



TI-P017-12-US
Issue 2

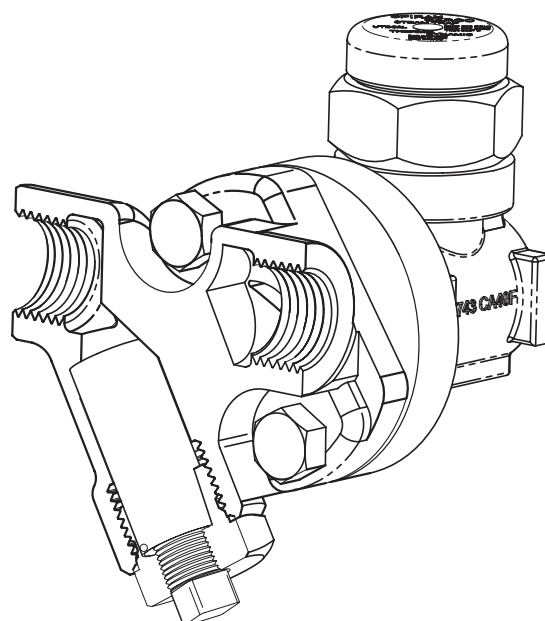
UTD52 Series Universal Thermodynamic Steam Trap (for use with Universal Connector)

Description

The Thermodynamic steam trap cycles periodically to discharge condensate very near to steam temperature. It is unaffected by waterhammer or superheat. The UTD is a unique solution to maintain the disc in the horizontal plane by means of a universal connector. The trap is easily replaced or removed for servicing without disturbing the pipe connections.

Model	UTD52L, UTD52H, UTD52L-HP UTD52SL, and UTD52SH
PMO	450 psi g/600 psi g (31 bar g/ 41 bar g) HP model
Trap construction	Stainless Steel
Trap options	Slotted disc
Connector sizes	1/2", 3/4", 1"
Connector connections	NPT, SW
Connector construction	Straight or strainer type (left or right hand)
	Stainless steel or cast steel
Connector options	SW connections to ANSI B16.11
	Carbon steel
	USTSII trap station

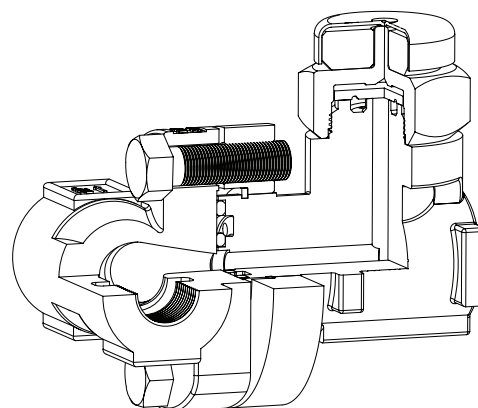
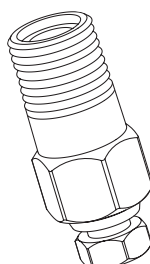
Standard Strainer Connector shown
(Connector of choice sold separately)
See TI-P127-03-US.



Note: Left Hand Strainer Connector Style is mirror image.

Optional Blowdown Valve for strainer connector

Standard on UTD52S models



Limiting operating conditions

Maximum Operating Pressure (PMO)	450 psi g	(31 bar g)	Standard
	600 psi g	(41 bar g)	UTD52L-HP
Maximum Operating Temperature	750 °F	(400 °C)	
Pressure Range	3.5 to 450 psi g	(0.24 to 31 bar g)	UTD52L, UTD52H, UTD52SL, UTD52SH
	300 to 600 psi g	(21 to 41 bar g)	UTD52L-HP
Maximum back pressure should not exceed 80% of the upstream pressure			

