



KINGSTON

KNG560/570 SAFETY VALVES

ASME Section I and VIII - NB Certified for Air/Gas and Steam

Our KNG560/KNG570 valve line is a high capacity safety valve used for boilers, piping lines and vessel protection. Designed and engineered for heavy-duty industrial use. ASME and National Board Certified for Section I and VIII as well as CE and CRN Certifications.

KNG560

Brass and bronze valve construction with stainless steel springs.
ASME Section I for steam safety.

KNG563

Stainless steel body and disc (trimming); Bronze bonnet with stainless steel spring.
ASME Section I for steam safety

KNG570

Brass and bronze construction with stainless steel springs.
ASME Section VIII for steam and air/gas service

KNG573

Stainless steel body and disc (trimming); Bronze bonnet with stainless steel springs.
ASME Section VIII for steam and air/gas

Usages:

Steam Boilers, Air Compressors, Dryers, Receivers, Pressure Vessels, Piping Systems, Accumulators, Reducing Stations, Tanks, Inter/After Coolers, Cooking Equipment, Autoclaves, Sterilizers or wherever higher capacity pressure protection or relief may be required.

Features:

- Designed for durability
- 6 orifices - 12 sizes of piping options
- Top guided seating
- Full nozzle, high capacity levels
- Short, tuned blow-down with dual-ring technology
- Heavy duty hood and lever mechanism
- Standard 17-7 stainless steel springs

Options:

- O-ring seating options (see charts)
- Packed lift lever
- Stainless steel trimming package, nozzle, disc (all sizes)
- O-ring seating options (PTFE, EPDM, Viton, or as specified)
- Bubble tight seating options
- Anti-vibration spring for lift lever
- BSPT pipe threading



KNG560



KNG573



KNG560 / KNG570 / KNG563 / KNG573 Part Numbers

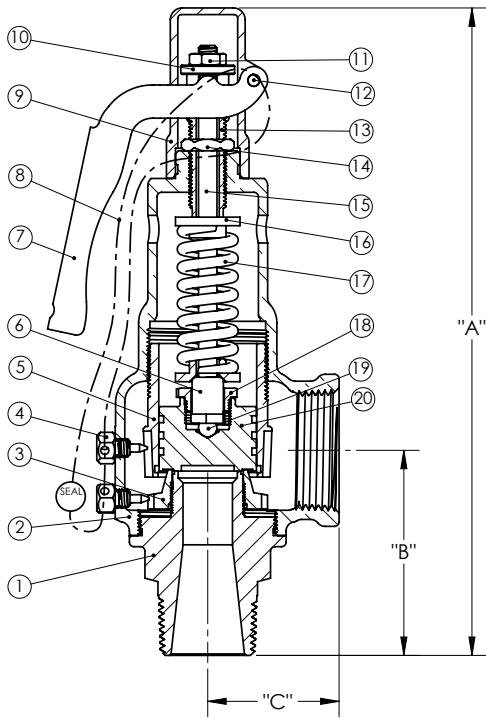
| KNG | | DC | 1 | M | 1 | L | 1 | 250 |
|--|----------------------------|---------------------|-------------------|----------|-------------------------------------|----------------------|-------------------------|---------|
| Series Description | | Orifice/Size ID | Connection | Seating | Cap | Service | Options | Set PSI |
| KNG560 | Brass/Bronze Section I | DC- 1/2" x 3/4" | 1- NPT MxF | M- Metal | 1- Lift Lever | K- ASME VIII-Air/Gas | 1- None | Ex. 250 |
| KNG563 | 316 SS/Bronze Section I | DD- 3/4" x 3/4" | 2- NPT FxF | P- PTFE | 3- Packed lift lever | L- ASME VIII-Steam | 2- Chrome Plating | |
| KNG570 | Brass/Bronze Section VIII | DH- 1" x 3/4" | 3- BSPT MxF | E- EPDM | 4- Lift Lever with Anti-Vibe Spring | A- ASME STEAM | 3- O2 Cleaned | |
| KNG573 | 316 SS/Bronze Section VIII | DJ- 1-1/2" x 3/4" | 4- BSPT FxF | V- Viton | 6- Packed Lever with Test Gag | P- CE - Air/Gas | 4- API Seating | |
| <p>Note: Tri-Clamp connections are KNG563/573 Only. 1/2" and 1-1/4" inlet are not available in Tri-Clamp. Sizes DH - DJ - EJ - FG are Tri-Clamp only.</p> | | ED- 3/4" x 1" | 5- TriClamp X NPT | B-Buna | 9- Easy Test Lever | E- CE - Steam | 5- O2 Clean/API Seating | |
| | | EE- 1" x 1" | 6- TriClamp BSPT | | | N- Non-code Air/Gas | 6- O2 Clean/Chrome | |
| | | EJ- 1/1/2" x 1" | 8- BSPP MxF | | | T- Non-code Steam | 7- O2/API/Chrome | |
| | | FE- 1" x 1-1/4" | 9- BSPP FxF | | | | 8- API/Chrome | |
| | | FF- 1/1/4" x 1-1/4" | | | | | | |
| | | FG- 1-1/2" x 1-1/4" | | | | | | |
| | | GF- 1-1/4" x 1-1/2" | | | | | | |
| | | GG- 1-1/2" x 1-1/2" | | | | | | |
| | | HG- 1-1/2" x 2 | | | | | | |
| | | HH- 2" x 2" | | | | | | |
| | | JH- 2" x 2-1/2" | | | | | | |
| | | JJ- 2-1/2" x 2-1/2" | | | | | | |

