

**MVD, MVD/5,  
MVDLE/5**

**DUNGS®**



#### **Technical description**

The DUNGS safety solenoid valve MVD, MVD/5, MVDLE/5 is a single-stage automatic shut-off valve as per EN 161 for gas burners and gas appliance.

- Max. operating pressure up to 200, 360 or 500 mbar
- normally closed
- MVD: fast opening
- MVDLE: Slow opening with adjustable fast stroke for start gas volume
- Main volume adjustable (MVD/MVDLE)
- DC solenoid, rectifier wiring with radio interference suppression in terminal box with PG screw union
- Mountable closed position signal contact to monitor closed position of valve (.../5)
- Pipe thread as per ISO 7/1
- Flange connection as per DIN 2633, ISO 7005
- Reliable function, rugged and maintenance-free

- On request, design without non-ferrous metals

#### **Application**

The solenoid valve is used for securing, limiting, shutting off and releasing gas supply to gas burners and gas appliances.

The DUNGS safety solenoid valve MV... is suitable for gases of families 1, 2, 3 and other neutral gaseous media.

#### **Approval**

EU type test approval as per EU Gas Appliance Directive.

Approvals in other important gas-consuming countries.

Special designs for the North American market with U, FM and CSA registrations.

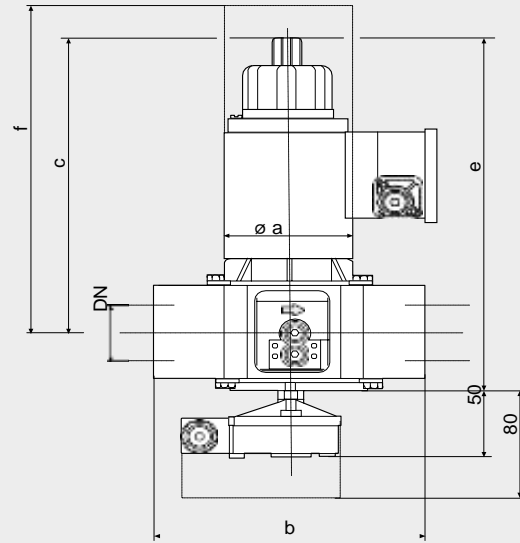
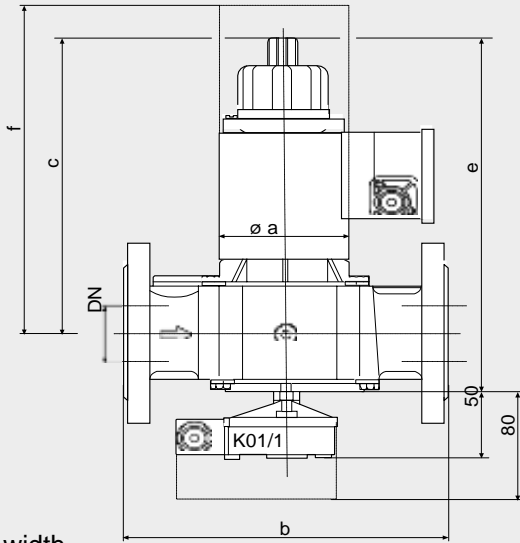
|                |   |
|----------------|---|
| <b>MV/5</b>    | Single-stage solenoid valve, normally when closed, fast opening, fast closing.  |
| <b>MVD/5</b>   | Single-stage solenoid valve, normally when closed, fast opening, fast closing, manual limitation of flowing gas volume by adjusting main volume.    |
| <b>MVDLE/5</b> | One-stage solenoid valve, normally when closed, slow opening, fast closing. Opening time adjustment with fast stroke range. Main volume adjustment. |

