

SAFETY VALVE PROPORTIONAL TYPE

CAST IRON / CARBON STEEL / STAINLESS STEEL



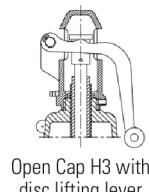
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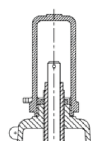
FIG 2501



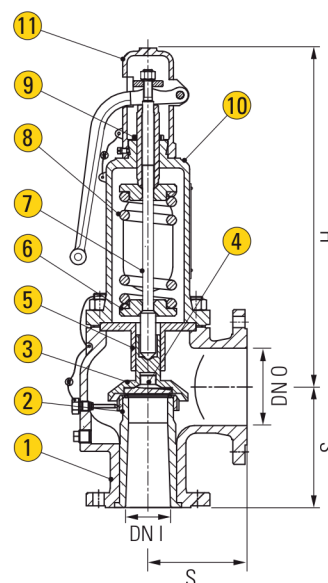
Tight Cap H4 with lifting lever



Open Cap H3 with disc lifting lever



Tight Cap H2



APPLICATION

Suitable for water, steam, oil, gases and others non-abrasive media
(Refer to corrosion resistance table for valve materials selection).

SPECIFICATION

End Connection

Pressure Rating

Type-test Approved Acc. to

Flange end to ANSI 150, ANSI 300,
DIN PN16, PN40, JIS 10K, JIS 20K
DIN PN16, DIN PN40, Class 150 and Class 300
DIN EN ISO 4126, AD2000-A2,
TRD 421, ASME I, ASME IIIV and API 526

MATERIAL

Parts	Cast Iron Body	Carbon Steel Body	Stainless Steel Body
1 Valve Body	Cast Iron G250	Carbon Steel ASTM A216 WCB - EN 1.0619	Stainless Steel ASTM A351 CF8M - EN 1.4408
2 Seat	Stainless Steel ASTM 316 - EN 1.4401	Stainless Steel ASTM 316 - EN 1.4401	Stainless Steel ASTM 316 - EN 1.4401
3 Disc	Stainless Steel ASTM 420 - EN 1.4028	Stainless Steel ASTM 420 - EN 1.4028	Stainless Steel ASTM 316 - EN 1.4401
4 Ball	Stainless Steel ASTM 420 - EN 1.4028	Stainless Steel ASTM 420 - EN 1.4028	Stainless Steel ASTM 316 - EN 1.4401
5 Complete Guide	Cast Iron GS450/10 with Bush ASTM 430F Tenifer	Cast Iron GS450/10 with Bush ASTM 430F Tenifer or Stainless Steel ASTM 316 - EN 1.4401	Stainless Steel ASTM 316 - EN 1.4401
6 Spring Plate	AVP Steel	AVP Steel	Stainless Steel ASTM 316 - EN 1.4401
7 Spindle	Stainless Steel ASTM 430F - EN 1.4104	Stainless Steel ASTM 430F - EN 1.4104	Stainless Steel ASTM 316 - EN 1.4401
8 Spring	Carbon Steel Alloy Steel	Carbon Steel Alloy Steel	Stainless Steel ASTM 316 S42
9 Pressure Adjusting Screw	Brass OT58 / AVP Steel	Brass OT58 / AVP Steel	Stainless Steel ASTM 316 - EN 1.4401 with Bush in PTFE
10 Bonnet	Cast Iron GS450/10	Cast Iron GS450/10 or Carbon Steel ASTM A216 WCB - EN 1.0619	Stainless Steel ASTM A351 CF8M - EN 1.4408
11 Tight Cap H4 with Lifting Lever	Cast Iron GS450/10	Cast Iron GS450/10	Stainless Steel ASTM A351 CF8M - EN 1.4408

DIMENSIONS

Unit : mm

Size	EN Flange PN16 / PN25 / PN40	ANSI / ASME Flange CL150 / CL150	H	Actual Orifice Diameter	Actual Discharge Area	Disc Lift	Max Set Pressure Valve Body	
							Cast Iron	Cast Steel
DN I / DN O	S	S		mm	cm ²	mm	barg	
15	90	85.1	223	12.5	1.23	2.3	16	40
20 x 20	95	89.7	223	18	2.54	3.1	16	40
20 x 25	100	96.3	223	18	2.54	3.1	16	40
25	100	96.3	223	18	2.54	3.1	16	40
32	105	102.9	223	18	2.54	3.1	16	40
40	115	114.5	223	23	4.15	3.5	16	40
50	125	124	273	29	6.61	3.8	16	40
65	145	145.2	330	37	10.75	4.0	16	37
80	155	154.8	375	46	16.62	5.1	16	35
100	175	174.8	435	60	28.27	7.1	16	30
125	200	197.8	545	74	43.00	8.5	16	25
150	225	222.4	645	92	66.48	11.4	16	16

*Specification given are subject to changed without further notice.