Technical Specifications KNG560 / KNG563 / KNG570 / KNG573

| Orifice | Flow Area (in ²) | Inlet | Outlet | DN | Size ID | Dimensions (in) | | | Weight (lb.) |
|---------|------------------------------|--------|--------|----|---------|-----------------|--------|--------|--------------|
| | | | | | | A | B | C | |
| D | .125 | 1/2" | 3/4" | 15 | C | 7-1/4" | 2-1/2" | 1-1/2" | 2.5 |
| D | .125 | 3/4" | 3/4" | 20 | D | 7-1/4" | 2-1/2" | 1-1/2" | 2.5 |
| E | .221 | 3/4" | 1" | 20 | D | 7-5/8" | 2-1/2" | 1-5/8" | 3 |
| E | .221 | 1" | 1" | 25 | E | 7-5/8" | 2-1/2" | 1-5/8" | 3 |
| F | .352 | 1" | 1-1/4" | 25 | E | 8-7/8" | 2-7/8" | 1-3/4" | 4 |
| F | .352 | 1-1/4" | 1-1/4" | 32 | F | 8-7/8" | 2-7/8" | 1-3/4" | 4 |
| G | .567 | 1-1/4" | 1-1/2" | 32 | F | 9-1/2" | 3-1/4" | 2-1/4" | 6 |
| G | .567 | 1-1/2" | 1-1/2" | 40 | G | 9-5/8" | 3-1/4" | 2-1/4" | 6 |
| H | .899 | 1-1/2" | 2" | 40 | G | 11" | 3-5/8" | 2-1/2" | 10 |
| H | .899 | 2" | 2" | 50 | H | 11" | 3-5/8" | 2-1/2" | 10 |
| J | 1.463 | 2" | 2-1/2" | 50 | H | 12-5/8" | 4" | 3-1/8" | 15 |
| J | 1.463 | 2-1/2" | 2-1/2" | 65 | J | 12-5/8" | 4" | 3-1/8" | 15 |

| Series | Inlet sizes | Metals | Min. Temp F° | Min. Temp F° | Max Pressure PSI | Services | Certifications |
|--------|----------------|------------------|--------------|--------------|------------------|---------------|-------------------|
| KNG560 | 1/2" to 2-1/2" | Brass/Bronze | -20° | 406° | 250 | Steam | ASME I, CE CRN |
| KNG563 | 1/2" to 2-1/2" | Stainless/Bronze | -20° | 425° | 250 | Steam | ASME I, CE CRN |
| KNG570 | 1/2" to 2-1/2" | Brass/Bronze | -20° | 425° | 300 | Air/Gas/Steam | ASME VIII, CE CRN |
| KNG573 | 1/2" to 2-1/2" | Stainless/Bronze | -20° | 425° | 300 | Air/Gas/Steam | ASME VIII, CE CRN |