**Specifications**

|                                      |  |
|--------------------------------------|--|
| Nominal diameters                    | 10 15 20 25 40 50 65 80 100 125 150 200  |
| Pipe thread as per ISO 7/1, Rp       | 3/8 1/2 3/4 1 1 1/2 2 2 1/2  |
| Flange                               | Connection flange as per DIN 2501 Part 1, to fit preweld flanges as per DIN 2633 (PN 16) DN 20 to DN 200, ISO 7005 - 1 (PN 16), ISO 7005 - 2 (PN 16) |
| Max. operating pressure              | up to 200 mbar (20 kPa), 360 mbar (36 kPa) or up to 500 (50 kPa) mbar - refer to type overview   |
| Solenoid valve                       | Valve as per EN 161, Class A, Group 2, single-stage mode   |
| Pressure stage                       | PN 1   |
| Closing time                         | < 1 s  |
| Opening time                         | < 1 s for MVDLE approx. 20 s at room temperature 20°C and without fast stroke  |
| Fast stroke                          | Adjustable   |
| Main volume adjustment               | Manually adjustable on MVD and MVDLE   |
| Materials of gas-conveying parts     | Housing: aluminium, steel, brass<br>Seals: NBR basis   |
| Voltage/frequency                    | 230 V AC (+10 % -15 %); 50-60 Hz - other voltages on request Refer to  |
| Rating / power consumption           | type overview  |
| Switch-on duration                   | 100 %  |
| Degree of protection Electrical      | IP 54, IP 65 on request  |
| connection                           | At screw terminals via PG* 11 cable gland (* = heavy-gauge conduit thread) Plug connection as per DIN 43650 can be retrofitted                       |
| Switching rate                       | MVD.../5: max. 1000/h<br>MVD 2200, MVDLE.../5: max. 100/h<br>MV 5100/5 S, MV 2125/5 S, MV 2150/5 S: max. 20/h  |
| Measuring/ignition gas connection    | G 1/4 ISO 118, on both sides in inlet section, additionally G 3/4 on input side, form size DN 40 (flange) upwards                                    |
| Dirt trap                            | Sieve installed, mesh width 1 mm   |
| Ambient temperature                  | -15 °C to + 60 °C  |
| Installation position                | Solenoid from vertically upright to horizontally lying   |
| Closed position signal contact Valve | Type K01/1, DIN-tested, mountable on DN 10 - DN 150  |
| proving system                       | Type VDK 200 A S02, mountable via G 1/4 test connection, Type VPS 504, mountable with adapter up to DN 80  |
| Accessories                          | K01 closed position signal contact, see Datasheet 12.01<br>Equipment plug for line socket, DIN 43650   |
|                                      | 211 202<br>215 733   |

