

 FULL LIFT SAFETY VALVE zARMAK



| Body material | Nominal pressure | Nominal diameter | Max. temperature | Ex. index |
|------------------------|------------------|------------------|------------------|-----------|
| B Nodular cast iron | C 16 bar | DN 20-32 | 200°C | 775 |











CE 0343

FEATURES

- valves made according to PN EN ISO 4126-1
- high tightness

APPLICATION *

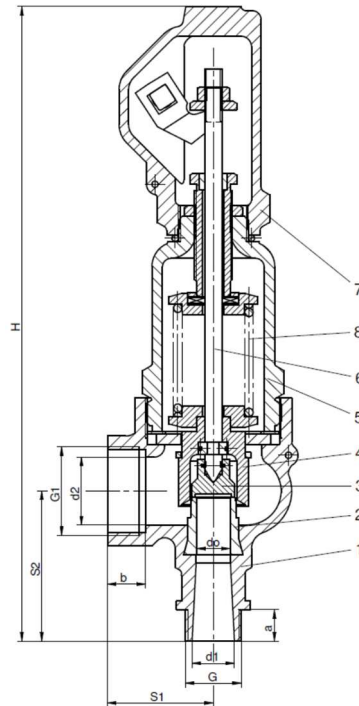
* not all of the applications are suitable for all of the executions

| | | | | | |
|------------|---|---|---|---|--|
| industries |  |  |  |  |  |
| | INDUSTRY | SHIPBUILDING INDUSTRY | HEATING | REFRIGERATION AND AIR CONDITIONING | POWER ENGINEERING |
| media |  |  |  |  |  |
| | GLYCOL | INDUSTRIAL WATER | STEAM | COMPRESSED AIR | NEUTRAL FLUIDS |

Data given can be changed without notice.

Edition 01/2018

MATERIALS, DIMENSIONS



| | Body material | B |
|--------------------------|---------------|--|
| | Type | standard |
| | | 01-1, 02-1, 03-1, 04-1, 05-1, 06-1, 07-1, 08-1 |
| 1 | Body | EN-GJMW-400-5 / EN-GJS-400-15 5.3106 |
| 2 | Seat | X39CrMo17-1 1.4122 |
| 3 | Disc | X39CrMo17-1 1.4122 |
| 4 | Bell | X20Cr13* 1.4021 |
| 5 | Bonnet | EN-GJS-400-15 5.3106 |
| 6 | Spindle | X20Cr13* 1.4021 |
| 7 | Lifting cap | EN-GJS-400-15 5.3106 |
| 8 | Spring | 51CrV4 1.8159 |
| Temperature range | | -10...200°C** |

* for marine type (05, 06, 07, 08) spindle and bell made of: X17CrNi16-2

** for steam boilers are limits according to WUDT-UC-WO-M, i.e. 10 bar and 200°C

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| Body material | | Type | T | | |
|--|-----|------|----------|-------|-------|
| DN | | | 20x32 | 25x40 | 32x50 |
| d _o (mm) | | | 16 | 20 | 25 |
| A (mm ²) | | | 201 | 314 | 491 |
| a (mm) | | | 15 | 18 | 19 |
| G ₁ (cal) | | | ¾ | 1 | 1¼ |
| b (mm) | | | 18 | 20 | 22 |
| G ₂ (cal) | | | 1¼ | 1½ | 2 |
| S ₁ (mm) | | | 50 | 54 | 65 |
| S ₂ (mm) | | | 71 | 80 | 88 |
| H (mm) | | | 298 | 328 | 357 |
| Pressure at the beginning of the opening (bar) | min | | Standard | 1,5 | |
| | max | 16* | | | |
| Weight (kg) | | 3,4 | 4,1 | 5,4 | |

