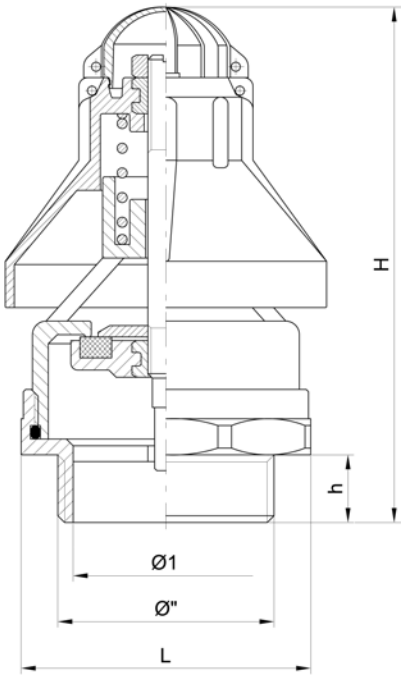
# art. 0810 filetto GAS
# art. 0811 filetto NPT

## valvola di depressione

*depression valve*
*soupape de dépression*
*Unterdruckventil*
*valvula de seguridad (vacío)*

**Art. 0810** / Item 0810
**Filettatura: gas cilindrica UNI EN ISO 228/1**
Thread: BSP parallel UNI EN ISO 228/1

**Art. 0811** / Item 0811
**Filettatura: conico NPT USAS B 2.1**
Thread: conical NPT USAS B 2.1

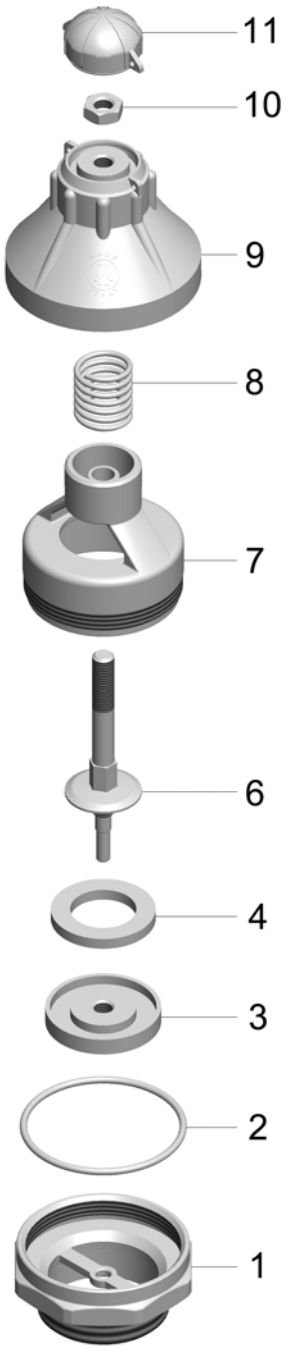



| Ø" | 1"1/2 |
|---|---|
| Ø1 | 41 |
| H | 113 |
| h | 15 |
| L | 67 |
| gr ~ | 460 |

**Codici di ordinazione**
Purchase article numbers

| | Filetto GAS<br>GAS thread | Filetto NPT<br>NPT thread |
|---|---|---|
| **Valvola di depressione 1"1/2**<br>Depression valve 1"1/2 | **ARZO 0810 040 000** | **ARZO 0811 040 000** |

**A richiesta si fornisce la valvola tarata e piombata** / On request the valve is supplied setted and sealed




**Campo di taratura**
Setting range

| DN | 1”1/2 |
|---|---|
| P (bar) | -0,3 ÷ -0,8 |
| P (PSI) | -4,3 ÷ -11,6 |
| T (°C) | -15 +60 |

