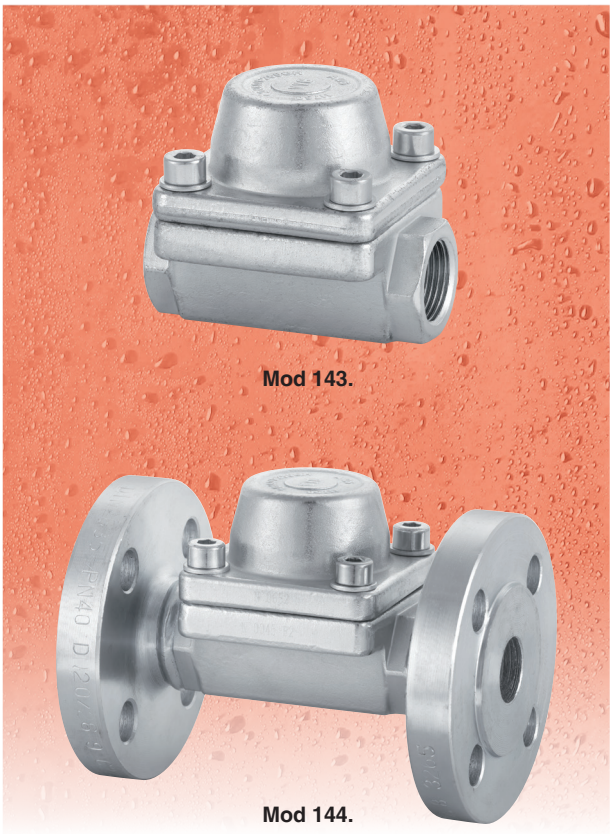
Bimetallic steam trap

Thread connections **Model 143**
Flange connections **Model 144**

EN ASME/FNPT ASME/SW ASME/ANSI

For the extraction of steam condensates.
Applicable in: steam piping, heat exchangers,... the chemical and petrochemical industries,... etc.



Mod 143.

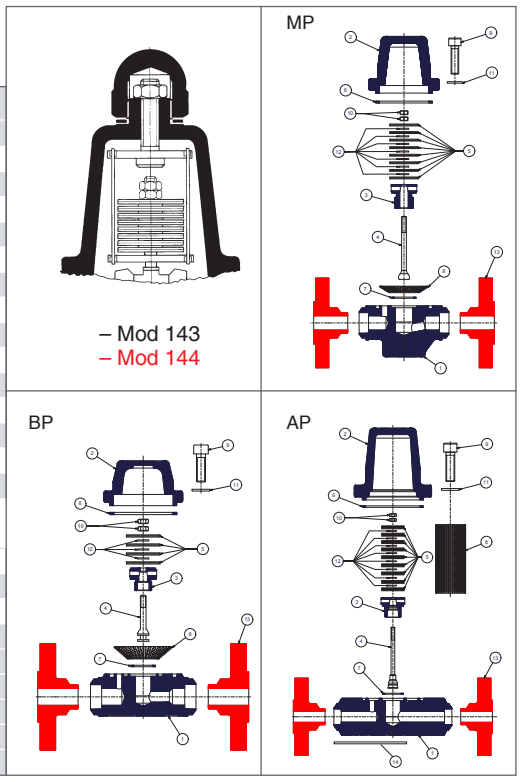
Mod 144.

Specifications

— Materials carefully selected for resistance to wear, extreme temperatures and corrosion.
— Simplicity of construction. A single moveable piece together with a bimetallic strip, highly resistant to corrosion to ensure minimum maintenance.
— Easy installation, can be mounted in any position, although we recommend horizontal mounting.
— Compact and robust. Reduced weight and size which facilitates storage.
— Internal design of the body is conceived to provide the capacities required in each case without over sizing.
— Great discharge capacity.
— The purger also acts as a deaerator and check valve.
— Precision opening and closing, avoiding loss of steam.
— Silent.
— Inseparable bimetallic strip, made from a single piece, with sides of different expansion mean a high degree of sensitivity of operation.
— Are unaffected by vibrations, water hammer, reheated steam, corrosive condensate, frosts, etc.
— Large surface area filter to protect closure areas.
— Sealing surfaces treated and balanced, making them extremely tightness, even exceeding EN 12266-1.
— All steam traps undergo throrough testing.
— All components are numbered, registered and checked. If requested in advance, material, casting, test and efficiency certificates will be enclosed with the steam trap.

IMPORTANT
Depending on demand:
— Other connections.
— Model BP and MP with external on-line adjustment mechanism.