* for steam boilers are limits according to WUDT-UC-WO-M, i.e. 10 bar and 200°C

DISCHARGE COEFFICIENTS

| Media | Ranges | DN | | |
|------------------------------------|---|-------|-------|-------|
| | | 20x32 | 25x40 | 32x50 |
| S/G | b ₁ = 10% for 1,5 ≤ p < 4 bar | 0,60 | 0,63 | 0,66 |
| | b ₁ = 10% for 4 ≤ p ≤ 16 bar | 0,66 | 0,68 | 0,72 |
| L | b ₁ = 10% | 0,26 | 0,29 | 0,36 |
| S/G type with limited disc leap | b ₁ = 10% for 1,5 ≤ p < 4 bar | 0,30 | 0,36 | 0,48 |
| | b ₁ = 10% for 4 ≤ p ≤ 16 bar | 0,33 | | 0,52 |

PRESSURE-TEMPERATURE RATINGS

| | PN | | 140°C | RT | 50 °C | 100 °C | 150 °C | 200 °C |
|---------------|----|-----|-------|----|-------|--------|--------|--------|
| EN-GJS-400-15 | 16 | bar | 16 | 16 | 16 | 16 | 15,5 | 14,7 |

Data given can be changed without notice.

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CAPACITY TABLE FOR AIR

| Standard type: 01-1, 02-1, 05-1, 07-1 | | | | | | | |
|---|-----------------|-------|-------|---|-----------------|-------|-------|
| DNxDN PN16 | 20x32 | 25x40 | 32x50 | DNxDN PN16 | 20x32 | 25x40 | 32x50 |
| A - flight computational area [mm ²] | 201 | 314 | 491 | A - flight computational area [mm ²] | 201 | 314 | 491 |
| Pressure at the beginning of bar opening (g) | Air 20°C [kg/h] | | | Pressure at the beginning of bar opening (g) | Air 20°C [kg/h] | | |
| 1,50 | 272 | 446 | 730 | 6,50 | 919 | 1 479 | 2 449 |
| 1,60 | 283 | 464 | 760 | 7,00 | 981 | 1 579 | 2 614 |
| 1,70 | 294 | 483 | 790 | 7,50 | 1 043 | 1 679 | 2 779 |
| 1,80 | 305 | 501 | 821 | 8,00 | 1 105 | 1 778 | 2 944 |
| 1,90 | 317 | 520 | 851 | 8,50 | 1 167 | 1 878 | 3 110 |
| 2,00 | 328 | 538 | 881 | 9,00 | 1 229 | 1 978 | 3 275 |
| 2,10 | 339 | 556 | 912 | 9,50 | 1 291 | 2 078 | 3 440 |
| 2,20 | 351 | 575 | 942 | 10,00 | 1 353 | 2 178 | 3 605 |
| 2,30 | 362 | 593 | 972 | 10,50 | 1 415 | 2 277 | 3 771 |
| 2,40 | 373 | 612 | 1 003 | 11,00 | 1 477 | 2 377 | 3 936 |
| 2,50 | 384 | 630 | 1 033 | 11,50 | 1 539 | 2 477 | 4 101 |
| 2,60 | 396 | 649 | 1 063 | 12,00 | 1 601 | 2 577 | 4 266 |
| 2,80 | 418 | 686 | 1 124 | 12,50 | 1 663 | 2 677 | 4 432 |
| 3,00 | 441 | 723 | 1 184 | 13,00 | 1 725 | 2 776 | 4 597 |
| 3,20 | 463 | 760 | 1 245 | 14,00 | 1 849 | 2 976 | 4 927 |
| 3,40 | 486 | 797 | 1 305 | 15,00 | 1 973 | 3 176 | 5 258 |
| 3,60 | 508 | 834 | 1 366 | 16,00 | 2 097 | 3 375 | 5 588 |
| 3,80 | 531 | 871 | 1 427 | | | | |
| 4,00 | 609 | 980 | 1 622 | | | | |
| 4,20 | 634 | 1 020 | 1 689 | | | | |
| 4,40 | 658 | 1 060 | 1 755 | | | | |
| 4,60 | 683 | 1 100 | 1 821 | | | | |
| 4,80 | 708 | 1 140 | 1 887 | | | | |
| 5,00 | 733 | 1 180 | 1 953 | | | | |
| 5,50 | 795 | 1 279 | 2 118 | | | | |
| 6,00 | 857 | 1 379 | 2 283 | | | | |

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

Data given can be changed without notice.