| POS. | CODICE / CODE | DENOMINAZIONE | DENOMINATION | MATERIALE | MATERIAL |
|---|---|---|---|---|---|
| 1 | SOZO 0810 040 009 | RACCORDO SEDE 1”1/2 GAS | SEAT CONNECTION 1”1/2 GAS | OTTONE UNI EN 12165 | UNI EN 12165 BRASS |
| 1 | SOZO 0811 040 009 | RACCORDO SEDE 1”1/2 NPT | SEAT CONNECTION 1”1/2 NPT | OTTONE UNI EN 12165 | UNI EN 12165 BRASS |
| 2 | ..OR 0810 040 010 | OR 3218 (Øi 55,25×2,62) | O RING 3218 (Øi 55,25×2,62) | GOMMA NBR 70 | NBR 70 RUBBER |
| 3 | SPZO 0810 040 005 | PORTAGUARNIZIONE | GASKET HOLDER | OTTONE UNI EN 12164 | UNI EN 12164 BRASS |
| 4 | GGOM 0860 032 004 | GUARNIZIONE Ø30 × 24 × 4,3 | GASKET Ø30 × 24 × 4,3 | GOMMA NBR 60 | NBR 60 RUBBER |
| 6 | SOZO 0810 040 003 | ASTA M8 | STEM M8 | OTTONE UNI EN 1982 | UNI EN 1982 BRASS |
| 7 | FOZO 0810 040 001 | CORPO | BODY | OTTONE UNI EN 1982 | UNI EN 1982 BRASS |
| 8 | MOAC 0810 040 006 | MOLLA | SPRING | ACCIAIO INOX AISI 302 | AISI 302 STAINLESS STEEL |
| 9 | SPZO 0810 040 007 | CAMPANA DI REGOLAZIONE | ADJUSTING BELL | NYLON + VETRO | NYLON + GLASS |
| 10 | DAAC 0180 045 012 | DADO M8 × 5 | NUT M8 × 5 | ACCIAIO INOX AISI 304 | AISI 304 STAINLESS STEEL |
| 11 | SPZO 0810 040 008 | TAPPO | COVER | NYLON + VETRO | NYLON + GLASS |

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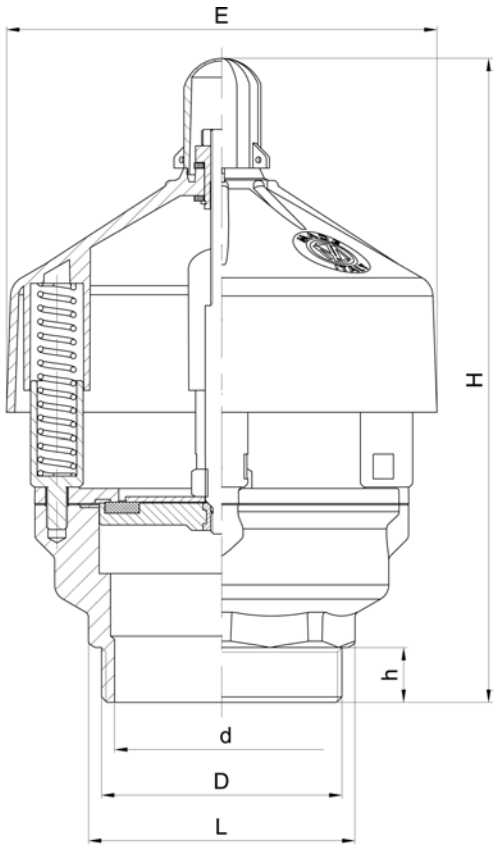
Thread: conical NPT USAS B 2.1




| D | 3" GAS | 3" NPT |
|---|---|---|
| d | 78 | 78 |
| H | 230 | 235 |
| h | 25 | 30 |
| L | OTT.97 | OTT.97 |
| E | 157 | 157 |

