# VALVOLE A GLOBO SERIE L20-A1
## *GLOBE VALVES SERIES L20-A1*

**DESCRIZIONE**
L20-A1 è una valvola due vie a singolo seggio con flusso avviato, disegnata per offrire una gamma completa di valvole di controllo di fluidi come vapore, acqua, olio, e per fluidi industriali in generale.
L'elevato valore di rangeability, la progettazione modulare e la flessibilità di questa serie, permettono di soddisfare le molteplici necessità di controllo dei processi industriali dai più semplici ai più gravosi.
Innumerevoli configurazioni sono disponibili, come: passaggi ridotti, trim antirumore ed anticavitazione, per soddisfare tutte le esigenze di controllo e di regolazione.

**CARATTERISTICHE COSTRUTTIVE**
- Da ½'' a 8'' ANSI 150 / 300
- Otturatore guidato "Top Guide" standard per garantire maggior stabilità
- Morsetto CEI EN 60534-6-1 std (ex.IEC534)
- Packing a doppia tenuta
- Classe di tenuta disponibili :
  - IV (Std)
  - V
  - VI

**DESCRIPTION**
Manufactured under ISO 9001 quality assurance system, the L20-A1 series is a top entry globe valve style body construction with a wide range of different single stage trims available. L20-A1 series combine the advanced modular design and the wide range of actuators to satisfy the needs of the industrial demand.
L20-A1 valves are designed to control a broad variety of fluids, like steam, water, most of the medium and gases. One of the main features of this serie is the top guided construction that assure a stable plug travel over entire stroke of the valve minimizing vibration and wear.

**DESIGN FEATURES**
- From ½'' up to 8'' ANSI 150 / 300
- Top Guided std construction to ensure plug stability
- CEI EN 60534-6-1 clamp Std (ex.IEC534)
- Double V-Ring packing spring loaded
- Shutoff capabilities:
  - IV (Std)
  - V
  - VI

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**a TERRANOVA® Srl brand** - www.terranova-instruments.com - VAT IT07848810151
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**OPZIONI**

- Passaggi ridotti su misura
- Interni stellitati per pressione differenziale elevata
- Otturatori bilanciati per alte pressioni
- Gabbie antirumore e anticavitazione
- Otturatori a microflusso per basse portate
- Packing con soffietto di tenuta per emissioni "ZERO" (ZEB20)
- Bonnet allungato per basse temperature
- Bonnet alettato per alte temperature
- Gamma completa di accessori ( posizionatori, ritrasmissione, lock -up, contatti di allarme, etc...)
- Costruzione conforme NACE MR 01-75 o ISO15156 (su richiesta)
- Terminali a saldare

**OPTIONS**

- Reduced area trim to provide wide capabilities for all sizes
- Hardened trims to handle high pressure drop applications.
- Balanced trims to handle high pressure drop & shutoff
- Low noise & anticavitation design cage
- Reduced capacity & low flow trim in all sizes
- Bellows seal to meet zero emissions (ZEB20)
- Extended bonnet for low temperature
- Finned bonnet for high temperature
- Available accessories : positioners, position transmitter, limit switches, lock-up etc.
- NACE MR 01-75 or ISO15156 Construction on request
- Butt Welding ends / Socket Welding ends

**LEGENDA**

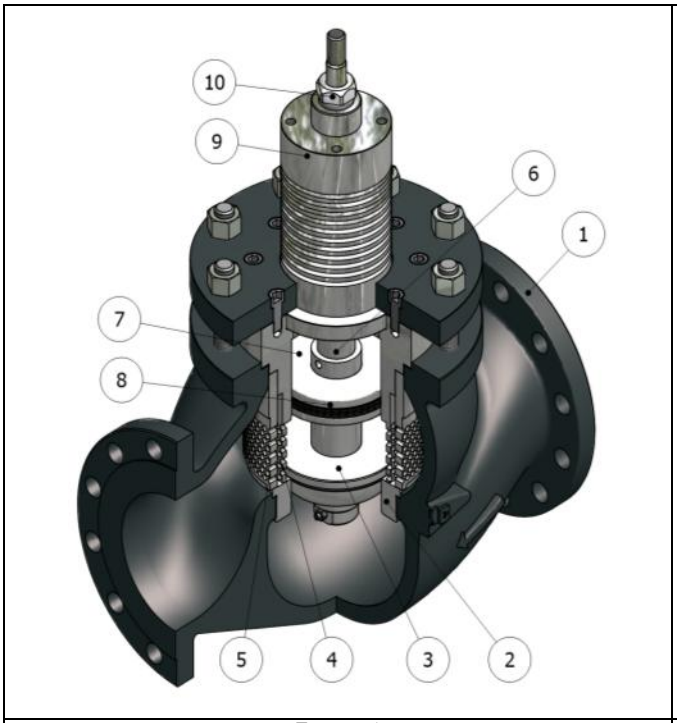



Figure 1

1. Corpo valvola
2. Sede
3. Otturatore
4. Prima gabbia antirumore
5. Seconda gabbia antirumore
6. Stelo Top-Guide
7. Camera di bilanciatura
8. Pistone di bilanciatura
9. Bonnet
10. Premistoppa

**LEGEND**

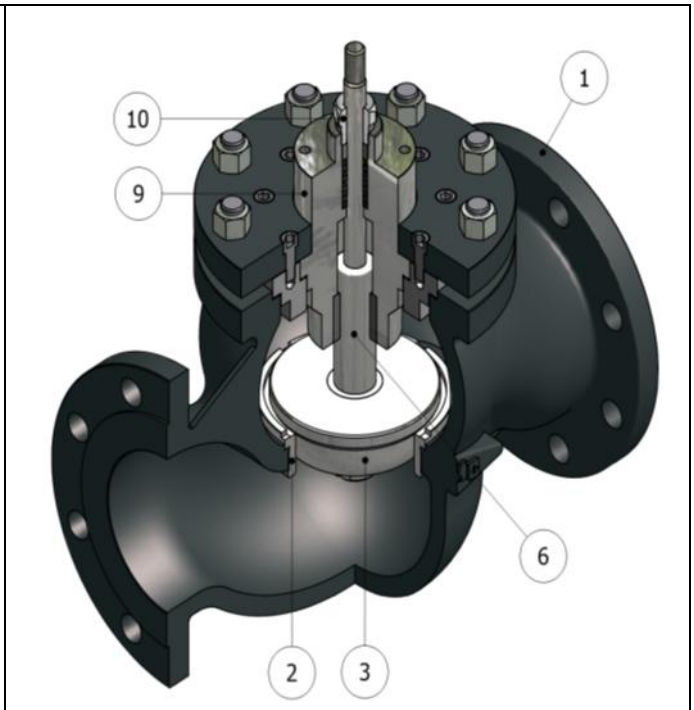



Figure 2

1. Body valve
2. Seat ring
3. Plug
4. 1st low dB anti-cavitation cage
5. 2nd low dB anti-cavitation cage
6. Top-Guide stem
7. Balancing sleeve
8. Balancing piston
9. Valve bonnet
10. Stuffing box

**DATI TECNICI CORPO VALVOLA**

| | |
|---|---|
| Tipo | Top entry, globo a singola sede |
| Diametri Nominali | ½'' fino a 8'' |
| Rating del Corpo | ANSI 150 e 300 |
| Costruzione | ANSI B16.34 |
| Flange | ANSI B16.5, Cl. 150, 300 RF |
| Scartamento | ANSI / ISA 75.08.01 |

**VALVE BODY FEATURES**

| | |
|---|---|
| Style | Top entry, single seated globe valve |
| Sizes | ½'' up to 8'' |
| Pressure ratings | ANSI 150 and 300 |
| Design STD | ANSI B16.34 |
| Flanges connections | ANSI B16.5, Cl. 150, 300 RF |
| Body dimensions | ANSI / ISA 75.08.01 |

**MATERIALI GRUPPO CORPO STD**

| | |
|---|---|
| Acciaio al Carbonio A216 WCC | Bonnet: ASTM A105 |
| | Interni: ASTM A182 F316 |
| Acciaio Inox A351 CF8M | Bonnet: ASTM A182 F316 |
| | Interni: ASTM A182 F316 |

**STD BODY & TRIM MATERIALS COMBINATION**

| | |
|---|---|
| Carbon Steel A216 WCC | Bonnet: ASTM A105 |
| | Trim: ASTM A182 F316 |
| Stainless Steel A351 CF8M | Bonnet: ASTM A182 F316 |
| | Trim: ASTM A182 F316 |

**MATERIALI DISPONIBILI SU RICHIESTA**

| | |
|---|---|
| Acciai al Carbonio | A352 LC2 - A352 LC3 |
| | A352 LCC - A352 LCB |
| Acciai al Carbonio legati | A217 WC6 - A217 WC9 |
| Acciai inossidabili austenitici | A351 CF3 - A351 CF8 |
| | A351 CF10 - A351 CF3M |
| | A351 CF8M- A351 CF10M |
| Acciai inossidabili Ferritici austenitici | A995 CD3MWCuN - A995 A6 |
| | A351 CK3MCuN<br>A351 CE8MC |
| | A351 CD3MN<br>A351 CD4MCuN |
| Acciai inossidabili Leghe di Nichel | A494 M35-1 (MONEL) |
| | A494 M35-2 (MONEL) |
| | A494 N-12MV (HAST. B) |
| | A494 CW-12MW (HAST. C) |

