

707
Bronze
Safety Relief Valve
Standard Capacity High Lift
For Steam, Water, Oil, Air & Gasses*
BSP & NPT Threaded**
PN25, ANSI 150 & BS10 H Flanged**

Bailey Birkett



The 707 range of safety relief valves offer protection against overpressure on boilers, compressors, pressure vessels, process pipelines and pressurised equipment.

They have a top guided construction with an unobstructed seat bore providing full protection with a high lift capacity.

Approvals, Features & Benefits

- BS6759 Part 1, 2 & 3
- BS EN ISO 4126 Part 1 (SAFED)
- WRAS approved (EPDM trim only)
- Lock & lever or dome top
- Set, tested and certified prior to despatch

Pressure & Temperature

Pressure range:-
0.30 up to 24 bar

Body temperature range:-
-20°C to 224°C

See table below for disc temperature ranges

DN (Inlet)	15 (½")	20 (¾")	25 (1")	32 (1¼")	40 (1½")	50 (2")
Discharge Outlet	15 (½")	20 (¾")	25 (1")	32 (1¼")	40 (1½")	50 (2")
C (Threaded M x F)	152	181	208	237	277	333
C1 (Threaded M x F)	130	159	185	205	245	298
C (Flanged)	n/a	187	202	239	276	333
C1 (Flanged)	n/a	164	179	206	243	298
D (Threaded F x F)	133	162	186	215	249	303
D1 (Threaded F x F)	111	140	163	183	216	268
E	29	37	40	48	56	71
F**	n/a (59)	70 (65)	71 (78)	90 (89)	94 (95)	110 (109)
G	40	46	56	67	67	79
H (Flanged)	n/a	62	73	81	89	108
Orifice (mm²)	126	364	481	791	1240	1943
Weight Kg** (Threaded)	0.6 (0.5)	1 (1.6)	1.5 (2)	3 (3.5)	4.5 (5)	6 (7)
Weight Kg (Flanged)	n/a	2	3	4.5	6	9

** Figures in brackets for male x female threaded version

Disc Material Options	Temperature Range	Application*
EPDM	-20°C to 95°C	Water
Aflas (Viton)	-20°C to 200°C	Air, Gases, Oils & Steam
Stainless Steel	-20°C to 224°C	Steam & Process Liquids

Media	Kdr	Over Pressure	Blowdown
Steam	0.173	10%	15% or 0.3 bar min
Hot Water (>100°C)	0.173	10%	15% or 0.3 bar min
Air/Gases	0.173	10%	15% or 0.3 bar min
Liquid	0.149	10%	20% or 0.6 bar min

Materials	
Body & Seat	Bronze
Disc Assembly	EPDM, Aflas or Stainless Steel
Spindle, Spring Cap & Ball	Stainless Steel
Spring	Chrome Alloy
Adjusting Screw & Locking Ring	Bronze
Dome & Lever	Bronze
Padlock	Brass
Bush	PTFE
Pinning Screw	Steel

* Dependent on materials, please check compatibility ** Specify connections when enquiring

707

Capacity Charts/Sizing

**AIR CAPACITY (l/s) @ 0.3 bar or 10% overpressure* at 15°C
BS EN ISO 4126 Part 1 (BS6759 Part 1, 2 & 3)**

Set Pressure (bar)	15	20	25	32	40	50
0.35	3.93	11.4	15.0	24.7	38.7	60.6
1.0	8.28	23.9	31.6	52.0	81.5	128
2.0	13.6	39.1	51.7	85.0	133	209
3.0	18.3	52.8	69.8	115	180	282
4.0	22.9	66.3	87.6	144	226	354
5.0	27.6	79.7	105	173	272	426
6.0	32.3	93.2	123	203	317	497
7.0	36.9	107	141	232	363	569
8.0	41.6	120	159	261	409	641
9.0	46.2	134	177	290	455	713
10.0	50.9	147	194	320	501	785
12.0	60.2	174	230	378	593	929
12.5	66.6	181	239	393	616	965
14.0	69.5	201	265	437	684	1072
16.0	78.9	228	301	495	776	1216
18.0	88.2	255	337	554	868	1360
20.0	97.5	282	372	612	960	1504
22.0	107	309	408	671	1051	1647
24.0	116	336	443	729	1143	1791