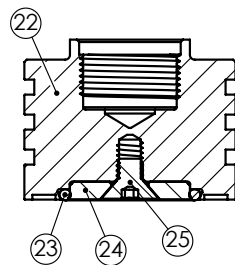
Materials of Construction KNG560 / KNG570 / KNG563 / KNG573



| # | Description | KNG560/570 | KNG563/573 |
|----|----------------|------------------|------------------|
| 1 | Body | B16-B62-C83600 | A479-316 SS |
| 2 | Bonnet | B584-C84400 | B584-C84400 |
| 3 | Lower Ring | B584-C84400 | B584-C84400 |
| 4 | Lock Screw | B16 | B16 |
| 5 | Upper Ring | Steel/Plated | Steel/Plated |
| 6 | Spring Support | B16 | B16 |
| 7 | Lift Lever | Steel/Plated | Steel/Plated |
| 8 | Seal Wire | Steel/Galvanized | Steel/Galvanized |
| 9 | Hood | Aluminum/Plated | Aluminum/Plated |
| 10 | Lifter Nut | B16 | B16 |
| 11 | Jam Nut | 18-8 | 18-8 |
| 12 | Lever Pin | B16 | B16 |
| 13 | Pressure Screw | B16 | B16 |
| 14 | Lock Nut | B16 | B16 |
| 15 | Stem | B16 | B16 |
| 16 | Spring Plate | B16 | B16 |
| 17 | Spring | 17-7 | 17-7 |
| 18 | Disc Nut | B16 | B16 |
| 19 | Ball Bearing | 440 | 440 |
| 20 | Disc | B16 | A479-316 SS |
| 21 | Name Plate | Stainless | Stainless |

Seating Materials

| Material | Names | Min Temp F° | Max Temp F° | Use for |
|----------|---------|-------------|-------------|---|
| FKM | Viton-A | -13° | 446° | Acetone, Air, Alcohol, Benzine, Butane, Ethylene, Ethylene Glycol, Ethyl Alcohol, Gasoline, Isobutyl Alcohol, Kerosene, Lube Oil, Natural Gas, Naphtha, Nitrogen, Propane, Water, Xylene |
| Nitrile | Buna-N | -40° | 250° | Air, Butane, Carbon Dioxide, Diesel Oil, Ethyl Chloride, Ethyl Ether, Fuel Oil, Gasoline, Helium, Hydrogen Sulfide, Kerosene, Natural Gas, Nitrogen, Oxygen (Gas), Propane |
| EPDM | | -40° | 303° | Steam, Water, Hot Water, Acetone, Beer, Brake Fluid, Hydrogen Gas, Sulfur Dioxide, Acids, Alkalies |
| FFKM | Kalrez® | -10° | 550° | Aromatic Hydrocarbons, Chlorinated Hydrocarbons, Polar Solvents (ketones, esters, ethers), Inorganic and Organic Acids, Water, and Steam (Steam service up to 380° F (193° C) (saturated) |
| PTFE | | -300° | 450° | Cryogenic Service including Argon, Carbon Dioxide, Helium, Hydrogen, Nitrogen, Oxygen, Steam |



Soft Seat Option

Soft Seat Option

| # | Description | Material Options | |
|----|---------------|------------------|----------------|
| | | KNG560/570 | KNG563/573 |
| 22 | Disc | B16 | A479-316 SS |
| 23 | O-Ring | Various | Various |
| 24 | Center Insert | B16 | A479-316 SS |
| 25 | Screw | 18-8 Stainless | 18-8 Stainless |

