

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: 1/2"(15mm), 3/4"(20mm), 1"(25mm), 1 1/4"(32mm), 1 1/2"(40mm), 2"(50mm)

Working pressure: 2~10 kgf/cm² (28~150 psig), 11~20 kgf/cm² (156~285 psig)

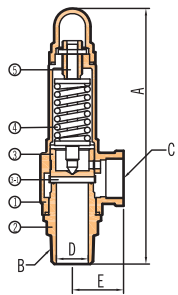
Working temp.: -45°C~185°C

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



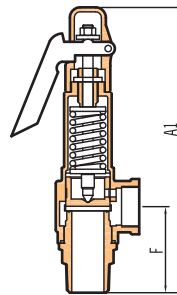
Soft Seal

Dimensions



N9B Type Sealing 1/2"~2"

| SEALING SERIES | | | | | | |
|----------------------|------|------|------|--------|--------|------|
| SIZE | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
| ITEM | | | | | | |
| A | 145 | 167 | 202 | 233 | 256 | 283 |
| Inlet B | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
| Outlet C | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 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 1/2"~2"

| LEVER SERIES | | | | | | |
|--------------|------|------|-----|--------|--------|-----|
| SIZE | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 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 | | 0.3~10kgf/cm ² , 11~20kgf/cm ² (Brass Seat) / 2~10 kgf/cm ² , 11~20kgf/cm ² (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 | | | |
| | 1 | 0.3~10 kg/cm ² (Brass seat only) | 2 | 2~10 kg/cm ² (PTFE soft seat only) | 3 | 11~20 kg/cm ² |
| | | Code | Size | | | |
| | | (A)1/2" (B)3/4" (C)1" (D)1 1/4" (E)1 1/2" (F)2" | | | | |
| | | | | | | Complete Ordering Code |