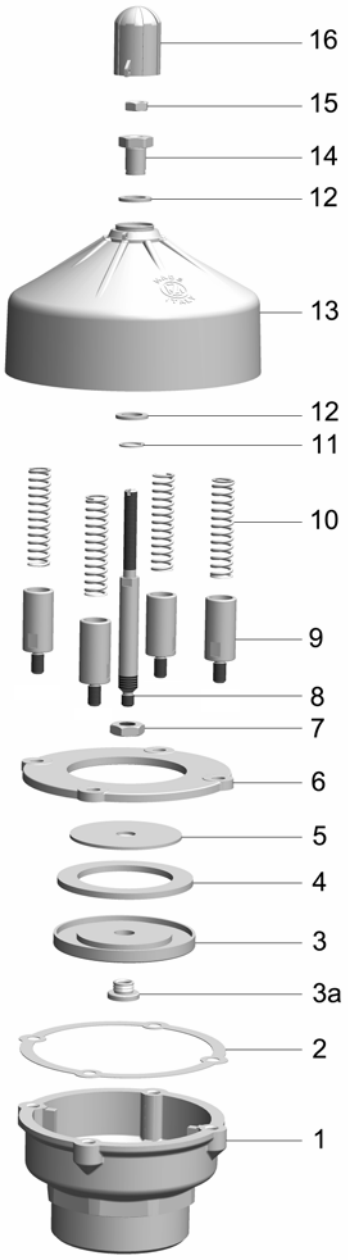
**Codici di ordinazione**
Purchase article numbers

| | Filetto GAS<br>GAS thread | Filetto NPT<br>NPT thread |
|---|---|---|
| Valvola di depressione 3"<br>Depression valve 3" | ARZO 0810 080 000 | ARZO 0811 080 000 |

**A richiesta si fornisce la valvola tarata e piombata** / On request the valve is supplied setted and sealed

*zootechnics-ecology / zootechnie écologie*
*Tierhaltung - Ökologie / accesorios para cisterna*

**art. 0810** filetto GAS
**art. 0811** filetto NPT




**Campo di taratura**
Setting range

| DN | 3” |
|---|---|
| P (bar) | -0,3 ÷ -0,8 |
| P (PSI) | -4,3 ÷ -11,6 |
| T (°C) | -15 +60 |

| POS. | CODICE / CODE | DENOMINAZIONE | DENOMINATION | MATERIALE | MATERIAL |
|---|---|---|---|---|---|
| 1 | FOZO 0810 080 001 | CORPO 3” GAS | BODY 3” GAS | OTTONE UNI EN 1982 | UNI EN 1982 BRASS |
| 1 | FOZO 0811 080 001 | CORPO 3” NPT | BODY 3” NPT | OTTONE UNI EN 1982 | UNI EN 1982 BRASS |
| 2 | GGUA 0810 080 010 | GUARNITAL | GUARNITAL | GUAMOTOR | GUAMOTOR |
| 3 | SPZO 0810 080 005 | PORTAGUARNIZIONE | GASKET HOLDER | NYLON | NYLON |
| 3a | TOZO 0810 080 012 | INSERTO PER PIATTELLO | INSERT FOR PLATE | OTTONE UNI EN 12164 | UNI EN 12164 BRASS |
| 4 | GGOM 0810 080 004 | GUARNIZIONE Ø85 × 60 × 4 | GASKET Ø85 × 60 × 4 | GOMMA NBR 80 | NBR 80 RUBBER |
| 5 | ROAC 0810 080 002 | RONDELLA Ø70×12,2×2 | WASHER Ø70 × 12,2 × 2 | ACCIAIO INOX | STAINLESS STEEL |
| 6 | SOZO 0810 080 014 | FLANGIA SEDE | SEAT FLANGE | OTTONE | BRASS |
| 7 | DAAC 0810 080 018 | DADO M12 | MUT M12 | ACCIAIO INOX AISI 304 | AISI 304 STAINLESS STEEL |
| 8 | TOZO 0810 080 003 | ASTA REGOLAZIONE M12 | ADJUSTING STEM M12 | OTTONE UNI EN 12164 | UNI EN 12164 BRASS |
| 9 | TOZO 0810 080 013 | CILINDRO PORTAMOLLA | SPRING HOLDER CYLINDER | OTTONE UNI EN 12164 | UNI EN 12164 BRASS |
| 10 | MOAC 0810 080 006 | MOLLA | SPRING | ACCIAIO INOX AISI 304 | AISI 304 STAINLESS STEEL |
| 11 | SEEG 0810 080 017 | SEEGER Ø12 | SEEGER Ø12 | ACCIAIO INOX AISI 304 | AISI 304 STAINLESS STEEL |
| 12 | ROAC 0810 080 016 | RONDELLA Ø20×13×2 | WASHER Ø20×13×2 | ACCIAIO INOX AISI 304 | AISI 304 STAINLESS STEEL |
| 13 | SPZO 0810 080 007 | CAMPANA | BELL | NYLON | NYLON |
| 14 | TOZO 0810 080 015 | VITE DI REGOLAZIONE | ADJUSTING SCREW | OTTONE UNI EN 12164 | UNI EN 12164 BRASS |
| 15 | DAAC 0180 045 012 | DADO M8×5 | NUT M8×5 | ACCIAIO INOX AISI 304 | AISI 304 STAINLESS STEEL |
| 16 | SPZO 0810 080 008 | TAPPO | COVER | NYLON | NYLON |