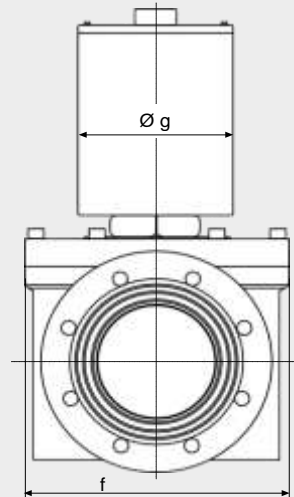
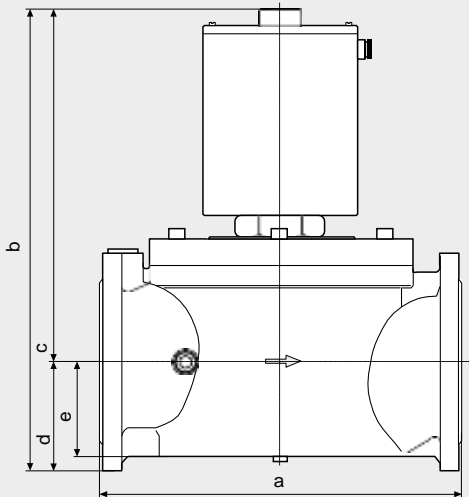
|              |                   |          | noid  |            | [VA] | ~ (AC) | time         | Dimensions [mm] |     |     |     |     |     | [kg]  |
|--------------|-------------------|----------|-------|------------|------|--------|--------------|-----------------|-----|-----|-----|-----|-----|-------|
| Type         | p <sub>max.</sub> | DN / Rp  | Sole- | Order No.  |      | 230 V  |              | a               | b   | c   | d   | e   | f   |       |
| MVD 203/5    | 360               | Rp 3/8   | 100   | 108 571    | 15   | 0.08   | < 1 s        | 50              | 60  | 90  | 75  | 155 | 190 | 0.85  |
| MVD 205/5    | 360               | Rp 1/2   | 100   | 013 102    | 15   | 0.08   | < 1 s        | 50              | 75  | 135 | 75  | 113 | 200 | 1.00  |
| MVD 207/5    | 200               | Rp 3/4   | 150   | 013 227    | 32   | 0.13   | < 1 s        | 60              | 100 | 135 | 80  | 160 | 190 | 1.75  |
| MVD 207/5    | 360               | Rp 3/4   | 200   | 121 962    | 25   | 0.15   | < 1 s        | 75              | 100 | 135 | 80  | 160 | 190 | 2.4   |
| MVD 210/5    | 360               | Rp 1     | 200   | 013 490    | 25   | 0.15   | < 1 s        | 75              | 110 | 135 | 90  | 165 | 190 | 2.45  |
| MVD 215/5    | 200               | Rp 1 1/2 | 280   | 015 446    | 60   | 0.26   | < 1 s        | 80              | 150 | 170 | 116 | 210 | 255 | 4.3   |
| MVD 215/5    | 360               | Rp 1 1/2 | 300   | 129 977    | 60   | 0.30   | < 1 s        | 95              | 150 | 170 | 116 | 210 | 255 | 5.4   |
| MVD 220/5    | 200               | Rp 2     | 300   | 011 767    | 60   | 0.30   | < 1 s        | 95              | 170 | 175 | 130 | 220 | 255 | 5.90  |
| MVD 225/5    | 200               | Rp 2 1/2 | 400   | 119 701    | 90   | 0.48   | < 1 s        | 115             | 230 | 215 | 165 | 270 | 325 | 10.90 |
| MVDLE 203/5  | 360               | Rp 3/8   | 100   | 108 597    | 15   | 0.08   | approx. 20 s | 50              | 60  | 135 | 75  | 155 | 190 | 0.95  |
| MVDLE 205/5  | 360               | Rp 1/2   | 100   | 013 284    | 15   | 0.08   | approx. 20 s | 50              | 75  | 135 | 75  | 155 | 200 | 1.10  |
| MVDLE 207/7  | 360               | Rp 3/4   | 200   | 013 276    | 25   | 0.15   | approx. 20 s | 75              | 100 | 165 | 80  | 190 | 190 | 2.55  |
| MVDLE 210/5  | 360               | Rp 1     | 200   | 013 524    | 25   | 0.13   | approx. 20 s | 75              | 110 | 165 | 90  | 195 | 190 | 2.75  |
| MVDLE 215/5  | 200               | Rp 1 1/2 | 280   | 015 412    | 60   | 0.26   | approx. 20 s | 80              | 150 | 205 | 116 | 245 | 255 | 4.4   |
| MVDLE 215/5  | 360               | Rp 1 1/2 | 300   | 122 002    | 60   | 0.30   | approx. 20 s | 95              | 150 | 205 | 116 | 245 | 255 | 5.5   |
| MVDLE 220/5  | 200               | Rp 2     | 300   | 011 775    | 60   | 0.26   | approx. 20 s | 95              | 170 | 205 | 130 | 250 | 255 | 6.20  |
