12-TCNP**	5/16"	2.25
3/4" TC x NPT	**FDA510-13-TCNP**	5/16"	2.25
1" TC x NPT	**FDA510-14-TCNP**	5/16"	2.25
1 1/2" TC x NPT	**FDA510-16-TCNP**	5/16"	2.25
1/2" TW x TW	**FDA500-12-TWTW**	9/64"	2.25
1/2" TW x TW	**FDA510-12-TWTW**	5/16"	2.25

MATERIALS

Body	Stainless Steel, AISI 316L
Gasket	Teflon/Encapsulated Viton
Element Plate	Stainless Steel, AISI 316L
Thermal Element	Stainless Steel, AISI 316L
Clamp	Stainless Steel, AISI 304

CAPACITIES – *Condensate (lbs/hr)*

Model	Orifice (Inches)	Differential Pressure (PSI) 5	10	20	50	75	90
FDA500	**9/64**	140	240	400	690	850	950
FDA510	**5/16**	850	1200	1695	2690	3165	3400

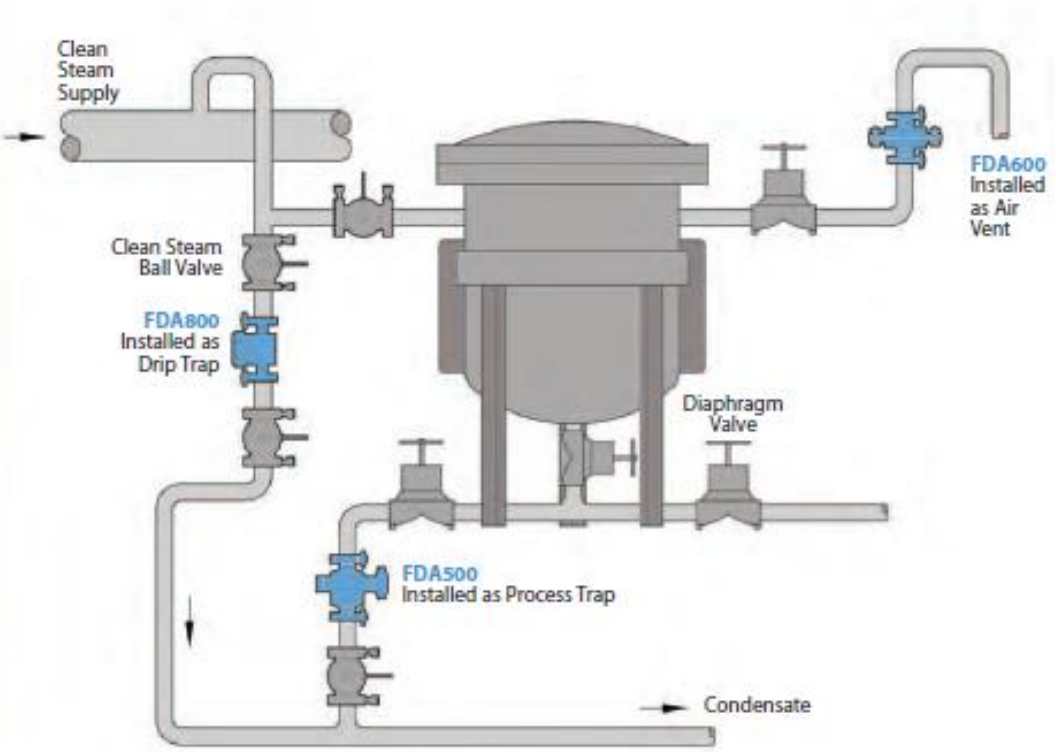
Note: Capacities at 10°F below saturation.

Clean Steam Thermostatic Steam Trap
(Repairable)