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## PRODUCT'S TECHNICAL SHEET

# DEPRESSION VALVE

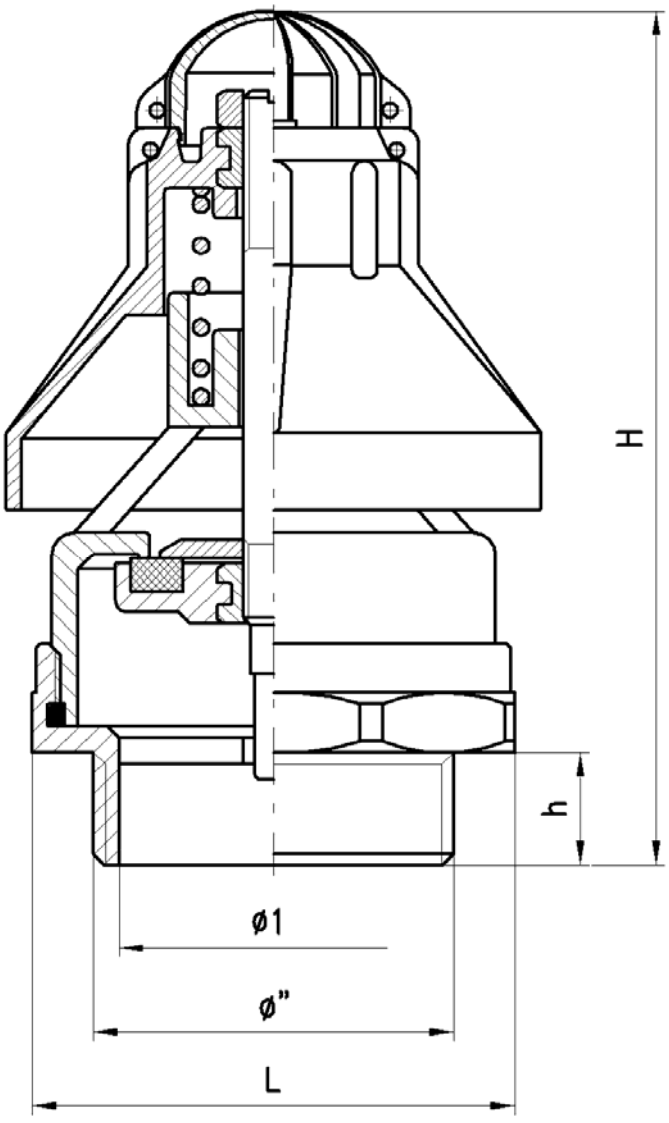
( ART. 0810 )

Depression valve with direct spring and free suction expressly realised to be used in the agricultural sector on slurry tanks as safety valve against the explosion of the tank itself during the filling for depression.

