

# BRONZE SAFETY RELIEF VALVES

## N9B / N9-LB

### Technical Data

#### Low Lift Safety Valves

**Material:** Body– Cast Bronze; Valve Seat– Brass, PTFE Soft Seat available

**Orifice Size:** ½"(15mm), ¾"(20mm), 1"(25mm), 1¼"(32mm), 1½"(40mm), 2"(50mm)

**Working Pressure:** 0.3~10 kgf/cm<sup>2</sup> (4.3~150 psig) (Brass Seat);

2~10 kgf/cm<sup>2</sup> (28~150 psig) (Brass Seat & PTFE Soft Seat are available);

11~20 kgf/cm<sup>2</sup> (156~285 psig) (Brass Seat & PTFE Soft Seat are available)

21~30 kgf/cm<sup>2</sup> (298~426 psig) (Brass Seat)

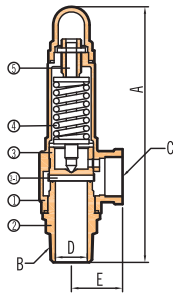
**Working Temperature:** -45°C~+185°C

**Working Fluid:** Please refer to the table of "General Material List"



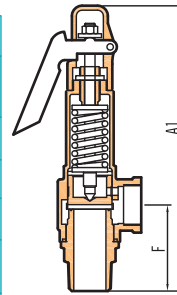
Soft Seal

### Dimensions



N9B Type Sealing ½"~2"

SEALING SERIES							
SIZE	½"	¾"	1"	1¼"	1½"	2"	
ITEM							
A	145	167	202	233	256	283	
Inlet B	½"	¾"	1"	1¼"	1½"	2"	
Outlet C	½"	¾"	1"	1¼"	1½"	2"	
Valve Seat Orifice D	15	20	25	32	40	50	
E	29	36	40	50	54	66	
F	49	55	67	79	86	96	
Lift	0.52	0.76	1.00	1.28	1.52	2.00	
Wt. kg	0.5	0.8	1.3	2.2	2.9	4.7	



N9LB Type Lever ½"~2"

LEVER SERIES							
SIZE	½"	¾"	1"	1¼"	1½"	2"	
ITEM							
A1	167	190	223	248	272	299	
Wt. kg	0.7	0.9	1.4	2.2	2.9	5.0	

(unit:mm)

### General Material List

NO.	Type	N9B SEALING	N9-LB LEVER
	Parts Name		
1.	Valve Body	Cast Bronze	
2.	Valve Seat	Forging Brass	
3.	Disc	Forging Brass	
3-1.	Soft Seal	Teflon (PTFE)	
4.	Spring	Steel	
5.	Stem	Brass	
Working Pressure		0.3~10 kgf/cm <sup>2</sup> , 11~20 kgf/cm <sup>2</sup> , 21~30 kgf/cm <sup>2</sup> (Brass seat) / 2~10 kgf/cm <sup>2</sup> , 11~20 kgf/cm <sup>2</sup> (PTFE soft seat)	
Working Temp.		-45°C ~ 185°C	
Working Fluid		Noncorrosive gas, Noncorrosive liquid, Corrosive gas, Corrosive liquid, Air, Steam, Water, Oil	Noncorrosive gas, Corrosive gas, Air, Steam

### Blowout Capacity

Please refer the Blowout Capacity Table on next page.

### Ordering Information

N9B / N9-LB	Code	Valve Seat	
↓	0	Forging Brass	P Forging Brass + PTFE
		Code Pressure Rating	
	1A	0.3~2 kg/cm <sup>2</sup> (Brass seat)	3 11~20 kg/cm <sup>2</sup> (Brass seat)
	1B	2~10 kg/cm <sup>2</sup> (Brass seat)	4 11~20 kg/cm <sup>2</sup> (PTFE soft seat)
	2	2~10 kg/cm <sup>2</sup> (PTFE soft seat)	5 21~30 kg/cm <sup>2</sup> (Brass seat)
↓	↓	Code Size	
		(A) ½"NPT (B) ¾"NPT (C) 1"NPT (D) 1¼"NPT (E) 1½"NPT (F) 2"NPT	
Complete Ordering Code			

**Blowout Capavity Table**

**– Air**

orifice set press.	Air Blowout Capacity (kg/h)					
	½" (15)	¾" (20)	1" (25)	1¼" (32)	1½" (40)	2" (50)
1 kgf/cm <sup>2</sup>	30	64	110	180	255	441
2 kgf/cm <sup>2</sup>	45	97	168	275	388	671
3 kgf/cm <sup>2</sup>	61	130	226	370	521	902
4 kgf/cm <sup>2</sup>	77	164	283	464	654	1133
5 kgf/cm <sup>2</sup>	92	197	341	559	788	1364
6 kgf/cm <sup>2</sup>	108	230	399	653	921	1595
7 kgf/cm <sup>2</sup>	123	264	456	748	1054	1825
8 kgf/cm <sup>2</sup>	139	297	514	842	1188	2056
9 kgf/cm <sup>2</sup>	155	330	572	937	1321	2287
10 kgf/cm <sup>2</sup>	170	364	629	1031	1454	2518
11 kgf/cm <sup>2</sup>	186	397	687	1126	1588	2749
12 kgf/cm <sup>2</sup>	201	430	745	1220	1721	2979
13 kgf/cm <sup>2</sup>	217	464	803	1315	1854	3210
14 kgf/cm <sup>2</sup>	233	497	860	1409	1988	3441
15 kgf/cm <sup>2</sup>	248	530	918	1504	2121	3672
16 kgf/cm <sup>2</sup>	264	564	976	1599	2254	3903
17 kgf/cm <sup>2</sup>	279	597	1033	1693	2388	4134
18 kgf/cm <sup>2</sup>	295	630	1091	1788	2521	4364
19 kgf/cm <sup>2</sup>	311	664	1149	1882	2654	4595
20 kgf/cm <sup>2</sup>	326	697	1206	1977	2787	4826