* Minimum overpressure = 0.07 bar at set pressure less the 1.0 bar

**SATURATED STEAM CAPACITY (kg/h) @ 10% Overpressure
BS EN ISO 4126 Part 1 (BS6759 Part 1, 2 & 3)**

Set Pressure (bar)	15	20	25	32	40	50
0.35	9.68	28.0	37.0	60.8	95.3	149
1.0	22.6	65.2	86.2	142	222	348
2.0	35.9	104	137	225	353	553
3.0	47.8	138	182	300	470	737
4.0	59.3	171	226	372	583	914
5.0	76.6	221	292	481	753	1181
6.0	89.0	257	340	559	876	1372
7.0	99.9	289	381	627	983	1540
8.0	112	324	428	705	1104	1731
9.0	123	355	469	771	1208	1893
10.0	135	390	515	848	1329	2082
12.0	157	454	600	987	1548	2425
12.5	167	482	637	1048	1642	2573
14.0	182	524	693	1140	1787	2799
16.0	201	606	801	1318	2066	3237
18.0	243	702	928	1527	2393	3750
20.0	256	739	977	1606	2518	3946
22.0	284	822	1086	1786	2799	4386
24.0	308	889	1174	1931	3027	4743

* Minimum overpressure = 0.07 bar at set pressure less the 1.0 bar

**WATER CAPACITY (l/min) @ 10% overpressure* at 20°C
BS6759 Part 3**

Set Pressure (bar)	15	20	25	32	40	50
0.35	10.3	29.8	39.4	64.8	102	159
1.0	16.7	48.3	63.8	105	164	258
2.0	23.6	68.3	90.2	148	233	364
3.0	28.9	83.6	110	182	285	446
4.0	33.4	96.5	128	210	329	515
5.0	37.4	108	143	235	368	576
6.0	40.9	118	156	257	403	631
7.0	44.2	128	169	278	435	682
8.0	47.3	137	180	297	465	729
9.0	50.1	145	191	315	493	773
10.0	52.8	153	202	332	520	815
12.0	57.9	167	221	363	570	893
12.5	59.1	171	226	371	581	911
14.0	62.5	181	239	392	615	964
16.0	66.8	193	255	420	658	1031
18.0	70.9	205	271	445	698	1093
20.0	74.7	216	285	469	735	1152
22.0	78.4	226	299	492	771	1208
24.0	81.9	236	312	514	806	1262

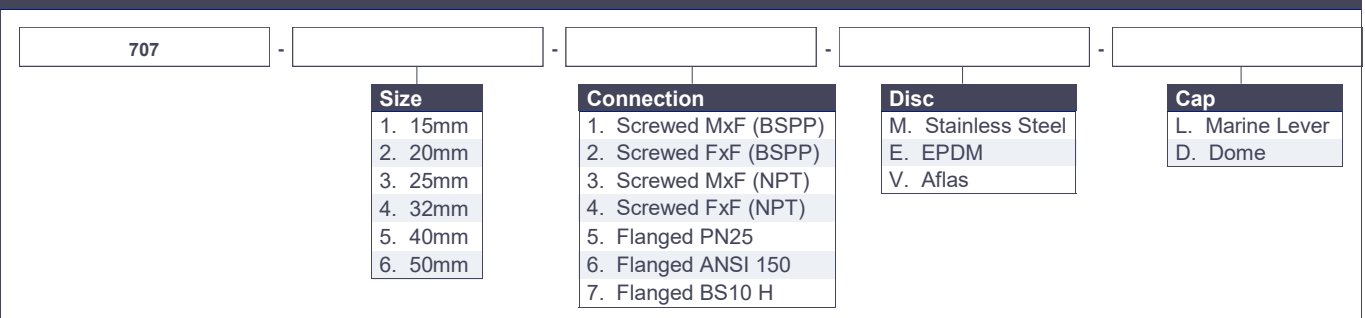
* Minimum overpressure = 0.07 bar at set pressure less the 0.7 bar

HOT WATER CAPACITY (kW) @ 10% overpressure* (Un-vented system) BS6759 Part 1

Set Pressure (bar)	15	20	25	32	40	50
0.35	6.88	19.9	26.3	43.2	67.7	106
1.0	14.0	40.5	53.5	88.0	138	216
2.0	22.9	66.3	87.5	144	226	354
3.0	30.9	89.4	118	194	304	477
4.0	38.8	112	148	244	382	599
5.0	46.7	135	178	293	460	720
6.0	54.6	158	208	343	537	842
7.0	62.5	181	239	392	615	964
8.0	70.4	203	269	442	693	1085
9.0	78.3	226	299	491	770	1207
10.0	86.2	249	329	541	848	1329
12.0	102	294	389	640	1003	1572
12.5	106	306	404	665	1042	1633
14.0	118	340	449	739	1158	1815
16.0	133	386	510	838	1314	2059
18.0	149	431	570	937	1469	2302
20.0	165	477	630	1036	1624	2545
22.0	181	522	690	1135	1780	2788
24.0	197	568	751	1234	1935	3032

* Minimum overpressure = 0.07 bar at set pressure less the 0.7 bar

Part Numbering System



When ordering, the following information is necessary to ensure that the correct size and type of valve is selected.

- | | | |
|-----------------|---------------------|----------------------------|
| 1. Service | 2. Application | 3. System working pressure |
| 4. Set pressure | 5. Maximum Capacity | 6. Inlet connection |