**MATERIALS AVAILABLE ON REQUEST**

| | |
|---|---|
| Carbon steel | A352 LC2 - A352 LC3 |
| | A352 LCC - A352 LCB |
| Carbon steel alloy | A217 WC6 - A217 WC9 |
| Austenitic Stainless Steel | A351 CF3 - A351 CF8 |
| | A351 CF10 - A351 CF3M |
| | A351 CF8M- A351 CF10M |
| Ferritic Austenitic Stainless Steel | A995 CD3MWCuN - A995 A6 |
| | A351 CK3MCuN<br>A351 CE8MC |
| | A351 CD3MN<br>A351 CD4MCuN |
| Nickel alloy Stainless Steel | A494 M35-1 (MONEL) |
| | A494 M35-2 (MONEL) |
| | A494 N-12MV (HAST. B) |
| | A494 CW-12MW (HAST. C) |

**RIVESTIMENTI PROTETTIVI STANDARD**

**Corpo valvola**

- -10≤T≤150°C
  - Fondo bicomponente acrilico anticorrosivo ad alta resistenza
  - Finitura con smalto acrilico alifatico bicomponente
  - RAL 5010
- 150<T≤250°C
  - Fondo siliconico
  - Finitura smalto siliconico
  - RAL 5010
- 250<T≤400°C
  - Fondo siliconico termoresistente
  - Finitura smalto siliconico
  - RAL 5010

**Bonnet**

- -10≤T≤400°C
  - Zincatura elettrolitica Fe/Zn 8 c1A UNI ISO 4520

**STANDARD PROTECTIVE COATINGS**

**Body valve**

- -10≤T≤150°C
  - Bi-component anticorrosive acrylic primer at high resistance
  - Finish with bi-component aliphatic acrylic enamel
  - RAL 5010
- 150<T≤250°C
  - Siliconic primer
  - Finish with siliconic enamel
  - RAL 5010
- 250<T≤400°C
  - Heat resistant siliconic primer
  - Finish with siliconic enamel
  - RAL 5010

**Bonnet**

- -10≤T≤400°C
  - Electrolytic zinc coatings Fe/Zn 8 c1A UNI ISO 4520

**TRATTAMENTI PROTETTIVI SU RICHIESTA**

**Corpo valvola e bonnet**

- Verniciatura per ambienti salini
- Verniciatura su specifica cliente

**PROTECTIVE COATINGS ON REQUEST**

**Body valve and bonnet**

- Painting for sea environment
- Painting on customer specifications

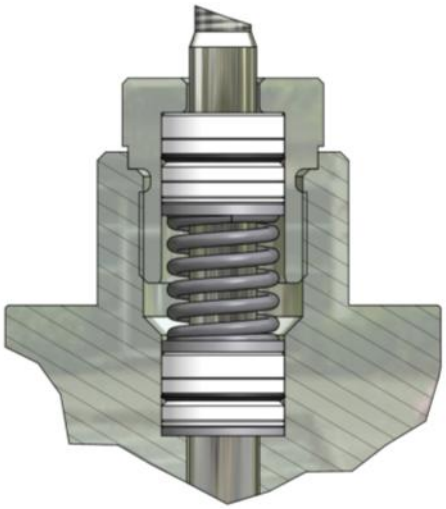
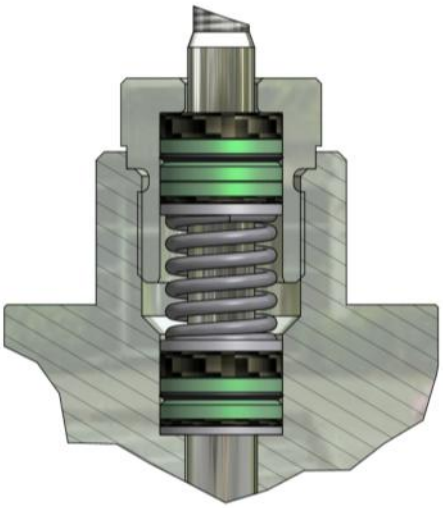
**RELAZIONE PRESSIONE / TEMPERATURA** **RELATION BETWEEN PRESSURE/TEMPERATURE**

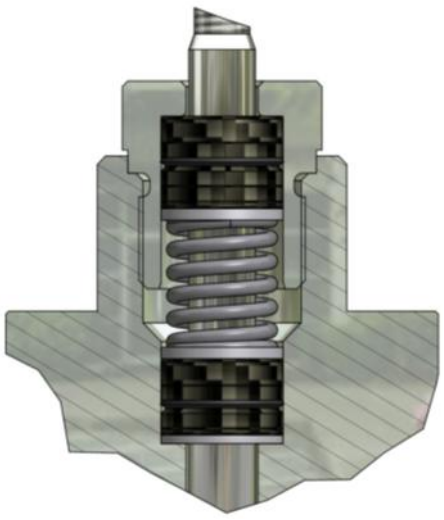
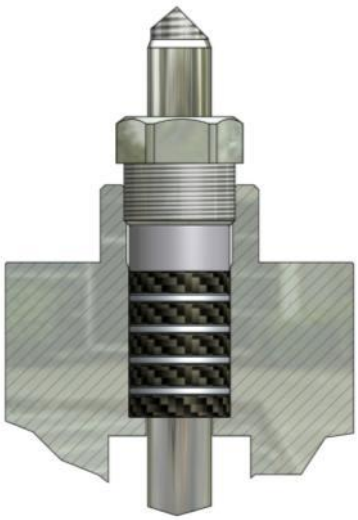
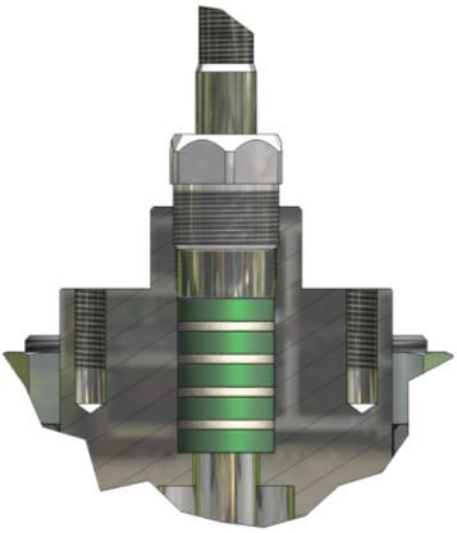
| T [°C] | ASTM A105 (-29°÷ 425°C) | | ASTM A216 WCC (-29°÷ 425°C) | | A182 F304 (-253°÷ 816°C) A182 F316 (-253°÷ 816°C) A351 CF8M (-253°÷ 816°C) | |
|---|---|---|---|---|---|---|
| | ANSI 150 | ANSI 300 | ANSI 150 | ANSI 300 | ANSI 150 | ANSI 300 |
| -...÷+38 | 19.6 | 51.1 | 19.8 | 51.7 | 19 | 49.6 |
| 50 | 19.2 | 50.1 | 19.5 | 51.7 | 18.3 | 47.8 |
| 100 | 17.7 | 46.6 | 17.7 | 51.5 | 15.7 | 40.9 |
| 150 | 15.8 | 45.1 | 15.8 | 50.2 | 14.2 | 37 |
| 200 | 13.8 | 38.8 | 13.8 | 48.6 | 13.2 | 34.5 |
| 250 | 12.1 | 41.9 | 12.1 | 46.3 | 12.1 | 32.5 |
| 300 | 10.2 | 39.8 | 10.2 | 42.9 | 10.2 | 30.9 |
| 325 | 9.3 | 38.7 | 9.3 | 41.4 | 9.3 | 30.2 |
| 350 | 8.4 | 37.6 | 8.4 | 40 | 8.4 | 29.6 |
| 375 | 7.4 | 36.4 | 7.4 | 37.8 | 7.4 | 29 |
| 400 | 6.5 | 34.7 | 6.5 | 34.7 | 6.5 | 28.4 |
| 425 | 5.5 | 28.8 | 5.5 | 28.8 | 5.5 | 28 |
| 450 | // | // | // | // | 4.6 | 27.4 |
| 475 | // | // | // | // | 3.7 | 26.9 |
| 500 | // | // | // | // | 2.8 | 26.5 |
| 538 | // | // | // | // | 1.4 | 24.4 |
| 550 | // | // | // | // | // | 23.6 |
| 575 | // | // | // | // | // | 20.8 |
| 600 | // | // | // | // | // | 16.9 |
| 625 | // | // | // | // | // | 13.8 |
| 650 | // | // | // | // | // | 11.3 |
| 675 | // | // | // | // | // | 9.3 |
| 700 | // | // | // | // | // | 8 |
| 725 | // | // | // | // | // | 6.8 |
| 750 | // | // | // | // | // | 5.8 |
| 775 | // | // | // | // | // | 4.6 |
| 800 | // | // | // | // | // | 3.5 |
| 816 | // | // | // | // | // | 2.8 |