STEAMCAPACITY

KNG560 Capacities Steam Lbs/hr- ASME Section I

| | Orifice area in ^2 Flow Coefficient = .856 | | | | | |
|---------|--|--------|--------|--------|--------|---------|
| Set PSI | D .125 | E .221 | F .352 | G .567 | H .899 | J 1.463 |
| 5 | 120 | 211 | 337 | 542 | 860 | 1400 |
| 10 | 147 | 260 | 414 | 667 | 1058 | 1722 |
| 15 | 175 | 309 | 492 | 792 | 1256 | 2044 |
| 20 | 202 | 358 | 569 | 917 | 1454 | 2367 |
| 25 | 230 | 406 | 647 | 1042 | 1653 | 2689 |
| 30 | 257 | 455 | 725 | 1167 | 1851 | 3012 |
| 35 | 285 | 504 | 802 | 1292 | 2049 | 3334 |
| 40 | 312 | 552 | 880 | 1417 | 2247 | 3657 |
| 45 | 340 | 601 | 957 | 1542 | 2445 | 3979 |
| 50 | 368 | 650 | 1035 | 1667 | 2643 | 4302 |
| 55 | 395 | 699 | 1113 | 1792 | 2842 | 4624 |
| 60 | 423 | 747 | 1190 | 1917 | 3040 | 4947 |
| 65 | 450 | 796 | 1268 | 2042 | 3238 | 5269 |
| 70 | 478 | 846 | 1347 | 2170 | 3440 | 5598 |
| 75 | 507 | 896 | 1427 | 2298 | 3644 | 5930 |
| 80 | 535 | 946 | 1507 | 2427 | 3848 | 6262 |
| 85 | 563 | 996 | 1587 | 2556 | 4052 | 6595 |
| 90 | 592 | 1046 | 1667 | 2685 | 4256 | 6927 |
| 95 | 620 | 1097 | 1747 | 2813 | 4461 | 7259 |
| 100 | 649 | 1147 | 1826 | 2942 | 4665 | 7591 |
| 110 | 705 | 1247 | 1986 | 3199 | 5073 | 8255 |
| 120 | 762 | 1347 | 2146 | 3457 | 5481 | 8920 |
| 130 | 819 | 1448 | 2306 | 3714 | 5889 | 9584 |
| 140 | 876 | 1548 | 2466 | 3972 | 6297 | 10248 |
| 150 | 932 | 1648 | 2626 | 4229 | 6706 | 10913 |
| 160 | 989 | 1749 | 2785 | 4487 | 7114 | 11577 |
| 170 | 1046 | 1849 | 2945 | 4744 | 7522 | 12241 |
| 180 | 1103 | 1949 | 3105 | 5002 | 7930 | 12905 |
| 190 | 1159 | 2050 | 3265 | 5259 | 8338 | 13570 |
| 200 | 1216 | 2150 | 3425 | 5517 | 8747 | 14234 |
| 210 | 1273 | 2251 | 3585 | 5774 | 9155 | 14898 |
| 220 | 1330 | 2351 | 3744 | 6031 | 9563 | 15563 |
| 230 | 1386 | 2451 | 3904 | 6289 | 9971 | 16227 |
| 240 | 1443 | 2552 | 4064 | 6546 | 10379 | 16891 |
| 250 | 1500 | 2652 | 4224 | 6804 | 10788 | 17556 |

Capacities are at 10% over set pressure

Set pressures on steam below 15 PSI and above 250 PSI are NON-Code.

Section I Lift levers can not be omitted.

Lifting Device as required by the ASME: ASME Section I - PG-73.2.4

Each safety valve shall have a substantial lifting device, which when activated will release the seating force on the disc when the valve is subjected to a pressure of at least 75% of the set pressure.

Lifting Device as required by the ASME: ASME Section VIII: UG136(3)

Each pressure relief valve on air, water at the valve inlet that exceeds 140°F, excluding overpressure or relief events, or steam service shall have a substantial lifting device which when activated will release the seating force on the disc when the pressure relief valve is subjected to a pressure of at least 75% of the set pressure of the valve.

