



CASH VALVE TYPE C-776 SAFETY VALVES

A full lift ASME Section VIII air/gas and cryogenic, UV National Board certified safety valve suitable for cryogenic service



FEATURES

- Ideal for cryogenic service to -320°F (-195°C).
- Kel-F® soft seat disc ensures positive reseating and leak tight seal.
- Full lift maximum discharge capacity.
- Unobstructed flow through top guided design.
- Pressure tight dome.
- Stainless steel springs as standard. Inconel® springs supplied for higher pressures.
- All parts are commercially cleaned for oxygen service.
- Built to ASME Code Section VIII for cryogenic service.
- Rated capacity: 110% of set pressure.

GENERAL APPLICATION

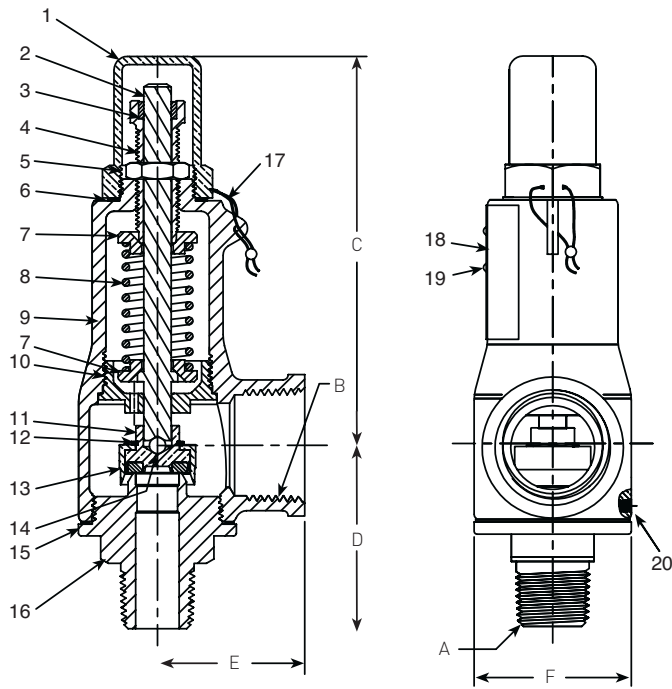
Protects piping, storage tanks and process equipment used in the distribution of industrial gases against damage caused by liquefied gas expansion. Ideal for oxygen, nitrogen, argon, carbon dioxide, helium, hydrogen and other industrial gases.

TECHNICAL DATA

Materials:	Bronze
Sizes:	1/2" x 3/4" to 2" x 2 1/2"
Connections:	Threaded NPTF
Pressure ranges	
1/2" to 3/4" size:	15 to 600 psig* (1 to 41.3 barg)
1" to 2" size:	15 to 500 psig (1 to 34.5 barg)
Temperature range:	-320 to +150°F (-195 to 65.6°C)

* 3/4" x 1 1/4" maximum pressure 500 psig (34.5 barg)

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LIST OF MATERIALS

Item	Qty.	Description	Material
1	1	Adj. screw cap	Brass ASTM B16
2	1	Pull rod	Brass ASTM B16
3	1	Bushing	Virgin PTFE
4	1	Adjusting screw	Brass ASTM B16
5	1	Nut	Brass ASTM B16
6	1	Gasket	Gylon PTFE
7	2	Pressure plate	Brass ASTM B16
8	1	Spring	302 SST A313/Inconel® B637
9	1	Body	Bronze
10	1	Guide bushing	Brass ASTM B16
11	1	Seat assembly	Brass/Kel-F®
12	1	Retaining ring	SST
13	1	Seat shell	Brass ASTM B16
14	1	Ball	Monel®
15	1	Gasket	Gylon PTFE
16	1	Body seat	Brass ASTM B16
17	1	Wire seal	SST/Lead
18	1	Name plate	Aluminum
19	2	Drive screw	SST
20	1	Set screw	SST