**BONNETBONNET**

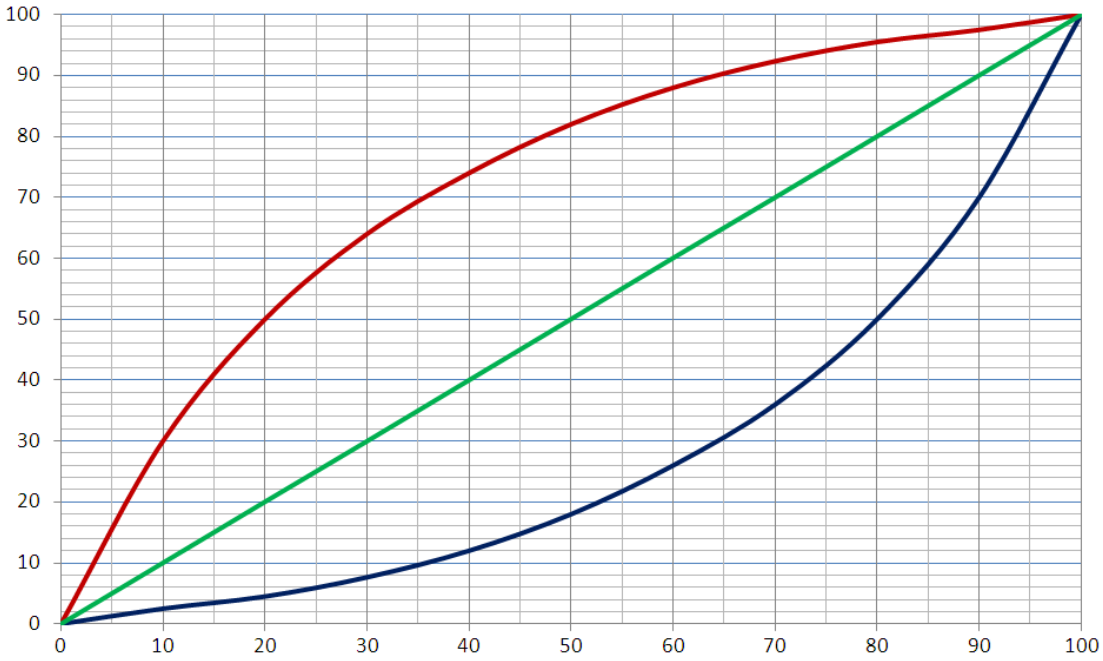
| PROLUNGATO / EXTENDED | STANDARD | ALETTATO / FINNED |
|---|---|---|
| | | |
| T<-5°C<br>T<23°F | -5<T<200°C<br>23<T<392°F | T>200°C<br>T>392°F |

**TENUTA STELO** **PACKING**

| HT200 | ZEB20 | GREENPACK 1 |
|---|---|---|
|  | |  |
| T≤200°C<br>STD 1/2'' ÷ 4'' | Soffietto per fluidi pericolosi<br>Bellows for dangerous liquids<br>A richiesta / On request 1/2'' ÷ 8'' | T≤450°C<br>Basse emissioni / Autoestinguente<br>Low emissions / Firesafe<br>A richiesta / On request 1/2'' ÷ 4'' |

| HTS300 | GR20 | GREENPACK 2 |
|---|---|---|
|  |  |  |
| T≤400°C<br>A richiesta / On request 1/2'' ÷ 4'' | T≤400°C<br>Grafite pura / Pure Graphite<br>STD 6'' ÷ 8'' | T≤450°C<br>Basse emissioni / Autoestinguente<br>Low emissions / Firesafe<br>A richiesta / On request 6'' ÷ 8'' |

**CARATTERISTICHE OTTURATORE** **PLUG FEATURES**




| | |
|---|---|
| **CARATTERISTICA OTTURATORE AD APERTURA RAPIDA**<br><br>Una valvola con otturatore ad apertura rapida permette una massima variazione di portata con una corsa minima dell'otturatore e una minima variazione di portata quando l'otturatore della valvola è prossimo alla corsa massima. Le valvole con otturatore ad apertura rapida sono utilizzate spesso per applicazioni ON/OFF quando è necessario avere la massima portata nel minor tempo possibile possibile. | **QUICK OPENING FLOW CHARACTERISTIC**<br><br>A valve with quick opening flow characteristic provides a maximum change in flow rate at low travels and small changes when the valve plug is near maximum. Control valves with quick opening flow characteristics are often used for on/off applications where significant flow rate must be established quickly as the valve begins to open. Consequently they are often used in relief valve applications. Quick opening valves can also be selected for many of the same applications for which linear flow characteristics are recommended. |
| **CARATTERISTICA OTTURATORE LINEARE**<br><br>Una valvola con otturatore lineare fornisce una portata direttamente proporzionale alla corsa dell'otturatore.<br>Le valvole con questa caratteristica sono frequentemente specificate per applicazioni liquido-livello e controllo di portata. | **LINEAR CHARACTERISTIC**<br><br>A valve with linear characteristic provide a flow rate directly proportional to travel. Linear characteristics are commonly specified for liquid-level and flow-control applications. |
| **CARATTERISTICA OTTURATORE EQUIPERCENTUALE**<br><br>Nella caratteristica equipercentuale, a pari incremento di corsa dell'otturatore si ottiene una variazione equipercentuale della portata. Una valvola con questa caratteristica fornisce una precisione di controllo partendo da una minima corsa dell'otturatore e aumenta rapidamente la portata di efflusso quando è vicina alla massima apertura. Valvole con otturatore a caratteristica EQP sono le più utilizzate per applicazioni di controllo di pressione, per applicazioni quando una larga percentuale di caduta di pressione è normalmente assorbita dal sistema stesso e solo una minima percentuale deve essere controllata, e dove si possono avere grandi variazioni di pressione. | **EQUAL PERCENTAGE FLOW CHARACTERISTIC**<br><br>In equal percentage flow characteristic, equal increments of valve travel produce equal percentage changes in the existing flow. A valve with an inherent equal percentage flow characteristic provides precise throtting control through the lower portion of the travel range and rapidly increasing capacity as the valve plug nears the wide open position. Valves with equal percentage flow characteristics are used on pressure control applications, on applications where a large percentage of the pressure drop is normally absorbed by the system itself with only a relatively small percentage available at the control valve, and on applications where highly varying pressure drop conditions can be expected. |

**TRIMS**

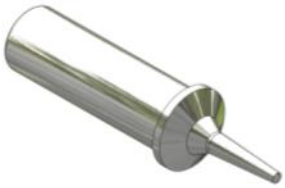
| | |
|---|---|
| TENUTA | Metallica - Classe IV |
| PROFILO OTTURATORE | Equipercentuale |
| | Apertura rapida |
| | Lineare |
| PASSAGGIO | Integrale |
| A RICHIESTA | Passaggio ridotto |
| | Passaggio micro-flusso |
| | Stellittatura sede / ottur. Cl. IV |
| | Tenuta soffice PTFE≤150°C - Cl. VI |
| | Tenuta soffice PTFE/GR≤190°C - Cl. VI |

**TRIMS**

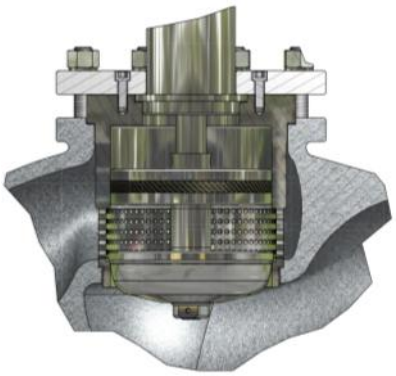
| | |
|---|---|
| SEAL | Metal seat tightness - Cl- IV |
| PROFILO OTTURATORE | Equal percentage |
| | Quick opening |
| | Linear |
| PASSAGGIO | Full port |
| A RICHIESTA | Reduced port |
| | Micro flow port |
| | Stellite faced seat / plug Cl. IV |
| | Soft seal PTFE≤150°C - Cl. VI |
| | Soft seal PTFE≤190°C - Cl. VI |

| CORSA / STROKE | | | |
|---|---|---|---|
| CV Coefficiente di portata Flow rate coefficient | 0.05÷47 | 73÷160 | 270÷650 |
| Inches (mm) | 0.79 (20) | 1.18 (30) | 2 (50) |

**Microflusso / Spline trim CV≥0.05**



**Otturatore bilanciato con gabbia anti-cavitazione e/o riduzione rumore Balanced trim with cage noise reduction and / or anti-cavitation**



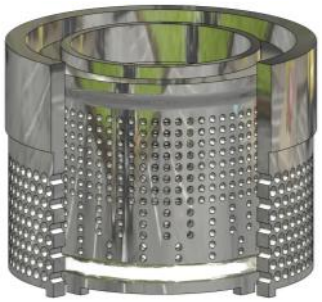
**Apertura rapida Quick-opening trim**

**Equipercentuale a tenuta soffice Equi percentage soft tightness**

**Equipercentuale a tenuta metallica Equi percentage metal tightness**

**Gabbia per riduzione rumore singolo stadio Low dB trim single stage**

**Gabbia per riduzione rumore doppio stadio Low dB trim double stage**



**Gabbia anticavitazione Anti-cavitation cage**

**COEFFICIENTI DI PORTATA** **FLOW RATE COEFFICIENTS**

| CV | Kv | Foro sede [mm] Seat hole [mm] | DIAMETRO NOMINALE / SIZES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/2'' | 3/4'' | 1'' | 1''1/2 | 2'' | 3'' | 4'' | 6'' | 8'' |
| 0.05÷4 | 0.04÷3.5 | 3÷10 | OnReq | OnReq | OnReq | | | | | | |
| 4.5 | 3.8 | 15 | STD | OnReq | OnReq | OnReq | | | | | |
| 6 | 5.1 | 20 | | STD | OnReq | OnReq | OnReq | | | | |
| 11 | 9.4 | 25 | | | STD | OnReq | OnReq | | | | |
| 18 | 15.4 | 30 | | | | OnReq | OnReq | OnReq | | | |
| 27 | 22.2 | 38 | | | | STD | OnReq | OnReq | OnReq | | |
| 47 | 40.1 | 49 | | | | | STD | OnReq | OnReq | | |
| 73 | 63.4 | 64 | | | | | | OnReq | OnReq | OnReq | |
| 105 | 89.7 | 76 | | | | | | STD | OnReq | OnReq | OnReq |
| 160 | 136.7 | 96 | | | | | | | STD | OnReq | OnReq |
| 190 | 160 | 100 | | | | | | | OnReq | OnReq | OnReq |
| 270 | 230.8 | 126 | | | | | | | | OnReq | OnReq |
| 370 | 316.2 | 151 | | | | | | | | STD | OnReq |
| 650 | 555 | 201 | | | | | | | | | STD |

| | |
|---|---|
| | Kv=Portata in m3/h con 1 bar di ΔP / Flowrate in m3/h with 1 bar of ΔP |
| | CV=Portata in GPM con 1 psi di ΔP / Flowrate in GPM with 1 psi of ΔP |
| STD | Standard |
| OnReq | A richiesta / On Request |