N°. PIECE	PIECE	MATERIAL			
		CARBON STEEL			
1	Body	Carbon steel (EN-1.0460) (1)			
2	Cover	Carbon steel (EN-1.0460) (1)			
3	Seating	Stainless steel (EN-1.4305)			
4	Plug	Stainless steel (EN-1.4028)			
5	Bimetall	RGR			
6	Joint	Graphite			
7	Joint	Copper			
8	Filter	Stainless steel (EN-1.4301)			
9	Screw	Carbon steel (EN-1.1191)			
10	Nut	Stainless steel (EN-1.4401)			
11	Washer	Carbon steel (EN-1.1141)			
12	Washer	Stainless steel (EN-1.4401)			
13	Flange	Carbon steel (EN-1.0460)			
14	Plate	Stainless steel (EN-1.4301)			
	TYPE	BP LOW PRESSURE	MP MEDIUM PRESSURE	AP HIGH PRESSURE	
	R	1/2" and 3/4"	1/2" and 3/4"	1/2" to 1"	
	DN	15 to 25	15 to 25	15 to 25	
	PN	40	40	100	
OPERATING CONDITIONS BP	MAX. PRESSURE IN bar	17	17	17	17
	MAX. TEMP. IN °C	*RT	150	250	400
OPERATING CONDITIONS MP	MAX. PRESSURE IN bar	23	23	23	23
	MAX. TEMP. IN °C	*RT	150	250	400
OPERATING CONDITIONS AP	MAX. PRESSURE IN bar	80	80	76,1	23,8
	MAX. TEMP. IN °C	*RT	150	250	450

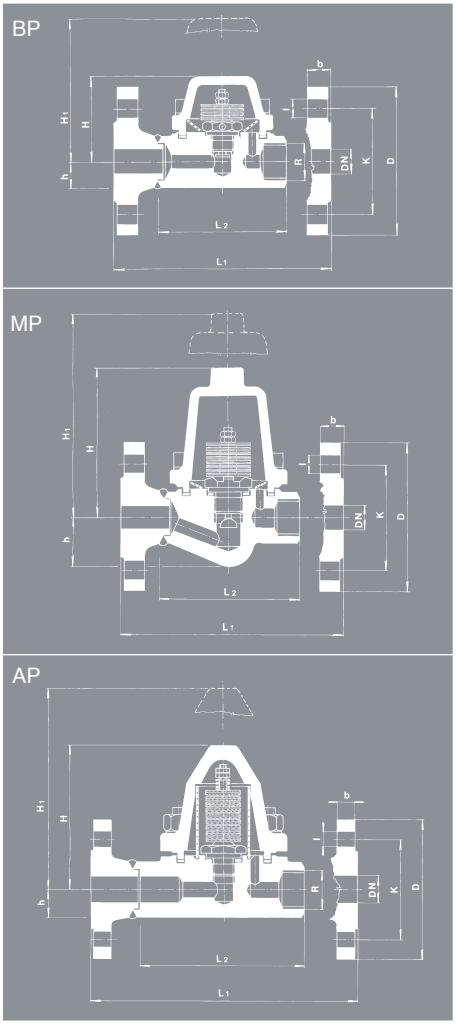


*Room Temperature (-10 ºC a 50 ºC).

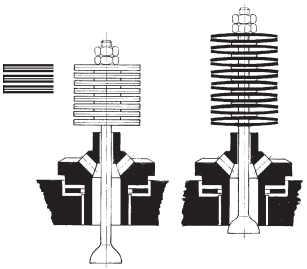
(1) Type AP in carbon steel (EN-1.5415).