DIMENSIONS

Valve size	Inlet size		Outlet size		C In. (mm)	D In. (mm)	E In. (mm)	F In. (mm)	Orifice Area in ² (mm ²)	Weight lb. (kg)
	A	B	A	B						
1/2"	1/2"	3/4"	1/2"	3/4"	4.46 [113.3]	2.11 [53.5]	1.69 [42.9]	1.81 [46.0]	0.169 [109]	2.2 [1.00]
1/2"	1/2"	1"	1/2"	1"	4.46 [113.3]	2.11 [53.5]	1.69 [42.9]	1.81 [46.0]	0.169 [109]	2.2 [1.00]
3/4"	3/4"	1"	3/4"	1"	4.46 [113.3]	2.11 [53.5]	1.69 [42.9]	1.81 [46.0]	0.169 [109]	2.2 [1.00]
3/4"	3/4"	1 1/4"	3/4"	1 1/4"	6.55 [166.3]	2.88 [73.1]	2.15 [54.6]	2.63 [66.7]	0.486 [314]	3.5 [1.59]
1"	1"	1 1/4"	1"	1 1/4"	6.55 [166.3]	2.88 [73.1]	2.15 [54.6]	2.63 [66.7]	0.486 [314]	3.5 [1.59]
1 1/4"	1 1/4"	1 1/2"	1 1/4"	1 1/2"	7.32 [185.9]	3.06 [77.7]	2.37 [60.1]	3.00 [76.2]	0.645 [416]	4.6 [2.09]
1 1/2"	1 1/2"	2"	1 1/2"	2"	9.36 [237.6]	3.28 [83.3]	2.75 [69.9]	3.74 [95.0]	1.024 [661]	8.8 [3.99]
2"	2"	2 1/2"	2"	2 1/2"	10.99 [279.1]	3.74 [94.9]	3.19 [81.0]	4.65 [118.0]	1.667 [1075]	15.4 [6.99]

NOTE

NPTF, also referred to as 'Dryseal' thread, is designed to provide a more leak-free seal without the use of PTFE tape or other sealant compound. NPTF threads are interchangeable with NPT threads and are standard on all Cash Valve products.

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SPECIFICATIONS - Capacity (Air capacity in SCFM by size - ambient temperature)

Set pressure psig (bar)	½" x ¾"		¾" x 1¼"		1½" x 1½"	1½" x 2"	2" x 2½"
	½" x 1"	¾" x 1"	1" x 1¼"	1¼" x 1½"			
15 (1.03)	80		230		305	485	789
20 (1.38)	92		265		352	559	910
30 (2.07)	117		336		446	707	1152
40 (2.76)	144		413		548	870	1417
50 (3.45)	171		491		651	1034	1683
60 (4.14)	198		568		754	1197	1948
70 (4.83)	224		645		857	1360	2214
80 (5.52)	251		723		959	1523	2479
90 (6.21)	278		800		1062	1686	2745
100 (6.90)	305		878		1165	1849	3010
110 (7.58)	332		955		1268	2012	3276
120 (8.27)	359		1032		1370	2175	3541
130 (8.96)	386		1110		1473	2339	3807
140 (9.65)	413		1187		1576	2502	4073
150 (10.34)	440		1265		1679	2665	4338
160 (11.03)	467		1342		1781	2828	4604
170 (11.72)	494		1420		1884	2991	4869
180 (12.41)	521		1497		1987	3154	5135
190 (13.10)	547		1574		2090	3317	5400
200 (13.79)	574		1652		2192	3480	5666
210 (14.48)	601		1729		2295	3644	5931
220 (15.17)	628		1807		2398	3807	6197
230 (15.86)	655		1884		2500	3970	6463
240 (16.55)	682		1962		2603	4133	6728
250 (17.24)	709		2039		2706	4296	6994
260 (17.93)	736		2116		2809	4459	7259
270 (18.62)	763		2194		2911	4622	7525
280 (19.31)	790		2271		3014	4785	7790
290 (20.00)	817		2349		3117	4949	8056
300 (20.69)	844		2426		3220	5112	8321
310 (21.37)	871		2503		3322	5275	8587
320 (22.06)	897		2581		3425	5438	8852
330 (22.75)	924		2658		3528	5601	9118
340 (23.44)	951		2736		3631	5764	9384
350 (24.13)	978		2813		3733	5927	9649
400 (27.58)	1113		3200		4247	6743	10977
450 (31.03)	1247		3587		4761	7558	12305
500 (34.48)	1382		3974		5275	8374	13632
550 (37.92)	1517		----		----	----	----
600 (41.37)	1651		----		----	----	----

