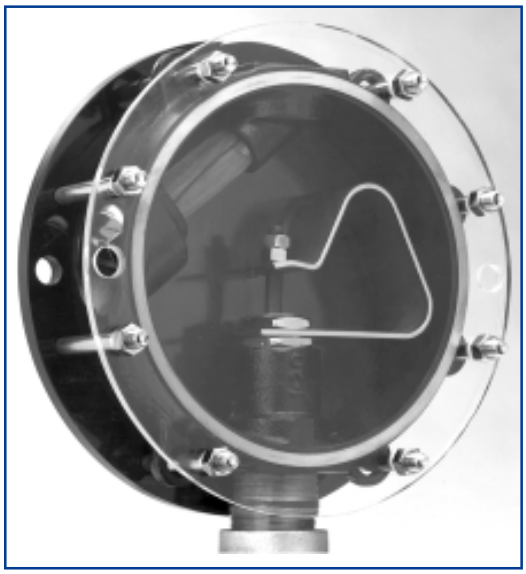
Models GM3/GM6 Steam Traps (2”)

For process and space heating applications



Bestobell’s GM3/GM6 steam traps are designed for fast start-up and continuous modulating discharge on large process and heating applications up to 30 psi (GM3) and 70 psi (GM6). A 2” trap with Y-type strainer and very high condensate load capabilities.

- **Single blade element —** offers long-term, trouble-free service because it’s not prone to dirt build-up as encountered with many other bimetal designs.
- **Stainless Steel internals —** highly resistant to fatigue and corrosion and completely renewable.
- **Built-in strainer and check valve —** Y-type strainer is included to protect trap from dirt; integral check valve prevents backflow during shutdown.
- **Modulating discharge —** automatically adjusts to operating pressure and load, overcoming problems associated with cyclic discharge.
- **Continuous air and CO_2 venting —** maximizes heat transfer while minimizing corrosion.
- **No loss of live steam —** utilizes thermostatic and thermodynamic forces for steam-tight shutoff for greater energy efficiency and extended seat life.

BESTOBELL STEAM
Steam Traps and Steam Specialties

3170 Wasson Road • Cincinnati, Ohio 45209 USA
Phone 513-533-5600 • Fax 513-871-0105
Toll-Free Phone: 800-543-7311 (US & Canada)
E-Mail: steam@richardsind.com
URL: www.bestobellsteamtraps.com

Bestobell Models GM3/GM6 Steam Traps

Specifications

Maximum Differential Pressure:
GM3: 30 psi (2,1 bar)
GM6: 70 psi (4,8 bar)

Maximum Body Pressure: 120 psig (8,3 bar)

Maximum Body Temperature: 650°F (343°C)

Line Sizes:

- Model GM3: 2”
- Model GM6: 2”

See separate literature on smaller sizes GM3/GM6.

End Connections: threaded (NPT), ANSI 150 raised face flanged

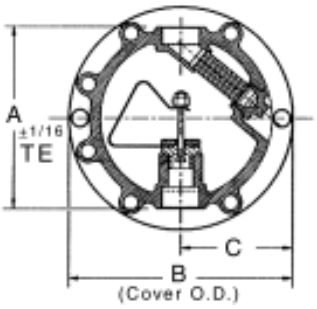
Materials:

- Body: Ductile Iron
- Covers: Carbon Steel
- Valve Seat & Cone: Stainless Steel
- Bimetal: Stainless Steel
- Strainer: Stainless Steel
- Nuts & Bolts: Steel
- Gasket: Flexible Graphite

Options: Double Threaded Strainer Cap (DTSC) for blowdown valve attachment; Blowdown valve to fit 3/8” DTC for in-line strainer blowdown.

Mounting: from horizontal to vertical (see Installation & Maintenance Instructions). Self-draining and freeze-resistant when mounted in vertical position.

Dimensions

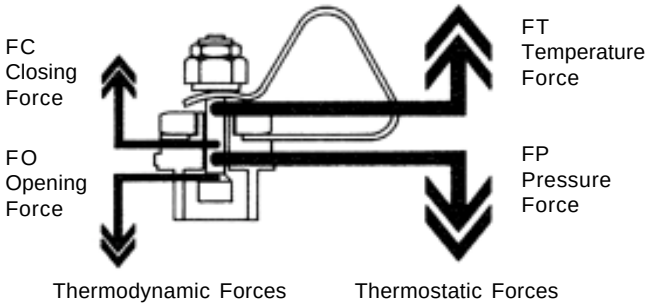


Size	A	B	C	D	Wt.
2"	10.88	13.44	6.75	4.56	70#

Dim. ‘D’ overall width

Principles of Operation

At the heart of every Bestobell steam trap is the unique delta-shaped element, a rugged single blade bimetal formed from high grade stainless steels. Coupled with the valve seat and stem, the element forms a single moving part that is unaffected by dirt and wear. The design provides a sophisticated force balanced valve that utilizes both *thermostatic* and *thermodynamic* forces to provide modulating discharge, and prevent the loss of live steam.



The *thermostatic* effect combines a temperature closing force (FT) generated by the element, and a pressure opening force (FP) generated by the differential pressure across the seat. When condensate temperature approaches that of saturated steam, bimetal expansion raises the stem to close the control valve. Lower temperature condensate, however, relaxes the bimetal to open the valve. With this valve opening, the system differential pressure acts on the diameter of the plug providing an increase in opening force and discharge capacity.

The *thermodynamic* forces are introduced through a three stage orifice containing an expansion chamber forced between the seat and the skirt of the valve stem. The controlled generation of flash steam within this chamber increases the intermediate pressure and resultant opening force (FO) on the valve to increase hot discharge capacity. When the temperature increases, and discharge decreases, the flashing takes place closer to the seat at the entrance to the expansion chamber. A sudden reduction in the opening force allows the closing force (FC) to take over and pull the valve tightly onto the seat. This assures tight shutoff preventing loss of live steam.

Condensate Capacity (lb/hr) at Pressure Differential

Model GM3								
Size	Differential Pressure, psi (bar)	2 (0,14)	5 (0,34)	10 (0,69)	15 (1,03)	20 (1,38)	25 (1,72)	30 (2,07)
2"	Cold Start-up	13,000	20,000	30,000	35,000	40,000	45,000	50,000
	Hot (Process)	5,000	6,300	7,500	8,500	9,000	10,000	11,000
Model GM6								
Size	Differential Pressure (psi (bar)	10 (0,69)	20 (1,38)	30 (2,07)	40 (2,76)	50 (3,45)	60 (4,14)	70 (4,83)
2"	Cold Start-up	15,000	25,000	31,000	36,000	42,000	44,000	46,000
	Hot (Process)	4,400	6,000	7,200	8,000	8,500	8,900	9,200

Note: Flow rates based on discharge to atmospheric pressure, valid for back pressures up to 20% of inlet pressure. Higher back pressures require reset of control element to obtain these capacities. Consult factory for details.