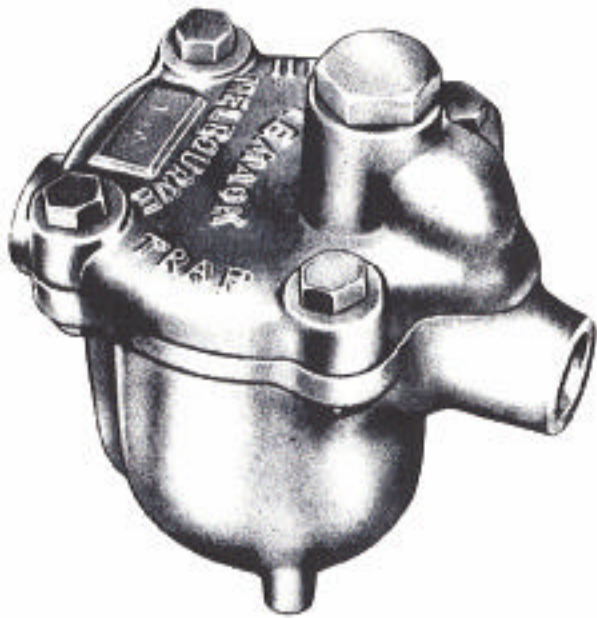




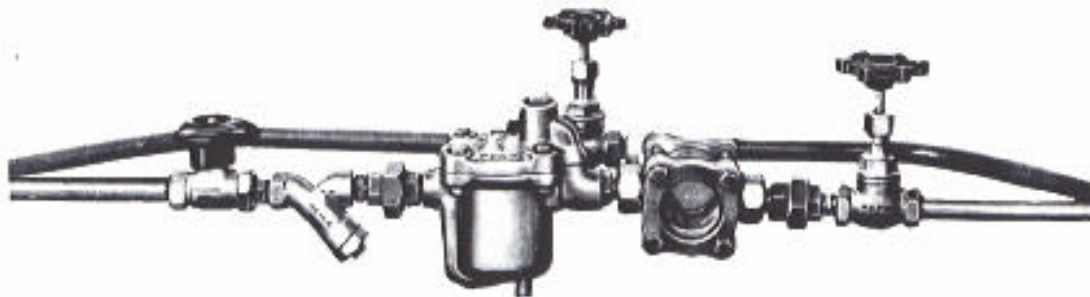
Steam

Trap

Section



H
1





Steam Trap Section

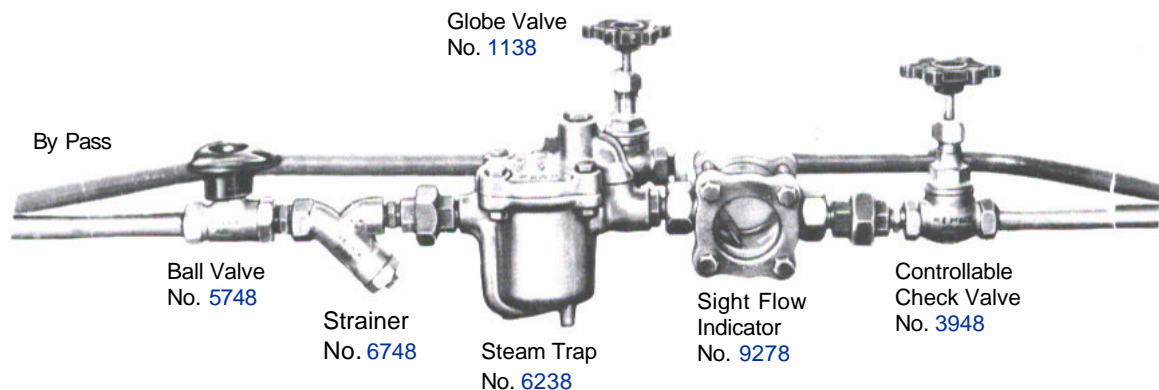
NOTES ON STEAM TRAPS

Installation of Steam Traps:

1. Install an individual trap on each vessel or unit to be drained.
2. Place trap as close as possible to the vessel to be drained.
3. Wherever possible install trap below the vessel to be drained. Water does not flow up hill.
4. Connecting pipe should have a continuous fall from the vessel to the trap inlet.
5. Any lift should be on the discharge side of the trap. A trap will lift 90mm for each kilopascal (2 feet for each pound per square inch) steam pressure, but back pressure will reduce the capacity. Do not use the trap to lift condensate when the steam pressure is less than 30 – 50 kPa (5 – 7 p.s.i.).
6. Fit a strainer on the inlet side of the trap, it will prevent blockage of the orifice. A drain pocket in addition will remove large size dirt and scale and help to keep things working.
7. Where condensate is discharged to a main connected to several traps fit a check valve at the outlet to the trap.
8. Where condensate is lifted, the rising pipe, with check valve fitted at trap outlet, should be as close to the trap as possible, it should be vertical and, if connected to an overhead return main, be connected to the main on its upper side with a Y entry.
9. Where traps operate at high pressure, flash steam is a cheap source of heat. A flash box should be installed.
10. Place trap in readily accessible position.
11. Ensure that steam using vessel is properly air vented.

