



M.G. COMPONENTI SRL

PNEUMATICA – OLEODINAMICA

AUTOMAZIONE

COSTRUZIONE CILINDRI OLEODINAMICI

MOLTIPLICATORI DI PRESSIONE ARIA - ARIA



M.G. COMPONENTI SRL

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INDICE

CHIAVE DI CODIFICA pag. 1

RAPPORTO COMPRESSIONE 1.2

Ø40 – Ø63 pag. 2

Ø100 e accessori pag. 3

CON REGOLATORE DI PRESSIONE pag. 4

RAPPORTO COMPRESSIONE 1.3

Ø40 – Ø63 pag. 5

Ø100 e accessori pag. 6

CON REGOLATORE DI PRESSIONE pag. 7

RAPPORTO COMPRESSIONE 1.4

Ø40 – Ø63 pag. 8

Ø100 e accessori pag. 9

CON REGOLATORE DI PRESSIONE pag. 10

DIMENSIONI SERBATOIO pag. 11-12



MG COMPONENTI SRL

Pneumatica – Oleodinamica – Automazione

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Chiave di codifica

Codification key

-UM12-

-UM12- Standard

-UM22- Con regolatore -

With pressure regulator

040

Diametro - *Diameter*

040 mm

063 mm

100 mm

RC1.2

Rapporto di compressione - *Pressure ratio*

1.2 (out Pmax = 20 bar)

1.3 (out Pmax = 30 bar)

1.4 (out Pmax = 40 bar)



Dati Tecnici

Technical data

Fluido: aria filtrata, lubrificata* o (preferibilmente) non lubrificata.

Pressione di alimentazione: 3 ÷ 10 bar.

Temperature ambiente: -20°C ÷ +50°C.

Posizione di montaggio: si suggerisce il montaggio con l'alimentazione dall'alto.

*ATTENZIONE: tutti gli elementi scorrevoli e le guarnizioni, sono prelubrificati con grasso speciale ad alte prestazioni. Nel caso si iniziasse a lubrificare con olio nebulizzato, ciò dovrà perdurare in maniera costante.

Fluid: filtered air, lubricated or (preferred) non lubricated.*

Inlet pressure: 3 ÷ 10 bar.

Ambient temperature: -20°C ÷ +50°C.

Mounting position: it is suggested mounting with the inlet connection above.

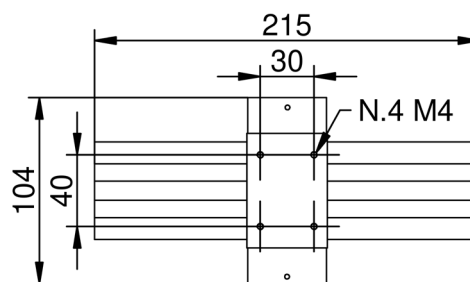
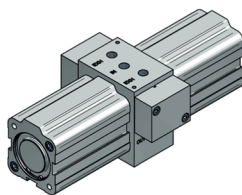
**ATTENTION: all the sliding elements and the seals, are lubricated with special high performance grease. If you began to lubricate with oil mist, you will have to lubricate continuously.*

Caratteristiche componenti - *Components specifications*

DESCRIZIONE - <i>DESCRIPTION</i>	MATERIALE - <i>MATERIAL</i>	TRATTAMENTO - <i>TREATMENT</i>
Corpo fondelli - <i>Body caps</i>	Lega 11s - <i>Allumun 2011</i>	Anodizzazione - <i>Anodized</i>
Pistoni - <i>Pistons</i>	Lega 11s - <i>Allumun 2011</i>	
Stelo - <i>Rod</i>	Acciaio cromato - <i>Chromated steel</i>	
Viti di fissaggio - <i>Fixing screws</i>	Acciaio - <i>Steel</i>	Zincatura - <i>Galvanized</i>
Spole valvole - <i>Valves spools</i>	Acciaio inox, OT58 - <i>Stainless steel, Brass</i>	
Elementi di tenuta - <i>Seals</i>	NBR, Poliuretano - <i>NBR, Polyurethane</i>	

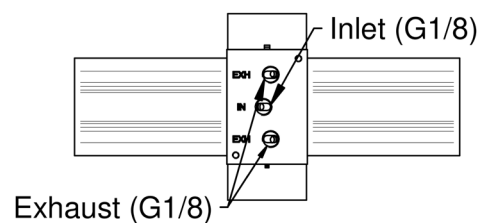
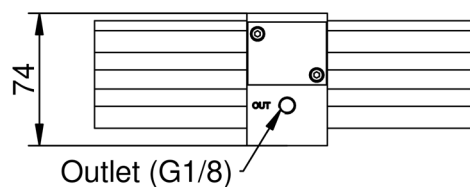
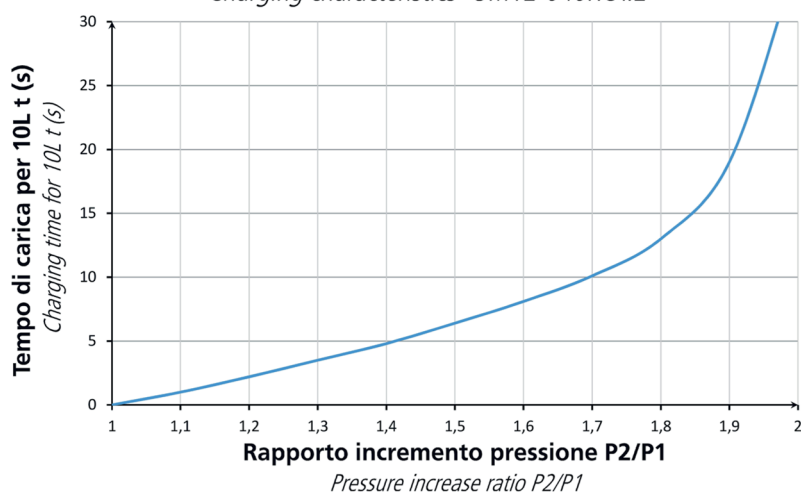
Ø40 Rc=1:2

-UM12-040RC1.2



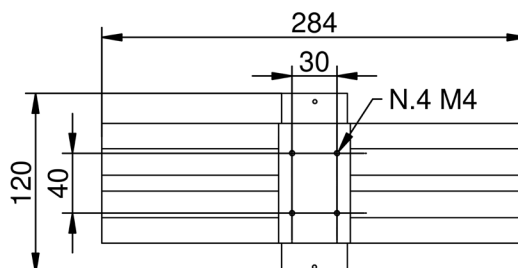
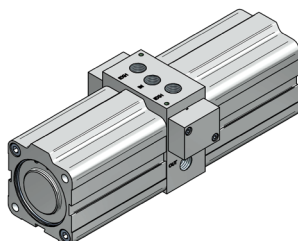
Caratteristiche di carica -UM12-040RC1.2

