

# G type DUCTED EXHAUST SAFETY VALVE

2871 AND 288X SERIES

## CHARACTERISTICS

The G type safety valves are dedicated to protect the equipment from potential overpressure. They are automatic and close when the pressure conditions are back to normal. It is a spring type safety valve with a ducted exhaust design and it is available in brass or stainless steel construction. The standard version is delivered sealed with FKM tightness. It complies with the PN 40 pressure rating standards and is certified by a TÜV approval. It can be used on compatible gases and liquids. Inlet and outlet attachments are male BSP type. Setting certificate and information folder, in compliance with the 1998 decree about the safety valves monitoring, are available on request.



## AVAILABLE ITEMS

| Type                        | G10                         | G14   | G20                         | G25                             | G32                         | G40                         |
|-----------------------------|-----------------------------|---|-----------------------------|---------------------------------|-----------------------------|-----------------------------|
| Brass                       | x                           | x   | x                           | x                               | x                           | x                           |
| Stainless steel             | x                           | x   | x                           | x                               | x                           | x                           |
| TÜV #                       | SV_913                      | SV_912                                      | SV_913                      | SV_913                          | SV_913                      | SV_913                      |
| PN                          | 40                          | 40  | 40                          | 40                              | 40                          | 40                          |
| Orifice (mm)                | 10                          | 13.5  | 20                          | 25                              | 32                          | 40                          |
| Surface cm <sup>2</sup>     | 0.785                       | 1.43  | 3.14                        | 4.906                           | 8.038                       | 12.566                      |
| Lift (mm)                   | 5                           | 6   | 6                           | 6                               | 9                           | 12                          |
| Min. Pressure setting (bar) | 0.5                         | 0.5   | 0.5                         | 0.5                             | 0.5                         | 0.5                         |
| Max. Pressure setting (bar) | 25                          | 40  | 40                          | 20                              | 12.2                        | 14                          |
| Inlet connection (brass)    |                             | G 1/2" M<br>or<br>G 3/4" M<br>or<br>G 1" M* | G 1" M<br>or<br>G 1" 1/4 M* | G 1" 1/4 M<br>or<br>G 1" 1/2 M* | G 1" 1/2 M<br>or<br>G 2" M* |                             |
| Inlet connection (SS)       | G 1/2" M<br>or<br>G 3/4" M* | G 1/2" M<br>or<br>G 3/4" M<br>or<br>G 1" M* | G 1" M<br>or<br>G 1" 1/4 M* | G 1" 1/4 M<br>or<br>G 1" 1/2 M* |                             | G 1" 1/2 M<br>or<br>G 2" M* |
| Outlet connection           | G 1" M                      | G 1" M                                      | G 1" 1/4 M                  | G 1" 1/2 M                      | G 1" 1/2 M                  | G 2" M                      |

\*Standard models available

## CONSTRUCTION STANDARDS

TÜV approval

EC0044 certification, category IV (modules B+D)

Maximum flow rate at setting pressure + 10 %

Closing pressure: setting pressure -10 %

## LIMITS OF USE

Maximum body pressure: PN 40

**Maximum temperature of materials:**

(Read taking into account the working pressure at operating temperature)

|          | Brass      |            | Stainless steel |            |
|----------|------------|------------|-----------------|------------|
| Bearing  | Min. temp. | Max. temp. | Min. temp.      | Max. temp. |
| NBR      | -10 °C     | +100 °C    | -10 °C          | +100 °C    |
| EPDM     | -50 °C     | +150 °C    | -50 °C          | +150 °C    |
| FKM      | -20 °C     | +200 °C    | -20 °C          | +200 °C    |
| Silicone | -50 °C     | +200 °C    | -60 °C          | +200 °C    |
| PTFE     | -50 °C     | +180 °C    | -100 °C         | +180 °C    |
| Metal    | -50 °C     | +200 °C    | -195 °C         | +450 °C    |