**ATTUATORE PNEUMATICO DI REGOLAZIONE** **CONTROL PNEUMATIC ACTUATOR**

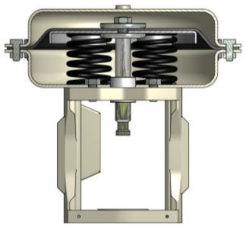
Pressioni differenziali massime ammissibili in Bar (Fluido Apre) per costruzioni con otturatori non bilanciati.
Maximum admissible pressure drops in Bar (FluidOpen) for unbalanced construction.

| Attuatore Actuator | Segnale Signal [psi] | CV 4.5 | | CV 6 | | CV 11 | | CV 18 | | CV 27 | | CV 47 | | CV 73 | | CV 105 | | CV 160 CV 190 | | CV 270 | | CV 370 | | CV 650 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI | IV | VI |
| AP23 | 3÷15 | 15 | 21 | 14 | 18 | 9 | 12 | 5 | 8 | 3 | 4 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6÷18 | 18 | 26 | 16 | 22 | 11 | 17 | 7 | 10 | 4 | 5 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6÷30 | 50 | 60 | 22 | 28 | 16 | 25 | 10 | 15 | 6 | 8 | 4 | 6 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 15÷60 | 70 | 80 | 45 | 60 | 35 | 56 | 27 | 33 | 15 | 17 | 8 | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| AP28 | 3÷15 | 31 | 35 | 27 | 30 | 17 | 26 | 8 | 15 | 6 | 9 | 4 | 6 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6÷18 | 40 | 45 | 38 | 40 | 21 | 30 | 13 | 19 | 10 | 12 | 5 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6÷30 | 55 | 60 | 50 | 55 | 26 | 47 | 23 | 26 | 12 | 16 | 7 | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 15÷60 | 99 | 99 | 80 | 90 | 48 | 75 | 40 | 56 | 25 | 38 | 17 | 23 | - | - | - | - | - | - | - | - | - | - | - | - |
| AP34 / AP35 | 3÷15 | 60 | 65 | 60 | 65 | 50 | 55 | 20 | 23 | 12 | 18 | 10 | 16 | 4 | 4 | 2 | 3 | 1 | 1 | - | - | - | - | - | - |
| | 6÷18 | 80 | 85 | 80 | 85 | 60 | 65 | 30 | 35 | 15 | 18 | 12 | 15 | 6 | 7 | 4 | 5 | 2 | 3 | - | - | - | - | - | - |
| | 6÷30 | 99 | 99 | 99 | 99 | 80 | 85 | 40 | 45 | 20 | 25 | 14 | 16 | 7 | 8 | 5 | 6 | 2 | 3 | - | - | - | - | - | - |
| | 15÷60 | - | - | - | - | - | - | 62 | 65 | 36 | 45 | 25 | 29 | 11 | 13 | 8 | 11 | 6 | 6 | - | - | - | - | - | - |
| AP43 / AP44 | 3÷15 | - | - | - | - | - | - | - | - | 35 | 40 | 24 | 26 | 7 | 8 | 6 | 6 | 4 | 4 | - | - | - | - | - | - |
| | 6÷18 | - | - | - | - | - | - | - | - | 40 | 45 | 26 | 28 | 9 | 10 | 8 | 8 | 5 | 5 | - | - | - | - | - | - |
| | 6÷30 | - | - | - | - | - | - | - | - | 40 | 45 | 26 | 28 | 12 | 12 | 10 | 10 | 6 | 6 | - | - | - | - | - | - |
| | 15÷60 | - | - | - | - | - | - | - | - | 60 | 85 | 40 | 70 | 28 | 37 | 22 | 27 | 15 | 17 | - | - | - | - | - | - |
| AP45 | 15÷60 | - | - | - | - | - | - | - | - | 60 | 85 | 40 | 70 | 28 | 37 | 22 | 27 | 15 | 17 | - | - | - | - | - | - |
| AP46 | 15÷60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7 | 8 | 5 | 6 | 3 | 4 |
| AP60 | 15÷60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 44 | 54 | 30 | 34 | 14 | 16 | 10 | 12 | 6 | 8 |

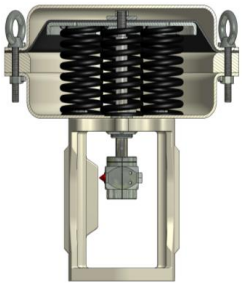
| | |
|---|---|
| Cl. IV | Tenuta metallica - Classe IV° - ANSI FCI 70-2 / Metal seat tightness - Class IV° - ANSI FCI 70-2 |
| Cl. IV | Tenuta soffice - Classe VI° - ANSI FCI 70-2 / Soft seal- Class VI° - ANSI FCI 70-2 |

I valori espressi in tabella si riferiscono alla forza del servomotore, il rating del corpo ne limita l'applicazione.
The pressure drop values must be used within the body rating limit.

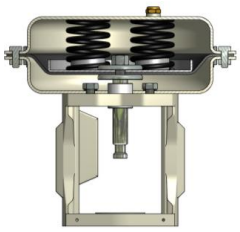
| ATTUATORE PNEUMATICO DI REGOLAZIONE | CONTROL PNEUMATIC ACTUATOR |
|---|---|
| TIPO ATTUATORE / TYPE | Multimolla a membrana / Multispring diaphragm type |
| SEGNALI DI COMANDO / CONTROL SIGNAL [psi] | 3÷15<br>6÷18<br>6÷30<br>15÷60 |
| $P_{MAX}$ | 3.5 bar – 50 psi<br>6 bar – 87 psi |
| TEMPERATURA AMBIENTE / AMBIENT TEMPERATURE | -20÷+70 °C |
| MATERIALE CUSTODIA / HOUSING MATERIAL | Acciaio Al Carbonio / Carbon Steel Fe410.1 |
| CASTELLO / YOKE MATERIAL | Integrale / Integral ASTM A216 WCB |
| MATERIALE MEMBRANA / DIAPHRAGM MATERIAL | NBR70 |
| CONNESSIONI PNEUMATICHE / PNEUMATIC CONNECTIONS | ¼'' NPT-F |
| RIVESTIMENTI PROTETTIVI / PROTECTIVE COATINGS | Verniciatura a polvere poliestere<br>Finish powder coat polyester |



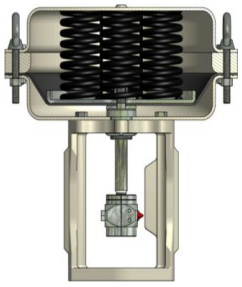
| AZIONE DIRETTA<br>DIRECT ACTION | Aria chiude / Air to close |
|---|---|



| AZIONE DIRETTA<br>DIRECT ACTION | Aria chiude / Air to close |
|---|---|



| AZIONE INVERSA<br>REVERSE ACTION | Aria apre / Air to open |
|---|---|



| AZIONE INVERSA<br>REVERSE ACTION | Aria apre / Air to open |
|---|---|

**ACCESSORI DISPONIBILI**

- Contatti di allarme
- Posizionatore elettropneumatico
- Posizionatore pneumatico
- Posizionatore Smart
- Convertitore I/P
- Trasmettitore di posizione 4÷20 mA
- Filtro riduttore
- Volantino di manovra
- Elettrovalvole
- Dispositivo pneumatico di blocco (Lock Up)

**VARIANTI DISPONIBILI**

- Castello Inox
- Custodia Inox
- Viteria Inox

**ACCESSORIES**

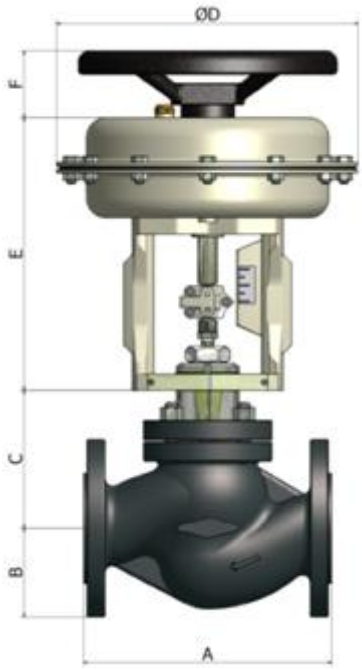
- Alarm contacts
- Electropneumatic positioner
- Pneumatic positioner
- Smart positioner
- I/P converter
- 4÷20 mA position feedback
- Air filter regulator
- Top mounted hand wheel
- Solenoid valves
- Lock Up pneumatic device