Charging characteristics -UM12-040RC1.2



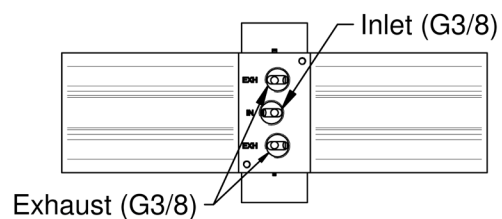
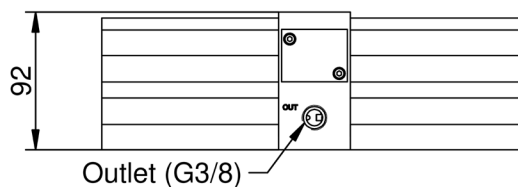
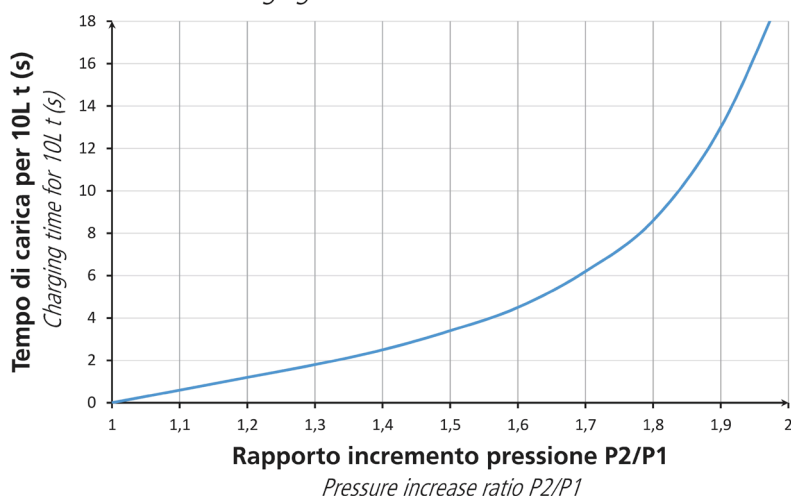
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-UM12-063RC1.2



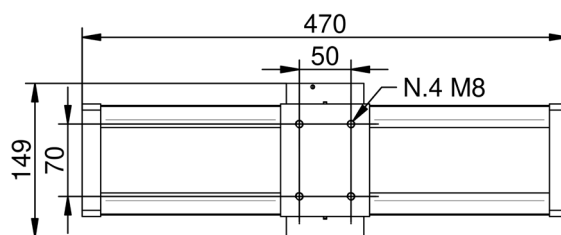
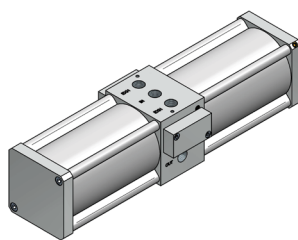
Caratteristiche di carica -UM12-063RC1.2

Charging characteristics -UM12-063RC1.2



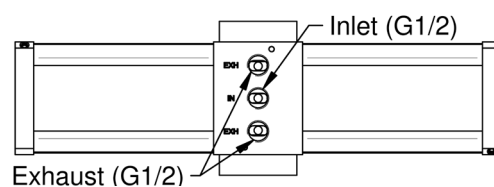
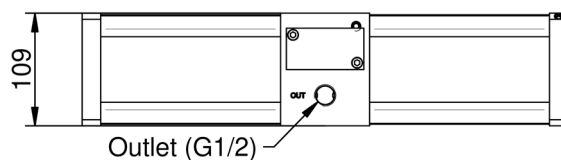
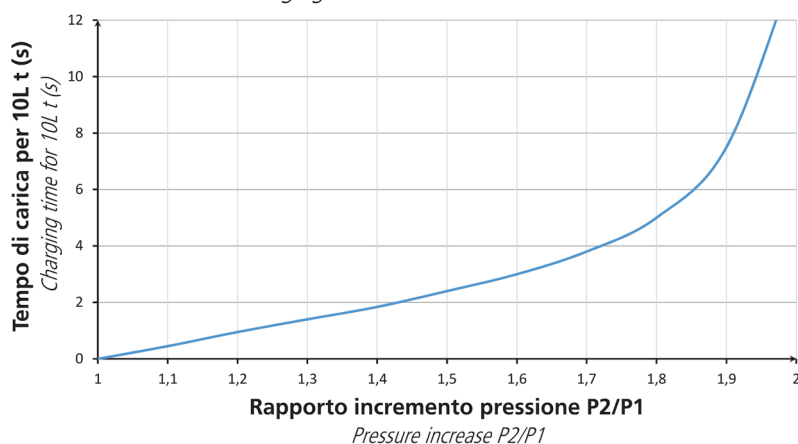
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-UM12-100RC1.2



Caratteristiche di carica -UM12-100RC1.2

Charging characteristics -UM12-100RC1.2



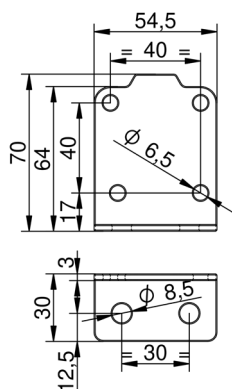
Accessori - Accessories

-UM12-040KT01

Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13040

Coppia staffe di fissaggio -
Pair of fixing brackets

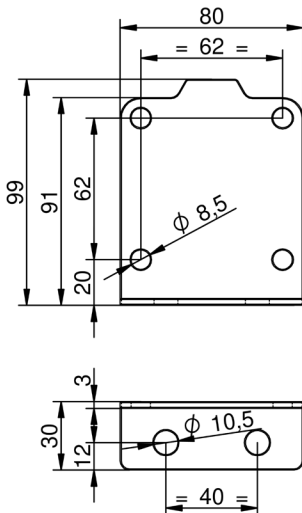


-UM12-063KT01

Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13063

Coppia staffe di fissaggio -
Pair of fixing brackets

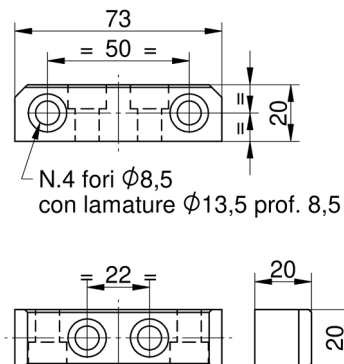


-UM12-100KT01

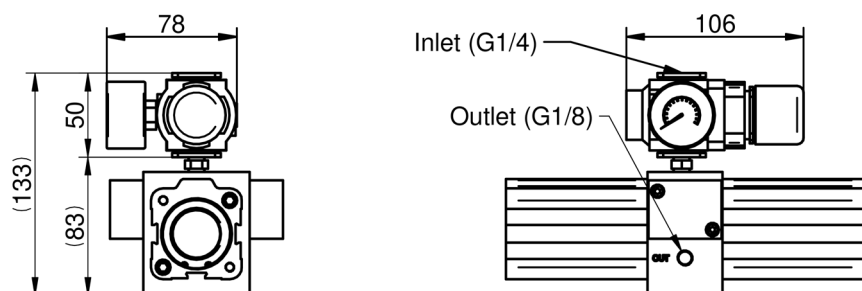
Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13100