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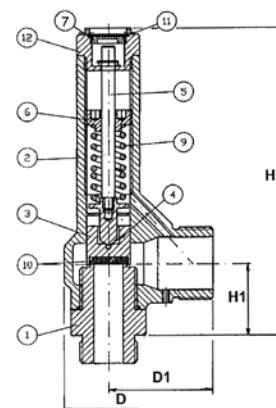
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|   |   | Ref.       | FT28703 GB |
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## CONSTRUCTION

| #  | Item             | Brass                        | Stainless steel              |
|----|------------------|------------------------------|------------------------------|
| 1  | Body             | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 2  | Bonnet           | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 3  | Clack            | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 4  | Needle           | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 5  | Stem             | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 6  | Adjustment screw | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 7  | Cap              | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 8  | Lever            | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 9  | Spring           | C 72 UNI 3823                | AISI 302                     |
| 10 | Seat             | NBR/EPDM/Viton/Silicone/Met. | NBR/EPDM/Viton/Silicone/Met. |
| 11 | Plate            | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 12 | Testing device   | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |
| 13 | Pin              | CW614N / 2.0372 Brass        | AISI 316 / 1.4401            |



## FLOW RATE COEFFICIENTS - (TÜV)

| Type | Gas pressure < 3 bar | Gas pressure > 3 bar |
|------|----------------------|----------------------|
| G10  | 0.75                 | 0.77                 |
| G14  | 0.81                 | 0.86                 |
| G20  | 0.67                 | 0.79                 |
| G25  | 0.59                 | 0.59                 |
| G32  | 0.52                 | 0.52                 |
| G40  | 0.58                 | 0.64                 |

## DIMENSIONS (mm)

| Type         | G10 | G14 | G20 | G25 | G32 | G40 |
|--------------|-----|-----|-----|-----|-----|-----|
| H - G type   | 144 | 144 | 240 | 240 | 240 | 294 |
| H - G/M type | 152 | 152 | 240 | 240 | 240 | 294 |
| D            | 41  | 41  | 71  | 71  | 71  | 102 |
| A            | 49  | 49  | 71  | 71  | 71  | 79  |
| B            | 33  | 33  | 46  | 46  | 46  | 53  |

## INSTALLATION

The valve has to be installed as close as possible to the device to protect. It has to be installed in a vertical position. There should be no valve between the safety valve and the device to protect. No foreign body should block the safety valve discharge openings. The exhaust has to be connected to pipework without any back-pressure and discharge in a safe place. The safety valve should not support the exhaust pipework. The safety valve mounting and maintenance have to be carried out in an appropriate way and according to the information sheet provided with the device.

## PRE-SET, MATERIAL AND TEST CERTIFICATE

Standard pre-set and conformity certification according to EN 10 204 2.2 with series number marked on the safety valve.

## OPTIONS

G/M type safety valve with testing lever  
Nickel-plated brass construction BSPT, NPT connections  
Brass construction with stainless steel body and clack  
DIN, clamp, flanged connections ...


## FLOW RATE FOR LIQUIDS

Please use the following formula:

$$Q \text{ (kg / h)} = 0.9 \times K1 \times \text{ROOT} ((P1-P2) \cdot Y \cdot 1000) \times A \times 100 / 0.621$$

|    |                                     |        |
|----|-------------------------------------|--------|
| K1 | Flow rate for a 10% overpressure    | 0,38   |
| P1 | Design pressure                     | Bar    |
| P2 | Backpressure                        | Bar    |
| A  | Orifice surface                     | cm2    |
| Y  | Specific weight of the liquid at P1 | Kg/dm³ |

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|   |   |  | Rev.       | 4          |
|   |   |  | Date       | 04/2005    |

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## WATER FLOW RATE AT 20 °C (KG/H) ACCORDING TO AD – Merkblatt A2 – TÜV