# INDEX

## 1. NOMINAL DIAMETERS AND OVERALL DIMENSIONS

| ART. | DN | DENOMINATION | CODE |
|---|---|---|---|
| 0810 | 1”1/2 | Depression valve | ARZO 0810 040 000 |
| 0810 | 1”1/2 | Setted depression valve | ARZO 0810 040 TAR |
| 0811 | 1”1/2 | Depression valve (NPT threaded) | ARZO 0811 040 000 |
| 0811 | 1”1/2 | Setted depression valve (NPT threaded) | ARZO 0811 040 TAR |




| Ø” | Ø1 | H | h | L | P gr |
|---|---|---|---|---|---|
| 1”1/2 | 41 | 113 | 15 | 67 | 490 |

## 2. MATERIALS

- Body : Brass ΔC UNI EN 1982 melted
  superficial treatement: sand-blast

Chemical composition percentage

| Cu | Pb | Sn max | Al | Ni | Fe | Mn max | Si max | Zn |
|---|---|---|---|---|---|---|---|---|
| 57,5 ÷ 59,5 | 1,5 ÷ 2,5 | 1,2 | 0,4 ÷ 0,8 | 0,3 ÷ 0,6 | 0,3 ÷ 0,8 | 0,3 | 0,10 | rest |

- Seat connection: Brass ST UNI EN 12165 CW617N EN 12420 stampato
  superficial treatement: sand-blast

composizione chimica percentuale

| Cu | Pb | Sn max | Fe max | Ni max | Al max | other impurities max | Zn |
|---|---|---|---|---|---|---|---|
| 57 ÷ 59 | 1,6 ÷ 2,5 | 0,3 | 0,3 | 0,3 | 0,05 | 0,2 | resto |

- Stem, Gasket holder, washer: Brass UNI EN 12164 - CW 614N

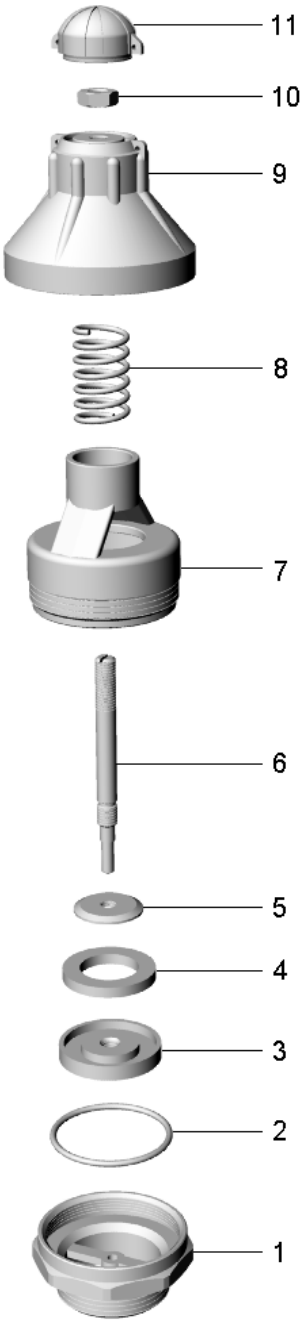
Chemical composition percentage

| Cu | Pb | Sn max | Al max | Ni max | Fe max | other impurities max | Zn |
|---|---|---|---|---|---|---|---|
| 57 ÷ 59 | 2,5 ÷ 3,5 | 0,3 | 0,05 | 0,3 | 0,3 | 0,20 | rest |

- Gasket-seal: nytrilic rubber NBR 65
- Spring: Stainless steel AISI 302
- Adjusting bell and cover: Polyammide 6 charged at 15% of fibre-glass
  commercial names: DURETHAN BKV 15 (BAYER)
  PA 6 FV 15