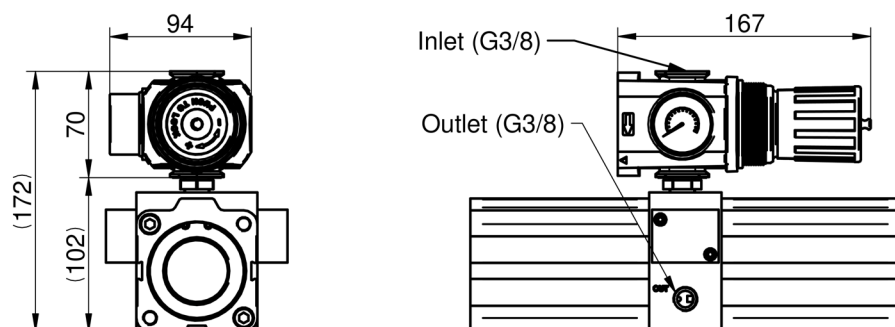
Coppia staffe di fissaggio -
Pair of fixing brackets



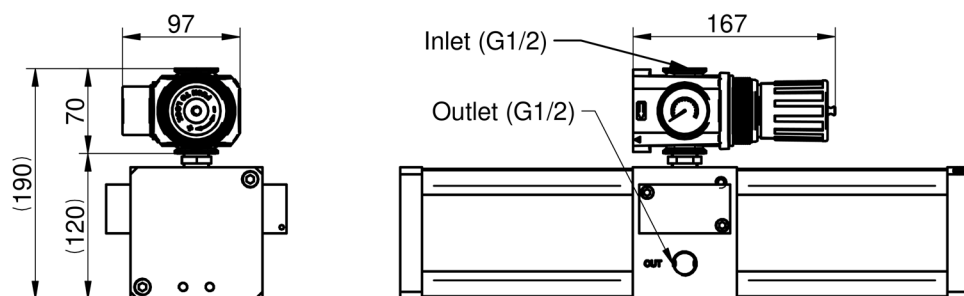
-UM22-040RC1.2 (con regolatore) - (*Whit pressure regulator*)



-UM22-063RC1.2 (con regolatore) - (*Whit pressure regulator*)

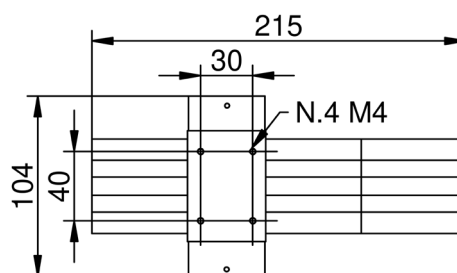
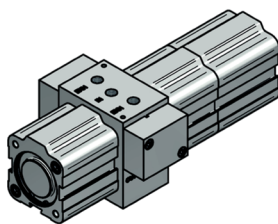


-UM22-100RC1.2 (con regolatore) - (*Whit pressure regulator*)



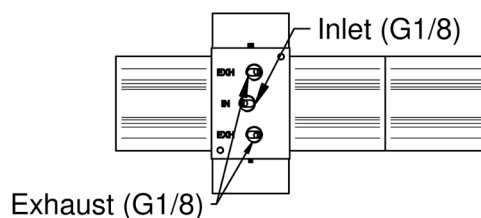
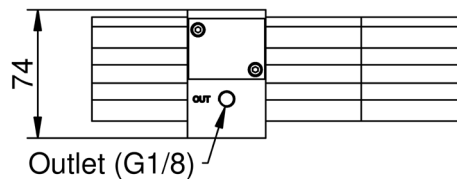
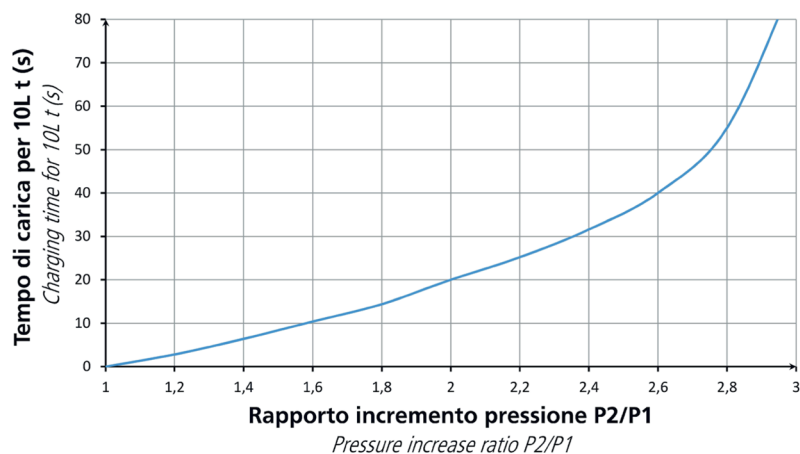
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-UM12-040RC1.3



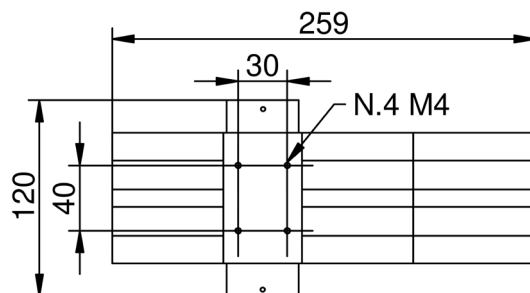
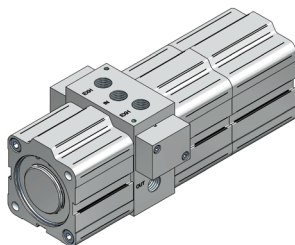
Caratteristiche di carica -UM12-040RC1.3