Edition 01/2018

CAPACITY TABLE FOR AIR

| Standard type: 03-1, 04-1, 06-1, 08-1 | | | | | | | |
|---|-----------------|-------|-------|---|-----------------|-------|-------|
| DNxDN PN16 | 20x32 | 25x40 | 32x50 | DNxDN PN16 | 20x32 | 25x40 | 32x50 |
| A - flight computational area [mm ²] | 201 | 314 | 491 | A - flight computational area [mm ²] | 201 | 314 | 491 |
| Pressure at the beginning of bar opening (g) | Air 20°C [kg/h] | | | Pressure at the beginning of bar opening (g) | Air 20°C [kg/h] | | |
| 1,50 | 136 | 255 | 531 | 6,50 | 459 | 783 | 1 769 |
| 1,60 | 141 | 265 | 553 | 7,00 | 490 | 836 | 1 888 |
| 1,70 | 147 | 276 | 575 | 7,50 | 521 | 889 | 2 007 |
| 1,80 | 153 | 286 | 597 | 8,00 | 552 | 942 | 2 127 |
| 1,90 | 158 | 297 | 619 | 8,50 | 583 | 994 | 2 246 |
| 2,00 | 164 | 307 | 641 | 9,00 | 614 | 1 047 | 2 365 |
| 2,10 | 170 | 318 | 663 | 9,50 | 645 | 1 100 | 2 485 |
| 2,20 | 175 | 329 | 685 | 10,00 | 676 | 1 153 | 2 604 |
| 2,30 | 181 | 339 | 707 | 10,50 | 707 | 1 206 | 2 723 |
| 2,40 | 187 | 350 | 729 | 11,00 | 738 | 1 259 | 2 843 |
| 2,50 | 192 | 360 | 751 | 11,50 | 769 | 1 311 | 2 962 |
| 2,60 | 198 | 371 | 773 | 12,00 | 800 | 1 364 | 3 081 |
| 2,80 | 209 | 392 | 817 | 12,50 | 832 | 1 417 | 3 201 |
| 3,00 | 220 | 413 | 861 | 13,00 | 863 | 1 470 | 3 320 |
| 3,20 | 232 | 434 | 905 | 14,00 | 925 | 1 576 | 3 559 |
| 3,40 | 243 | 455 | 949 | 15,00 | 987 | 1 681 | 3 797 |
| 3,60 | 254 | 477 | 993 | 16,00 | 1 049 | 1 787 | 4 036 |
| 3,80 | 265 | 498 | 1 038 | | | | |
| 4,00 | 304 | 519 | 1 172 | | | | |
| 4,20 | 317 | 540 | 1 220 | | | | |
| 4,40 | 329 | 561 | 1 267 | | | | |
| 4,60 | 342 | 582 | 1 315 | | | | |
| 4,80 | 354 | 603 | 1 363 | | | | |
| 5,00 | 366 | 624 | 1 410 | | | | |
| 5,50 | 397 | 677 | 1 530 | | | | |
| 6,00 | 428 | 730 | 1 649 | | | | |

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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CAPACITY TABLE FOR SATURATED STEAM