| Pressure (bar) | G10  | G14   | G20   | G25   | G32   | G40   | Pressure (bar) | G10  | G14   | G20   | G25 | G32 | G40 |
|----------------|------|-------|-------|-------|-------|-------|----------------|------|-------|-------|-----|-----|-----|
| 0,5            | 1014 | 1847  | 4056  | 6336  | 10382 | 16230 | 21             | 6571 | 11970 | 26283 |     |     |     |
| 1              | 1434 | 2612  | 5735  | 8961  | 14682 | 22952 | 22             | 6725 | 12251 | 26901 |     |     |     |
| 2              | 2028 | 3694  | 8111  | 12673 | 20763 | 32460 | 23             | 6876 | 12527 | 27506 |     |     |     |
| 3              | 2483 | 4524  | 9934  | 15521 | 25430 | 39755 | 24             | 7024 | 12796 | 28097 |     |     |     |
| 4              | 2868 | 5224  | 11471 | 17922 | 29364 | 45905 | 25             | 7169 | 13060 | 28677 |     |     |     |
| 5              | 3206 | 5841  | 12825 | 20037 | 32829 | 51323 | 26             |      | 13318 | 29245 |     |     |     |
| 6              | 3512 | 6398  | 14049 | 21950 | 35963 | 56222 | 27             |      | 13572 | 29802 |     |     |     |
| 7              | 3794 | 6911  | 15174 | 23709 | 38844 | 60726 | 28             |      | 13821 | 30349 |     |     |     |
| 8              | 4056 | 7388  | 16222 | 25346 | 41526 | 64919 | 29             |      | 14066 | 30886 |     |     |     |
| 9              | 4302 | 7836  | 17206 | 26883 | 44045 | 68857 | 30             |      | 14306 | 31414 |     |     |     |
| 10             | 4534 | 8260  | 18137 | 28337 | 46428 | 72582 | 31             |      | 14543 | 31933 |     |     |     |
| 11             | 4756 | 8663  | 19022 | 29720 | 48694 | 76124 | 32             |      | 14775 | 32444 |     |     |     |
| 12             | 4967 | 9048  | 19868 | 31042 | 50859 | 79509 | 33             |      | 15005 | 32947 |     |     |     |
| 13             | 5170 | 9418  | 20679 | 32309 |       | 82756 | 34             |      | 15230 | 33443 |     |     |     |
| 14             | 5365 | 9773  | 21460 | 33529 |       | 85880 | 35             |      | 15453 | 33931 |     |     |     |
| 15             | 5553 | 10116 | 22213 | 34706 |       |       | 36             |      | 15672 | 34412 |     |     |     |
| 16             | 5735 | 10448 | 22941 | 35844 |       |       | 37             |      | 15888 | 34887 |     |     |     |
| 17             | 5912 | 10769 | 23647 | 36947 |       |       | 38             |      | 16101 | 35355 |     |     |     |
| 18             | 6083 | 11082 | 24333 | 38018 |       |       | 39             |      | 16312 | 35817 |     |     |     |
| 19             | 6250 | 11385 | 25000 | 39060 |       |       | 40             |      | 16519 | 36274 |     |     |     |
| 20             | 6412 | 11681 | 25649 | 40075 |       |       |                |      |       |       |     |     |     |

