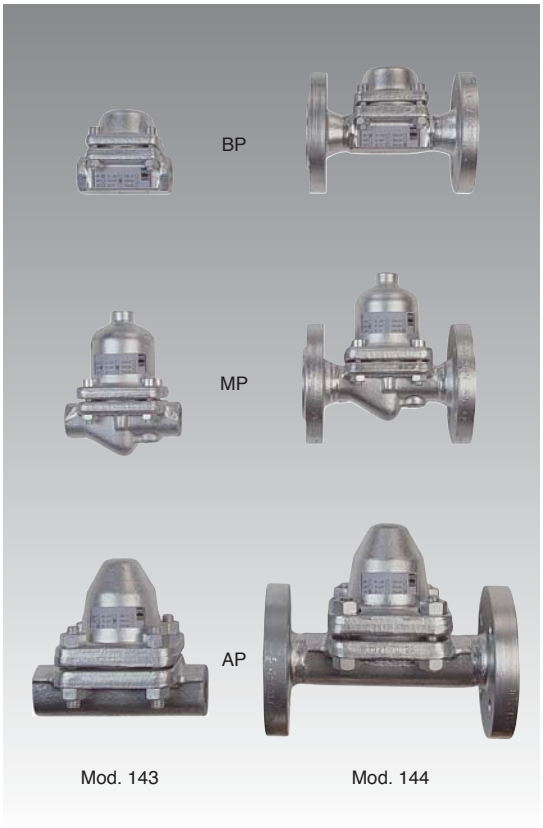
Bimetallic steam trap

Thread connections Model 143
Flange connections Model 144

EN ASME/SW-BW

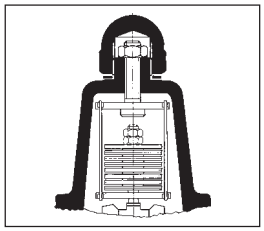
For the extraction of steam condensates.
Applicable in: steam piping, heat exchangers,... the chemical and petrochemical industries,... etc.

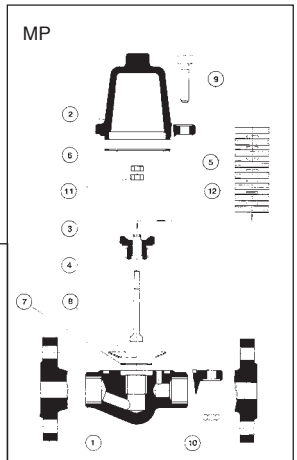


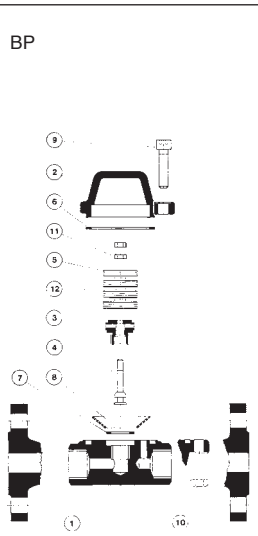
Specifications

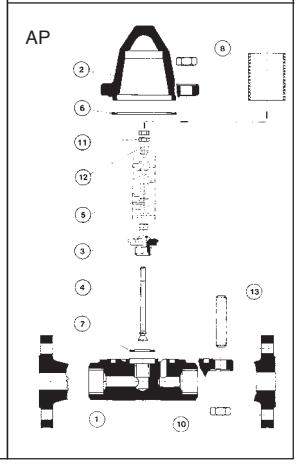
— Materials carefully selected for resistance to wear, extreme temperatures and corrosion.
— Simplicity of construction. A single moveable piece together with a bimetallic strip, highly resistant to corrosion to ensure minimum maintenance.
— Easy installation, can be mounted in any position, although 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 DIN-3230 requeriments. Page 3.
— 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:
1.– Other connections: Thread NPT ANSI-B2.1.
BW or SW ANSI-B 16.11.
ASA ANSI-150, 300 or 600 Lbs. flanges.
2.– Model BP and MP with external on-line adjustment mechanism.







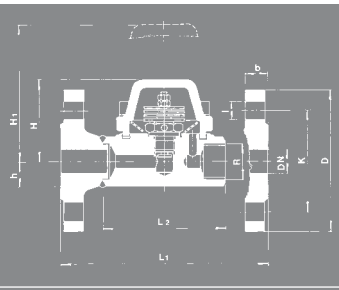


N°. PIECE	PIECE	MATERIAL
		CARBON STEEL
1	Body	Carbon steel (EN-1.0460) (1)
2	Cover	Carbon steel (EN-1.0460) (1)
3	Seating	Stainless steel (EN-1.4305)
4	Plug	Stainless steel (EN-1.4112)
5	Bimetall	RGR
6	Joint	Graphite
7	Joint	Copper
8	Filter	Stainless steel (EN-1.4301)
9	Screw	Carbon steel (EN-1.1191)
10	Nut	Carbon steel (EN-1.1141)
11	Nut	Stainless steel (EN-1.4305)
12	Washer	Stainless steel (EN-1.4305)
13	Stud	Carbon steel (EN-1.1191)