Charging characteristics -UM12-040RC1.3



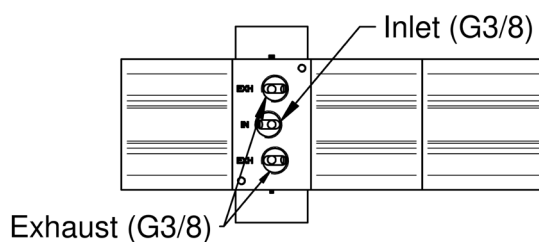
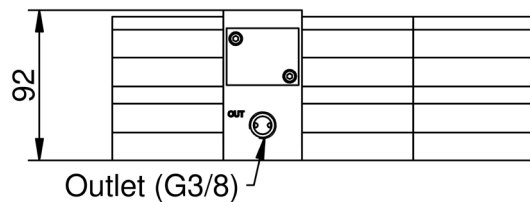
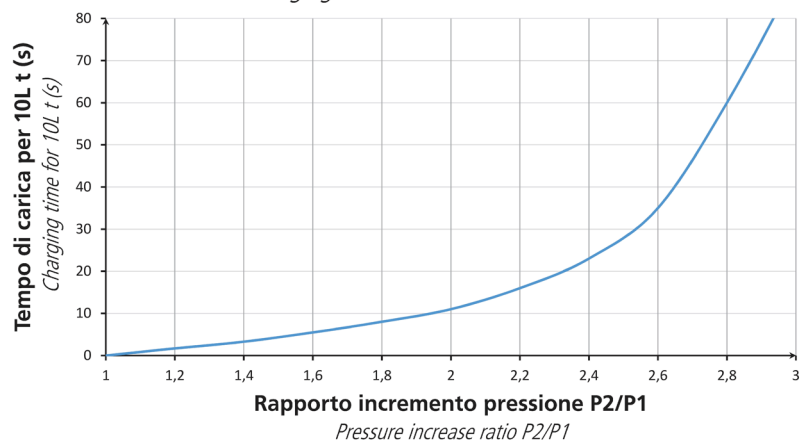
Ø63 Rc=1:3

-UM12-063RC1.3



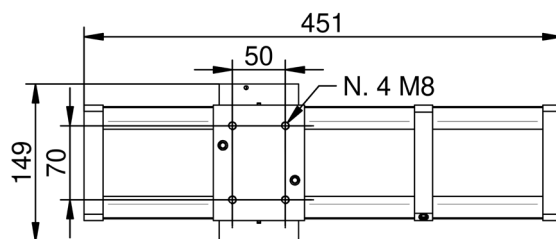
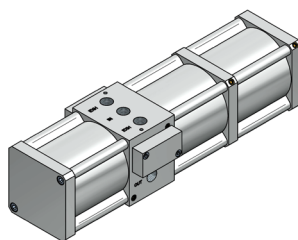
Caratteristiche di carica -UM12-063RC1.3

Charging characteristics -UM12-063RC1.3



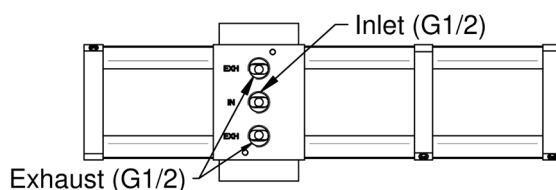
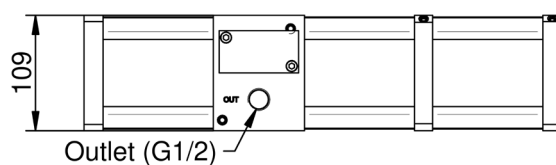
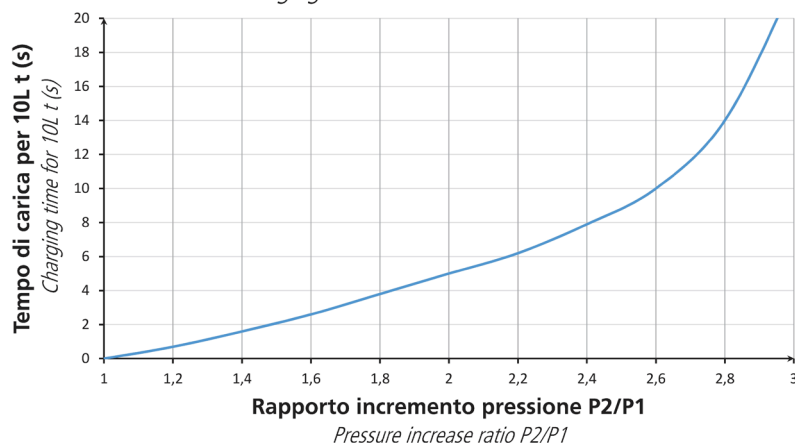
Ø100 Rc=1:3

-UM12-100RC1.3



Caratteristiche di carica -UM12-100RC1.3

Charging characteristics -UM12-100RC1.3



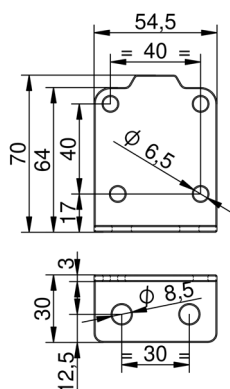
Accessori - Accessories

-UM12-040KT01

Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13040

Coppia staffe di fissaggio -
Pair of fixing brackets

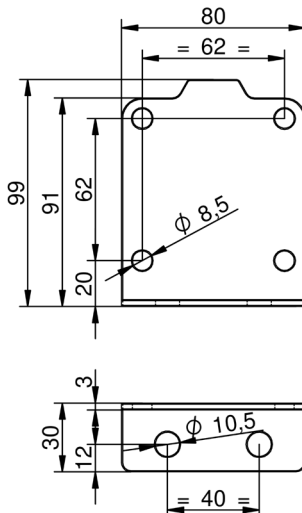


-UM12-063KT01

Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13063

Coppia staffe di fissaggio -
Pair of fixing brackets

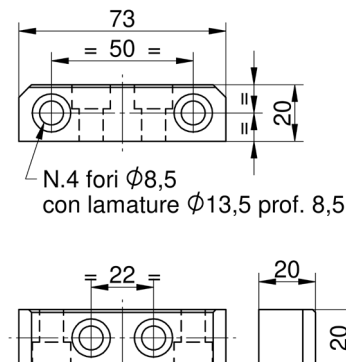


-UM12-100KT01

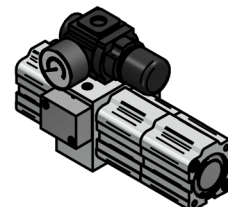
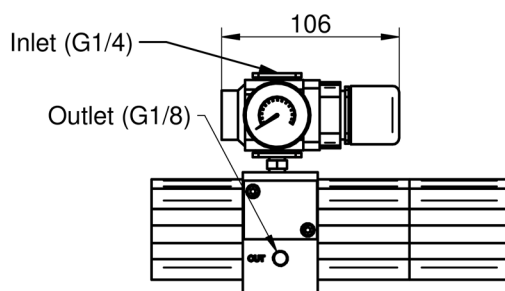
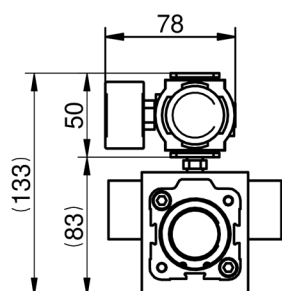
Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13100