KNG570 Capacities Steam Lbs/hr- ASME Section VIII

| | Orifice area in ^2 Flow Coefficient = .856 | | | | | |
|---------|--|--------|--------|--------|--------|---------|
| Set PSI | D .125 | E .221 | F .352 | G .567 | H .899 | J 1.463 |
| 5 | 125 | 221 | 352 | 567 | 900 | 1464 |
| 10 | 153 | 270 | 430 | 692 | 1098 | 1787 |
| 15 | 180 | 319 | 507 | 817 | 1296 | 2109 |
| 20 | 208 | 367 | 585 | 942 | 1494 | 2431 |
| 25 | 235 | 416 | 663 | 1067 | 1692 | 2754 |
| 30 | 263 | 465 | 740 | 1192 | 1890 | 3076 |
| 35 | 293 | 518 | 826 | 1330 | 2108 | 3431 |
| 40 | 323 | 572 | 911 | 1467 | 2326 | 3786 |
| 45 | 354 | 625 | 996 | 1605 | 2544 | 4141 |
| 50 | 384 | 679 | 1082 | 1742 | 2762 | 4495 |
| 55 | 414 | 733 | 1167 | 1880 | 2980 | 4850 |
| 60 | 445 | 786 | 1252 | 2017 | 3198 | 5205 |
| 65 | 475 | 840 | 1338 | 2155 | 3416 | 5559 |
| 70 | 505 | 893 | 1423 | 2292 | 3634 | 5914 |
| 75 | 536 | 947 | 1508 | 2430 | 3852 | 6269 |
| 80 | 566 | 1001 | 1594 | 2567 | 4070 | 6624 |
| 85 | 596 | 1054 | 1679 | 2705 | 4288 | 6978 |
| 90 | 627 | 1108 | 1764 | 2842 | 4506 | 7333 |
| 95 | 657 | 1161 | 1850 | 2979 | 4724 | 7688 |
| 100 | 687 | 1215 | 1935 | 3117 | 4942 | 8043 |
| 110 | 748 | 1322 | 2106 | 3392 | 5378 | 8752 |
| 120 | 808 | 1429 | 2276 | 3667 | 5814 | 9461 |
| 130 | 869 | 1536 | 2447 | 3942 | 6250 | 10171 |
| 140 | 930 | 1644 | 2618 | 4217 | 6686 | 10880 |
| 150 | 990 | 1751 | 2789 | 4492 | 7122 | 11590 |
| 160 | 1051 | 1858 | 2959 | 4767 | 7558 | 12299 |
| 170 | 1111 | 1965 | 3130 | 5042 | 7994 | 13009 |
| 180 | 1172 | 2072 | 3301 | 5317 | 8430 | 13718 |
| 190 | 1233 | 2179 | 3471 | 5592 | 8866 | 14428 |
| 200 | 1293 | 2287 | 3642 | 5866 | 9302 | 15137 |
| 210 | 1354 | 2394 | 3813 | 6141 | 9737 | 15846 |
| 220 | 1415 | 2501 | 3983 | 6416 | 10173 | 16556 |
| 230 | 1475 | 2608 | 4154 | 6691 | 10609 | 17265 |
| 240 | 1536 | 2715 | 4325 | 6966 | 11045 | 17975 |
| 250 | 1596 | 2822 | 4495 | 7241 | 11481 | 18684 |
| 260 | 1657 | 2930 | 4666 | 7516 | 11917 | 19394 |
| 270 | 1718 | 3037 | 4837 | 7791 | 12353 | 20103 |
| 280 | 1778 | 3144 | 5008 | 8066 | 12789 | 20813 |
| 290 | 1839 | 3251 | 5178 | 8341 | 13225 | 21522 |
| 300 | 1899 | 3358 | 5349 | 8616 | 13661 | 22231 |