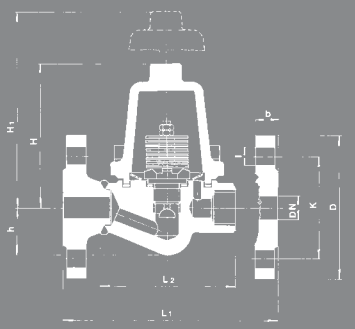
TYPE		BP	MP	AP
		LOW PRESSURE	MEDIUM PRESSURE	HIGH PRESSURE
R		1/2" and 3/4"	1/2" and 3/4"	1/2" to 1"
DN		15 to 25	15 to 25	15 and 25
PN		40	40	100
OPERATING CONDITIONS	MAX. PRESSURE IN bar	17	23	80
	MAX. TEMP. IN °C	400	400	450

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

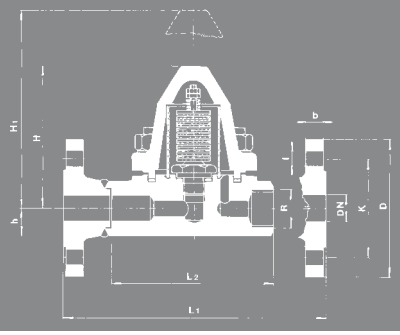
BP



MP

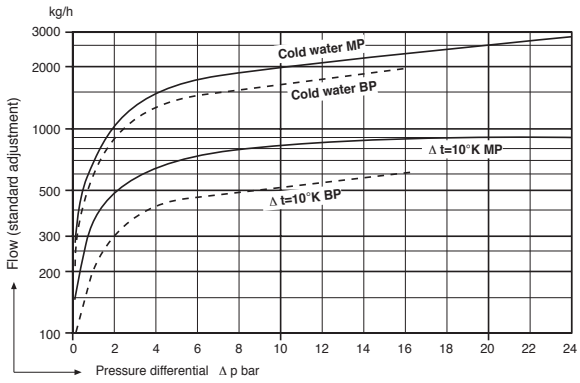


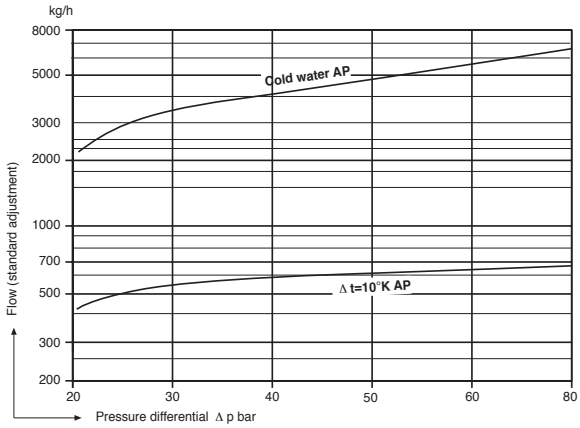
AP

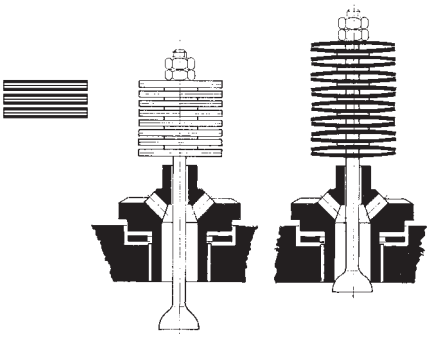


TYPE	LOW PRESSURE BP					MEDIUM PRESSURE MP					HIGH PRESSURE AP				
R	1/2"	3/4"	—	—	—	1/2"	3/4"	—	—	—	1/2"	3/4"	1"	—	—
CONNECTION	Whitworth gas-tight cylindrical female thread ISO 228/1 1978 (DIN-259)														
DN	—	—	15	20	25	—	—	15	20	25	—	—	—	15	25
CONNECTION	Flange PN-40 EN-1092-1										Flange PN-100 EN-1092-1				
H	56	56	56	56	56	115	115	115	115	115	120	120	120	120	120
H_1	91	91	91	91	91	165	165	165	165	165	210	210	210	210	210
h	24,0	24,0	—	—	—	26,0	26,0	—	—	—	25,0	25,0	25,0	—	—
L_1	—	—	150	150	160	—	—	150	150	160	—	—	—	230	230
L_2	90	90	—	—	—	110	110	—	—	—	160	160	160	—	—
D	—	—	95	105	115	—	—	95	105	115	—	—	—	105	140
K	—	—	65	75	85	—	—	65	75	85	—	—	—	75	100
l	—	—	14	14	14	—	—	14	14	14	—	—	—	14	18
b	—	—	16	18	18	—	—	16	18	18	—	—	—	20	24
N°DRILLS	—	—	4	4	4	—	—	4	4	4	—	—	—	4	4
WEIGHT IN Kgs.	1,60	1,50	3,00	3,50	4,00	2,60	2,50	4,00	4,50	5,00	6,00	6,00	6,00	9,00	11,00
CODE 2108 –	143.8024	143.8344	144.8024	144.8344	144.8104	143.80241	143.83441	144.80241	144.83441	144.81041	143.0024	143.0344	143.0104	144.0024	144.0104

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.

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