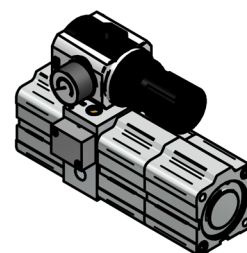
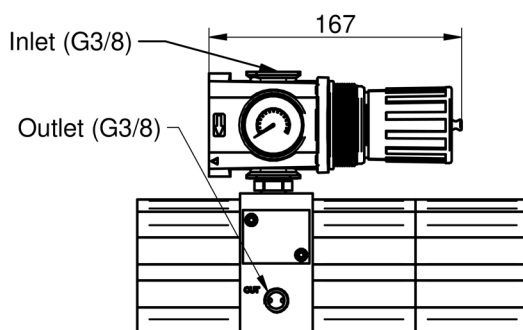
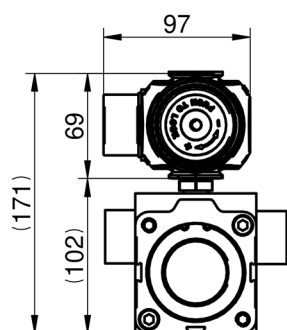
Coppia staffe di fissaggio -
Pair of fixing brackets



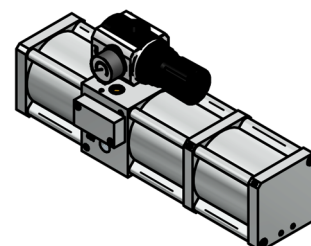
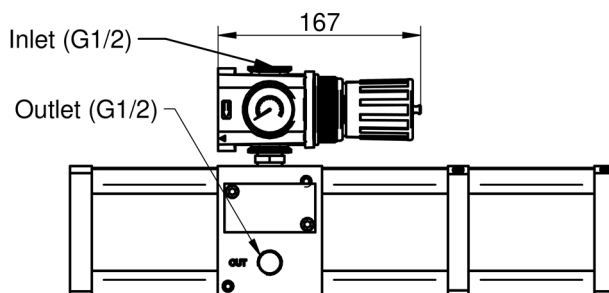
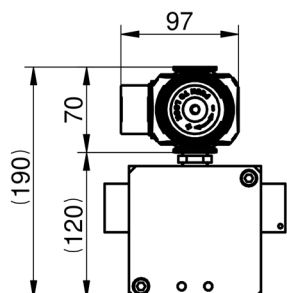
-UM22-040RC1.3 (con regolatore) - (*Whit pressure regulator*)



-UM22-063RC1.3 (con regolatore) - (*Whit pressure regulator*)

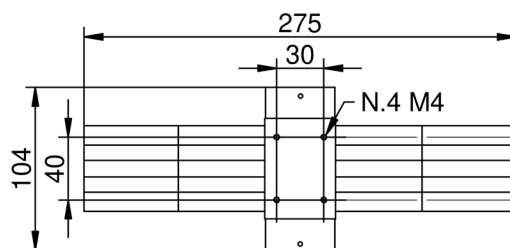
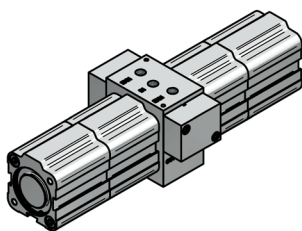


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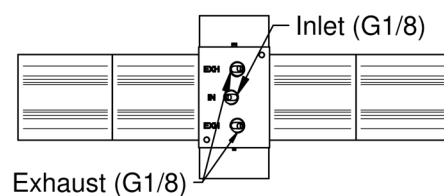
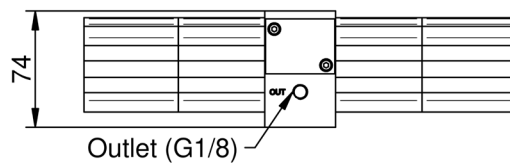
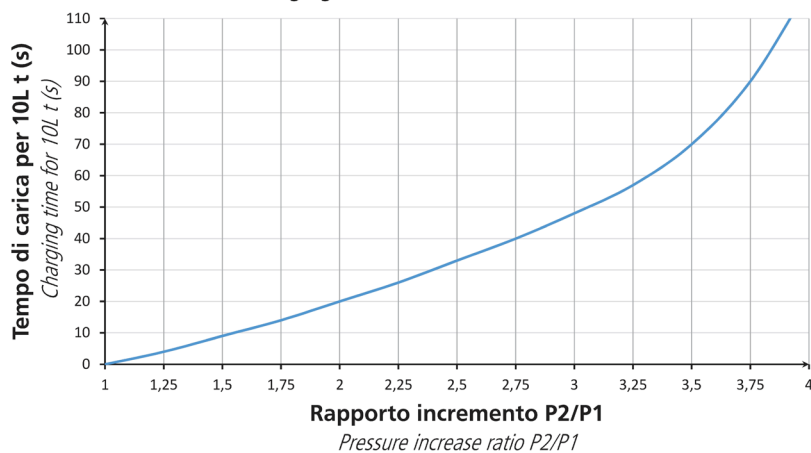
Ø040 Rc=1:4

-UM12-040RC1.4



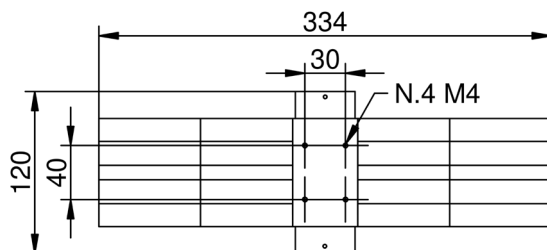
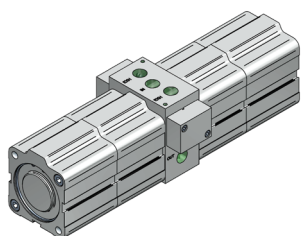
Caratteristiche di carica -UM12-040RC1.4