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RECOMMENDED STEAM TRAP ARRANGEMENT





INVERTED BUCKET TYPE CAPACITY TABLE

Orifice Rating		Working Steam Pressure		CAPACITY											
				Kilograms and Pounds of Condensate discharged per hour											
				15mm Trap		20mm Trap		25mm Trap		32mm Trap		40mm Trap		50mm Trap	
kPa	psi	kPa	psi	Kg.	Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.	Lbs.
70	10	70	10	275	610	645	1420	1085	2390	1795	3960	2760	6090	5670	12500
		48	7	225	500	535	1180	900	1980	1490	3290	2290	5050	4672	10300
103	15	103	15	260	570	610	1340	1050	2310	1810	3990	2665	5880	6305	13900
		70	10	215	470	500	1100	860	1900	1490	3290	2205	4860	5215	11500
170	25	48	7	175	390	410	910	715	1580	1235	2720	1825	4020	4320	9520
		170	25	255	560	525	1160	1070	2360	1835	4040	2670	5900	6850	15100
		138	20	225	500	475	1050	980	2160	1660	3660	2425	5350	6215	13700
340	50	103	15	200	440	415	920	850	1870	1450	3200	2120	4680	5445	12000
		70	10	165	360	345	760	700	1540	1195	2640	1755	3870	4510	9940
		345	50	270	590	560	1230	1095	2410	1830	4030	2675	5910	6665	14700
		275	40	240	530	500	1100	985	2170	1650	3640	2420	5340	5990	13200
520	75	205	30	210	460	440	970	860	1900	1445	3190	2120	4680	5260	11600
		170	25	195	430	395	890	790	1740	1330	2930	1950	4300	4810	10600
		520	75	270	590	570	1260	1120	2470	1685	3720	2585	5700	6620	14600
		415	60	245	540	415	1140	1025	2260	1540	3400	2360	5200	6035	13300
690	100	345	50	220	490	470	1040	935	2060	1405	3100	2155	4750	5490	12100
		275	40	200	440	425	940	840	1850	1265	2790	1395	4270	4945	10900
		690	100	270	590	580	1280	885	1950	1685	3720	2710	5980	6215	13700
		520	75	235	520	512	1130	775	1710	1485	3270	2390	5270	5445	12000
1035	150	415	60	215	470	460	1020	710	1560	1350	2980	2170	4780	4990	11000
		345	50	195	430	420	930	645	1420	1230	2710	1975	4350	4535	10000
		1035	150	195	430	410	910	745	1640	1765	3890	2090	4610	5805	12800
		825	120	175	390	370	820	670	1480	1595	3520	1895	4180	5260	11600
1380	200	690	100	165	360	345	760	615	1360	1465	3230	1735	3830	4810	10600
		520	100	140	310	300	660	540	1190	1285	2830	1525	3360	4235	9340
		1380	200	130	290	315	690	535	1180	1533	3380	1600	3530	4855	10700
		1035	150	115	250	275	610	470	1040	1350	2980	1405	3100	4240	9350
1725	250	825	120	105	230	250	550	425	940	1225	2700	1210	2810	3880	8560
		690	100	95	210	225	500	390	860	1115	2460	1165	2570	3550	7830
		1725	250	95	210	270	590	500	1100	1465	3230	1540	3400	4625	10200
		1350	200	85	190	240	530	450	990	1315	2900	1385	3050	4175	9200
		1035	150	77	170	215	470	395	870	1155	2550	1215	2680	3665	8080
		825	120	68	150	190	420	360	790	1050	2310	1100	2430	3310	7300

The chart gives the maximum continuous discharge that can be obtained. Please observe the following instructions when selecting size of Steam Trap.