THE OVER STATED CHEMICAL ANALYSIS REFERS TO EMPLOYED RAW MATERIAL AND IS VALID ONLY AS AN INDICATION

## 3. SPARE PARTS LIST




| POS. | DENOMINATION | CODE |
|---|---|---|
| 1 | Gasket holder | TOZO 0810 040 005 |
| 2 | Gasket Ø38×24×4.5 | GGOM 0860 032 004 |
| 3 | Washer M8 × 30 × 2.5 | TOZO 0810 040 002 |
| 4 | Stem | TOZO 0810 040 003 |
| 5 | Connection 1”1/2 | SOZO 0810 040 009 |
| 6 | O ring 3218 | . .OR 0810 040 010 |
| 7 | Body | FOZO 0810 040 001 |
| 8 | Spring | MOAC 0810 040 006 |
| 9 | Adjusting bell | SPZO 0810 040 007 |
| 10 | Nut M8 × 5 | DAAC 0180 045 012 |
| 11 | Cover | SPZO 0810 040 008 |

## 4. WORKING CONDITIONS

Connection: threaded sleeve G 1”1/2 cylindrical gas UNI ISO 228 (item 0810)
threaded sleeve 1”1/2 NPT tappered thread ANSI B 1.20.1 (item 0811)

Minimal passage section: cmq 8

Setting depression: from - 0.3 bar to - 0.8 bar (from -4 to -12 PSI)

Working temperature: from -15 to + 80°C

Volumetric flow: see following table

| dep. setting | dep.suction | -0,39 | -0,42 | -0,45 | -0,48 | -0,51 | -0,54 | -0,57 | -0,60 |
|---|---|---|---|---|---|---|---|---|---|
| **-0,3** | Flow | 8.5 | 12.7 | 30 | 56 | 117 | 233 | 527 | 1.095 |

| dep. setting | dep.suction | -0,52 | -0,56 | -0,60 | -0,64 | -0,68 | -0,72 | -0,76 | -0,80 |
|---|---|---|---|---|---|---|---|---|---|
| **-0,4** | Flow | 41 | 48 | 2.410 | 2.835 | 3.370 | 3.980 | 4.600 | 5.300 |

| dep. setting | dep.suction | -0,60 | -0,65 | -0,70 | -0,75 | -0,80 | -0,85 | -0,90 | -0,95 |
|---|---|---|---|---|---|---|---|---|---|
| **-0,5** | Flow | 45 | 55 | 315 | 2.650 | 3.450 | 4.620 | 6.320 | 7.250 |

| dep. setting | dep.suction | -0,66 | -0,72 | -0,78 | -0,84 | -0,90 | -0,96 | | |
|---|---|---|---|---|---|---|---|---|---|
| **-0,6** | Flow | 35 | 59 | 304 | 2.660 | 3.660 | 4.840 | | |

| dep. setting | dep.suction | -0,77 | -0,84 | -0,91 | -0,98 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **-0,7** | Flow | 18 | 26 | 172 | 3.910 | | | | |

| dep. setting | dep.suction | -0,88 | -0,92 | -0,96 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **-0,8** | Flow | 19 | 26 | 38 | | | | | |

Dep. setting = setting depression of the valve (bar)

Dep. suction = suction depression (bar)

Flow = aspiration flow ( l/min at 20°C and at 1.013 mbar )