Charging characteristics -UM12-040RC1.4



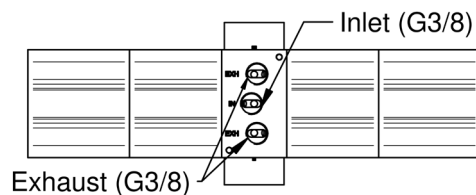
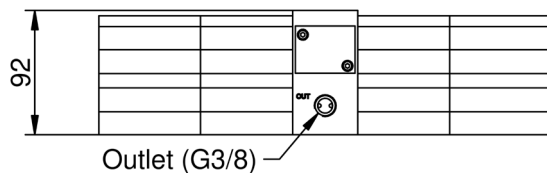
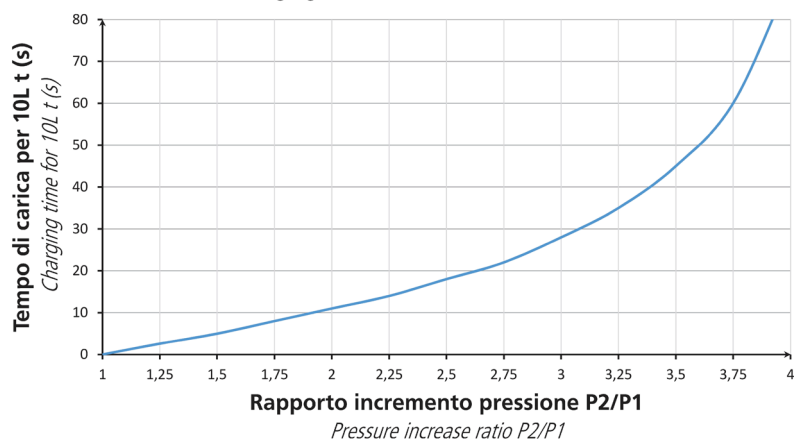
Ø063 Rc=1:4

-UM12-063RC1.4



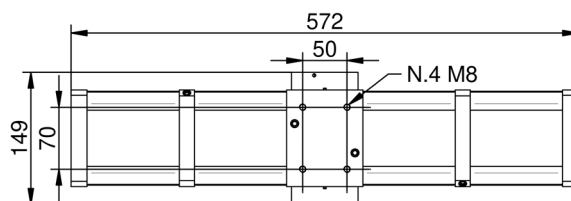
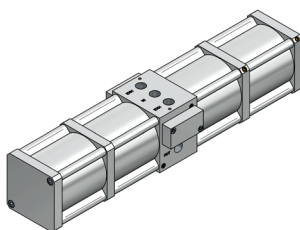
Caratteristiche di carica -UM12-063RC1.4

Charging characteristics -UM12-063RC1.4



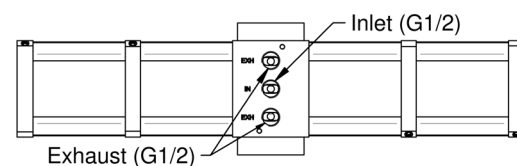
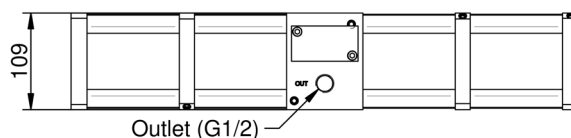
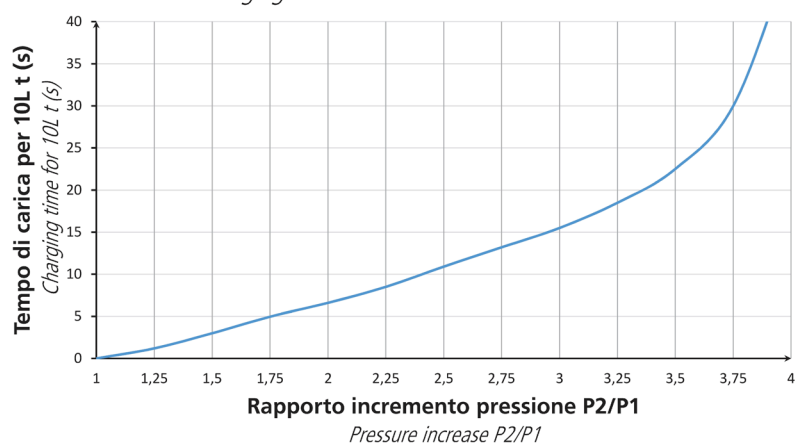
Ø100 Rc=1:4

-UM12-100RC1.4



Caratteristiche di carica -UM12-100RC1.4

Charging characteristics -UM12-100RC1.4



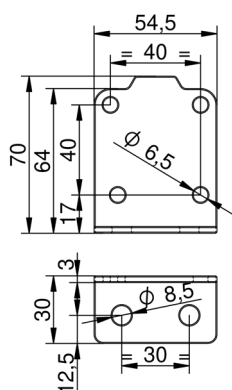
Accessori - Accessories

-UM12-040KT01

Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13040

Coppia staffe di fissaggio -
Pair of fixing brackets

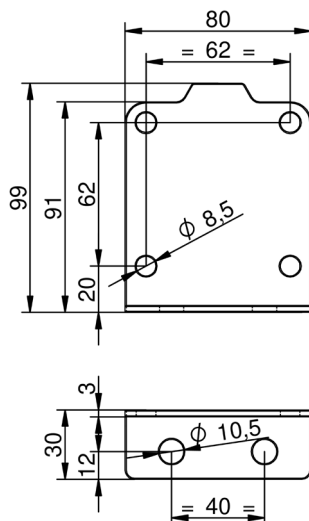


-UM12-063KT01

Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13063

Coppia staffe di fissaggio -
Pair of fixing brackets

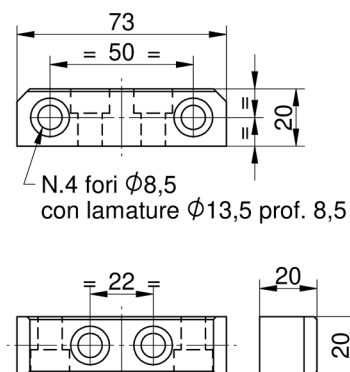


-UM12-100KT01

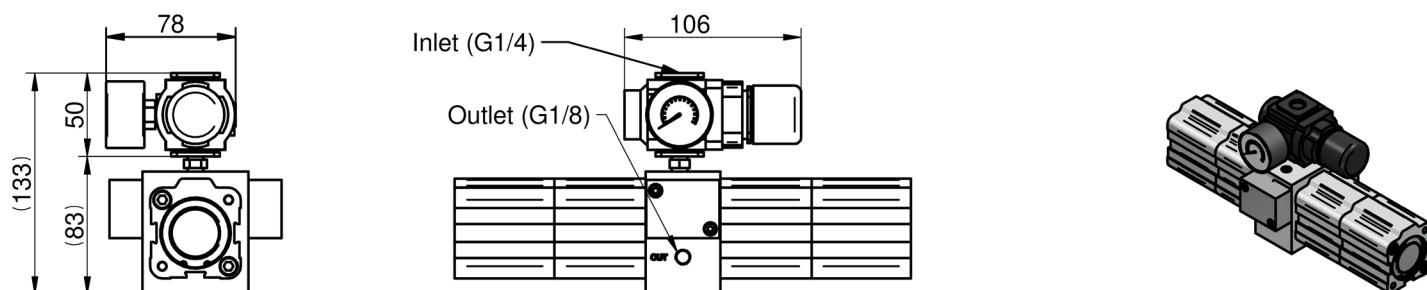
Kit ricambio guarnizioni e o-ring -
Gasket and o-ring replacement kit