FDA500
Thermostatic Clean Steam



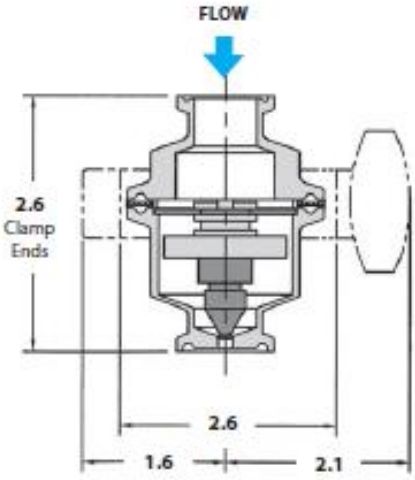
Typical Clean Steam Application



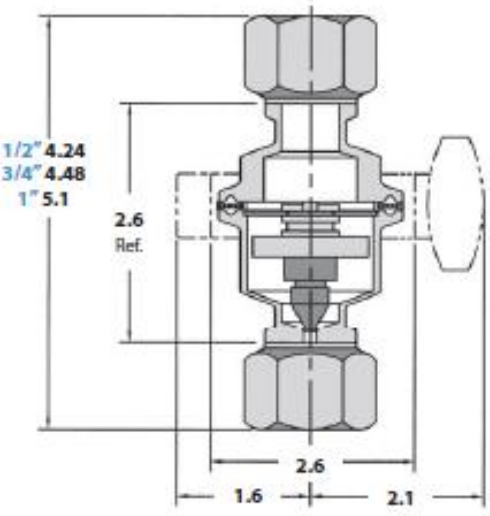
FDA500 Series **Connections: 1/2", 3/4" & 1"**

Units: inches

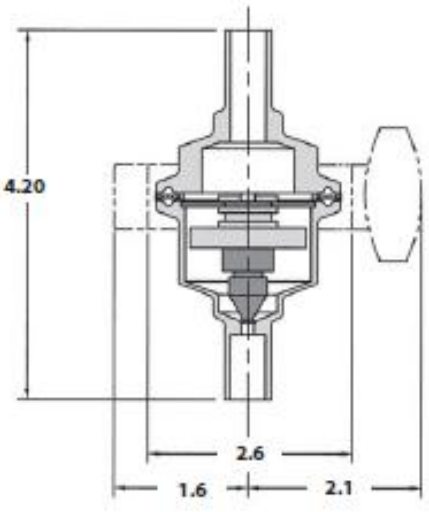
Tri-Clamp Connection: TC x TC



Connection: NP x NP or TC x NP



Tube-weld Connection: TW x TW



Steam Traps

Clean Steam Thermostatic Steam Trap

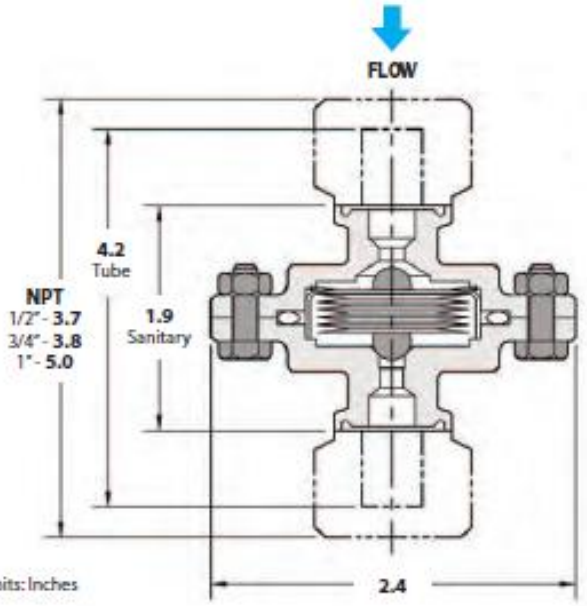
(Repairable)

FDA600

Thermostatic Clean Steam

Model	**FDA600**
Sizes	1/2", 3/4", 1"
Connections	Tri-clamp, NPT, Tube Weld
Body Material	Stainless Steel
PMO Max. Operating Pressure	**110 PSIG**
TMO Max. Operating Temperature	Saturated Steam Temperature
PMA Max. Allowable Pressure	145 PSIG up to 338°F
TMA Max. Allowable Temperature	350°F @ 132 PSIG





Typical Applications

DRIP, PROCESS: FDA600 Series thermostatic clean steam traps are used as drip traps on piping runs on clean steam applications and for drainage for CIP/SIP systems and various process vessels.

How It Works

This trap contains a welded 316L stainless steel thermal element that expands when heated and contracts when cooled. When air and subcooled condensate are present, the trap is in an open discharge position. When steam reaches the trap, the element expands, closing the trap tightly.

Features

- All wetted parts are 316L stainless steel
- Operates close to saturation curve to minimize condensate back-up
- Completely self-draining in the vertical downward flow orientation

Sample Specification

The Steam Trap shall be all 316L stainless steel thermostatic type with a balanced pressure bellows that operates close to saturated steam temperatures. The unit shall have a split-body design for easy maintenance. Trap shall be completely self-draining when mounted vertically.

Installation and Maintenance

Trap is designed to be installed in a vertical, downward flow orientation to ensure that the self-draining clean steam requirement is satisfied. If purchased with tube weld connections with the intention of welding in-line, the thermal element and gasket must be removed during the welding process or heat damage may occur.