## COMPRESSED AIR FLOW RATE (Nm3/h) ACCORDING TO AD – Merkblatt A2 - TÜV

| Pressure (bar) | G10 | G14  | G20  | G25  | G32  | G40  | Pressure (bar) | G10  | G14  | G20  | G25  | G32  | G40  | Pressure (bar) | G10 | G14  | G20  | G25 | G32 | G40 |
|----------------|-----|------|------|------|------|------|----------------|------|------|------|------|------|------|----------------|-----|------|------|-----|-----|-----|
| 0,5            | 62  | 122  | 302  | 404  | 433  | 769  | 14             | 675  | 1373 | 3191 | 4273 | 8981 |      | 27,5           |     | 2617 | 6080 |     |     |     |
| 1              | 84  | 166  | 409  | 547  | 586  | 1064 | 14,5           | 698  | 1419 | 3298 | 4417 |      | 28   |                |     | 2663 | 6187 |     |     |     |
| 1,5            | 108 | 217  | 516  | 691  | 740  | 1370 | 15             | 720  | 1465 | 3405 | 4560 |      | 28,5 |                |     | 2709 | 6294 |     |     |     |
| 2              | 130 | 262  | 623  | 834  | 893  | 1678 | 15,5           | 743  | 1512 | 3512 | 4703 |      | 29   |                |     | 2755 | 6401 |     |     |     |
| 2,5            | 154 | 314  | 730  | 977  | 1047 | 2015 | 16             | 766  | 1558 | 3619 | 4847 |      | 29,5 |                |     | 2801 | 6508 |     |     |     |
| 3              | 177 | 360  | 837  | 1120 | 1200 | 2355 | 16,5           | 788  | 1604 | 3726 | 4990 |      | 30   |                |     | 2847 | 6615 |     |     |     |
| 3,5            | 200 | 406  | 944  | 1264 | 1354 | 2656 | 17             | 811  | 1650 | 3833 | 5133 |      | 30,5 |                |     | 2893 | 6722 |     |     |     |
| 4              | 222 | 452  | 1051 | 1407 | 1507 | 2957 | 17,5           | 833  | 1696 | 3940 | 5277 |      | 31   |                |     | 2939 | 6830 |     |     |     |
| 4,5            | 245 | 498  | 1158 | 1550 | 1661 | 3258 | 18             | 856  | 1742 | 4047 | 5420 |      | 31,5 |                |     | 2985 | 6937 |     |     |     |
| 5              | 268 | 544  | 1265 | 1694 | 1814 | 3560 | 18,5           | 879  | 1788 | 4154 | 5563 |      | 32   |                |     | 3031 | 7044 |     |     |     |
| 5,5            | 290 | 590  | 1372 | 1837 | 1968 | 3861 | 19             | 901  | 1834 | 4261 | 5707 |      | 32,5 |                |     | 3078 | 7151 |     |     |     |
| 6              | 313 | 636  | 1479 | 1980 | 2122 | 4162 | 19,5           | 924  | 1880 | 4368 | 5850 |      | 33   |                |     | 3124 | 7258 |     |     |     |
| 6,5            | 335 | 683  | 1586 | 2124 | 2275 | 4463 | 20             | 947  | 1926 | 4475 | 5993 |      | 33,5 |                |     | 3170 | 7365 |     |     |     |
| 7              | 358 | 729  | 1693 | 2267 | 2429 | 4764 | 20,5           | 969  | 1972 | 4582 |      |      | 34   |                |     | 3216 | 7472 |     |     |     |
| 7,5            | 381 | 775  | 1800 | 2410 | 2582 | 5066 | 21             | 992  | 2018 | 4689 |      |      | 34,5 |                |     | 3262 | 7579 |     |     |     |
| 8              | 403 | 821  | 1907 | 2554 | 2736 | 5367 | 21,5           | 1015 | 2064 | 4796 |      |      | 35   |                |     | 3308 | 7686 |     |     |     |
| 8,5            | 426 | 867  | 2014 | 2697 | 2889 | 5668 | 22             | 1037 | 2110 | 4903 |      |      | 35,5 |                |     | 3354 | 7793 |     |     |     |
| 9              | 449 | 913  | 2121 | 2840 | 3043 | 5969 | 22,5           | 1060 | 2156 | 5010 |      |      | 36   |                |     | 3400 | 7900 |     |     |     |
| 9,5            | 471 | 959  | 2228 | 2984 | 3196 | 6270 | 23             | 1082 | 2202 | 5117 |      |      | 36,5 |                |     | 3446 | 8007 |     |     |     |
| 10             | 494 | 1005 | 2335 | 3127 | 3350 | 6572 | 23,5           | 1105 | 2248 | 5224 |      |      | 37   |                |     | 3492 | 8114 |     |     |     |
| 10,5           | 517 | 1051 | 2442 | 3270 | 3503 | 6873 | 24             | 1128 | 2295 | 5331 |      |      | 37,5 |                |     | 3538 | 8221 |     |     |     |
| 11             | 539 | 1097 | 2549 | 3414 | 3657 | 7174 | 24,5           | 1150 | 2341 | 5438 |      |      | 38   |                |     | 3584 | 8328 |     |     |     |
| 11,5           | 562 | 1143 | 2656 | 3557 | 3810 | 7475 | 25             | 1173 | 2387 | 5545 |      |      | 38,5 |                |     | 3630 | 8435 |     |     |     |
| 12             | 584 | 1189 | 2763 | 3700 | 3964 | 7776 | 25,5           |      | 2433 | 5652 |      |      | 39   |                |     | 3676 | 8542 |     |     |     |
| 12,5           | 607 | 1235 | 2870 | 3843 |      | 8078 | 26             |      | 2479 | 5759 |      |      | 39,5 |                |     | 3722 | 8649 |     |     |     |
| 13             | 630 | 1281 | 2977 | 3987 |      | 8379 | 26,5           |      | 2525 | 5866 |      |      | 40   |                |     | 3768 | 8756 |     |     |     |
| 13,5           | 652 | 1327 | 3084 | 4130 |      | 8680 | 27             |      | 2571 | 5973 |      |      |      |                |     |      |      |     |     |     |