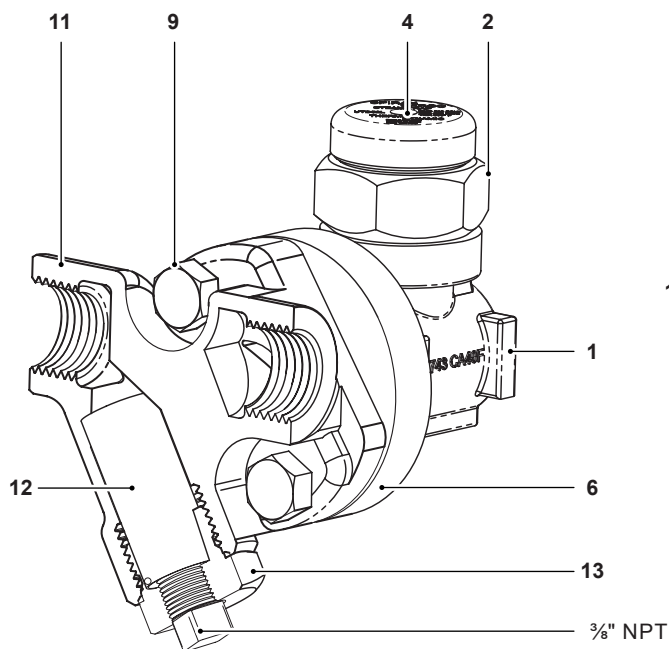
Pressure shell design conditions

PMA Maximum allowable pressure	720 psi g/up to 100 °F	(50 bar g/up to 38 °C)	- ALL
	450 psi g/750 °F	(31 bar g/238-400 °C)	- Standard
	600 psi g/750 °F	(41 bar g/400 °C)	- UD52L-HP
TMA Maximum allowable temperature	750 °F/0-450 psi g	(400 °C/0-31 bar g)	- Standard
	750 °F/600 psi g	(400 °C/41 bar g)	- UTD52L-HP
Designed for a maximum cold hydraulic test pressure of	1080 psi g.	(74.5 bar g)	

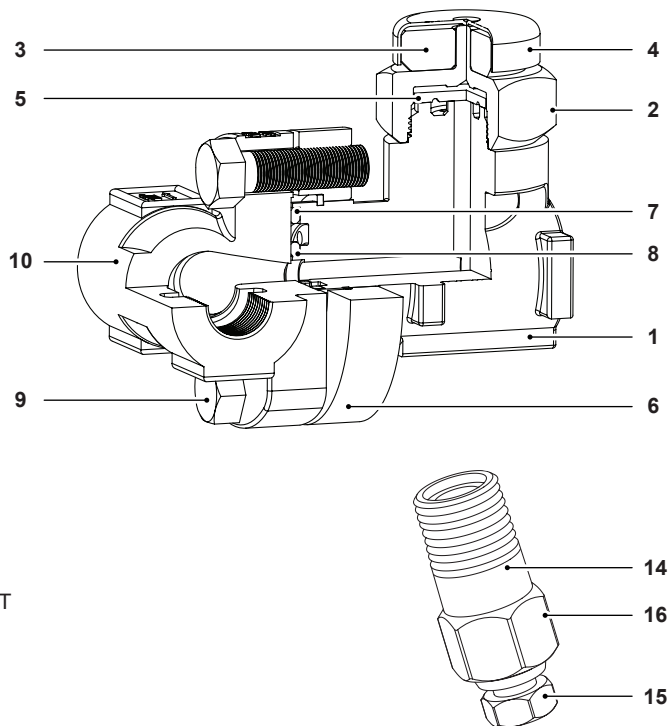
Typical applications

Steam main drainage, and steam tracing and constant pressure/constant load applications.

Materials



Note: Left Hand Strainer Connector Style is mirror image.



