

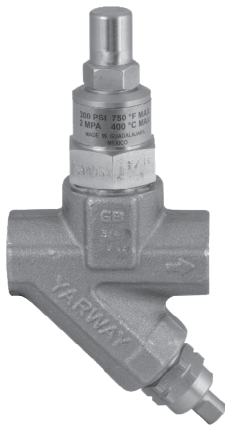


EMERSON™

YARWAY 741 SERIES UNIBODY STEAM TRAPS

DATASHEET

In-line repairable thermodynamic piston steam trap designed for durability and ease-of-maintenance in applications susceptible to steam lock.



741 Series

GENERAL APPLICATION

The Yarway 741 Series Steam Trap is the ideal choice for applications susceptible to steam lock such as rotating cylinders, submerged coils and jacketed kettles.

The Yarway 741 Series Thermodynamic Piston Steam Trap is in the Yarway Unibody Series which is uniquely designed for fast, in-line trap renewal. The working portion of the trap is contained in easily installed stainless steel capsules that thread into the Unibody. Changing the capsule only takes a couple minutes and results in a brand new steam trap while the body, made of chrome moly for excellent erosion and corrosion resistance, remains in-line as a permanent holder.

In addition to fast renewals of like-for-like steam traps, changes in trap technology or capacity are also accomplished by simply replacing the capsule. The Yarway Unibody Series includes three different trap technologies and thirteen different capacity options across these technologies for changing process conditions and minimizing inventory.

TECHNICAL DATA

Technology: Thermodynamic -Piston
 Size: ½, ¾ and 1 in.
 (DN 15, 20 and 25)
 Connections: NPT, SWE
 Materials: Low carbon chrome moly
 steel and stainless steel trim
 Design pressure: ANSI CL 600

L Internals

Operating pressure: 20 to 300 psi (1.4 to 21 bar)
 750°F (400°C)
 Back pressure: to 40% of inlet, psia
 Capacity: Up to 3100 lb/hr (1409 kg/h)

H Internals

Operating pressure: 40 to 600 psi (21 to 41 bar)
 750°F (400°C)
 Back pressure: to 25% of inlet, psia
 Capacity: Up to 3900 lb/hr (1772 kg/h)

Applicable codes and standards

Pressure ratings per ANSI/FCI-69-1.
 Performance testing per ANSI/ASME PTC-39.1.
 End connections per ANSI B.20.1 for threaded ends, per ANSI B16.11 for socket-welding ends.

NOTE

For back pressure to 55% and/or operation to 10 psig, remove the split washer (Item 5)

OPTIONS

Universal Connector

- Contains body

Universal Connector Quick Change Kit

- Used for upgrading an already installed Universal Connector body to the Yarway 741 Series. Future renewals require only the capsule.
- Does not contain body. Contains an adaptor for the Universal Connector to the Yarway Unibody, a 741 Series capsule, two bolts and gasket.

FEATURES

- Simple, In-line repair using quick change capsule
- Freeze Proof
- Unaffected by water hammer
- Fail open design
- Self-draining (vertical mount)
- Hardened stainless steel valve body and seat
- Single moving part
- Withstand superheat
- Constant bleed prevents steam lock
- Integral Strainer option

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HOW IT WORKS

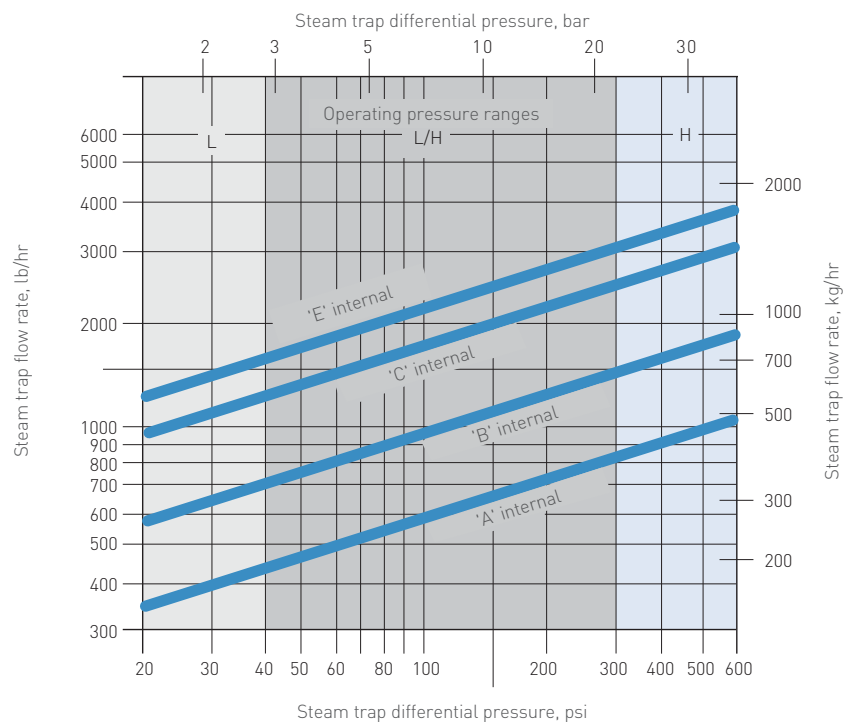
Variable orifice traps differentiate between the energy in cool condensate and flashing condensate as well as gases. Cool condensate opens the valve because the pressure in the chamber above the valve is low. The cool condensate readily drains through the control orifice from the chamber. Hot flashing condensate chokes the flow in the orifice and raises the chamber pressure. The increased chamber pressure closes the valve. When the valve is closed, a small amount of condensate continuously drains through the control orifice, making the trap responsive to changes in condensate load and preventing steam lock.