FLOW RATE TABLE

Unit : Kg/h

Set Pressure P	DN 15 - do 12.5			DN 20 - do 18			DN 25 - do 18			DN 32 - do 18			DN 40 - do 23			DN 50 - do 29		
	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam
	a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C	
Bar	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h
0.25	1.171	40	26	2.434	87	53	2.434	87	53	2.434	87	53	3.994	136	87	6.350	216	145
0.5	1.536	53	33	3.203	116	70	3.203	116	70	3.203	116	70	5.230	182	114	8.315	289	190
0.75	1.830	65	41	3.813	142	85	3.813	142	85	3.813	142	85	6.226	221	139	9.898	352	235
1	2.084	76	48	4.338	158	101	4.338	158	101	4.338	158	101	7.083	258	165	11.260	411	263
1.5	2.562	99	62	5.313	205	129	5.313	205	129	5.313	205	129	8.675	335	211	13.792	533	336
2	2.958	119	75	6.135	248	156	6.135	248	156	6.135	248	156	10.017	405	256	15.926	644	407
2.5	3.308	144	90	6.860	298	188	6.860	298	188	6.860	298	188	11.200	488	306	17.806	775	488
3	3.624	165	103	7.514	342	215	7.514	342	215	7.514	342	215	12.269	559	351	19.506	889	558
4	4.184	207	129	8.677	430	268	8.677	430	268	8.677	430	268	14.167	702	438	22.524	1,117	697
5	4.678	249	155	9.701	518	321	9.701	518	321	9.701	518	321	15.840	846	525	25.182	1,345	835
6	5.125	292	180	10.627	606	374	10.627	606	374	10.627	606	374	17.352	989	611	27.586	1,573	972
7	5.536	334	206	11.479	694	427	11.479	694	427	11.479	694	427	18.742	1,133	698	29.797	1,802	1,109
8	5.918	377	231	12.272	782	480	12.272	782	480	12.272	782	480	20.037	1,277	784	31.854	2,030	1,246
9	6.277	419	256	13.016	870	532	13.016	870	532	13.016	870	532	21.252	1,421	869	33.787	2,259	1,383
10	6.616	462	282	13.720	959	585	13.720	959	585	13.720	959	585	22.402	1,565	955	35.615	2,489	1,519
12	7.248	547	332	15.030	1,136	689	15.030	1,136	689	15.030	1,136	689	24.540	1,854	1,125	39.015	2,949	1,789
14	7.829	633	382	16.235	1,313	793	16.235	1,313	793	16.235	1,313	793	26.507	2,144	1,296	42.141	3,409	2,060
16	8.370	719	433	17.356	1,491	898	17.356	1,491	898	17.356	1,491	898	28.337	2,435	1,466	45.051	3,871	2,331
18	8.877	805	483	18.409	1,670	1,002	18.409	1,670	1,002	18.409	1,670	1,002	30.057	2,726	1,602	47.784	4,334	2,602
20	9.358	891	533	19.405	1,848	1,106	19.405	1,848	1,106	19.405	1,848	1,106	31.683	3,018	1,806	50.370	4,799	2,872
22	9.815	978	583	20.352	2,028	1,209	20.352	2,028	1,209	20.352	2,028	1,209	33.230	3,311	1,975	52.829	5,264	3,140
24	10.251	1,064	633	21.257	2,207	1,314	21.257	2,207	1,314	21.257	2,207	1,314	34.708	3,604	2,145	55.178	5,731	3,411
26	10.670	1,151	684	22.126	2,388	1,419	22.126	2,388	1,419	22.126	2,388	1,419	36.125	3,899	2,316	57.432	6,198	3,683
28	11.073	1,238	735	22.961	2,568	1,524	22.961	2,568	1,524	22.961	2,568	1,524	37.489	4,194	2,488	59.601	6,667	3,956
30	11.462	1,326	785	23.767	2,749	1,628	23.767	2,749	1,628	23.767	2,749	1,628	38.806	4,489	2,658	61.693	7,137	4,227
32	11.838	1,413	835	24.547	2,931	1,733	24.547	2,931	1,733	24.547	2,931	1,733	40.079	4,785	2,829	63.717	7,608	4,498
34	12.202	1,501	886	25.303	3,113	1,837	25.303	3,113	1,837	25.303	3,113	1,837	41.312	5,082	3,000	65.679	8,080	4,769
36	12.556	1,589	936	26.037	3,295	1,941	26.037	3,295	1,941	26.037	3,295	1,941	42.511	5,380	3,170	67.583	8,553	5,039
38	12.900	1,677	987	26.750	3,478	2,046	26.750	3,478	2,046	26.750	3,478	2,046	43.676	5,678	3,342	69.436	9,028	5,313
40	13.235	1,765	1,038	27.445	3,661	2,152	27.445	3,661	2,152	27.445	3,661	2,152	44.811	5,977	3,514	71.240	9,503	5,587