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|   |  | Date       | 04/2005    |


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2871 AND 288X SERIES

## COMPRESSED AIR FLOW RATE (l/min) ACCORDING TO – Merkblatt A2 - TÜV

| Pressure (bar) | G10   | G14   | G20   | G25   | G32   | G40    | Pressure (bar) | G10   | G14   | G20   | G25   | G32 | G40    | Pressure (bar) | G10 | G14   | G20    | G25 | G32 | G40 |
|----------------|-------|-------|-------|-------|-------|--------|----------------|-------|-------|-------|-------|-----|--------|----------------|-----|-------|--------|-----|-----|-----|
| 0,5            | 1036  | 2038  | 5026  | 6732  | 7211  | 12821  | 14             | 11250 | 22890 | 53183 | 71224 |     | 149686 | 27,5           |     | 43616 | 101340 |     |     |     |
| 1              | 1403  | 2761  | 6810  | 9120  | 9770  | 17730  | 14,5           | 11628 | 23657 | 54967 | 73613 |     |        | 28             |     | 44384 | 103124 |     |     |     |
| 1,5            | 1794  | 3613  | 8594  | 11509 | 12329 | 22827  | 15             | 12005 | 24425 | 56750 | 76001 |     |        | 28,5           |     | 45151 | 104907 |     |     |     |
| 2              | 2167  | 4362  | 10377 | 13897 | 14888 | 27975  | 15,5           | 12382 | 25193 | 58534 | 78390 |     |        | 29             |     | 45919 | 106691 |     |     |     |
| 2,5            | 2572  | 5234  | 12161 | 16286 | 17447 | 33585  | 16             | 12759 | 25960 | 60318 | 80778 |     |        | 29,5           |     | 46686 | 108474 |     |     |     |
| 3              | 2950  | 6002  | 13944 | 18675 | 20005 | 39247  | 16,5           | 13137 | 26728 | 62101 | 83167 |     |        | 30             |     | 47454 | 110258 |     |     |     |
| 3,5            | 3327  | 6769  | 15728 | 21063 | 22564 | 44267  | 17             | 13514 | 27495 | 63885 | 85556 |     |        | 30,5           |     | 48222 | 112042 |     |     |     |
| 4              | 3704  | 7537  | 17512 | 23452 | 25123 | 49287  | 17,5           | 13891 | 28263 | 65668 | 87944 |     |        | 31             |     | 48989 | 113825 |     |     |     |
| 4,5            | 4082  | 8304  | 19295 | 25840 | 27682 | 54307  | 18             | 14269 | 29031 | 67452 | 90333 |     |        | 31,5           |     | 49757 | 115609 |     |     |     |
| 5              | 4459  | 9072  | 21079 | 28229 | 30241 | 59327  | 18,5           | 14646 | 29798 | 69236 | 92721 |     |        | 32             |     | 50525 | 117392 |     |     |     |
| 5,5            | 4836  | 9840  | 22862 | 30618 | 32800 | 64347  | 19             | 15023 | 30566 | 71019 | 95110 |     |        | 32,5           |     | 51292 | 119176 |     |     |     |
| 6              | 5214  | 10607 | 24646 | 33006 | 35358 | 69367  | 19,5           | 15401 | 31334 | 72803 | 97499 |     |        | 33             |     | 52060 | 120959 |     |     |     |
