BESTOBELLSTEAM

Delta Element Steam Traps

Models
GM3 (2")
GM6 (2")

CRN: Canadian Registration Number Available

FOR PROCESS AND SPACE HEATING SYSTEMS

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 / 2 bar (GM3) and 70 psi / 4,8 bar (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 –** leads to longer service life since materials are highly resistant to fatigue and corrosion
- **Modulating discharge –** automatically adjusts to operating pressure and load, overcoming problems associated with cyclic discharge
- **Built-in strainer and check valve –** y-type strainer is included to protect trap from dirt; integral check valve prevents backflow during shutdown
- **Continuous air and CO2 venting –** maximizes heat transfer while minimizing corrosion
- **Easy maintenance –** traps are in-line repairable when isolated from live steam system and can be up and running again in minutes
- **No loss of live steam** – utilizes thermostatic and thermodynamic forces for steam-tight shutoff for greater energy efficiency and extended seat life

ORDERING SCHEMATIC

MODEL					6	7	8
G	M	0	0	3	7	3	1

MODEL					6	7	8
G	M	0	0	6	7	3	1

6	SIZE
7	2"

7	CONNECTIONS
1	FNPT
3	150# ANSI RF Flanges
4	300# ANSI RF Flanges
8	BSPT
9	BSPP

8	SPECIALS
0	Standard

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BESTOBELLSTEAM

GM3 & GM6

DELTA ELEMENT STEAM TRAPS

FOR PROCESS AND SPACE HEATING SYSTEMS

SPECIFICATIONS

Maximum Differential Pressure:

GM3: 30 psi (2,1 bar)

GM6: 70 psi (4,8 bar)

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

Maximum Body Temperature: 750°F (399°C)

MATERIALS

Body: Ductile Iron

Cover: Carbon Steel

Valve Seat & Cone: Stainless Steel

Bi-Metal: Stainless Steel NiCr

Strainer: Stainless Steel 304

Nuts & Bolts: Steel GR8

Gasket: Flexible Graphite

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

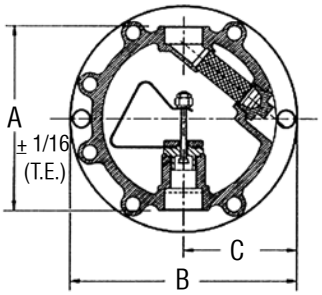
Mounting: From horizontal to vertical (see Installation & Maintenance Instructions). Self-draining and freeze-resistant when mounted in vertical position.

Line Sizes:
GM3: 2"
GM6: 2"

See separate literature on smaller sizes GM3/GM6

End Connections: Threaded (NPT), ANSI 150 raised face flange

DIMENSIONS



Model GM3 & GM6					
2	A	B	C	D	Wt
inches	10.9	13.4	6.75	4.56	70 lbs
mm	277	340	171	116	32 kgs

Notes: dimension D is overall width

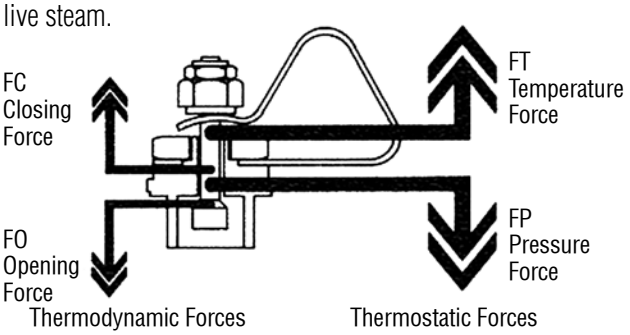
CAPACITY CHARTS: CONDENSATE CAPACITY AT DIFFERENTIAL PRESSURE

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, lbs/hr	13000	20000	30000	35000	40000	45000	50000
	Hot (Dripleg), lbs/hr	5000	6300	7500	8500	9000	10000	11000
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, lbs/hr	15000	25000	31000	36000	42000	44000	46000
	Hot (Dripleg), lbs/hr	4400	6000	7200	8000	8500	8900	9200

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

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 steam 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 pace 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.