| MVDLE 225/5  | 200               | Rp 2 1/2 | 400   | 118 935    | 90   | 0.48   | approx. 20 s | 115             | 230 | 295 | 165 | 350 | 320 | 11.40 |
| MVD 503/5    | 500               | Rp 3/8   | 100   | 158 090    | 15   | 0.08   | < 1 s        | 50              | 60  | 90  | 75  | 155 | 190 | 0.85  |
| MVD 505/5    | 500               | Rp 1/2   | 100   | 158 110    | 15   | 0.08   | < 1 s        | 50              | 75  | 90  | 75  | 113 | 200 | 1.00  |
| MVD 507/5    | 500               | Rp 3/4   | 200   | 157 530    | 25   | 0.15   | < 1 s        | 75              | 100 | 135 | 80  | 160 | 190 | 2.40  |
| MVD 510/5    | 500               | Rp 1     | 200   | 157 540    | 25   | 0.15   | < 1 s        | 75              | 110 | 135 | 90  | 165 | 190 | 2.60  |
| MVD 515/5    | 500               | Rp 1 1/2 | 300   | 157 550    | 60   | 0.30   | < 1 s        | 95              | 150 | 175 | 116 | 210 | 255 | 5.40  |
| MVD 520/5    | 500               | Rp 2     | 400   | 167 200    | 90   | 0.48   | < 1 s        | 115             | 170 | 190 | 130 | 235 | 300 | 8.80  |
| MVD 525/5    | 500               | Rp 2 1/2 | 500   | 170 750    | 80   | 0.42   | < 1 s        | 130             | 230 | 215 | 165 | 270 | 370 | 14.50 |
| MVDLE 503/5  | 500               | Rp 3/8   | 100   | 222 077    | 15   | 0.08   | approx. 20s  | 50              | 60  | 135 | 75  | 155 | 190 | 0.80  |
| MVDLE 505/5  | 500               | Rp 1/2   | 120   | 222 078    | 24   | 0.11   | approx. 20s  | 50              | 75  | 150 | 75  | 170 | 220 | 1.00  |
| MVDLE 507/5  | 500               | Rp 3/4   | 200   | 222 079    | 25   | 0.15   | approx. 20s  | 75              | 100 | 165 | 80  | 190 | 190 | 1.70  |
| MVDLE 510/5  | 500               | Rp 1     | 250   | 222 080    | 30   | 0.12   | approx. 20s  | 75              | 110 | 190 | 90  | 220 | 213 | 2.60  |
| MVDLE 515/5  | 500               | Rp 1 1/2 | 300   | 222 801    | 60   | 0.30   | approx. 20s  | 95              | 150 | 205 | 116 | 245 | 255 | 5.6   |
| MVDLE 520/5  | 500               | Rp 2     | 400   | 222 082    | 90   | 0.48   | approx. 20s  | 115             | 170 | 225 | 130 | 270 | 300 | 11.10 |
| MVD 2020/5   | 200               | DN 20    | 150   | 110 841    | 32   | 0.13   | < 1 s        | 60              | 150 | 135 | 105 | 160 | 190 | 2.3   |
| MVD 2020/5   | 360               | DN 20    | 200   | on request | 25   | 0.15   | < 1 s        | 75              | 150 | 135 | 105 | 160 | 190 | 2.9   |
| MVD 2025/5   | 360               | DN 25    | 200   | 110 882    | 25   | 0.13   | < 1 s        | 75              | 160 | 165 | 115 | 195 | 190 | 3.50  |
| MVD 2040/5   | 200               | DN 40    | 280   | 111 146    | 60   | 0.26   | < 1 s        | 80              | 200 | 170 | 150 | 210 | 255 | 6.8   |
| MVD 2040/5   | 360               | DN 40    | 300   | 119 906    | 60   | 0.30   | < 1 s        | 95              | 200 | 170 | 150 | 210 | 255 | 7.0   |
| MVD 2050/5   | 200               | DN 50    | 300   | 111 187    | 50   | 0.26   | < 1 s        | 95              | 230 | 175 | 165 | 230 | 255 | 7.70  |