| Standard type: 01-1, 02-1, 05-1, 07-1 | | | | | | | |
|---|------------------------|-------|-------|---|------------------------|-------|-------|
| DNxDN PN16 | 20x32 | 25x40 | 32x50 | DNxDN PN16 | 20x32 | 25x40 | 32x50 |
| A - flight computational area [mm ²] | 201 | 314 | 491 | A - flight computational area [mm ²] | 201 | 314 | 491 |
| Pressure at the beginning of bar opening (g) | Saturated steam [kg/h] | | | Pressure at the beginning of bar opening (g) | Saturated steam [kg/h] | | |
| 1,50 | 170 | 278 | 456 | 6,50 | 565 | 909 | 1 505 |
| 1,60 | 177 | 290 | 476 | 7,00 | 601 | 968 | 1 603 |
| 1,70 | 185 | 303 | 497 | 7,50 | 639 | 1 028 | 1 702 |
| 1,80 | 193 | 317 | 519 | 8,00 | 676 | 1 087 | 1 800 |
| 1,90 | 200 | 327 | 536 | 8,50 | 712 | 1 147 | 1 898 |
| 2,00 | 206 | 338 | 553 | 9,00 | 750 | 1 207 | 1 998 |
| 2,10 | 212 | 348 | 571 | 9,50 | 786 | 1 266 | 2 095 |
| 2,20 | 219 | 359 | 588 | 10,00 | 824 | 1 326 | 2 195 |
| 2,30 | 226 | 370 | 607 | 10,50 | 860 | 1 384 | 2 292 |
| 2,40 | 233 | 382 | 625 | 11,00 | 897 | 1 444 | 2 391 |
| 2,50 | 240 | 394 | 645 | 11,50 | 934 | 1 503 | 2 488 |
| 2,60 | 247 | 406 | 665 | 12,00 | 971 | 1 562 | 2 586 |
| 2,80 | 262 | 429 | 703 | 12,50 | 1 007 | 1 621 | 2 684 |
| 3,00 | 275 | 451 | 738 | 13,00 | 1 044 | 1 680 | 2 782 |
| 3,20 | 288 | 472 | 774 | 14,00 | 1 118 | 1 799 | 2 978 |
| 3,40 | 302 | 495 | 812 | 15,00 | 1 191 | 1 917 | 3 174 |
| 3,60 | 317 | 520 | 851 | 16,00 | 1 264 | 2 035 | 3 369 |
| 3,80 | 330 | 541 | 887 | | | | |
| 4,00 | 377 | 608 | 1 006 | | | | |
| 4,20 | 392 | 632 | 1 046 | | | | |
| 4,40 | 408 | 657 | 1 087 | | | | |
| 4,60 | 424 | 682 | 1 129 | | | | |
| 4,80 | 438 | 705 | 1 167 | | | | |
| 5,00 | 452 | 728 | 1 206 | | | | |
| 5,50 | 491 | 790 | 1 308 | | | | |
| 6,00 | 527 | 848 | 1 404 | | | | |

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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CAPACITY TABLE FOR SATURATED STEAM

| Standard type: 03-1, 04-1, 06-1, 08-1 | | | | | | | |
|---|------------------------|-------|-------|---|------------------------|-------|-------|
| DNxDN PN16 | 20x32 | 25x40 | 32x50 | DNxDN PN16 | 20x32 | 25x40 | 32x50 |
| A - flight computational area [mm ²] | 201 | 314 | 491 | A - flight computational area [mm ²] | 201 | 314 | 491 |
| Pressure at the beginning of bar opening (g) | Saturated steam [kg/h] | | | Pressure at the beginning of bar opening (g) | Saturated steam [kg/h] | | |
| 1,50 | 85 | 159 | 331 | 6,50 | 282 | 481 | 1 087 |
| 1,60 | 89 | 166 | 346 | 7,00 | 301 | 512 | 1 157 |
| 1,70 | 92 | 173 | 361 | 7,50 | 319 | 544 | 1 229 |
| 1,80 | 97 | 181 | 377 | 8,00 | 338 | 576 | 1 300 |
| 1,90 | 100 | 187 | 390 | 8,50 | 356 | 607 | 1 371 |
| 2,00 | 103 | 193 | 402 | 9,00 | 375 | 639 | 1 443 |
| 2,10 | 106 | 199 | 415 | 9,50 | 393 | 670 | 1 513 |
| 2,20 | 109 | 205 | 428 | 10,00 | 412 | 702 | 1 586 |
| 2,30 | 113 | 212 | 441 | 10,50 | 430 | 733 | 1 655 |
| 2,40 | 116 | 218 | 455 | 11,00 | 449 | 765 | 1 727 |
| 2,50 | 120 | 225 | 469 | 11,50 | 467 | 796 | 1 797 |
| 2,60 | 124 | 232 | 483 | 12,00 | 485 | 827 | 1 868 |
| 2,80 | 131 | 245 | 512 | 12,50 | 504 | 858 | 1 938 |
| 3,00 | 137 | 257 | 537 | 13,00 | 522 | 889 | 2 009 |
| 3,20 | 144 | 270 | 563 | 14,00 | 559 | 952 | 2 151 |
| 3,40 | 151 | 283 | 590 | 15,00 | 596 | 1 015 | 2 292 |
| 3,60 | 158 | 297 | 619 | 16,00 | 632 | 1 077 | 2 433 |
| 3,80 | 165 | 309 | 645 | | | | |
| 4,00 | 189 | 322 | 727 | | | | |
| 4,20 | 196 | 334 | 755 | | | | |
| 4,40 | 204 | 348 | 785 | | | | |
| 4,60 | 212 | 361 | 815 | | | | |
| 4,80 | 219 | 373 | 843 | | | | |
| 5,00 | 226 | 386 | 871 | | | | |
| 5,50 | 245 | 418 | 944 | | | | |
| 6,00 | 264 | 449 | 1 014 | | | | |