**– Water**

orifice set press.	Water Blowout Capacity (L/Min)					
	½" (15)	¾" (20)	1" (25)	1¼" (32)	1½" (40)	2" (50)
1 kgf/cm <sup>2</sup>	8.2	17.6	30.4	49.8	70.2	121.6
2 kgf/cm <sup>2</sup>	11.6	24.8	43.0	70.4	99.3	171.9
3 kgf/cm <sup>2</sup>	14.2	30.4	52.6	86.3	121.6	210.6
4 kgf/cm <sup>2</sup>	16.4	35.1	60.8	99.6	140.5	243.2
5 kgf/cm <sup>2</sup>	18.4	39.3	68.0	111.4	157.0	271.9
6 kgf/cm <sup>2</sup>	20.1	43.0	74.5	122.0	172.0	297.8
7 kgf/cm <sup>2</sup>	21.7	46.5	80.4	131.8	185.8	321.7
8 kgf/cm <sup>2</sup>	23.2	49.7	86.0	140.9	198.6	343.9
9 kgf/cm <sup>2</sup>	24.7	52.7	91.2	149.4	210.7	364.7
10 kgf/cm <sup>2</sup>	26.0	55.5	96.1	157.5	222.1	384.5
11 kgf/cm <sup>2</sup>	27.3	58.2	100.8	165.2	232.9	403.2
12 kgf/cm <sup>2</sup>	28.5	60.8	105.3	172.5	243.3	421.2
13 kgf/cm <sup>2</sup>	29.6	63.3	109.6	179.6	253.2	438.4
14 kgf/cm <sup>2</sup>	30.8	65.7	113.7	186.3	262.8	454.9
15 kgf/cm <sup>2</sup>	31.8	68.0	117.7	192.9	272.0	470.9
16 kgf/cm <sup>2</sup>	32.9	70.2	121.6	199.2	280.9	486.3
17 kgf/cm <sup>2</sup>	33.9	72.4	125.3	205.3	289.6	501.3
18 kgf/cm <sup>2</sup>	34.9	74.5	129.0	211.3	297.9	515.8
19 kgf/cm <sup>2</sup>	35.8	76.5	132.5	217.1	306.1	530.0
20 kgf/cm <sup>2</sup>	36.8	78.5	135.9	222.7	314.1	543.7

**– Steam**

orifice set press.	Steam Blowout Capacity (kg/h)					
	½" (15)	¾" (20)	1" (25)	1¼" (32)	1½" (40)	2" (50)
1 kgf/cm <sup>2</sup>	18.4	39.2	67.90	111.3	156.9	271.7
2 kgf/cm <sup>2</sup>	27.7	59.1	102.4	167.7	236.6	409.5
3 kgf/cm <sup>2</sup>	37.0	79.0	136.9	224.2	316.2	547.4
4 kgf/cm <sup>2</sup>	46.3	98.9	171.3	280.7	395.8	685.2
5 kgf/cm <sup>2</sup>	55.7	118.8	205.8	337.1	475.4	823.1
6 kgf/cm <sup>2</sup>	65.0	138.7	240.2	393.6	555.0	960.9
7 kgf/cm <sup>2</sup>	74.3	158.7	274.7	450.1	634.7	1099
8 kgf/cm <sup>2</sup>	83.6	178.6	309.2	506.5	714.3	1237
9 kgf/cm <sup>2</sup>	92.9	198.5	343.6	563.0	793.9	1374
10 kgf/cm <sup>2</sup>	102.3	218.4	378.1	619.5	893.5	1512
11 kgf/cm <sup>2</sup>	111.6	238.3	412.5	675.9	953.2	1650
12 kgf/cm <sup>2</sup>	120.9	258.2	447.0	732.4	1033	1788
13 kgf/cm <sup>2</sup>	130.2	278.1	481.5	788.8	1112	1926
14 kgf/cm <sup>2</sup>	139.5	298.0	515.9	845.3	1192	2064
15 kgf/cm <sup>2</sup>	148.9	317.9	550.4	901.8	1272	2202
16 kgf/cm <sup>2</sup>	158.2	337.8	584.9	958.3	1351	2239
17 kgf/cm <sup>2</sup>	167.5	357.7	619.3	1014.7	1431	2477
18 kgf/cm <sup>2</sup>	176.8	377.6	653.8	1071.2	1511	2615
19 kgf/cm <sup>2</sup>	186.1	397.5	688.2	1127.6	1590	2753
20 kgf/cm <sup>2</sup>	195.4	417.4	722.7	1184.1	1670	2891