AIRCAPACITY

KNG570 Capacities Air SCFM ASME Section VIII

| Set PSI | Orifice area in ^2 Flow Coefficient = .856 | | | | | |
|------------|--|-----------|-----------|-----------|-----------|------------|
| | D .125 | E .221 | F .352 | G .567 | H .899 | J 1.463 |
| 5 | 45 | 79 | 125 | 202 | 320 | 521 |
| 10 | 54 | 96 | 153 | 246 | 391 | 636 |
| 15 | 64 | 113 | 181 | 291 | 461 | 751 |
| 20 | 74 | 131 | 208 | 335 | 532 | 865 |
| 25 | 84 | 148 | 236 | 380 | 602 | 980 |
| 30 | 94 | 165 | 263 | 424 | 673 | 1095 |
| 35 | 104 | 184 | 294 | 473 | 750 | 1221 |
| 40 | 115 | 204 | 324 | 522 | 828 | 1348 |
| 45 | 126 | 223 | 355 | 571 | 906 | 1474 |
| 50 | 137 | 242 | 385 | 620 | 983 | 1600 |
| 55 | 147 | 261 | 415 | 669 | 1061 | 1726 |
| 60 | 158 | 280 | 446 | 718 | 1138 | 1853 |
| 65 | 169 | 299 | 476 | 767 | 1216 | 1979 |
| 70 | 180 | 318 | 506 | 816 | 1294 | 2105 |
| 75 | 191 | 337 | 537 | 865 | 1371 | 2231 |
| 80 | 201 | 356 | 567 | 914 | 1449 | 2358 |
| 85 | 212 | 375 | 598 | 963 | 1526 | 2484 |
| 90 | 223 | 394 | 628 | 1012 | 1604 | 2610 |
| 95 | 234 | 413 | 658 | 1061 | 1681 | 2736 |
| 100 | 245 | 432 | 689 | 1109 | 1759 | 2863 |
| 110 | 266 | 471 | 750 | 1207 | 1914 | 3115 |
| 120 | 288 | 509 | 810 | 1305 | 2069 | 3368 |
| 130 | 309 | 547 | 871 | 1403 | 2225 | 3620 |
| 140 | 331 | 585 | 932 | 1501 | 2380 | 3873 |
| 150 | 352 | 623 | 993 | 1599 | 2535 | 4125 |
| 160 | 374 | 661 | 1053 | 1697 | 2690 | 4378 |
| 170 | 396 | 699 | 1114 | 1795 | 2845 | 4630 |
| 180 | 417 | 738 | 1175 | 1892 | 3000 | 4883 |
| 190 | 439 | 776 | 1236 | 1990 | 3156 | 5135 |
| 200 | 460 | 814 | 1296 | 2088 | 3311 | 5388 |
| 210 | 482 | 852 | 1357 | 2186 | 3466 | 5640 |
| 220 | 503 | 890 | 1418 | 2284 | 3621 | 5893 |
| 230 | 525 | 928 | 1479 | 2382 | 3776 | 6145 |
| 240 | 547 | 966 | 1539 | 2480 | 3931 | 6398 |
| 250 | 568 | 1005 | 1600 | 2577 | 4087 | 6650 |
| 260 | 590 | 1043 | 1661 | 2675 | 4242 | 6903 |
| 270 | 611 | 1081 | 1722 | 2773 | 4397 | 7156 |
| 280 | 633 | 1119 | 1782 | 2871 | 4552 | 7408 |
| 290 | 655 | 1157 | 1843 | 2969 | 4707 | 7661 |
| 300 | 676 | 1195 | 1904 | 3067 | 4863 | 7913 |

Capacities are at 10% over set pressure

Set pressures on steam below 15 PSI are NON-Code

Section I Lift levers can not be omitted.

Lifting Device as required by the ASME: ASME Section VIII: UG136(3)

Each safety valve shall have a substantial lifting device, which when activated will release the seating force on the disc when the valve is subjected to a pressure of at least 75% of the set pressure.

FLOWCOEFFICIENT CHART

KNG560/ 563/ 570/ 573

| Model # | Orifice Size | Inlet x Outlet Size (in) | Flow Area (in) | Flow Coefficient (Kd) | | | |
|-----------------------|--------------|------------------------------------|----------------|-----------------------|--------------------|------------------|---------------------|
| | | | | Section I Steam | Section VIII Steam | Section VIII Air | Section VIII Liquid |
| KNG560 / KNG563 | D | 1/2" x 3/4" 3/4" x 3/4" | 0.125 | 0.856 | - | - | - |
| | E | 3/4" x 1" 1" x 1" | 0.221 | 0.856 | - | - | - |
| | F | 1" x 1-1/4" 1-1/4" x 1-1/4" | 0.352 | 0.856 | - | - | - |
| | G | 1-1/4" x 1-1/2" 1-1/2" x 1-1/2" | 0.567 | 0.856 | - | - | - |
| | H | 1-1/2" x 2" 2" x 2" | 0.899 | 0.856 | - | - | - |
| | J | 2" x 2-1/2" 2-1/2" x 2-1/2" | 1.463 | 0.856 | - | - | - |
| KNG570 / KNG573 | D | 1/2" x 3/4" 3/4" x 3/4" | 0.125 | - | 0.856 | 0.856 | - |
| | E | 3/4" x 1" 1" x 1" | 0.221 | - | 0.856 | 0.856 | - |
| | F | 1" x 1-1/4" 1-1/4" x 1-1/4" | 0.352 | - | 0.856 | 0.856 | - |
| | G | 1-1/4" x 1-1/2" 1-1/2" x 1-1/2" | 0.567 | - | 0.856 | 0.856 | - |
| | H | 1-1/2" x 2" 2" x 2" | 0.899 | - | 0.856 | 0.856 | - |
| | J | 2" x 2-1/2" 2-1/2" x 2-1/2" | 1.463 | - | 0.856 | 0.856 | - |