| MVD 2065/5   | 200               | DN 65    | 400   | 169 390    | 90   | 0.48   | < 1 s        | 115             | 290 | 215 | 185 | 275 | 320 | 12.70 |
| MVD 2080/5   | 200               | DN 80    | 500   | 169 400    | 80   | 0.42   | < 1 s        | 130             | 310 | 250 | 200 | 305 | 360 | 26.50 |
| MVD 2100/5   | 200               | DN 100   | 550   | 169 410    | 90   | 0.48   | < 1 s        | 150             | 350 | 310 | 240 | 395 | 480 | 31.00 |
| MVDLE 2020/5 | 360               | DN 20    | 200   | 110 858    | 25   | 0.13   | approx. 20 s | 75              | 150 | 165 | 105 | 190 | 190 | 3.50  |
| MVDLE 2025/5 | 360               | DN 25    | 200   | 110 890    | 25   | 0.13   | approx. 20 s | 75              | 160 | 165 | 115 | 195 | 190 | 4.00  |
| MVDLE 2040/5 | 200               | DN 40    | 280   | 119 914    | 60   | 0.26   | approx. 20 s | 80              | 200 | 205 | 150 | 245 | 255 | 6.9   |
| MVDLE 2040/5 | 360               | DN 40    | 300   | 111 153    | 80   | 0.30   | approx. 20 s | 95              | 200 | 205 | 150 | 245 | 255 | 7.1   |
| MVDLE 2050/5 | 200               | DN 50    | 300   | 111 195    | 60   | 0.26   | approx. 20 s | 95              | 230 | 205 | 165 | 250 | 255 | 7.50  |
| MVDLE 2065/5 | 200               | DN 65    | 400   | 170 930    | 90   | 0.48   | approx. 20 s | 115             | 290 | 295 | 185 | 350 | 320 | 13.30 |
| MVDLE 2080/5 | 200               | DN 80    | 500   | 170 940    | 80   | 0.42   | approx. 20 s | 130             | 310 | 320 | 200 | 390 | 360 | 26.50 |
| MVDLE 2100/5 | 200               | DN 100   | 550   | 170 950    | 90   | 0.48   | approx. 20 s | 150             | 350 | 385 | 240 | 470 | 465 | 31.00 |
| MVD 5020/5   | 500               | DN 20    | 200   | 170 600    | 25   | 0.13   | < 1 s        | 75              | 150 | 135 | 105 | 160 | 190 | 3.50  |
| MVD 5025/5   | 500               | DN 25    | 200   | 170 630    | 25   | 0.13   | < 1 s        | 75              | 160 | 135 | 115 | 165 | 190 | 4.00  |
| MVD 5040/5   | 500               | DN 40    | 300   | 170 660    | 60   | 0.26   | < 1 s        | 95              | 200 | 170 | 150 | 230 | 255 | 7.00  |
| MVD 5050/5   | 500               | DN 50    | 400   | 170 690    | 90   | 0.48   | < 1 s        | 115             | 230 | 190 | 165 | 235 | 300 | 12.00 |
| MVD 5065/5   | 500               | DN 65    | 500   | 165 510    | 80   | 0.42   | < 1 s        | 130             | 290 | 235 | 185 | 295 | 370 | 17.00 |
| MVD 5080/5   | 500               | DN 80    | 550   | 165 640    | 90   | 0.50   | < 1 s        | 150             | 310 | 290 | 200 | 360 | 465 | 32.00 |
| MVD 5100/5   | 500               | DN 100   | 60E   | 166 150    | 90   | 7.5*   | < 1 s        | 170             | 350 | 360 | 240 | 418 | 600 | 42.00 |
| MVDLE 5020/5 | 500               | DN 20    | 200   | 222 084    | 25   | 0.13   | ca. 20 s     | 75              | 150 | 165 | 80  | 190 | 190 | 3.50  |
| MVDLE 5025/5 | 500               | DN 25    | 250   | 222 085    | 30   | 0.12   | ca. 20 s     | 75              | 160 | 190 | 90  | 220 | 213 | 3.90  |