Optional Blowdown Valve for strainer connector

Standard on UTD52S models

No.	Part	Material
1	Body	Stainless Steel ASTM A743 Gr.CA40
2	Cap	Stainless Steel ASTM A743 Gr.CA40
3	Insulator	Ceramic
4	Cover/Nameplate	
5	Disc	Stainless Steel
6	Flange	Stainless Steel
7	Inner Gasket	Stainless Steel and Exfoliated Graphite Filler
8	Outer Gasket	Stainless Steel and Exfoliated Graphite Filler
9	Connector Screws	Alloy Steel (Plated) ASTM A193 Gr.B7

Standard Connector

10	Connector	Stainless Steel ASTM A351Gr.CF8
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Strainer Connector

No.	Part	Material
11	Connector	Stainless Steel ASTM A351 Gr.CF8
12	Strainer Screen	Strainer Screen (.031 perf)
13	Strainer Cap	Stainless Steel AISI 303

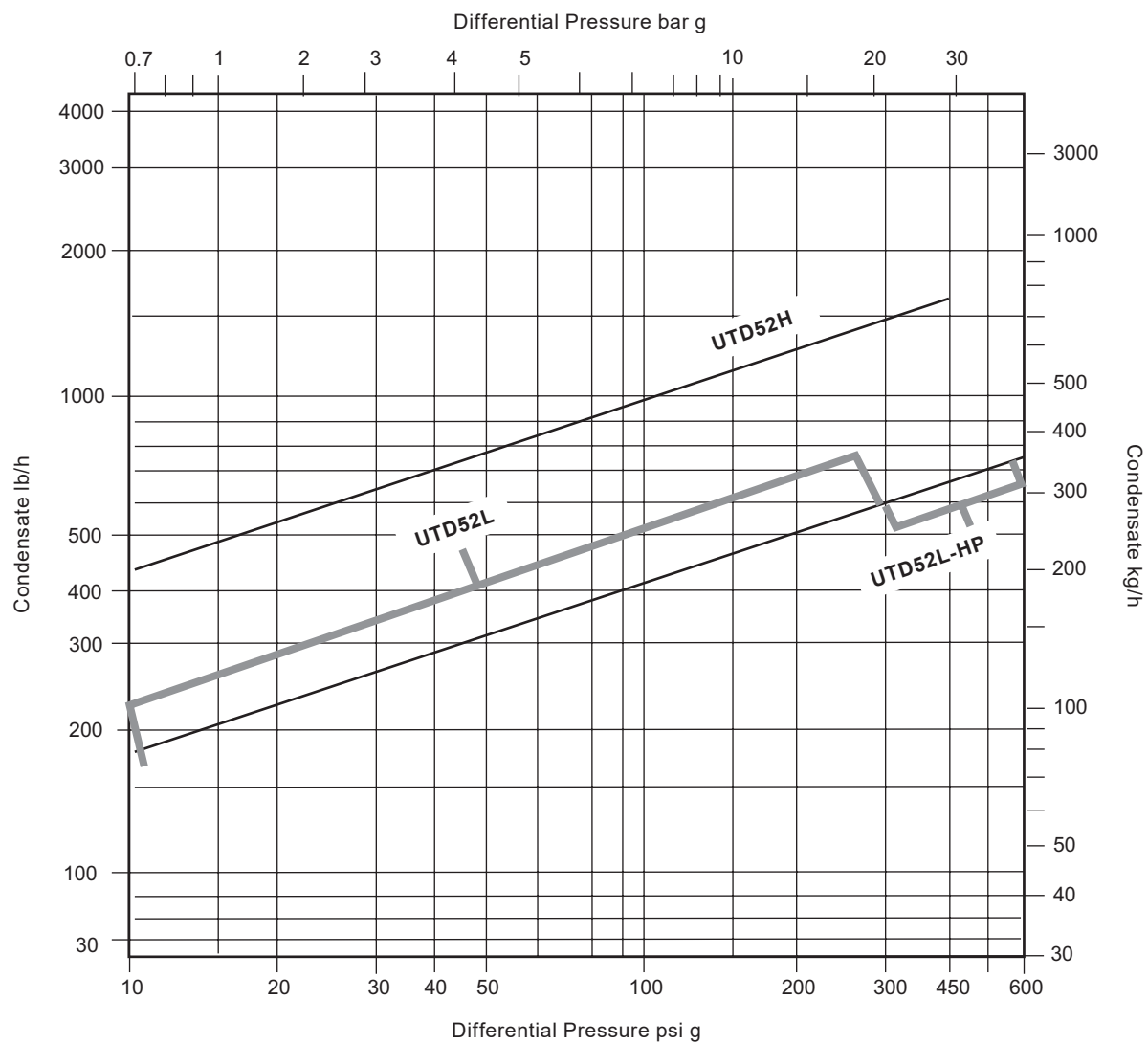
Strainer Connector or UTD52S

14	Blowdown Ball Head (Internal)	Stainless Steel AISI 440
15	Blowdown Valve Stem	Stainless Steel AISI 431
16	Blowdown Valve Body	Stainless Steel AISI 303

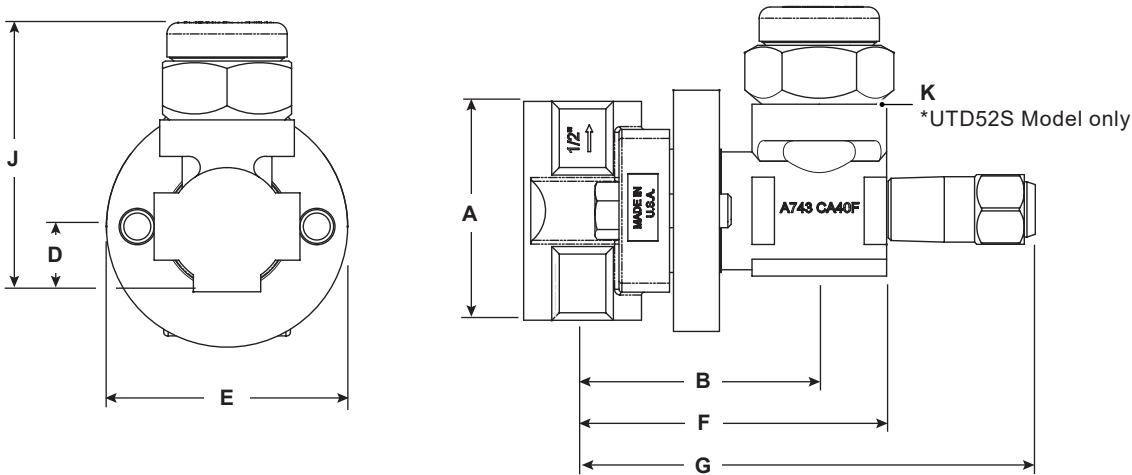
* Consult factory for material specifications in carbon steel connectors.

** UTD52L body and cap is electroless nickel plated (ENP) in accordance with ASTM B733, Service Condition SC2.

Capacities



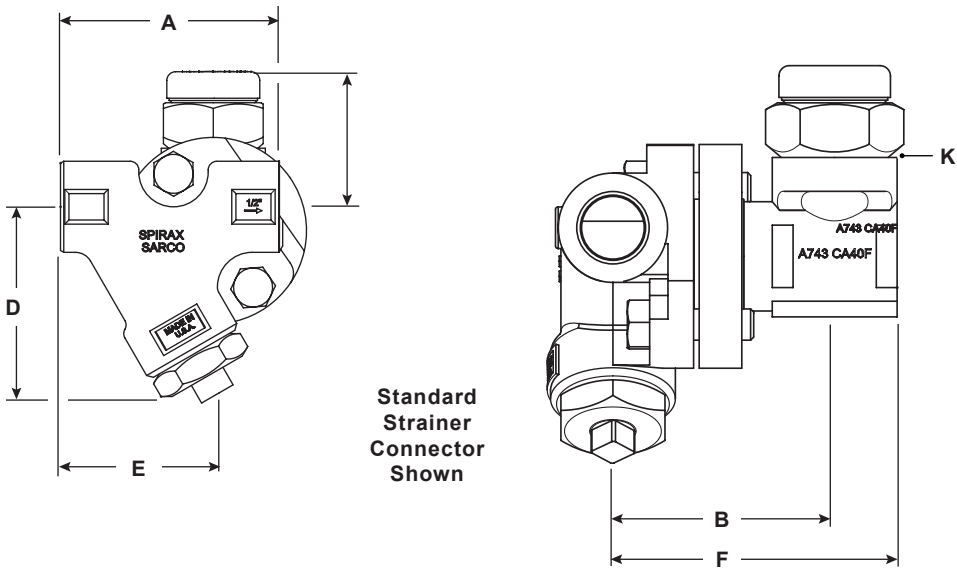
Dimensions/weights (approximate) in inches (mm) and lbs (kg)