Size/Connection Inlet x Outlet	Model Code	PMO PSI	Weight lbs
1/2" TC x TC	FDA600-12-TCTC	110	1.25
3/4" TC x TC	FDA600-13-TCTC	110	1.25
1" TC x TC	FDA600-14-TCTC	110	1.25
1/2" TC x NPT	FDA600-12-TCNP	110	1.25
3/4" TC x NPT	FDA600-13-TCNP	110	1.25
1" TC x NPT	FDA600-14-TCNP	110	1.25
1/2" NPT x NPT	FDA600-12-NPNP	110	1.25
3/4" NPT x NPT	FDA600-13-NPNP	110	1.25
1" NPT x NPT	FDA600-14-NPNP	110	1.25
1/2" TW X TW	FDA600-12-TWTW	110	1.25

MATERIALS

Body	Stainless Steel, AISI 316L
Thermal Element	Stainless Steel, AISI 316L
O-Ring, FDA Grade	Teflon Coated Silicone/FEP
Nuts & Bolts	Stainless Steel, AISI 316L

CAPACITIES – *Condensate (lbs/hr)*

Condensate Temp Below Saturation	Differential Pressure (PSI) 1	5	10	20	50	75	110
10 °F	32	105	175	290	615	805	1160
20 °F	42	115	225	440	1060	1500	1850
Cold Water	735	1070	1375	1900	3100	3500	4600

Clean Steam Thermodynamic Steam Trap

FDA800

Thermodynamic Clean Steam

Model	FDA800
Sizes	1/2"
Connections	Tri-Clamp, NPT, Tube Weld
Body Material	Stainless Steel
PMO Max. Operating Pressure	150 PSIG
TMO Max. Operating Temperature	500°F
PMA Max. Allowable Pressure	230 PSIG @ 850°F
TMA Max. Allowable Temperature	850°F @ 230 PSIG



NPT



Tri-Clamp

Typical Applications

DRIP: The **FDA800 Series** thermodynamic clean steam traps are used as drip traps on steam mains in CIP/SIP systems and drainage for separators and filters.

How It Works

Using the thermodynamic properties of flash steam, this trap features a disc that is pushed open by incoming condensate, then closes tightly when steam enters the trap. Because it normally operates in an open position, condensate is continuously discharged from the line. Steam entering the trap creates an internal pressure that forces the valve to close tightly, preventing the steam from escaping.

Features

- Small and compact
- All 316L stainless steel components
- Works in any position (horizontal preferred)

Sample Specification

The steam trap shall be a thermodynamic disc type with an all 316L stainless steel construction and integral seat design. Unit shall be capable of installation in any orientation and self-draining when mounted vertically.

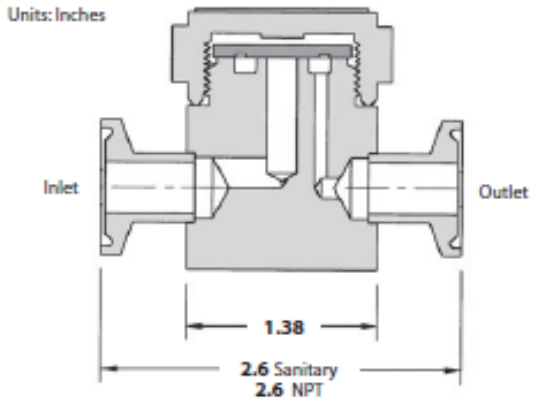
Installation and Maintenance

Can be installed in any position; however, horizontal is preferred. For self-draining requirements, the trap should be installed vertically. Installation should include a strainer before the trap inlet since dirt is a common cause of premature failure.

MATERIALS

Body	Stainless Steel, AISI 316L
Disc	Stainless Steel, AISI 316L
Cap	Stainless Steel, AISI 316L

Size/Connection Inlet x Outlet	Model Code	PMO PSI	Weight lbs
1/2" TC x TC	FDA800-12-TCTC	150	1.5
1/2" TW x TW	FDA800-12-TWTW	150	1.5
1/2" NPT x NPT	FDA800-12-NPNP	150	1.5



CAPACITIES — *Condensate (lbs/hr)*

	Differential Pressure (PSI)											
Size	3.5	5	10	15	20	25	30	40	50	75	100	150
1/2"	180	185	190	195	200	215	220	230	250	310	375	500

Note: *Maximum back pressure not to exceed 80% of inlet pressure.*