**Dimensions [mm] MVD**  
**203 - 525/5, MVDLE**  
**2020/5 - 5100/5**



d = largest width  
 K01/1 closed position indicator

**Dimensions [mm]**  
**MV 5100/5 S - MVD 2200**



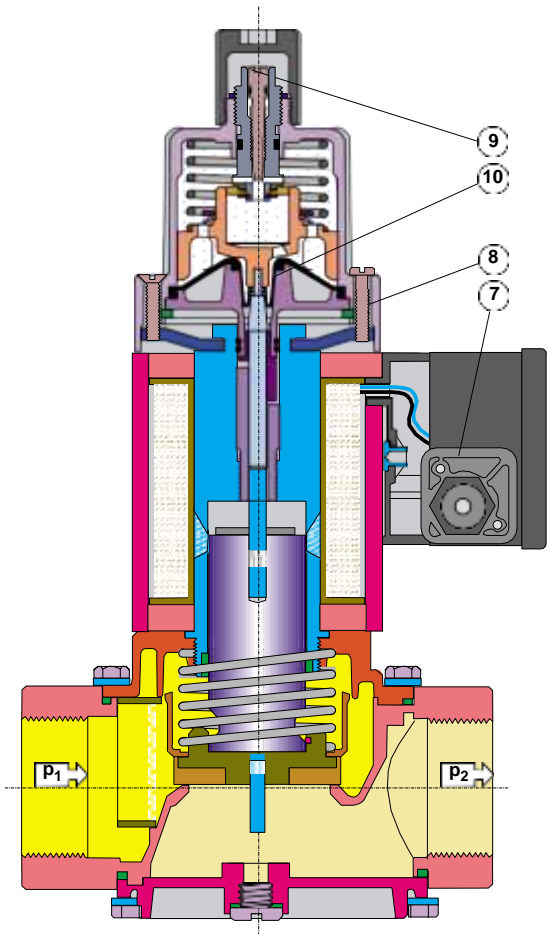
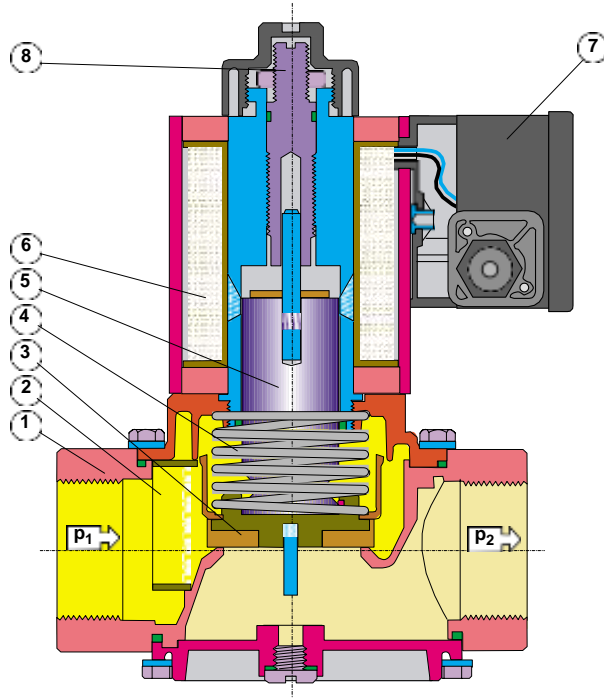
| Type               | P <sub>max.</sub> | DN / Rp | Order No. | Sole-<br>noid<br>No. | P <sub>max.</sub><br>[VA]* | I <sub>max.</sub><br>~(AC) time<br>230 V<br>[A]** | Opening Dimensions[mm] |     |     |     |     |     |     | Weight<br>[kg] |       |
|--------------------|-------------------|---------|-----------|----------------------|----------------------------|---|------------------------|-----|-----|-----|-----|-----|-----|----------------|-------|
|                    |                   |         |           |                      |                            |   | a                      | b   | c   | d   | e   | f   | g   |                |       |
| <b>MV 5100/5 S</b> | 500               | DN 100  | 220 754   | 60S                  | 90                         | 7.5   | < 1 s                  | 350 | 465 | 365 | 240 | 80  | 100 | 170            | 39.0  |
| <b>MV 2125/5 S</b> | 200               | DN 125  | 224 681   | 60S                  | 90                         | 10  | < 1 s                  | 400 | 531 | 406 | 290 | 112 | 125 | 170            | 56.0  |
| <b>MV 2150/5 S</b> | 200               | DN 150  | 224 682   | 61S                  | 90                         | 10  | < 1 s                  | 480 | 582 | 439 | 290 | 125 | 143 | 170            | 62.0  |
| <b>MVD 5100/5</b>  | 500               | DN 100  | 166 150   | 60E                  | 90                         | 7.5   | < 1 s                  | 350 | 465 | 365 | 240 | 80  | 100 | 170            | 39.0  |
| <b>MVD 5125/5</b>  | 500               | DN 125  | 159 840   | 61E                  | 90                         | 10  | < 1 s                  | 400 | 531 | 406 | 290 | 112 | 125 | 170            | 56.0  |
| <b>MVD 5150/5</b>  | 500               | DN 150  | 160 350   | 61E                  | 90                         | 10  | < 1 s                  | 480 | 582 | 439 | 290 | 125 | 143 | 170            | 62.0  |
| <b>MVD 2200</b>    | 200               | DN 200  | 213 892   | 70E                  | 90                         | 10  | < 1 s                  | 600 | 760 | 590 | 415 | 160 | 170 | 214            | 123.0 |