-UM-13100

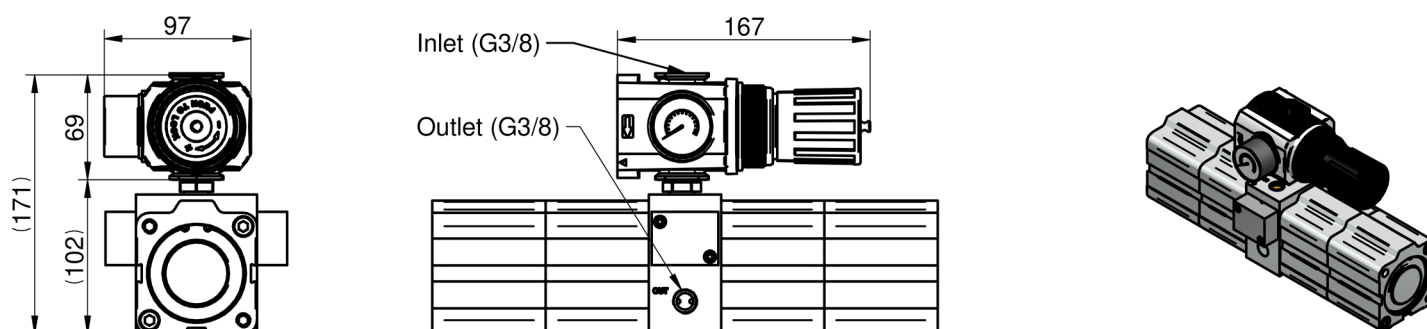
Coppia staffe di fissaggio -
Pair of fixing brackets



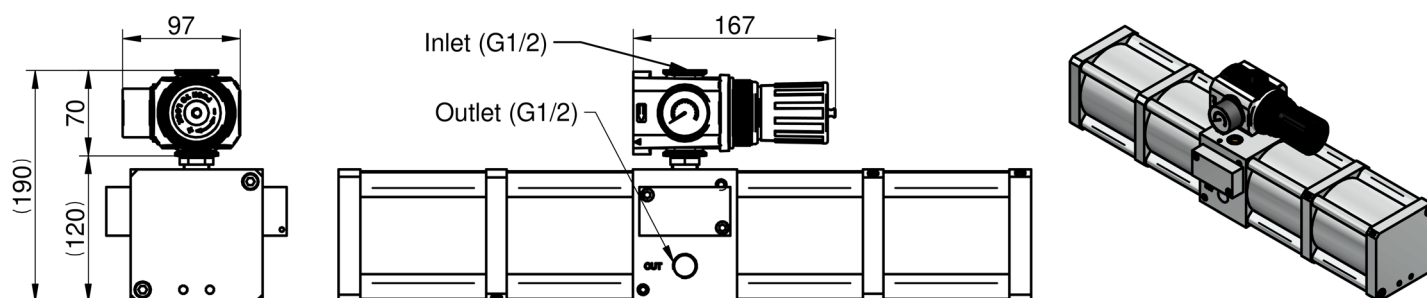
-UM22-040RC1.4 (con regolatore) - (*Whit pressure regulator*)



-UM22-063RC1.4 (con regolatore) - (*Whit pressure regulator*)



-UM22-100RC1.4 (con regolatore) - (*Whit pressure regulator*)

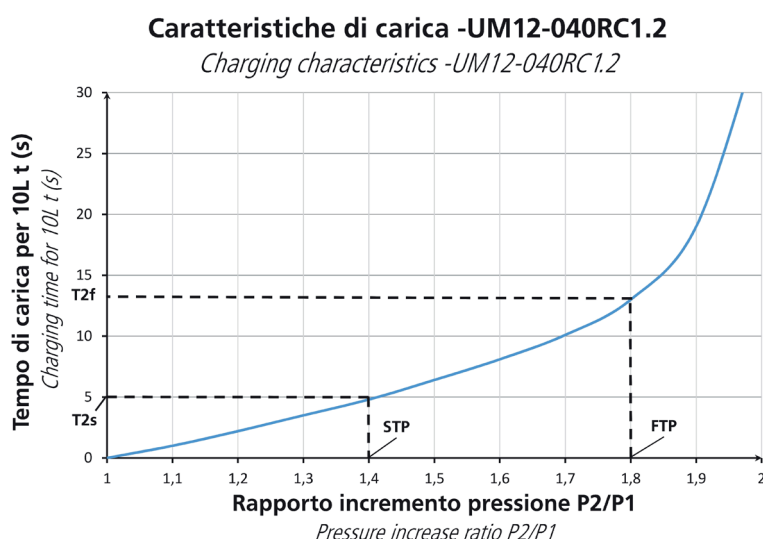


Dimensionamento del serbatoio

Tank sizing

Esempio di calcolo del tempo di riempimento di un serbatoio da 50 litri ad una pressione iniziale di 7 bar che deve essere portata a 9 bar con un moltiplicatore -UM12-040RC1.2 alimentato con una pressione di rete di 5 bar, (Per il dimensionamento con altri moltiplicatori confrontare diagrammi da pag. 6 a pag.11).

Calculation example about filling time of a 50 litres volume tank from starting pressure of 7 bar to final pressure of 9 bar using a pressure intensifier -UM12-040RC1.2 with a inlet pressure of a 5 bar, (for sizing with other boosters compare diagrams from page 6 to page 11).



Dati da conoscere - *Known data*

Pressione di alimentazione - *inlet pressure*: $P1 = 5$ bar ;
Pressione iniziale serbatoio - *Starting tank pressure*: $STP = 7$ bar ;
Pressione finale serbatoio - *Final tank pressure*: $FTP = 9$ bar ;
Volumi serbatoio - *Tank volume*: $V = 50$ L ;

Istruzioni per il calcolo del serbatoio - *Tank calculation instruction*

- | | |
|--|--|
| 1) Calcolare $STP/P1$ e $FTP/P1$; | 1) Calculate $STP/P1$ and $FTP/P1$; |
| 2) Ricavare dal grafico relativo al moltiplicatore i valori del tempo | 2) Get in the chart the time values corresponding to the |
| 3) Il tempo di riempimento di un serbatoio da 10 litri con le pressioni iniziali e finali di cui sopra è $t = T2f - T2s$; | 3) The filling time of a 10 litres tank with initial and final pressure above indicated is $t = T2f - T2s$; |
| 4) Il tempo di riempimento di un serbatoio da 50 litri è $T_{tot} = t * V / 10$. | 4) The filling time of a 50 litres tank is $T_{tot} = t * V / 10$. |