Discharge capacities in standard cubic feet per minute of air at 110% of set pressure or set pressure +3 psi, whichever is greater.

Gas	Oxygen	Nitrogen	Hydrogen	Helium	CO ₂	Argon	Methane
Factor	1.05	0.98	0.26	0.37	1.24	1.18	0.74

1. For gases other than air, multiply the required gas flow for your gas by the appropriate factor above to obtain the equivalent air flow. Then use the capacity chart above for determining valve size.
2. To find the gas flow equivalent to the air flow given in the above chart, divide the chart flow by the appropriate factor above.

Capacity data based on a maximum back pressure of 10%.

CASH VALVE TYPE C-776 SAFETY VALVES

SELECTION GUIDE

Example:	C776	B	D	CD	K	01	-	K	M	1
Model										
C776	C776 valve									
Connection/body and nozzle material										
B	Male x female NPTF bronze									
S	Male x Female NPT SST									
Orifice area										
D	[0.169 in ²]									
D	[0.169 in ²]									
D	[0.169 in ²]									
E	[0.340 in ²]									
F	[0.486 in ²]									
F	[0.486 in ²]									
G	[0.645 in ²]									
H	[1.024 in ²]									
J	[1.667 in ²]									
Valve (inlet/outlet) size										
CD	½ x ¾									
CE	½ x 1									
DE	¾ x 1									
AP	1 x 1¼									
DF	¾ x 1¼									
EF	1 x 1¼									
FG	1¼ x 1½									
GH	1½ x 2									
HJ	2 x 2½									
Seat material										
K	Kel-F®									
Variation										
01	Threaded cap									
Design revision										
(-)	Indicates original design									
Service										
K	Air/gas ASME Section VIII									
N	Non-code air/gas									
Spring material										
M	302 SST or Inconel® X750									
Spring range	Refer to table below									

STANDARD SPRING RANGES (PSIG)

Orifice area	Size	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
D - [0.169 in ²]	CD - ½" x ¾"	15-25	26-35	36-46	47-61	62-80	81-105	106-135	136-185	186-250	251-315	316-435	436-500	501-550	551-600	----
	CE - ½" x 1"															
E - [0.340 in ²]	DE - ¾" x 1"															
	AP - 1" x 1¼"	21-36	37-56	57-70	71-85	86-107	108-133	134-165	166-220	221-311	312-360	361-400	----	----	----	----
F - [0.486 in ²]	DF - ¾" x 1¼"	15-25	26-37	38-46	47-58	59-73	74-92	93-110	111-120	121-180	181-250	251-325	326-359	360-390	391-435	436-500
	EF - 1" x 1¼"															
G - [0.645 in ²]	FG - 1¼" x 1½"	15-25	26-38	39-46	47-57	58-70	71-90	91-115	116-130	131-175	176-200	201-300	301-400	401-450	451-500	----
H - [1.024 in ²]	GH - 1½" x 2"	15-28	29-47	48-69	70-91	92-113	114-164	165-232	234-274	275-315	316-348	349-424	425-500	----	----	----
J - [1.667 in ²]	HJ - 2" x 2½"	15-25	26-40	41-57	58-74	75-98	99-130	131-150	151-205	206-258	259-300	301-400	401-500	----	----	----

NOTES

Please specify the required set point on your order.

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