Blowout Capacity 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 ² | 30 | 64 | 110 | 180 | 255 | 441 |
| 2 kgf/cm ² | 45 | 97 | 168 | 275 | 388 | 671 |
| 3 kgf/cm ² | 61 | 130 | 226 | 370 | 521 | 902 |
| 4 kgf/cm ² | 77 | 164 | 283 | 464 | 654 | 1133 |
| 5 kgf/cm ² | 92 | 197 | 341 | 559 | 788 | 1364 |
| 6 kgf/cm ² | 108 | 230 | 399 | 653 | 921 | 1595 |
| 7 kgf/cm ² | 123 | 264 | 456 | 748 | 1054 | 1825 |
| 8 kgf/cm ² | 139 | 297 | 514 | 842 | 1188 | 2056 |
| 9 kgf/cm ² | 155 | 330 | 572 | 937 | 1321 | 2287 |
| 10 kgf/cm ² | 170 | 364 | 629 | 1031 | 1454 | 2518 |
| 11 kgf/cm ² | 186 | 397 | 687 | 1126 | 1588 | 2749 |
| 12 kgf/cm ² | 201 | 430 | 745 | 1220 | 1721 | 2979 |
| 13 kgf/cm ² | 217 | 464 | 803 | 1315 | 1854 | 3210 |
| 14 kgf/cm ² | 233 | 497 | 860 | 1409 | 1988 | 3441 |
| 15 kgf/cm ² | 248 | 530 | 918 | 1504 | 2121 | 3672 |
| 16 kgf/cm ² | 264 | 564 | 976 | 1599 | 2254 | 3903 |
| 17 kgf/cm ² | 279 | 597 | 1033 | 1693 | 2388 | 4134 |
| 18 kgf/cm ² | 295 | 630 | 1091 | 1788 | 2521 | 4364 |
| 19 kgf/cm ² | 311 | 664 | 1149 | 1882 | 2654 | 4595 |
| 20 kgf/cm ² | 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 ² | 8.2 | 17.6 | 30.4 | 49.8 | 70.2 | 121.6 |
| 2 kgf/cm ² | 11.6 | 24.8 | 43.0 | 70.4 | 99.3 | 171.9 |
| 3 kgf/cm ² | 14.2 | 30.4 | 52.6 | 86.3 | 121.6 | 210.6 |
| 4 kgf/cm ² | 16.4 | 35.1 | 60.8 | 99.6 | 140.5 | 243.2 |
| 5 kgf/cm ² | 18.4 | 39.3 | 68.0 | 111.4 | 157.0 | 271.9 |
| 6 kgf/cm ² | 20.1 | 43.0 | 74.5 | 122.0 | 172.0 | 297.8 |
| 7 kgf/cm ² | 21.7 | 46.5 | 80.4 | 131.8 | 185.8 | 321.7 |
| 8 kgf/cm ² | 23.2 | 49.7 | 86.0 | 140.9 | 198.6 | 343.9 |
| 9 kgf/cm ² | 24.7 | 52.7 | 91.2 | 149.4 | 210.7 | 364.7 |
| 10 kgf/cm ² | 26.0 | 55.5 | 96.1 | 157.5 | 222.1 | 384.5 |
| 11 kgf/cm ² | 27.3 | 58.2 | 100.8 | 165.2 | 232.9 | 403.2 |
| 12 kgf/cm ² | 28.5 | 60.8 | 105.3 | 172.5 | 243.3 | 421.2 |
| 13 kgf/cm ² | 29.6 | 63.3 | 109.6 | 179.6 | 253.2 | 438.4 |
| 14 kgf/cm ² | 30.8 | 65.7 | 113.7 | 186.3 | 262.8 | 454.9 |
| 15 kgf/cm ² | 31.8 | 68.0 | 117.7 | 192.9 | 272.0 | 470.9 |
| 16 kgf/cm ² | 32.9 | 70.2 | 121.6 | 199.2 | 280.9 | 486.3 |
| 17 kgf/cm ² | 33.9 | 72.4 | 125.3 | 205.3 | 289.6 | 501.3 |
| 18 kgf/cm ² | 34.9 | 74.5 | 129.0 | 211.3 | 297.9 | 515.8 |
| 19 kgf/cm ² | 35.8 | 76.5 | 132.5 | 217.1 | 306.1 | 530.0 |
| 20 kgf/cm ² | 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 ² | 18.4 | 39.2 | 67.90 | 111.3 | 156.9 | 271.7 |
| 2 kgf/cm ² | 27.7 | 59.1 | 102.4 | 167.7 | 236.6 | 409.5 |
| 3 kgf/cm ² | 37.0 | 79.0 | 136.9 | 224.2 | 316.2 | 547.4 |
| 4 kgf/cm ² | 46.3 | 98.9 | 171.3 | 280.7 | 395.8 | 685.2 |
| 5 kgf/cm ² | 55.7 | 118.8 | 205.8 | 337.1 | 475.4 | 823.1 |
| 6 kgf/cm ² | 65.0 | 138.7 | 240.2 | 393.6 | 555.0 | 960.9 |
| 7 kgf/cm ² | 74.3 | 158.7 | 274.7 | 450.1 | 634.7 | 1099 |
| 8 kgf/cm ² | 83.6 | 178.6 | 309.2 | 506.5 | 714.3 | 1237 |
| 9 kgf/cm ² | 92.9 | 198.5 | 343.6 | 563.0 | 793.9 | 1374 |
| 10 kgf/cm ² | 102.3 | 218.4 | 378.1 | 619.5 | 893.5 | 1512 |
| 11 kgf/cm ² | 111.6 | 238.3 | 412.5 | 675.9 | 953.2 | 1650 |
| 12 kgf/cm ² | 120.9 | 258.2 | 447.0 | 732.4 | 1033 | 1788 |
| 13 kgf/cm ² | 130.2 | 278.1 | 481.5 | 788.8 | 1112 | 1926 |
| 14 kgf/cm ² | 139.5 | 298.0 | 515.9 | 845.3 | 1192 | 2064 |
| 15 kgf/cm ² | 148.9 | 317.9 | 550.4 | 901.8 | 1272 | 2202 |
| 16 kgf/cm ² | 158.2 | 337.8 | 584.9 | 958.3 | 1351 | 2239 |
| 17 kgf/cm ² | 167.5 | 357.7 | 619.3 | 1014.7 | 1431 | 2477 |
| 18 kgf/cm ² | 176.8 | 377.6 | 653.8 | 1071.2 | 1511 | 2615 |
| 19 kgf/cm ² | 186.1 | 397.5 | 688.2 | 1127.6 | 1590 | 2753 |
| 20 kgf/cm ² | 195.4 | 417.4 | 722.7 | 1184.1 | 1670 | 2891 |