- Figures given are maximum continuous discharge. The actual duty imposed on trap should not exceed half the given figure and preferably about one third of it, e.g., 25mm Trap x 690 kPa (100 psi) orifice and operating at 690 kPa (100 psi) with no appreciable back pressure = 885 Kg (1950 pounds) of condensate per hour, suitable duty would be 295 Kg (650 lbs) per hour and should not exceed 408 Kg (900 lbs) per hour. This allows for extra burden on trap due to (A) Intermittent discharge, (B) Increased rate of condensation and reduced pressure occurring when starting equipment from cold, (C) Back pressure on trap discharge.
- Choose trap orifice rated at the maximum pressure at which trap is to operate. A trap with an orifice rated at 690 kPa (100 psi) will operate at 620 kPa (90 psi) (and lower pressure) but not at 760 kPa (110 psi).
- When using chart, use the minimum steam pressure that the trap will be required to operate at and deduct and back pressure. Every 610mm (two feet) of lift is equivalent to 6 – 9 kPa (1 psi) back pressure.
- Where discharge pipe is unusually long or contains many bends, backpressure will reduce the rated capacity of the steam trap.



Steam Trap Section

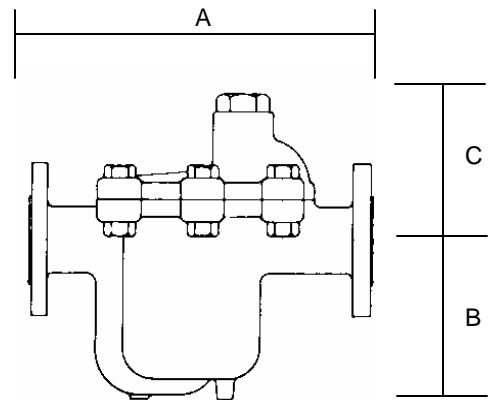
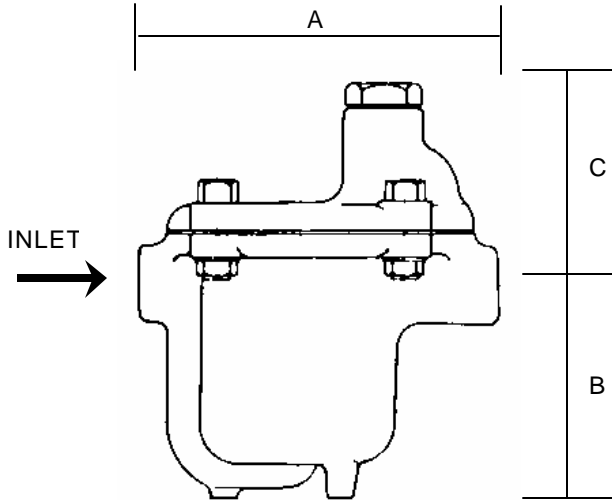
NOTE; All dimensions are in millimetres and are subject to alteration without notification.

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G.M. Gun Metal **C.I.** Cast Iron (Meehanite)
S.S. Stainless Steel **C.S.** Cast Steel
C. Copper **B.** Bronze

Inverted Bucket Steam Trap	End Connection	Body & Cap	Orifice	Valve Disc	Valve Guide	Bucket	Maximum Pressure	
							kPa	p.s.i.
6232	BST H	GM	SS	SS	GM	15-25mm C 32-50mm B	1725	250
6238	BSP Female	GM	SS	SS	Gm	15-50mm C 32-50mm B	1725	250
6251	BST F	CI	SS	SS	GM	15-25mm C 32-50mm B	1035	150
6258	BSP Female	CI	SS	SS	GM	15-25mm C 32-50mm B	1035	150
6271	BST H	CS	SS	SS	GM	15-25mm C 32-50mm B	1725	250
6278	BSP Female	CS	SS	SS	GM	15-25mm C 32-50mm B	1725	250

ORIFICE RATING	kPa	70	103	170	345	520	690	1035	1380	1725
	p.s.i.	10	15	25	50	75	100	150	200	250



Bronze						
SIZE	15	20	25	31	40	50
A	152	203	203			
B	89	127	152			
C	83	121	121			

Bronze, Cast Iron, Cast Steel					
SIZE	20	25	32	40	50
A	279	279	368	368	473
B	159	184	210	241	308
C	127	127	159	159	171