HOW TO SIZE

1. Determine maximum temperature and pressure of application and verify with trap.
2. Determine operating conditions - Temperature, Inlet Pressure, Outlet Pressure and Condensate Load (including factor of safety).
3. Determine the condensate load at the operating differential pressure is below what trap can handle.
4. Verify trap can handle back pressures. For back pressure to 55% and/or operation to 10 psig (0.69 bar), remove the split washer.

FIGURE 1

Condensate Capacity Near Steam Temperature (for Steam Trap Sizing)

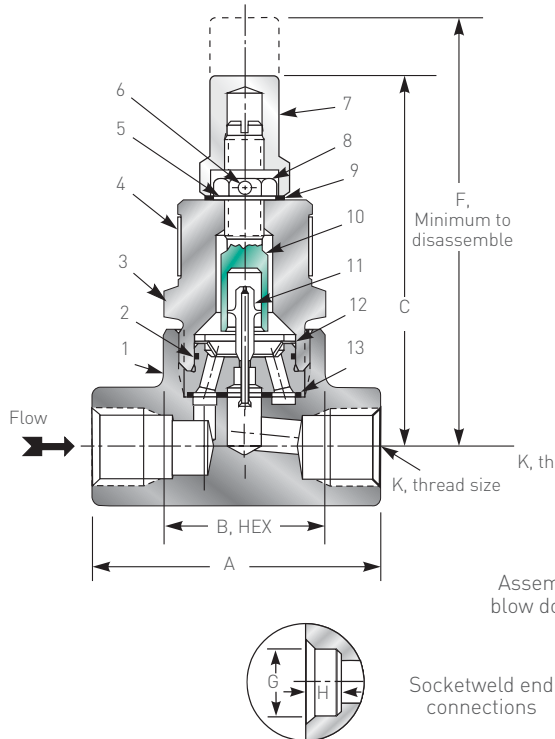


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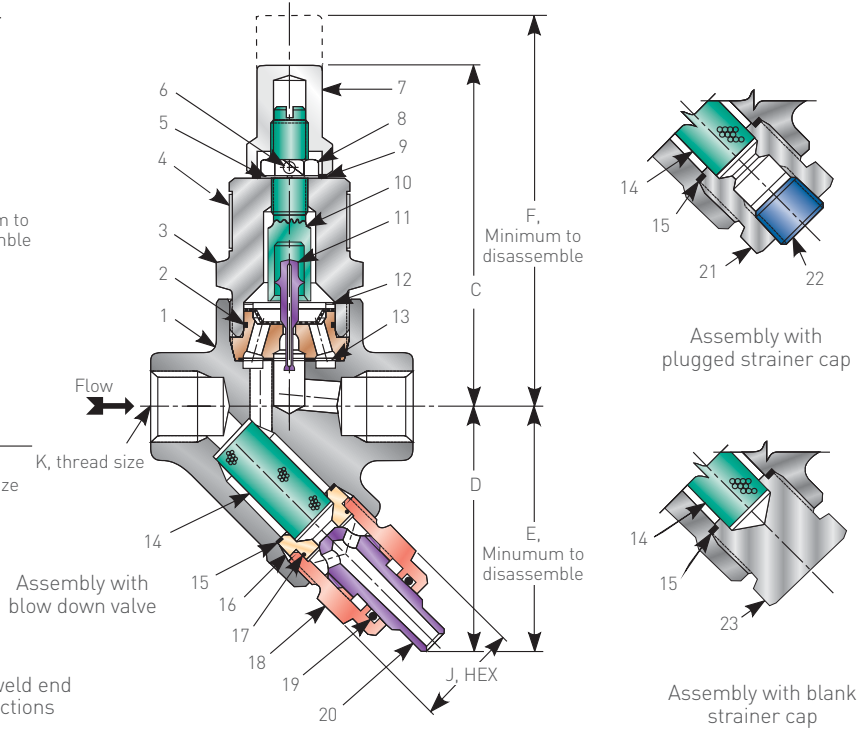
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FIGURE 2
Series 731/741 Variable Orifice (Piston)