FLOW RATE TABLE

Unit : Kg/h

Set Pressure P	DN 65 - do 37			DN 80 - do 46			DN 100 - do 60			DN 125 - do 74			DN 150 - do 92		
	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam	Water	Air	Sat. Steam
	a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C		a 25°C	a 25°C	
Bar	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h	Kg/h
0.25	10.337	352	227	15.978	570	351	27.183	926	597	41.349	1408	909	63.912	2177	1405
0.5	13.536	471	296	20.923	762	457	35.597	1240	778	54.147	1964	1184	83.693	2915	1831
0.75	16.113	573	362	24.905	927	559	42.371	1508	952	64.452	2294	1448	99.621	3546	2239
1	18.330	670	429	28.333	1035	663	48.203	1762	1128	73.323	2861	1716	113.332	4143	2652
1.5	22.451	869	547	34.702	1343	845	59.039	2285	1439	89.805	3476	2189	138.808	5373	3383
2	25.925	1048	663	40.071	1621	1025	68.174	2758	1744	103.701	4195	2653	160.285	6845	4101
2.5	28.985	1262	794	44.801	1952	1227	76.222	3321	2089	115.942	5051	3177	179.207	7808	4911
3	31.752	1,448	908	49.078	2,238	1,404	83.498	3,808	2,389	127.010	5,793	3,634	196.313	8,954	5,618
4	36.665	1,818	1,134	56.671	2,811	1,753	96.416	4,783	2,983	146.660	7,275	4,538	226.687	11,245	7,015
5	40.993	2,189	1,359	63.361	3,384	2,101	107.798	5,758	3,575	163.973	8,759	5,438	253.447	13,539	8,405
6	44.906	2,561	1,583	69.409	3,959	2,447	118.088	6,735	4,163	179.625	10,245	6,333	277.638	15,836	9,788
7	48.504	2,933	1,806	74.971	4,534	2,792	127.550	7,714	4,750	194.019	11,733	7,225	299.886	18,136	11,168
8	51.854	3,305	2,029	80.148	5,109	3,136	136.358	8,693	5,335	207.416	13,223	8,116	320.594	20,439	12,545
9	54.999	3,678	2,251	85.010	5,686	3,479	144.631	9,674	5,920	219.999	14,715	9,005	340.043	22,745	13,919
10	57.975	4,052	2,473	89.609	6,263	3,822	152.455	10,656	6,503	231.901	16,209	9,892	358.439	25,053	15,290
12	63.509	4,800	2,913	98.163	7,419	4,503	167.008	12,623	7,662	254.038	19,202	11,655	392.655	29,679	18,014
14	68.598	5,550	3,354	106.030	8,579	5,184	180.391	14,596	8,820	274.395	22,202	13,416	424.120	34,317	20,737
16	73.336	6,302	3,794	113.352	9,741	5,864	192.848	16,573	9,978	293.344	25,210	15,177	453.408	38,966	23,459
18	77.785	7,056	4,235	120.229	10,906	6,547	204.548	18,556	11,138	311.141	28,226	16,943	480.917	43,627	26,188
20	81.993	7,812	4,676	126.734	12,075	7,227	215.615	20,543	12,296	327.975	31,249	18,704	506.936	48,300	28,911
22	85.996	8,569	5,112	132.921	13,246	7,901	226.141	22,535	13,443	343.986	34,279	20,449	531.684	52,984	31,607
24	89.821	9,329	5,553	138.832	14,419	8,583	236.199	24,532	14,603	359.285	37,317	22,213	555.331	57,679	34,334
26	93.490	10,090	5,995	144.503	15,596	9,267	245.846	26,534	15,767	373.960	40,362	23,983	578.012	62,386	37,070
28	97.020	10,853	6,439	149.959	16,776	9,953	255.129	28,541	16,934	388.080	43,415	25,759	599.837	67,104	39,814
30	100.426	11,618	6,880	155.224	17,958	10,635	264.086	30,553	18,094	401.705	46,474	27,523	620.897	71,834	42,542
32	103.720	12,385	7,322	160.316	19,143	11,318	272.750	32,569	19,256	414.883	49,541	29,290	641.265	76,574	45,273
34	106.913	13,154	7,764	165.251	20,331	12,000	281.146	34,590	20,417	427.655	52,616	31,057	661.007	81,326	48,003
36	110.014	13,924	8,203	170.044	21,522	12,680	289.300	36,616	21,573	440.058	55,697	32,815	680.177	86,089	50,721
38	113.030	14,696	8,648	174.705	22,715	13,368	297.230	38,646	22,743	452.121	58,785	34,595	698.822	90,862	53,472
40	115.967	15,470	9,095	179.245	23,911	14,058	304.955	40,681	23,917	463.870	61,881	36,381	716.983	95,647	56,232

Note 1) Flow rates have been calculated according to EN 4126-1 rules with overpressure 10% (0.1 bar if p<1 barg)

Note 2) Approximate intermediate values can be obtained by linear interpolation

Note 3) Flow rates given in this table are undemanding; Mercoid Control (M) Sdn Bhd will always check fluid mechanical sizing of each safety valve, and indicate calculated flow rate in every relevant document (Specification sheet in case of offer, inspection certificate in case of order, calculation sheet when applicable)

Diagram showing coefficient of discharge Kd trend vs. pb/po ratio (gaseous)