**OPTIONS**

- SS Yoke
- SS Housing
- SS Bolts & Nuts

**DIMENSIONI** **DIMENSIONS**

| SIZE | A inches (mm) | | B inches (mm) | | C inches (mm) Otturatore Standard / Standard Trim | | |
|---|---|---|---|---|---|---|---|
| | ANSI 150 | ANSI 300 | ANSI 150 | ANSI 300 | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 1/2'' | 7.25 (184) | 7.46 (189.5) | 1.87 (47.6) | 1.87 (47.6) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 3/4'' | 7.25 (184) | 7.62 (194) | 1.94 (49.25) | 2.31 (58.75) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 1'' | 7.25 (184) | 7.75 (197) | 2.11 (53.95) | 2.43 (61.9) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 1'' ½ | 8.75 (222) | 9.25 (235) | 2.50 (63.5) | 3.06 (77.8) | 5.04 (128) | 8.90 (226) | 7.28 (185) |
| 2'' | 10.00 (254) | 10.50 (267) | 3.00 (76.2) | 3.25 (82.55) | 5.04 (128) | 8.90 (226) | 7.28 (185) |
| 3'' | 11.75 (298.5) | 12.5 (318) | 3.75 (95.25) | 4.12 (104.75) | 7.36 (187) | 12.05 (306) | 10.04 (260) |
| 4'' | 13.88 (352.5) | 14.50 (368) | 4.5 (114.3) | 5.00 (127) | 7.24 (184) | 12.09 (307) | 12.20 (310) |
| 6'' | 17.75 (451) | 18.62 (473) | 5.5 (139.7) | 6.25 (158.75) | 10.20 (259) | 14.61 (371) | 14.61 (371) |
| 8'' | 21.38 (543) | 22.38 (568) | 6.75 (171.45) | 7.5 (190.5) | 11.18 (284) | 15.59 (396) | 15.59 (396) |

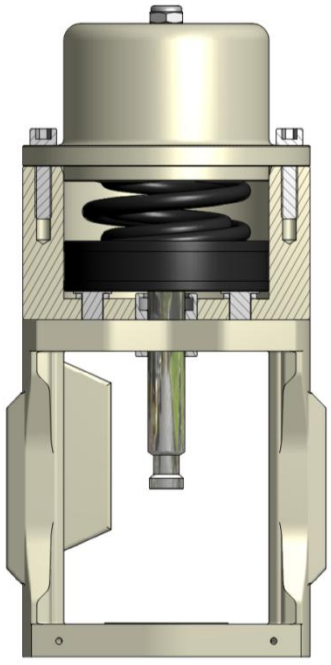



| SIZE | C (mm) Otturatore Bilanciato / Balanced Trim | | |
|---|---|---|---|
| | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 2'' | 6.18 (157) | 10.07 (256) | 8.42 (214) |
| 3'' | 9.05 (230) | 13.70 (348) | 11.10 (282) |
| 4'' | 9.64 (245) | 14.48 (368) | 12.20 (310) |
| 6'' | 14.01 (356) | 18.74 (476) | 15.67 (398) |
| 8'' | 14.96 (380) | 19.68 (500) | 16.61 (422) |

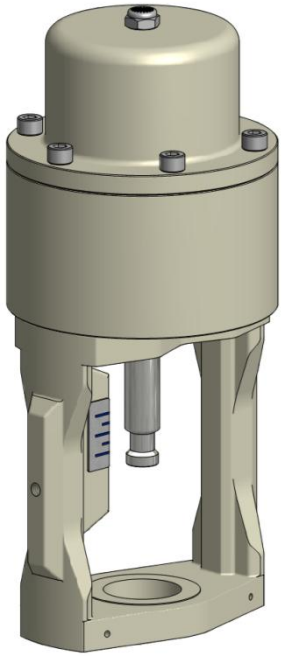
| SERVOMOTORE / ACTUATOR inches (mm) | | | | Spinta / Thrust |
|---|---|---|---|---|
| TIPO / TYPE | ØD | E | F | AREA inch (mm) |
| AP23 | 9.05 (230) | 9.64 (245) | 4.33 (110) | 31.46 (203) |
| AP28 | 10.82 (275) | 9.96 (253) | 4.33 (110) | 47.12 (304) |
| AP34 / AP35 | 13.19 (335) | 10.86 (276) | 5.90 (150) | 73.62 (475) |
| AP43 / AP44 | 16.93 (430) | 11.93 (303) | 11.8 (300) | 115.32 (744) |
| AP45 | 16.93 (430) | 15.47 (393) | | |
| AP46 | 16.93 (430) | 16.73 (425) | | |
| AP60 | 23.6 (600) | 17.72 (450) | | 262.95 (1690) |

**ATTUATORE PNEUMATICO A PISTONE** **PISTON PNEUMATIC ACTUATOR**

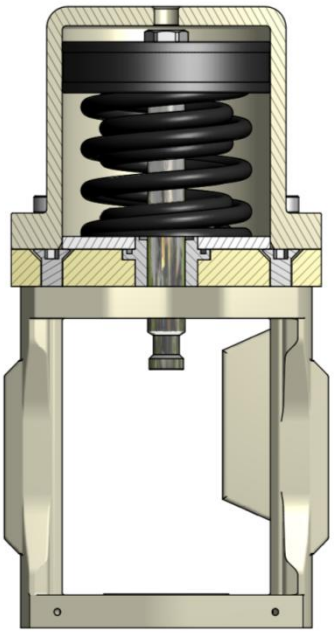
| TIPO TYPE | Ø | SEGNALE SIGNAL [bar] | CV | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.05÷4.5 | 6 | 11 | 18 | 27 | 47 | 73 | 105 | 160 |
| OP10 | 1/2''÷2'' | 6÷10 | 175 psi 12 bar | 175 psi 12 bar | 175 psi 12 bar | 175 psi 12 bar | 175 psi 12 bar | 145 psi 10 bar | - | - | - |
| OP16 | 3''÷4'' | 6÷10 | - | - | - | - | - | - | 175 psi 12 bar | 116 psi 8 bar | 45 psi 3 bar |
| | | | PRESSIONI DIFFERENZIALI MASSIME AMMISSIBILI MAXIMUM DIFFERENTIAL PRESSURE ALLOWED | | | | | | | | |



Azione Inversa / Reverse action



Vista esterna / External view



Azione diretta / Direct action

| | |
|---|---|
| **TIPO ATTUATORE / TYPE** | A pistone con multimolle interne / Piston type multispring |
| **SEGNALI DI COMANDO / CONTROL SIGNAL [psi]** | 90 psi ÷ 145 psi / 6 bar ÷ 10 bar |
| **$P_{MAX}$** | 145 psi (10 bar) |
| **TEMPERATURA AMBIENTE / AMBIENT TEMPERATURE** | -4 ÷ +160 °F / -20 ÷ +70 °C |
| **MATERIALE CASSA / CASTING MATERIAL** | Alluminio verniciatura epossidica<br>Aluminum anti-corrosive paint |
| **CASTELLO / YOKE MATERIAL** | Integrale in Acciaio Al Carbonio<br>Integral type in Carbon Steel |
| **CONNESSIONI PNEUMATICHE / PNEUMATIC CONNECTIONS** | ¼'' NPT-F |

**ACCESSORI E VARIANTI DISPONIBILI**

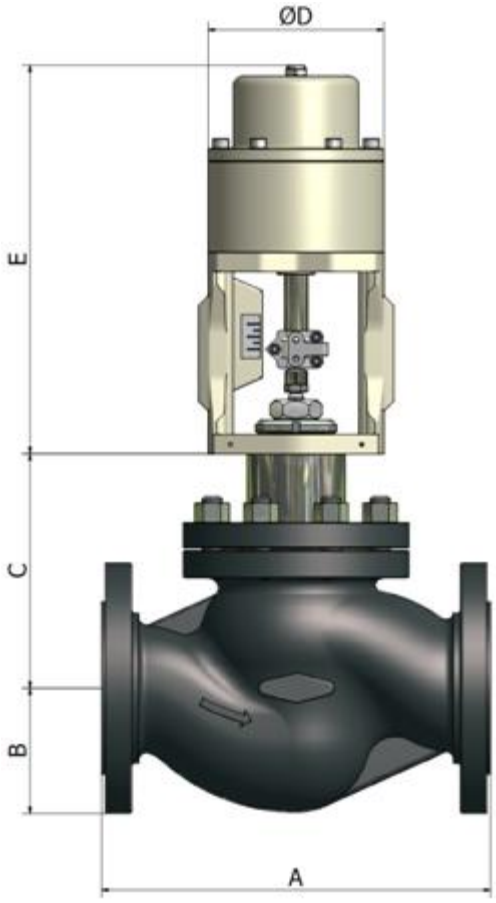
- Contatti di allarme
- Elettrovalvole
- Verniciatura per ambienti marini