Calcolo - *Calculation*

- | | |
|--|--|
| 1) $STP / P1 = 7 / 5 = 1,4$ Entro nel grafico con $P2/P1 = 1,4$ e trovo $T2s = 5s$ - <i>in the chart i find $T2s = 5s$ with $P2/P1 = 1,4$;</i> | |
| 2) $FTP / P1 = 9 / 5 = 1,8$ Entro nel grafico con $P2/P1 = 1,8$ e trovo $T2f = 13s$ - <i>In the chart i find $T2f = 13s$ with $P2/P1 = 1,8$;</i> | |
| 3) Calcolo $t = T2f - T2s = 13 - 5 = 8s$ - <i>Calculate $t = T2f - T2s = 13 - 5 = 8s$;</i> | |
| 4) Il tempo di riempimento di un serbatoio da 50 litri è $T_{tot} = 8 * 50 / 10 = 40s$ - <i>The filling time of a 50 litres volume tank is $T_{tot} = 8 * 50 / 10 = 40s$.</i> | |

Serbatoi orizzontali con staffe - *horizontal tanks with brackets*

- Caratteristiche generali - *General characteristics:*

Omologazione - *Approval* =

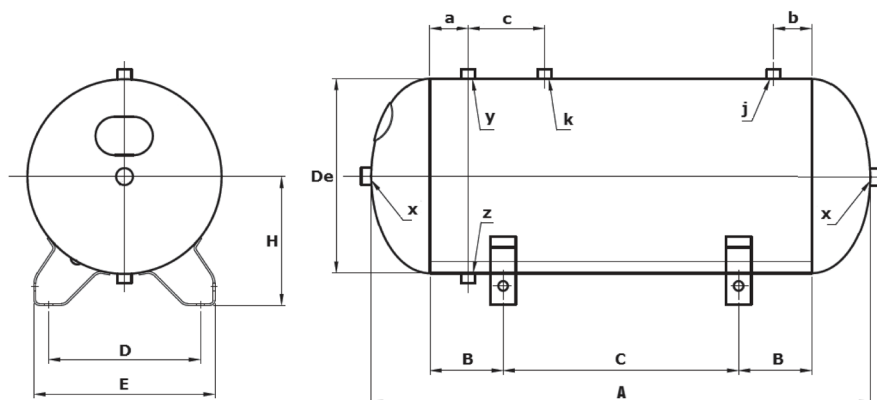
CE = 2009/105/CE

Materiale - *Material* =

Acciaio al Carbonio - *Carbon steel*

Trattamento superficiale - *Surface treatment* =

Verniciato azzurro, (a richiesta zincato) - *Blue painted, on request galvanized*



Serbatoi standard - *standard tanks*

Capacità (l)	Codice verniciato	Pressione (bar)	De (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	H (mm)	a (mm)	b (mm)	c (mm)	x	j	y	k	z
10	-XB-00010V	11	169	506	105/66	240	172	205	114,5	49	66	-	1"	3/8"	-	-	3/8"
15	-XB-00015V	11	196	522	96/74	240	172	205	135	64	67	-	1"	3/8"	-	-	3/8"
24	-XB-00024V	11	240	592	50/11	290	180	235	165	94	34	-	1"	3/8"	-	-	3/8"
50	-XB-00050V	11	286	766	114/66	420	240	290	188,5	59	59	-	1"	3/8"	-	-	3/8"
50	-XB-00050V/15	15	305	784	100	400	236	285	202,5	100*	100	-	1/2"	1/2"	1/2"	-	1/2"

* 300mm per il manicotto di scarico "Z" (posto al centro) - *300mm for the "Z" drain sleeve (in the center).*

* Per serbatoi con caratteristiche differenti sono disponibili su richiesta - *For tanks with different characteristics are available on request.*

Riduttori di alta pressione - *High pressure regulators*

- Caratteristiche generali - *General characteristics:*

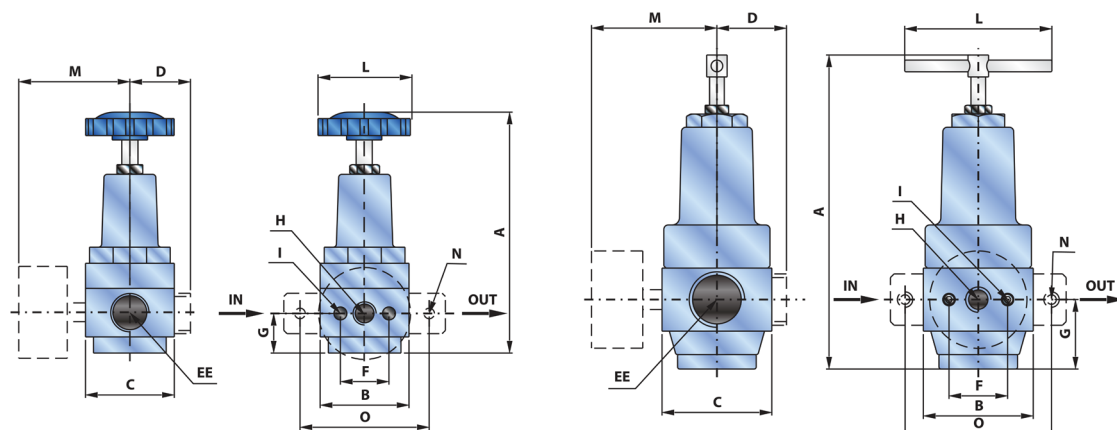
Codice Code	*Portata nominale *Nominal flow (Nl/min)	Campo di regolazione Adjustment range (bar)	Massa Mass (Kg)	Pressione max esercizio Max working pressure (bar)	Temperatura di esercizio Temperature range (°C)	Minima sovrappressione relieving Overpressure relieving (bar)
-AI-JHR.12	550	2 - 35	0,56	40	5 / +60	5
-AI-JHR.1	4000	2 - 35	1,40	40	5 / +60	5

Fluido: aria filtrata 40 microm non lubrificata. Se l'impianto richiede un lubrificatore, montarlo a valle del regolatore.

Fluid: filtered air 40 microm not lubricated. If the system requires lubricated air mount a lubricator after the precision regulator.

*Portata rilevata con una pressione d'ingresso di 7 bar ed una di pressione regolata di 5 bar.

**Flow rate measured with an inlet pressure of 7 bar and an outlet pressure of 5 bar.*



Codice Code	A	B	C	D	EE	F	G	H	I	L	M	N	O
-AI-JHR.12	140	55	55	62,5	G1/2	30	24	G1/4	M5x10	Ø59	37,5	6,5	80
-AI-JHR.1	219	75	75	71,5	G1	40	48	G1/4	M5x10	100	47,5	6,5	100