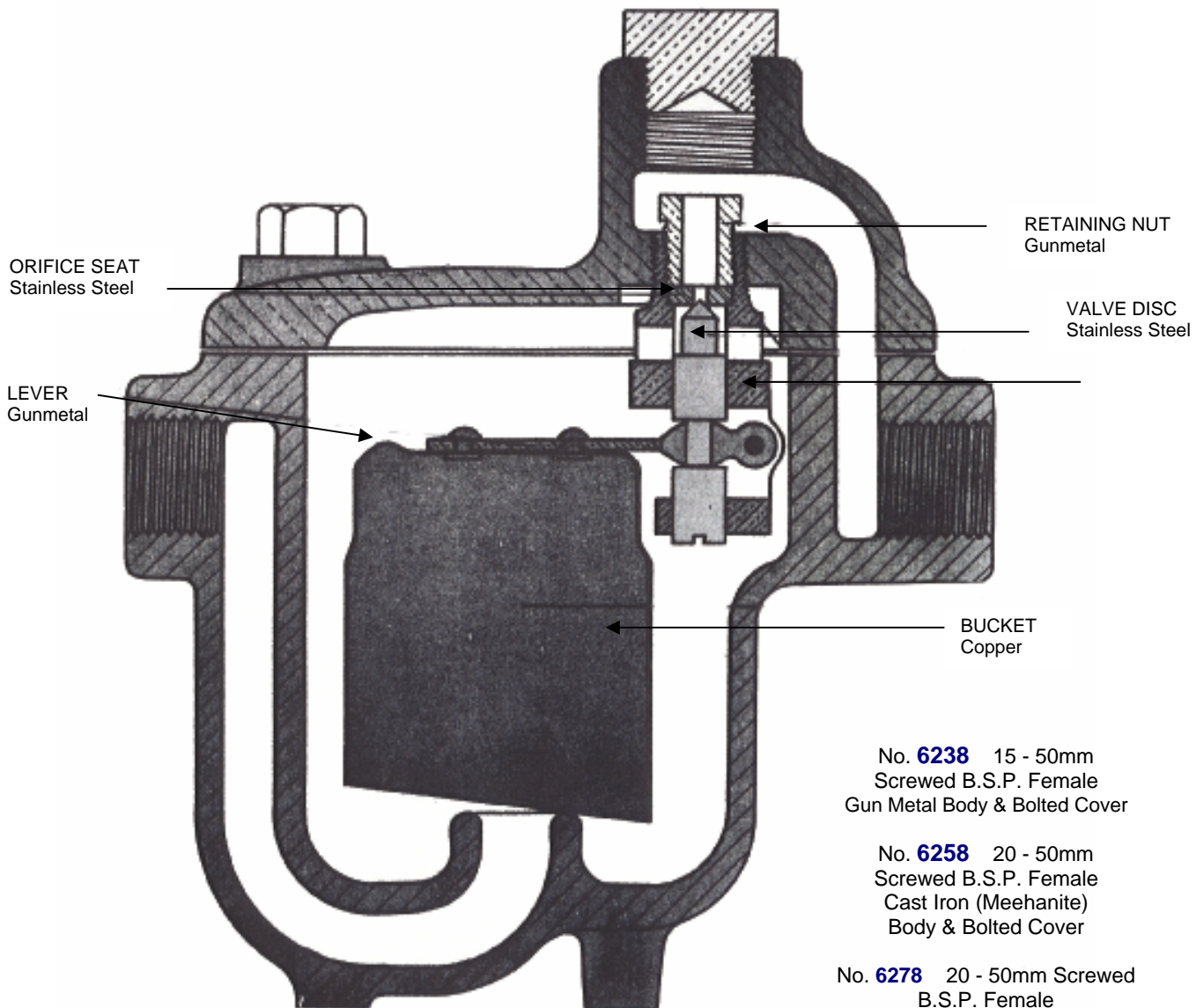
Cast Iron						
SIZE	15	20	25	31	40	50
A		241	241	311	311	438
B		133	159	210	235	311
C		127	127	152	152	178

Steam Trap Section



AIR, WATER & LIQUIDS, NON INJURIOUS TO MATERIAL CONTENT

TYPE
INVERTED BUCKET



No. **6238** 15 - 50mm
Screwed B.S.P. Female
Gun Metal Body & Bolted Cover

No. **6258** 20 - 50mm
Screwed B.S.P. Female
Cast Iron (Meehanite)
Body & Bolted Cover

No. **6278** 20 - 50mm Screwed
B.S.P. Female
Cast Steel Body & Bolted Cover

GM - 6232

Flanged version CI - 6251

CS - 6272

PRINCIPLE OF OPERATION

When trap is full of condensate the bucket sinks opening the valve and condensate is discharged. As steam enters the trap it is caught in the bucket from which it displaces water, making it buoyant and raising it, thus closing the valve. When fresh steam ceases to enter the trap steam in the bucket condenses; some steam together with an entrained air escapes through the bleed hole in the top of the bucket, which then loses its buoyancy and sinks and discharges condensate.

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