**OPTIONS AND ACCESSORIES**

- Alarm contacts
- Solenoid valves
- Off-shore painting

**DIMENSIONI** **DIMENSIONS**

| SIZE | A inches (mm) | | B inches (mm) | | C inches (mm) Otturatore Standard / Standard Trim | | |
|---|---|---|---|---|---|---|---|
| | ANSI 150 | ANSI 300 | ANSI 150 | ANSI 300 | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 1/2'' | 7.25 (184) | 7.46 (189.5) | 1.87 (47.6) | 1.87 (47.6) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 3/4'' | 7.25 (184) | 7.62 (194) | 1.94 (49.25) | 2.31 (58.75) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 1'' | 7.25 (184) | 7.75 (197) | 2.11 (53.95) | 2.43 (61.9) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 1'' ½ | 8.75 (222) | 9.25 (235) | 2.50 (63.5) | 3.06 (77.8) | 5.04 (128) | 8.90 (226) | 7.28 (185) |
| 2'' | 10.00 (254) | 10.50 (267) | 3.00 (76.2) | 3.25 (82.55) | 5.04 (128) | 8.90 (226) | 7.28 (185) |
| 3'' | 11.75 (298.5) | 12.5 (318) | 3.75 (95.25) | 4.12 (104.75) | 7.36 (187) | 12.05 (306) | 10.04 (260) |
| 4'' | 13.88 (352.5) | 14.50 (368) | 4.5 (114.3) | 5.00 (127) | 7.24 (184) | 12.09 (307) | 12.20 (310) |



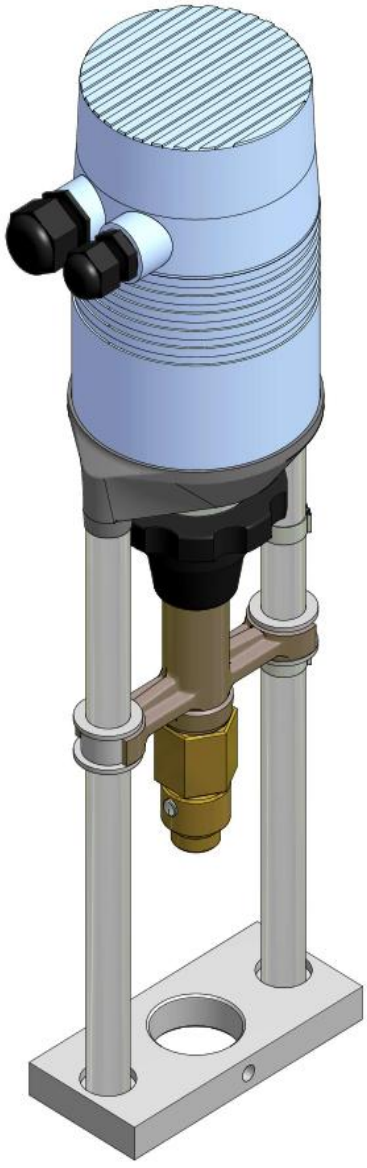

| SIZE | C (mm) Otturatore Bilanciato / Balanced Trim | | |
|---|---|---|---|
| | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 2'' | 6.18 (157) | 10.07 (256) | 8.42 (214) |
| 3'' | 9.05 (230) | 13.70 (348) | 11.10 (282) |
| 4'' | 9.64 (245) | 14.48 (368) | 12.20 (310) |

| SERVOMOTORE / ACTUATOR inches (mm) | | | | |
|---|---|---|---|---|
| TIPO / TYPE | ØD | E inches (mm) | | |
| | | 3/4''÷1''1/2 | 2'' | 3''÷4'' |
| OP10 | 5.51 (140) | 10.51 (267) | 11.50 (292) | - |
| OP16 | 7.56 (192) | - | - | 13.19 (335) |

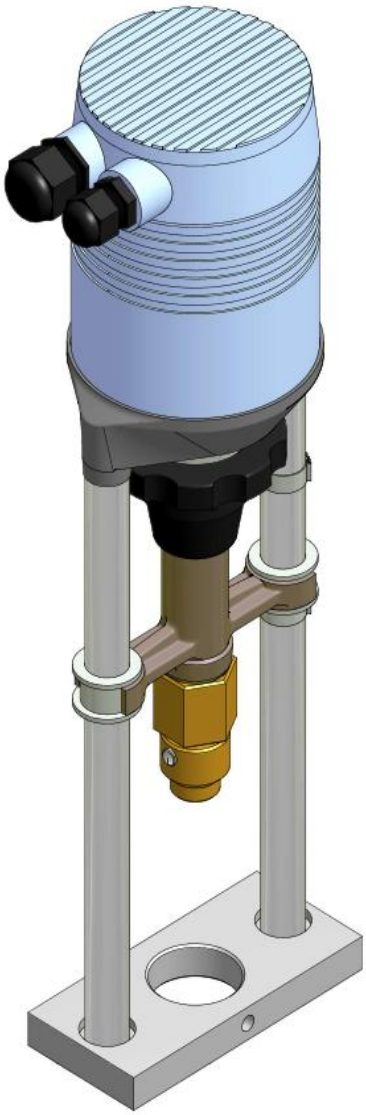
**ATTUATORE ELETTRICO** **ELECTRIC ACTUATOR**

| | |
|---|---|
| **TIPO ATTUATORE** | Elettrico / Electrical |
| **SEGNALI DI COMANDO** | 0 ÷ 10 Vdc / 2 ÷ 10 Vdc / 0 ÷ 20 mA / 4 ÷ 20 mA |
| **SEGNALE DI USCITA** | 0 ÷ 10 Vdc STD |
| **GRADO DI PROTEZIONE STD** | IP54 |

| TIPO / TYPE | FORZA / THRUST | CORSA / STROKE Inches (mm) | TEMPO AZIONAMENTO ACTUATING TIME |
|---|---|---|---|
| MC 103 | 1.0 kN | 0.78 (20) | 12 • 9 • 4 • 9 s/mm |
| MC 163 | 1.6 kN | 1.18 (30) | 6 • 4 s/mm |
| MC 253 | 2.5 kN | 2.36 (60) | 5 • 2.5 s/mm |
| MC 403 | 4.0 kN | 2.36 (60) | 0.6 • 0.4 s/mm |
| MC 503 | 5.0 kN | 2.36 (60) | 5 • 2.5 s/mm |
| MC 1003 | 10 kN | 3.15 (80) | 1 s/mm |
| MC 1503 | 15 kN | 3.15 (80) | 2 s/mm |



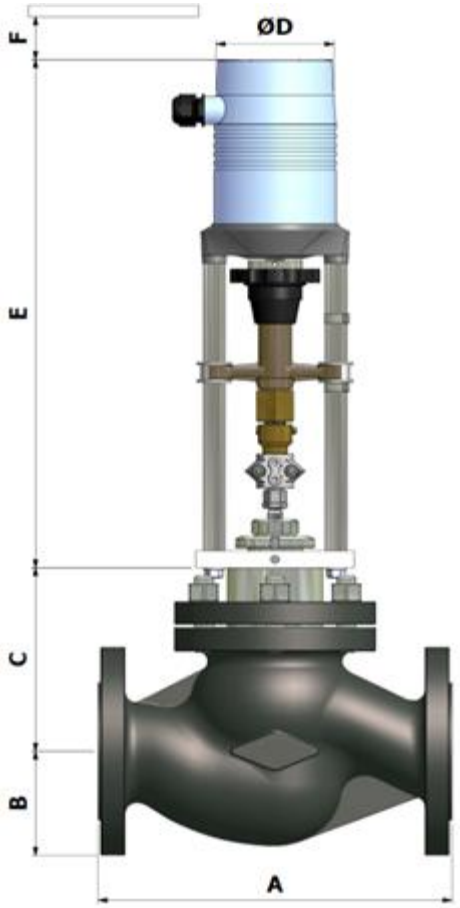
230 Vac



24 Vac

**DIMENSIONI** **DIMENSIONS**

| SIZE | A inches (mm) | | B inches (mm) | | C inches (mm) Otturatore Standard / Standard Trim | | |
|---|---|---|---|---|---|---|---|
| | ANSI 150 | ANSI 300 | ANSI 150 | ANSI 300 | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 1/2'' | 7.25 (184) | 7.46 (189.5) | 1.87 (47.6) | 1.87 (47.6) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 3/4'' | 7.25 (184) | 7.62 (194) | 1.94 (49.25) | 2.31 (58.75) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 1'' | 7.25 (184) | 7.75 (197) | 2.11 (53.95) | 2.43 (61.9) | 5.08 (129) | 8.98 (228) | 6.81 (173) |
| 1'' ½ | 8.75 (222) | 9.25 (235) | 2.50 (63.5) | 3.06 (77.8) | 5.04 (128) | 8.90 (226) | 7.28 (185) |
| 2'' | 10.00 (254) | 10.50 (267) | 3.00 (76.2) | 3.25 (82.55) | 5.04 (128) | 8.90 (226) | 7.28 (185) |
| 3'' | 11.75 (298.5) | 12.5 (318) | 3.75 (95.25) | 4.12 (104.75) | 7.36 (187) | 12.05 (306) | 10.04 (260) |
| 4'' | 13.88 (352.5) | 14.50 (368) | 4.5 (114.3) | 5.00 (127) | 7.24 (184) | 12.09 (307) | 12.20 (310) |
| 6'' | 17.75 (451) | 18.62 (473) | 5.5 (139.7) | 6.25 (158.75) | 10.20 (259) | 14.61 (371) | 14.61 (371) |
| 8'' | 21.38 (543) | 22.38 (568) | 6.75 (171.45) | 7.5 (190.5) | 11.18 (284) | 15.59 (396) | 15.59 (396) |




| SIZE | C (mm) Otturatore Bilanciato / Balanced Trim | | |
|---|---|---|---|
| | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 2'' | 6.18 (157) | 10.07 (256) | 8.42 (214) |
| 3'' | 9.05 (230) | 13.70 (348) | 11.10 (282) |
| 4'' | 9.64 (245) | 14.48 (368) | 12.20 (310) |
| 6'' | 14.01 (356) | 18.74 (476) | 15.67 (398) |
| 8'' | 14.96 (380) | 19.68 (500) | 16.61 (422) |

| TIPO / TYPE | ØD Inches (mm) | E Inches (mm) | F Inches (mm) |
|---|---|---|---|
| MC 103 (24 Vac) | 3.94 (100) | 14.80 (376) | 5.51 (140) |
| MC 103 (230 Vac) | 3.94 (100) | 15.78 (401) | 5.51 (140) |
| MC 163 (24 Vac) | 3.94 (100) | 16.85 (428) | 5.51 (140) |
| MC 163 (230 Vac) | 3.94 (100) | 17.83 (453) | 5.51 (140) |
| MC 253 / MC 503 | 5.31 (135) | 26.38 (670) | 7.87 (200) |
| MC 403 | 5.31 (135) | 26.38 (670) | 7.87 (200) |
| MC 1003 / MC 1503 | 5.31 (135) | 30.31 (770) | 7.87 (200) |