| 6,5            | 5591  | 11375 | 26429 | 35395 | 37917 | 74387  | 20             | 15778 | 32101 | 74586 | 99887 |     |        | 33,5           |     | 52828 | 122743 |     |     |     |
| 7              | 5968  | 12143 | 28213 | 37783 | 40476 | 79407  | 20,5           | 16155 | 32869 | 76370 |       |     |        | 34             |     | 53595 | 124527 |     |     |     |
| 7,5            | 6345  | 12910 | 29997 | 40172 | 43035 | 84427  | 21             | 16532 | 33637 | 78153 |       |     |        | 34,5           |     | 54363 | 126310 |     |     |     |
| 8              | 6723  | 13678 | 31780 | 42561 | 45594 | 89446  | 21,5           | 16910 | 34404 | 79937 |       |     |        | 35             |     | 55130 | 128094 |     |     |     |
| 8,5            | 7100  | 14446 | 33564 | 44949 | 48152 | 94466  | 22             | 17287 | 35172 | 81721 |       |     |        | 35,5           |     | 55898 | 129877 |     |     |     |
| 9              | 7477  | 15213 | 35347 | 47338 | 50711 | 99486  | 22,5           | 17664 | 35939 | 83504 |       |     |        | 36             |     | 56666 | 131661 |     |     |     |
| 9,5            | 7855  | 15981 | 37131 | 49726 | 53270 | 104506 | 23             | 18042 | 36707 | 85288 |       |     |        | 36,5           |     | 57433 | 133445 |     |     |     |
| 10             | 8232  | 16748 | 38915 | 52115 | 55829 | 109526 | 23,5           | 18419 | 37475 | 87071 |       |     |        | 37             |     | 58201 | 135228 |     |     |     |
| 10,5           | 8609  | 17516 | 40698 | 54504 | 58388 | 114546 | 24             | 18796 | 38242 | 88855 |       |     |        | 37,5           |     | 58969 | 137012 |     |     |     |
| 11             | 8987  | 18284 | 42482 | 56892 | 60947 | 119566 | 24,5           | 19174 | 39010 | 90639 |       |     |        | 38             |     | 59736 | 138795 |     |     |     |
| 11,5           | 9364  | 19051 | 44265 | 59281 | 63505 | 124586 | 25             | 19551 | 39778 | 92422 |       |     |        | 38,5           |     | 60504 | 140579 |     |     |     |
| 12             | 9741  | 19819 | 46049 | 61670 | 66064 | 129606 | 25,5           |       | 40545 | 94206 |       |     |        | 39             |     | 61272 | 142363 |     |     |     |
| 12,5           | 10118 | 20587 | 47833 | 64058 |       | 134626 | 26             |       | 41313 | 95989 |       |     |        | 39,5           |     | 62039 | 144146 |     |     |     |
| 13             | 10496 | 21354 | 49616 | 66447 |       | 139646 | 26,5           |       | 42081 | 97773 |       |     |        | 40             |     | 62807 | 145930 |     |     |     |
| 13,5           | 10873 | 22122 | 51400 | 68835 |       | 144666 | 27             |       | 42848 | 99556 |       |     |        |                |     |       |        |     |     |     |