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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CAPACITY TABLE FOR WATER

| Standard type: 03-1, 04-1, 06-1, 08-1 | | | | | | | |
|---|-------------------|--------|--------|---|-------------------|--------|--------|
| DNxDN PN16 | 20x32 | 25x40 | 32x50 | DNxDN PN16 | 20x32 | 25x40 | 32x50 |
| A - flight computational area [mm ²] | 201 | 314 | 491 | A - flight computational area [mm ²] | 201 | 314 | 491 |
| Pressure at the beginning of bar opening (g) | Water 20°C [kg/h] | | | Pressure at the beginning of bar opening (g) | Water 20°C [kg/h] | | |
| 1,50 | 3 401 | 5 949 | 11 548 | 6,50 | 7 107 | 12 384 | 24 040 |
| 1,60 | 3 513 | 6 144 | 11 927 | 7,00 | 7 376 | 12 852 | 24 947 |
| 1,70 | 3 621 | 6 333 | 12 294 | 7,50 | 7 635 | 13 303 | 25 823 |
| 1,80 | 3 740 | 6 517 | 12 651 | 8,00 | 7 885 | 13 739 | 26 670 |
| 1,90 | 3 843 | 6 696 | 12 997 | 8,50 | 8 128 | 14 162 | 27 490 |
| 2,00 | 3 943 | 6 870 | 13 335 | 9,00 | 8 363 | 14 573 | 28 287 |
| 2,10 | 4 040 | 7 039 | 13 664 | 9,50 | 8 592 | 14 972 | 29 063 |
| 2,20 | 4 135 | 7 205 | 13 986 | 10,00 | 8 816 | 15 361 | 29 818 |
| 2,30 | 4 228 | 7 367 | 14 300 | 10,50 | 9 033 | 15 740 | 30 554 |
| 2,40 | 4 319 | 7 525 | 14 608 | 11,00 | 9 246 | 16 111 | 31 273 |
| 2,50 | 4 408 | 7 680 | 14 909 | 11,50 | 9 454 | 16 473 | 31 976 |
| 2,60 | 4 495 | 7 833 | 15 204 | 12,00 | 9 657 | 16 827 | 32 663 |
| 2,80 | 4 665 | 8 128 | 15 778 | 12,50 | 9 856 | 17 174 | 33 337 |
| 3,00 | 4 829 | 8 413 | 16 332 | 13,00 | 10 051 | 17 514 | 33 997 |
| 3,20 | 4 987 | 8 689 | 16 867 | 14,00 | 10 431 | 18 175 | 35 281 |
| 3,40 | 5 140 | 8 957 | 17 386 | 15,00 | 10 797 | 18 813 | 36 519 |
| 3,60 | 5 289 | 9 217 | 17 891 | 16,00 | 11 151 | 19 430 | 37 717 |
| 3,80 | 5 434 | 9 469 | 18 381 | | | | |
| 4,00 | 5 576 | 9 715 | 18 858 | | | | |
| 4,20 | 5 713 | 9 955 | 19 324 | | | | |
| 4,40 | 5 848 | 10 189 | 19 779 | | | | |
| 4,60 | 5 979 | 10 418 | 20 223 | | | | |
| 4,80 | 6 108 | 10 642 | 20 658 | | | | |
| 5,00 | 6 234 | 10 862 | 21 084 | | | | |
| 5,50 | 6 538 | 11 392 | 22 113 | | | | |
| 6,00 | 6 829 | 11 898 | 23 097 | | | | |