Standard Straight Connector UTD52 or UTD52S Models

Size	A	B (L)	B (H)	C (L)	C (H)	D	E	F (L)	F (H)	G(L)*	G(H)*	K(L)	K(H)	Weight
1/2"	2.4 (61)	2.7 (69)	3.0 (76.2)	2.4 (61)	2.5 (63.5)	0.7 (17.8)	2.6 (66)	3.3 (84)	3.8 (97)	5.1 (130)	5.4 (137)	0.4 (10.2)	0.4 (10.2)	3.3 lb (1.5 kg)
3/4"	2.9 (74)												0.5 (12.7)	
1"	3.5 (89)												0.5 (12.7)	3.7 lb (1.7 kg)

* UTD52S Model only



Size Standard and Left Hand Connector

	A	B (L)	B (H)	C (L)	C (H)	D	E	F (L)	F (H)	K(L)	K(H)	Weight
1/2"	3.2 (81.3)	2.7 (69)	3.0 (76.2)	2 (50.8)	2.1 (53.3)	2.9 (73.7)	2.3 (58.4)	3.3 (84)	3.8 (97)	0.4 (10.2)	0.4 (10.2)	3.8 lb (1.7 kg)
3/4"	3.5 (88.9)			1.8 (45.7)	1.9 (48.3)	3 (76.2)	2.5 (63.5)				0.5 (12.7)	4.2 lb (1.9 kg)
1"	3.9 (99.1)			1.6 (40.6)	1.7 (43.2)	3.1 (78.7)	2.7 (68.6)				0.5 (12.7)	4.5 lb (2.0 kg)

Sample Specification

Steam trap shall be supplied with a pipeline connector which, once installed, remains in the line permanently. Trap shall be attached to the connector by two bolts to enable simple and rapid installation and replacement. The connection is designed to allow installation on pipework that is vertical, horizontal, or any angle in between. Operation shall be on/off discharge with tight shut off and no bleed or "controlled" leak, with back pressures up to 80% of inlet pressure. When specified, the connector shall be provided with integral "Y" pattern strainer with or without integral blowdown valve, standard or left hand pattern. The trap itself shall be Thermodynamic disc type of stainless steel construction and integral seat design with hardened disc and seating surface. Cap to have integral ceramic insulator with stainless steel cover.

Determining whether you need Standard Strainer Connector or Left Hand

Because of location or space constraints, when straddling the pipe facing in the direction of flow the standard strainer connector with the trap body facing the left side with bolt on the right. The left hand connector will have the trap body on the right with the bolts on the left.

Installation

The connector can be installed in horizontal or vertical lines. The connector face must be in a vertical plane. The trap should be fitted to the connector with its cap uppermost. Full-port isolating valves should be installed upstream and downstream of the connector.

Maintenance

The trap can be removed for repair or replacement without disturbing the connector piping connections. Complete isolation of the connector from both supply and return line is required before the trap is removed. The trap should be removed from the connector and disassembled periodically for inspection and cleaning of the disc and seat. Complete installation and maintenance instructions are given in the IM-2-5161-US, which accompanies the product.

Spare Parts

Available spare parts are shown in heavy outline. Parts drawn in broken line are not supplied as spares.

Connector Screw and Gasket Set	A, B, C
Disc	D
Cap Assy	E
Strainer Screen	G
Blowdown Valve	H
Strainer Cap Gasket	F