\* Electrical rating in open state

\*\* Switch-on current for approx. 3 s

**Type MVD.../5**

**Type MVDLE/5**



- 1 Housing
- 2 Sieve
- 3 Valve plate
- 4 Closing spring

- 5 Armature
- 6 Solenoid coil
- 7 Electrical connection

- Setting
- 8 - Main volume
- 9 - Fast stroke
- 10 - Hydraulic brake

**Functional description**

The DUNGS safety solenoid valve is an automatic shut-off valve operated with auxiliary power. The electromagnetic drive opens against the force of the closing spring

4. The stroke of armature 5 can be limited by the setting screw 8. The hydraulic brake 10 permits slow opening. Fast stroke 9 can be ad-justed.

If the auxiliary power is interrupted (operating voltage), closing spring 4 closes the valve within 1 second. The closed position of the valve can be monitored by a mountable closed position signal contact.

$$\dot{V}_{\text{verwendetes Gas/gas used/ gaz utilisé/gas utilizzato}} = V_{\text{Luft/air/air/aria}}^{\circ} \times f$$

$$f = \sqrt{\frac{\text{Dichte Luft}}{\text{Dichte des verwendeten Gases}}}$$

Spec. weight air / poids spécifique de l'air / peso specifico aria

Spec. weight of gas used / poids spécifique du gaz utilisé / peso specifico del gas utilizzato

| Gasart<br>Type of gas<br>Type de gaz<br>Tipo di gas | Dichte<br>Spec. Wgt.<br>poids spécifique<br>Peso specifico<br>[kg/m³] | dv   | f    |
|---|---|------|------|
| Erdgas/Nat.Gas/<br>Gaz naturel/Gas metano           | 0.81  | 0.65 | 1.24 |
| Stadtgas/City gas/<br>Gaz de ville/Gas città        | 0.58  | 0.47 | 1.46 |
| Flüssiggas/LPG/<br>Gaz liquide/Gas liquido          | 2.08  | 1.67 | 0.77 |
| Luft/Air/<br>Air/Aria                               | 1.24  | 1.00 | 1.00 |

**Single-stage safety  
solenoid valves  
MVD, MVD/5,  
MVDLE/5**

**DUNGS®**

**Flow diagram**