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

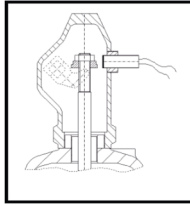
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OPTIONS

Type with inductive sensor with operation alert

Operation range:
 depending on the type and diameter of the valve
Supply voltage:
 10 ÷ 30 V [DC]
Degree of protection:
 IP67, IP68 (depending on sensor type)
Operating temperature:
 -25 ÷ 70°C
 Other upon agreement with the manufacturer
Standard cable length
 2000 mm

ATEX 
The product meets the requirements of the following standards

PN-EN 1127-1:2019-10
 PN-EN ISO 80079-36:2016-07
 PN-EN ISO 80079-37:2016-07

The product is labelled:

II 2G Ex h IIC TX Gb
ATTENTION

- In the case of when condensate forms, provide drainage in the lowest spot of blow-out installation. Drainage in the body valve is made only upon request of the customer. For liquids, blow-out installation should be made in a tilted way.
- Valves should be mounted in a vertical position.

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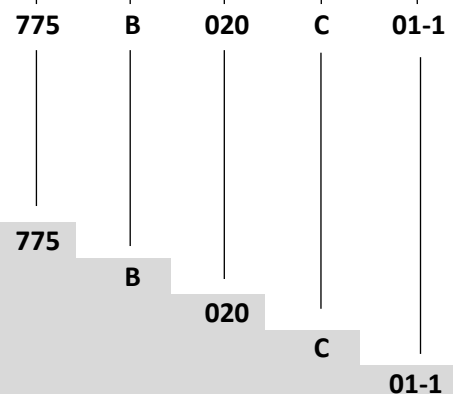
TYPES

| Figure | Body material | Nominal diameter | Nominal pressure | Type |
|--------|---|------------------|------------------|--|
| 775 | B Nodular cast iron EN-GJS-400-15 | 20-32 mm | C 16 bar | 01-1 normal type for gases and vapours; sealing metal/metal |
| | | 20-32 mm | C 16 bar | 02-1 gas tight type for gases and vapours; sealing metal/metal |
| | | 20-32 mm | C 16 bar | 03-1 type with limited disc leap for liquids; sealing metal/metal |
| | | 20-32 mm | C 16 bar | 04-1 type with limited disc leap for liquids, gases and vapours, sealing metal/metal |
| | | 20-32 mm | C 16 bar | 05-1 marine type for gases and vapours, sealing metal/metal |
| | | 20-32 mm | C 16 bar | 06-1 marine type with limited disc leap for liquids, gases and vapours, sealing metal/metal |
| | | 20-32 mm | C 16 bar | 07-1 marine type, gas-tight for gases and vapours, sealing metal/metal |
| | | 20-32 mm | C 16 bar | 08-1 marine type, gas-tight with limited disc leap for liquids, gases and vapours sealing metal/metal |

ORDERING

| Figure | Body material | Nominal diameter | Nominal pressure | Type |
|--------|---|------------------|------------------|--|
| 775 | B Nodular cast iron EN-GJS-400-15 | 20-32 mm | C 16 bar | 01-1 normal type for gases and vapours; sealing metal/metal |

Order example by index



Full lift safety valve, threaded ends , angle form
 Nodular cast iron EN-GJS-400-15
 Nominal diameter (mm)
 Nominal pressure PN 16
 Basic type for liquids, vapours and gases, metal/metal sealing

Data given can be changed without notice.

Edition 01/2018