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2871 AND 288X SERIES

## **D / E / F / G NGI SERIES SAFETY VALVES MOUNTING AND MAINTENANCE INFORMATION SHEET**

### **1. Description**

- a. NGI spring loaded safety valves are suitable for use on gas, steam and liquids. They are the result of 10 years of experience on many applications and ensure the ultimate protection of pressured equipment. They are able to guarantee that the internal pressure does not exceed the maximum authorized pressure, even if other safety devices installed upstream are defective, as long as they are properly sized.
- b. NGI spring loaded safety valves have a brass or stainless steel construction. The pressure of all the safety valves is pre-set and they are all sealed at the plant in order to ensure a maximum safety and a minimum maintenance level.

### **2. Warranty**

- a. Before contacting us, please make sure to identify the type of safety valve as well as the individual number engraved on the safety valve body.
- b. The NGI safety valves are guaranteed 12 months after the delivery date. The defective pieces, after our expertise, will be replaced at our own expense. We will not accept any claim of damage caused by a wrong use, a modification of the safety valve or by a leakage due to impurities.


### **3. Transport, check upon delivery and storage**

- a. BEWARE: the safety valve can be damaged by vibrations, shocks or impurities. Consequently, the valve has to be handled carefully without removing the protection covers or use the testing lever before installation.
- b. When delivered, please check:
  - The quality of the package
  - The conformity of the safety valve to the ordered one
  - The possible damages
  - That the safety valve is delivered with its calibration certificate, which number has to correspond to the number engraved on the safety valve body.
- c. It is recommended to install the safety valve right after the delivery and not to leave it without using it. If the device is stored, it has to be in a dry and sheltered place

### **4. Precautions for use**

- a. Before installation, please check that the device is depressurized and at room temperature.
- b. Any adjustment or modification has to be operated by safety valves qualified technicians only.
- c. WARNING – TOXIC GASES: If the safety valve is installed on an acid storage tank, make sure to use gloves and glasses or any other necessary protection equipment.
- d. A safety valve can be put into operation only if it is sealed and certified and if its pressure has been pre-set by NGI. The pre-set certificate mentions the exact pressure setting.
- e. When a free outlet safety valve has to be tested, please previously make sure that no one stays in the exhaust valve direction. Do not let toxic, explosive or flammable material exhaust in the atmosphere. Before the test, plan the controlled degassing procedure into a confined space.
- f. Do not modify the safety valve, damage its sealing or modify its pressure setting.
- g. Do not create hot or cold thermal shock on the safety valve.
- h. In the event of a malfunction, please immediately contact SECTORIEL or NGI.
- i. BEWARE: IN A CORROSIVE ENVIRONMENT, ONLY STAINLESS STEEL SAFETY VALVES SHOULD BE INSTALLED.

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|   |   | Ref.       | FT28703 GB |
|   |   | Rev.       | 4          |
|   |   | Date       | 04/2005    |

# G type DUCTED EXHAUST SAFETY VALVE

## 2871 AND 288X SERIES

- j. The connection type has to comply with the device piping system.
- k. We recommend you to select ducted exhaust safety valve. If the safety valve has an atmosphere exhaust system, please direct it so that it does not cause any material or corporal damage. Possibility to provide a safety valve with a leakage detector for the control system on request.

### 5. Installation

- a. Check that the sealing is not damaged.
- b. The spring loaded safety valves have to be installed in a vertical position with bonnet facing up.
- c. Remove the protection covers, taking care of not damaging the bearings, and mount the safety valve on the installation following its connection type.
- d. It is prohibited to install an isolating valve between the safety valve and the device to protect.
- e. It is prohibited to install a reduction fitting limiting the flow to evacuate between the safety valve and the device to protect.
- f. For ducted exhaust safety valves, make sure that the piping discharge will not cause any personnel or environmental damage.
- g. If the safety valve has to be connected to pipework, please make sure that it is as short as possible in order to create the lowest back pressure possible.
- h. The exhaust piping connected to a ducted exhaust safety valve should not be supported by the safety valve itself. Otherwise, leakage might appear.

### 6. Cleaning and lubrication

- a. The NGI safety valves are designed to avoid the need of any lubrication
- b. Maintain the safety valve clean and fully operational. For example, check that the exhaust system remains open and that no foreign body blocks the exhaust piping.


### 7. Routine maintenance

- a. The safety valve is a sensitive safety element that has to be verified periodically. In case of any malfunctioning, please contact SECTORIEL or NGI.
- b. BEWARE: SECTORIEL and NGI are not responsible for the safety valve effective operation if the device is dismantled, modified, or reset by anyone who is not assigned by either SECTORIEL or NGI.

### 8. Inspection and regular maintenance

- a. Regular testing of valves is essential to maintain operational efficiency. To test it, the lever can be manually operated briefly. To protect the installation during the test, the testing pressure has to stay between 80 and 90% of the setting pressure. The safety valve should be widely open to ensure a significant flow rate. While reclosing, make sure that the seat remains tight. At the installation start-up phase, we recommend to operate this test on a regular basis.
- b. For use on gas or steam installation based in France, comply with the Decree of December, 4<sup>th</sup> 1998 relating to safety valves supervision.

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