**ACCESSORI E VARIANTI DISPONIBILI**

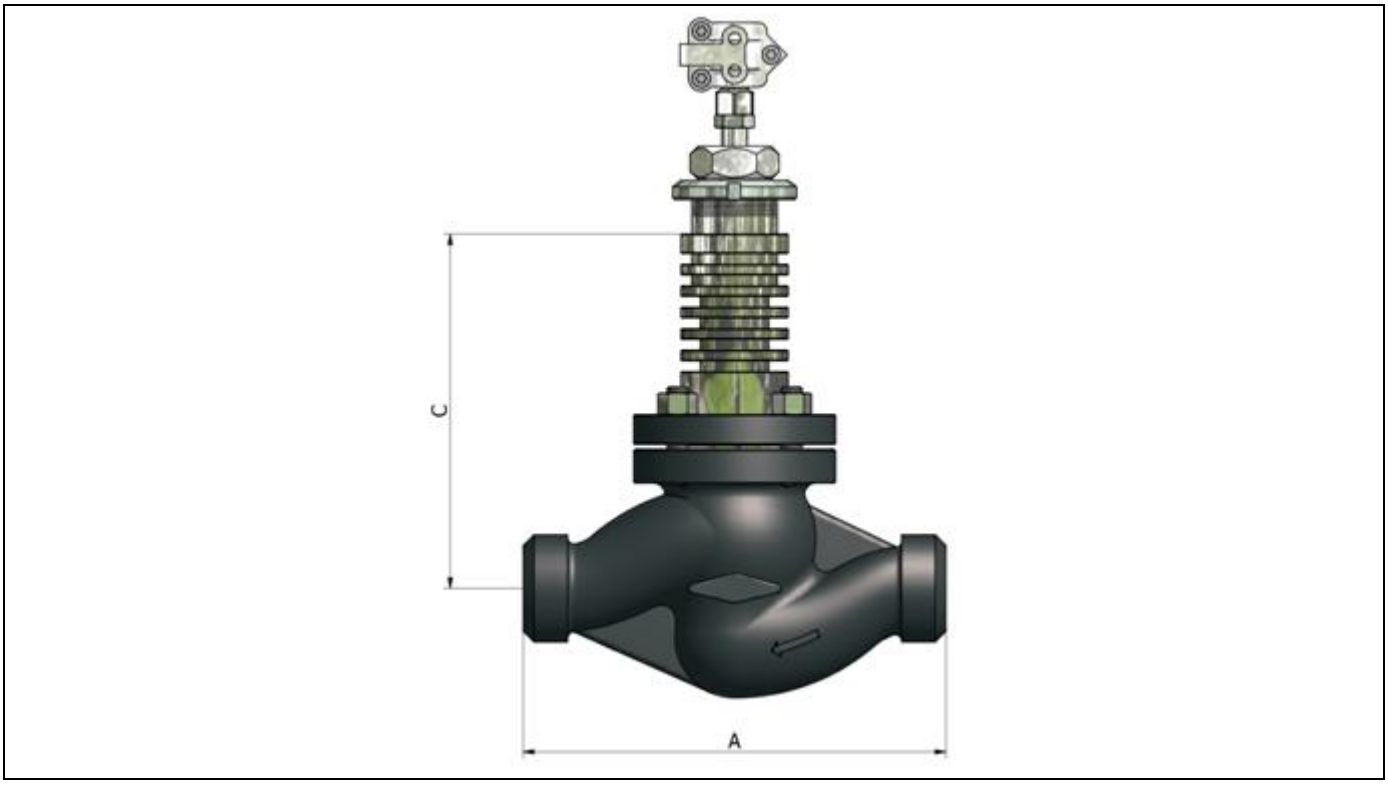
- Grado di protezione IP65
- Ritrasmissione 4÷20 mA
- Finecorsa
- Motori elettrici con molla di ritorno
- Motori elettrici Ex-ia & Ex-d

**OPTIONS AND ACCESSORIES**

- Enclusore protection IP65
- 4÷20 mA feedack
- Limit switches
- Spring return electric actuator
- Ex-ia & Ex-d electric actuator

**TERMINALI A SALDARE** **TERMINALI A SALDARE**

| A inches (mm) | C inches (mm) Otturatore Standard / Standard Trim | | | C inches (mm) Otturatore Bilanciato / Balanced Trim | | |
|---|---|---|---|---|---|---|
| | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended | STD | Soffietto Bellows | Alettato/prolungato Finned /Extended |
| 7.46 (189.5) | 5.08 (129) | 8.98 (228) | 6.81 (173) | - | - | - |
| 7.62 (194) | 5.08 (129) | 8.98 (228) | 6.81 (173) | | | |
| 7.75 (197) | 5.08 (129) | 8.98 (228) | 6.81 (173) | | | |
| 9.25 (235) | 5.04 (128) | 8.90 (226) | 7.28 (185) | | | |
| 10.50 (267) | 5.04 (128) | 8.90 (226) | 7.28 (185) | 6.18 (157) | 10.07 (256) | 8.42 (214) |
| 12.5 (318) | 7.36 (187) | 12.05 (306) | 10.04 (260) | 9.05 (230) | 13.70 (348) | 11.10 (282) |
| 14.50 (368) | 7.24 (184) | 12.09 (307) | 12.20 (310) | 9.64 (245) | 14.48 (368) | 12.20 (310) |
| 18.62 (473) | 10.20 (259) | 14.61 (371) | 14.61 (371) | 14.01 (356) | 18.74 (476) | 15.67 (398) |
| 22.38 (568) | 11.18 (284) | 15.59 (396) | 15.59 (396) | 14.96 (380) | 19.68 (500) | 16.61 (422) |




**PESI CORPI VALVOLA** **VALVE BODY WEIGHT**

| In | Standard [Kg] | | | | Alettato / Finned [Kg] | | | | Prolungato / Extended [Kg] | | | | Soffietto / Bellows [Kg] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 150 WCC | 300 WCC | 150 CF8M | 300 CF8M | 150 WCC | 300 WCC | 150 CF8M | 300 CF8M | 150 WCC | 300 WCC | 150 CF8M | 300 CF8M | 150 WCC | 300 WCC | 150 CF8M | 300 CF8M |
| 3/4 | 6.2 | 6.9 | 6.3 | 7 | 6.5 | 7.2 | 6.6 | 7.3 | 6.7 | 7.4 | 6.8 | 7.5 | 7.4 | 8.1 | 7.5 | 8.2 |
| 1 | 6.9 | 7.8 | 7 | 7.9 | 7.4 | 8.3 | 7.5 | 8.4 | 7.6 | 8.5 | 7.7 | 8.6 | 8 | 8.9 | 8.1 | 9 |
| 1.5 | 11.2 | 14.9 | 12.2 | 15.1 | 11.8 | 14.5 | 12.8 | 15.7 | 12.3 | 16 | 13.4 | 16.3 | 12.9 | 16.5 | 13.9 | 16.8 |
| 2 | 16.2 | 17.5 | 16.7 | 17.9 | 16.8 | 18 | 17.3 | 18.5 | 17.3 | 18.6 | 17.8 | 19 | 17.8 | 19.1 | 18.4 | 19.6 |
| 3 | 34 | 37.5 | 34.6 | 38.1 | 35.9 | 39.3 | 36.5 | 40 | 37.1 | 40.5 | 37.7 | 41.2 | 38.2 | 41.6 | 38.8 | 42.3 |
| 4 | 47.1 | 54 | 47.8 | 55.2 | 50.6 | 57.5 | 51.4 | 58.8 | 51.8 | 58.7 | 52.6 | 60 | 51 | 58 | 51.8 | 59.2 |
| 6 | 126.5 | 138.4 | 128.6 | 142.8 | 132 | 143.9 | 134.2 | 148.4 | 134.4 | 146.3 | 136.6 | 150.8 | 133.2 | 146.5 | 135.4 | 149.6 |
| 8 | 185.6 | 209.9 | 188.7 | 211.3 | 191.2 | 212.5 | 194.4 | 217 | 193.6 | 218.89 | 196.8 | 219.4 | 192.3 | 216.6 | 195.4 | 218.1 |