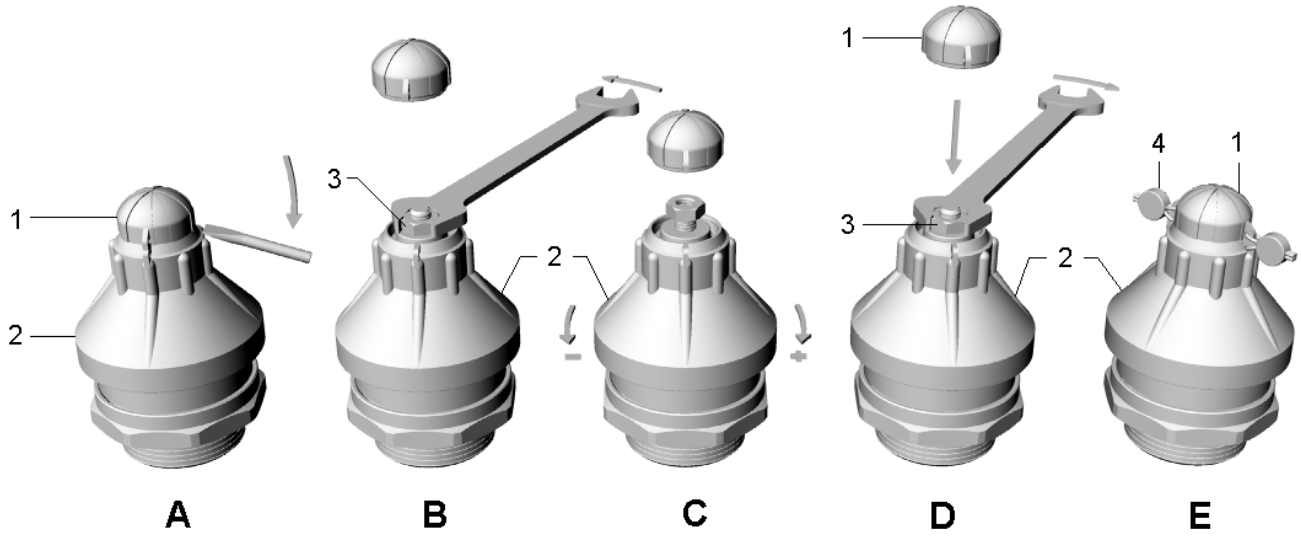
**The indicated data are average values stated only as an indication. In all the applications in which a flow too close to the indicated limits is required, we suggest the assemblage of 2 valves.**

## 5. INSTALLATION POSITION

The best installation position is the one with the valve in the verticale position. In this position you will have the best working of the valve and the greatest protection of the inside parts from atmospheric agents.

Use other installation position (inclined axis) only in case of extreme necessity.

## 6. VALVE SETTING




**A)** Take off the cover (1) from the adjusting bell (2) by using the point of a screwdriver in the special incision.

**B)** Loosen the stop set nut (3) by holding firm the adjusting bell (2).

**C)** Regulate the pression on the spring by turning the adjusting bell (2). Turn in clockwise for increase the pressure and turn in anti-clockwise for reduce it.

**D)** As soon as the regulation will be completed, screw again the stop set nut (3) by holding firm the adjusting bell (2) . The set nut must be screwed with a screwing torque of 10 Nm (at last). Insert the cover (1) with pressure on the adjusting bell (2).

**E)** Put the setting-seal by tiening with a wire (4) the cover (1) and the adjusting bell (2), and apply finally the plumbing .

# 7. WORKING RESTRICTIONS

The valve in object can not be used in the following cases:

- Applications in cases in which there is passage of liquids through the valve;
- Use with temperatures lower than -15°C;
- Use with liquids too aggressive in relation to the materials the valve is made of (see point 7.1);
- Use in the food field.

## 7.1 CORROSION RESISTANCE

The following is a table of the corrosion resistance of the melted brass in various aggressive surroundings.