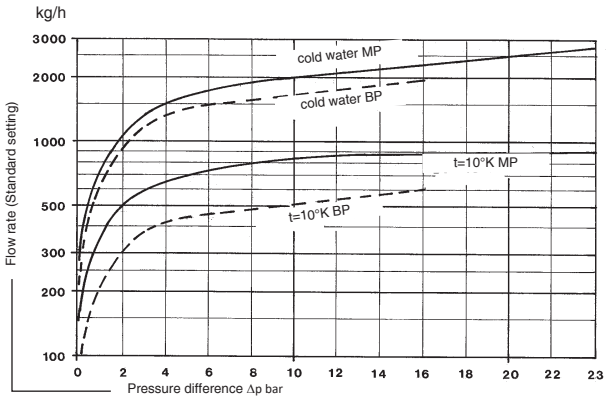
TYPE		LOW PRESSURE BP					MEDIUM PRESSURE MP					HIGH PRESSURE AP					
R		1/2"	3/4"	—	—	—	1/2"	3/4"	—	—	—	1/2"	3/4"	1"	—	—	—
CONNECTION		Whitworth gas-tight cylindrical female thread ISO 228/1 (DIN-259)															
		Thread NPT ANSI/ASME B1.20.1 Welding ends SW ASME B16.11															
DN		—	—	15	20	25	—	—	15	20	25	—	—	—	15	20	25
CONNECTION		Flange PN-40 EN-1092-1 Flange class 150 lbs ASME/ANSI B1 6.5 Flange class 300 lbs ASME/ANSI B1 6.5										Flange PN-100 EN-1092-1 Flange class 600 lbs ASME/ANSI B1 6.5					
H		56	56	56	56	56	115	115	115	115	115	120	120	120	120	120	120
H_1		91	91	91	91	91	165	165	165	165	165	210	210	210	210	210	210
h		24	24	—	—	—	26	26	—	—	—	25	25	25	—	—	—
L_1		—	—	150	150	160	—	—	150	150	160	—	—	—	230	230	230
L_2		90	90	—	—	—	110 (1)	110 (1)	—	—	—	160	160	160	—	—	—
D		—	—	95	105	115	—	—	95	105	115	—	—	—	105	130	140
K		—	—	65	75	85	—	—	65	75	85	—	—	—	75	90	100
I		—	—	14	14	14	—	—	14	14	14	—	—	—	14	18	18
b		—	—	16	18	18	—	—	16	18	18	—	—	—	20	22	24
N°. DRILLS		—	—	4	4	4	—	—	4	4	4	—	—	—	4	4	4
WEIGHT IN Kgs.		1,60	1,50	3,00	3,50	4,00	—	—	3,00	3,50	4,00	6,00	6,00	6,00	9,00	10,0	11,00
CODE 2108 –	GAS	143.8024	143.8344	—	—	—	143.802411	143.834411	—	—	—	143.0024	143.0344	143.0104	—	—	—
	NPT	143.80241	143.83441	—	—	—	143.802412	143.834412	—	—	—	143.00241	143.03441	143.01041	—	—	—
	SW	143.80242	143.83442	—	—	—	143.802413	143.834413	—	—	—	143.00242	143.03442	143.01042	—	—	—
	FLANGE PN-40	—	—	144.8024	144.8344	144.8104	—	—	144.802411	144.834411	144.810411	—	—	—	—	—	—
	FLANGE PN-100	—	—	—	—	—	—	—	—	—	—	—	—	—	144.0024	144.0344	144.0104
	FLANGE 150 lbs	—	—	144.80241	144.83441	144.81041	—	—	144.802412	144.834412	144.810412	—	—	—	—	—	—
	FLANGE 300 lbs	—	—	144.80242	144.83442	144.81042	—	—	144.802413	144.834413	144.810413	—	—	—	—	—	—
	FLANGE 600 lbs	—	—	—	—	—	—	—	—	—	—	—	—	—	144.00241	144.03441	144.01041

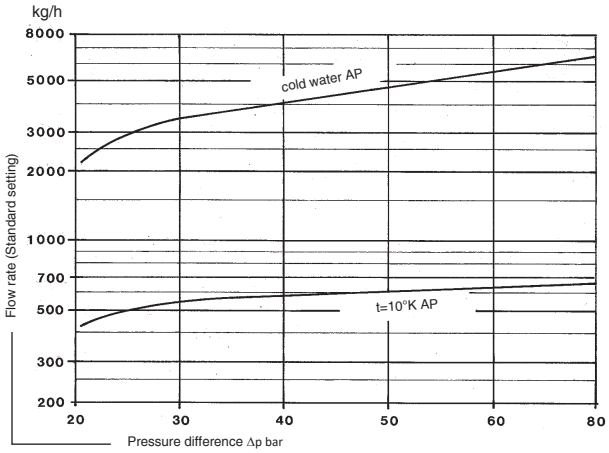
(1) SW L2=90



Flow diagram







Operation

The operating principle of the bimetallic steam trap is based on the combination in a column of double sided bimetallic discs made up of one single bimetallic strip, where each face has a different coefficient of expansion.

The bimetallic strips are piled up in pairs, with the sides having the same coefficient of expansion (side without the marking) placed against each other.

In the presence of cold water the bimetallic strips remain flat. As the temperature increases the discs change shape, becoming convex, and displacing the plug against the seating. The maximum convexity, which coincides with a fully tight shut off is obtained just at the point when the condensate turns to steam.
It is important to remember that the distance between the plug and the seating when cold is that which determines the flow when in service.

VYC industrial, sau
Founded in 1914
www.vycindustrial.com
Avenc del Daví, 22 Pol. Ind. Can Petit 08227 TERRASSA (Barcelona) SPAIN
+34 93 735 76 90 119 info@vycindustrial.com