**PESI ATTUATORI PNEUMATICI** **PNEUMATIC ACTUATOR WEIGHT**

| TIPO / TYPE | SEGNALE / SIGNAL [psi] | ATTUATORE ACTUATOR [Kg] | VOLANTINO MANUALE HAND WHEEL [Kg] |
|---|---|---|---|
| AP 23 | 3 ÷ 15 | 7.3 | 1 |
| | 6 ÷ 18 | 7.4 | |
| | 6 ÷ 30 | 7.3 | |
| | 15 ÷ 60 | 7.8 | |
| AP 28 | 3 ÷ 15 | 9.7 | 1 |
| | 6 ÷ 18 | 9.8 | |
| | 6 ÷ 30 | 9.6 | |
| | 15 ÷ 60 | 11.5 | |
| AP 34 / AP 35 | 3 ÷ 15 | 14.7 | 2.1 |
| | 6 ÷ 18 | 14.9 | |
| | 6 ÷ 30 | 15 | |
| | 15 ÷ 60 | 17.4 | |
| AP 43 / AP 44 | 3 ÷ 15 | 26 | 3 |
| | 6 ÷ 18 | 26.5 | |
| | 6 ÷ 30 | 26.8 | |
| | 15 ÷ 60 | 32.2 | |
| AP 45 | 15 ÷ 60 | 37.8 | 7.1 |
| AP 46 | 15 ÷ 60 | 44.8 | 7.1 |
| AP 60 | 15 ÷ 60 | 155.5 | 7.1 |
| OP 10 | ON-OFF | 7.5 | - |
| OP 16 | ON-OFF | 12.5 | - |

**PESI ATTUATORI ELETTRICI** **ELECTRIC ACTUATOR WEIGHT**

| TIPO / TYPE | 24 Vac [Kg] | 230 Vac [Kg] |
|---|---|---|
| MC 103 | 2.5 | 2.5 |
| MC 163 | 4 | 4 |
| MC 253 | 7.4 | 8.6 |
| MC 403 | 9.5 | 9.5 |
| MC 503 | 7.4 | 8.6 |
| MC 1003 | 11.5 | 11.5 |
| MC 1503 | 11.5 | 11.5 |

**LEGISLAZIONE EUROPEA**

**Accessorio a pressione valutato con Modulo H1, Direttiva 2014/68/UE.**

**EUROPEAN LEGISLATION**

**Pressure equipment evaluated according to Module H1, Directive 2014/68/UE.**

## CODIFICAZIONE / ORDERING INFORMATION

| Valvole di regolazione / Regulation Valves | L20-A1 ½'' - ¾'' ANSI 150 / 300 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Numero di codice / Code number | L20-A1 | | | | | | | | | | |
| **Attacco al processo / Process connection** | | | | | | | | | | | |
| 1/2'' ANSI | | A | | | | | | | | | |
| 3/4'' ANSI | | B | | | | | | | | | |
| 1'' ANSI | | C | | | | | | | | | |
| 1'' ½ ANSI | | D | | | | | | | | | |
| 2'' ANSI | | E | | | | | | | | | |
| 3'' ANSI | | F | | | | | | | | | |
| 4'' ANSI | | G | | | | | | | | | |
| 6'' ANSI | | H | | | | | | | | | |
| 8'' ANSI | | I | | | | | | | | | |
| Speciale / Special | | Z | | | | | | | | | |
| **Corpo / Body** | | | | | | | | | | | |
| ASTM A216 WCC ANSI150 | | | C1 | | | | | | | | |
| ASTM A216 WCC ANSI300 | | | C2 | | | | | | | | |
| ASTM A352 LCC ANSI150 | | | C3 | | | | | | | | |
| ASTM A352 LCC ANSI300 | | | C4 | | | | | | | | |
| ASTM A351 CF8M ANSI150 | | | S1 | | | | | | | | |
| ASTM A351 CF8M ANSI300 | | | S2 | | | | | | | | |
| A Richiesta / On request | | | Z9 | | | | | | | | |
| **Cappello / Bonnet** | | | | | | | | | | | |
| Standard WCC | | | | S1 | | | | | | | |
| Standard CF8M | | | | S2 | | | | | | | |
| Alettato / Finned - Acciaio al Carbonio / Carbon Steel | T>200 [°C] | | | F1 | | | | | | | |
| Allungato / Extended - Acciaio al Carbonio / Carbon Steel | -29<T<-5 [°C] | | | E1 | | | | | | | |
| Alettato / Finned - Acciaio Inox / Stainless Steel | T>200°C [°C] | | | F2 | | | | | | | |
| Allungato / Extended - Acciaio Inox / Stainless Steel | -90<T<-5 [°C] | | | E2 | | | | | | | |
| **Tenuta Stelo / Stem tightness** | | | | | | | | | | | |
| HT200 - Premistoppa / Stuffing Box - (½''÷4'') (*) | T≤200 [°C] | | | | HT2 | | | | | | |
| HT400 - Premistoppa / Stuffing Box - (6''÷8'') | T≤200 [°C] | | | | HT4 | | | | | | |
| HTS300 - Premistoppa / Stuffing Box (*) | T≤400 [°C] | | | | HTS | | | | | | |
| Green Pack | T≤450 [°C] | | | | GP1 | | | | | | |
| GR20 - Premistoppa Grafite / Graphite Stuffing Box (**) | T≤400 [°C] | | | | GR2 | | | | | | |
| ZEB20 - Soffietto Inox / Stainless Steel Bellows | | | | | ZEB | | | | | | |
| **Passaggio / Passing** | | | | | | | | | | | |
| Ridotto / Reduced | | | | | | 1 | | | | | |
| Pieno / Full | | | | | | 2 | | | | | |
| **Tipo otturatore / Shutter type** | | | | | | | | | | | |
| TOP GUIDE - Tenuta metallica / Metallic sealing | | | | | Cl. IV | | T1 | | | | |
| TOP GUIDE - Tenuta / Sealing PTFE/GR | | | | | Cl. VI | | T2 | | | | |
| TOP GUIDE - Tenuta / Sealing Stellittata | | | | | Cl. IV | | T3 | | | | |
| TOP GUIDE - Indurimento con Nitrurazione salina / Hardening with nitriding salt | | | | | Cl. IV | | T4 | | | | |
| Bilanciato / Balanced | | | | | | | BL | | | | |
| **Gabbia antirumore e/o anticavitazione / Anti-noise and/or anti-cavitation cage** | | | | | | | | | | | |
| Si / Yes | | | | | | | | Y | | | |
| Non richiesta / Not required | | | | | | | | N | | | |
| **Conformità NACE / NACE conformity** | | | | | | | | | | | |
| Si / Yes | | | | | | | | | Y | | |
| Non richiesta / Not required | | | | | | | | | N | | |
| **Verniciatura / Painting** | | | | | | | | | | | |
| RAL 5010 - T≤150 [°C] | | | | | | | | | | | P1 |
| RAL 5010 - 150<T≤250 [°C] | | | | | | | | | | | P2 |
| RAL 5010 - 250<T≤400 [°C] | | | | | | | | | | | P3 |
| RAL 5010 - Per ambienti marini / Marine type | | | | | | | | | | | P4 |

(*) Disponibili fino al 6'' / Available up to 6''
(**) Disponibile dal 6'' / Available from 6''

# Contact Details

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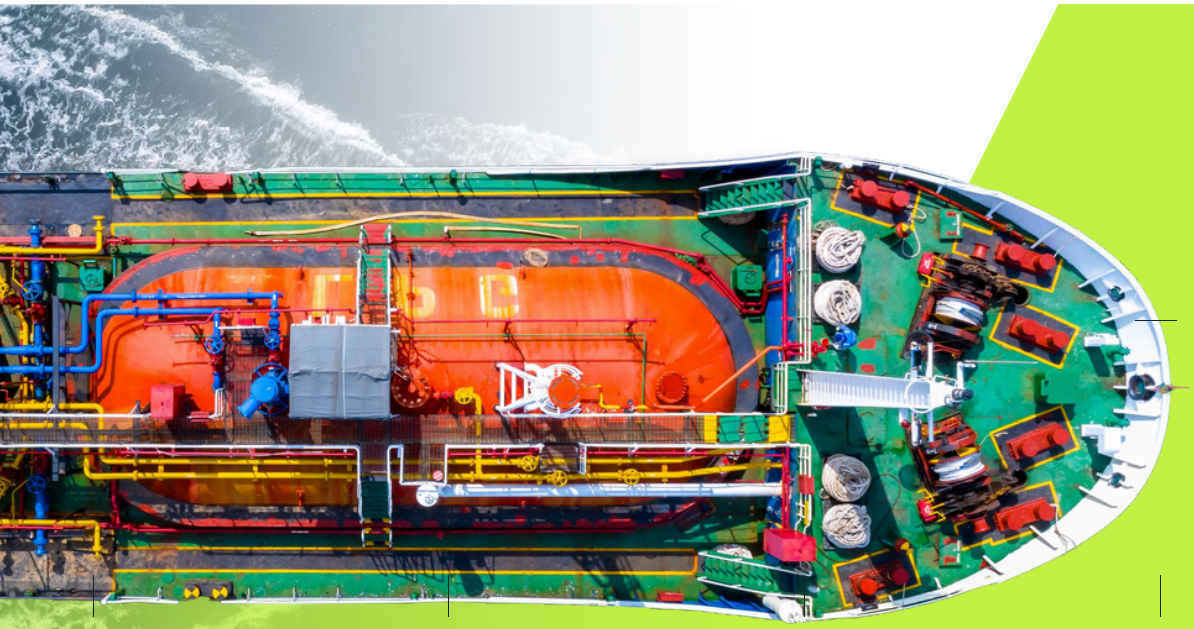
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