TYPE 731



TYPE 741



PARTS AND MATERIALS

Item	Part	Material	Item	Part	Material
1	Body	F11 Chrome Moly	13 ^[1]	Seat gasket	Clad non-asbestos
2 ^[1]	Retaining ring	Stainless steel	14	Screen ^[4]	Stainless steel
3 ^[1]	Bonnet	Stainless steel	15 ^[2]	Cap gasket	Monel [®]
4 ^[1]	Nameplate	Stainless steel	16 ^[2]	Blowdown seat	Stainless steel
5 ^[1]	Split washer	Brass	17 ^[2]	Retaining ring	Stainless steel
6 ^[1]	Lock pin	Brass	18 ^[2]	Blowdown body	Stainless steel
7 ^[1]	Cap nut	Stainless steel	19 ^[2]	O-ring	Silicone
8 ^[1]	Lock nut	Stainless steel	20 ^[2]	Blowdown valve	Stainless steel
9 ^[1]	Cap gasket	Monel [®]	21 ^[3]	Strainer cap	Stainless steel
10 ^[1]	Control cylinder	Stainless steel	22 ^[3]	Plug 3/8 NPT	Carbon steel
11 ^[1]	Valve	Stainless steel	23 ^[3]	Blank strainer cap	Stainless steel
12 ^[1]	Valve seat	Stainless steel			

NOTES

1. Factory assembled renewal trap capsule.
2. Factory assembled blowdown valve renewal kit.
3. Optional strainer caps.
4. 0.033 in. (0.84 mm) perforations.

DIMENSIONS AND WEIGHTS

Trap Size, In. (DN)	Nominal Dimensions, In. (mm)											Weight, lbs (kg)	
	A	B	C	D	E	F	G	H	J	K	Type 731	Type 741	
1/2 (15)	3 ⁵ / ₃₂ (80)	1 1/2 (38)	4 1/16 (103)	2 3/8 (73)	3 15/16 (100)	4 13/16 (122)	0.860 (21.8)	3/8 (9.5)	1 1/16 (27)	1/2 NPT	2 1/4 (1.1)	2 3/4 (1.3)	
3/4 (20)	3 35/64 (90)	1 1/2 (38)	4 3/8 (111)	3 1/4 (83)	4 5/16 (110)	5 1/8 (130)	1.070 (27.2)	1/2 (12.7)	1 3/16 (30)	3/4 NPT	2 3/4 (1.3)	3 1/2 (1.6)	
1 (25)	3 15/16 (100)	1 1/2 (38)	4 3/8 (111)	3 3/8 (86)	4 1/16 (113)	5 1/8 (130)	1.335 (33.9)	1/2 (12.7)	1 3/16 (30)	1 NPT	3 (1.4)	4 (1.8)	

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TYPICAL SPECIFICATION

The trap shall be piston valve, impulse type. The body shall be forged low carbon (0.15 maximum C) chrome-moly steel with threaded (or socketwelding) ends. The internals shall be stainless steel contained in a factory set and assembled renewal capsule. Trap shall be in-line repairable piston valve, impulse type. Specify end connections to be threaded or socket-welded. Trap shall have replaceable capsule.

ORDERING GUIDE

Available Configurations (Select One)

- Type 741 - includes strainer and blowdown valve
- Type 731 - no strainer or blowdown valve

Capsule Type (Select One)

- AL capsule
- AH capsule
- BL capsule
- BH capsule
- CL capsule
- CH capsule
- EL capsule
- EH capsule

Body Sizes (Select One)

- ½ in. (DN 15) (not available with C or E internals)
- ¾ in. (DN 20) (not available with E internals)
- 1 in. (DN 25)

End Connection (Select One)

- NPT
- SWE
- Other _____

Options

- UC version including body
- UC quick change kit (same as above but without body)

Trap Station Accessories

- Stop valve - inlet
- Strainer
- Check valve
- Stop valve - test
- Stop valve - outlet
- Stop valve - drip pocket
- Stop valve - bypass
- Wireless Steam Trap Monitoring

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