| CORROSIVE AGENT | | CORROSIVE AGENT | |
|---|---|---|---|
| Acetylene | Not enough | Aluminum sulphate | Not enough |
| Acetone | Good | Anhydrous ammonium hydroxide | Good |
| Acetic acid <50% | Not enough | Humid ammonium hydroxide | Not enough |
| Acetic acid glacial | Not enough | Ammonium chloride | Not enough |
| Boric acid | Good | Ammonium idroxide | Not enough |
| Citric acid | Good | Nitrate of ammonium | Not enough |
| Hydrogen chloride | Not enough | Ammonium sulphate | Not enough |
| Chromic acid | Not enough | Anhydrous carbon dioxide | Good |
| Hydrogen fluorides | Enough | Humid carbon dioxide | Not enough |
| Fluorosilicic acid | Not enough | Anhydrous sulphur trioxide | Good |
| Formic acid | Not enough | Anhydrous sulphar trioxide | Good |
| Phosphoric acid | Not enough | Humid sulphar trioxide | Not enough |
| Lactic acid | Not enough | Aniline | Not enough |
| Nitric acid | Not enough | Asphalt | Good |
| Oleic acid | Not enough | Barium chloride | Not enough |
| Oxalic acid | Not enough | Barium sulphide | Not enough |
| Picric acid | Not enough | Petrol and benzene | Good |
| Anhydrous hydrosulfuric acid | Not enough | Butane | Good |
| Humid hydrosulfuric acid | Not enough | Calcium bisulphite | Not enough |
| Sulfuric acid <78% | Not enough | Anhydrous calcium chloride | Not enough |
| Sulfuric acid >78% | Not enough | Alcalin calcium chloride | Not enough |
| Stearic acid | Good | Calcium hydroxide | Not enough |
| Tannic acid | Good | Calcium hypochlorite | Not enough |
| Tartaric acid | Good | Anhydrous carbon tetrachloride | Good |
| Salt water | Not enough | Humid carbon tetrachloride | Enough |
| Hydrogen peroxide | Not enough | Anhydrous chlorine | Good |
| Condensed water | Good | Humid chlorine | Not enough |
| Black water | Not enough | Chloride ferric | Not enough |
| Drinking water | Enough | Chloride ferrous | Not enough |
| Acid subterranean water | Not enough | Glue | Good |
| Aluminum chloride | Not enough | Creosote | Not enough |

| CORROSIVE AGENT | | CORROSIVE AGENT | |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Ether | Good | Bisulphate sodium | Not enough |
| Formaldehyde | Good | Sodium carbonate | Not enough |
| Freon | Good | Sodium cyanide | Not enough |
| Furanxarboxaldehyde | Good | Sodium chloride | Not enough |
| Metan and GPL | Good | Sodium phosphate | Good |
| Glycerin | Good | Sodium hypochlorite | Not enough |
| Ethylene glycol | Good | Sodium nitrate | Enough |
| Glucose | Good | Sodium peroxide | Enough |
| Hydrogen | Good | Sodium silicate | Not enough |
| Lacquer | Good | Sodium sulphate | Not enough |
| Magnesium chloride | Not enough | Sodium suphite | Not enough |
| Magnesium hydroxide | Enough | Ferric sulphate | Not enough |
| Magnesium sulphate | Not enough | Ferrous sulphate | Not enough |
| Mercury and salts | Not enough | Soap-suds solutions | Not enough |
| Chloride nickel | Good | Acetates solvents | Enough |
| Nickel sulphate | Good | Toluene | Enough |
| Fuel oil | Good | Turpentine | Good |
| Potassium carbonate | Not enough | Trichloroethylene | Good |
| Potassium cyanide | Not enough | Paints | Good |
| Potassium chloride | Not enough | Zinc chloride | Not enough |
| Potassium sulphate | Not enough | Sulphate zinc | Not enough |
| Copper sulphate | Not enough | Sulphur chloride | Not enough |
| Sodium bicarbonate | Good | Solid sulphur | Not enough |

## 8. MAINTENANCE

For a right working of the valve in object it is necessary to wash periodically the inside parts.

## 9. SAFETY NORMS

To warrant the physical safety of the user it is necessary to observe the following safety rules.

- Keep in perfect order the valve through a periodical and precise maintenance.
- Avoid to use the valve in positions that could prevent the suction flow.
- Settle the valves observing the technical norms in force.
- In case of use for periods superior than 15 days or in case of use in presence of temperatures too low or too high it is necessary to make one or more manual opening (pressing the red cover towards low) before putting in work again the valve.
- Before any activity of maintenance and/or disassembly of the valve be sure that there is not pressure inside the tank.
- Any not authorized modification, the improper use or the non-observance of the employment limits of the valve can cause serious damages either to the user or to the environment.

Data and measures indicated in this table could be modified and are quoted as an indication.