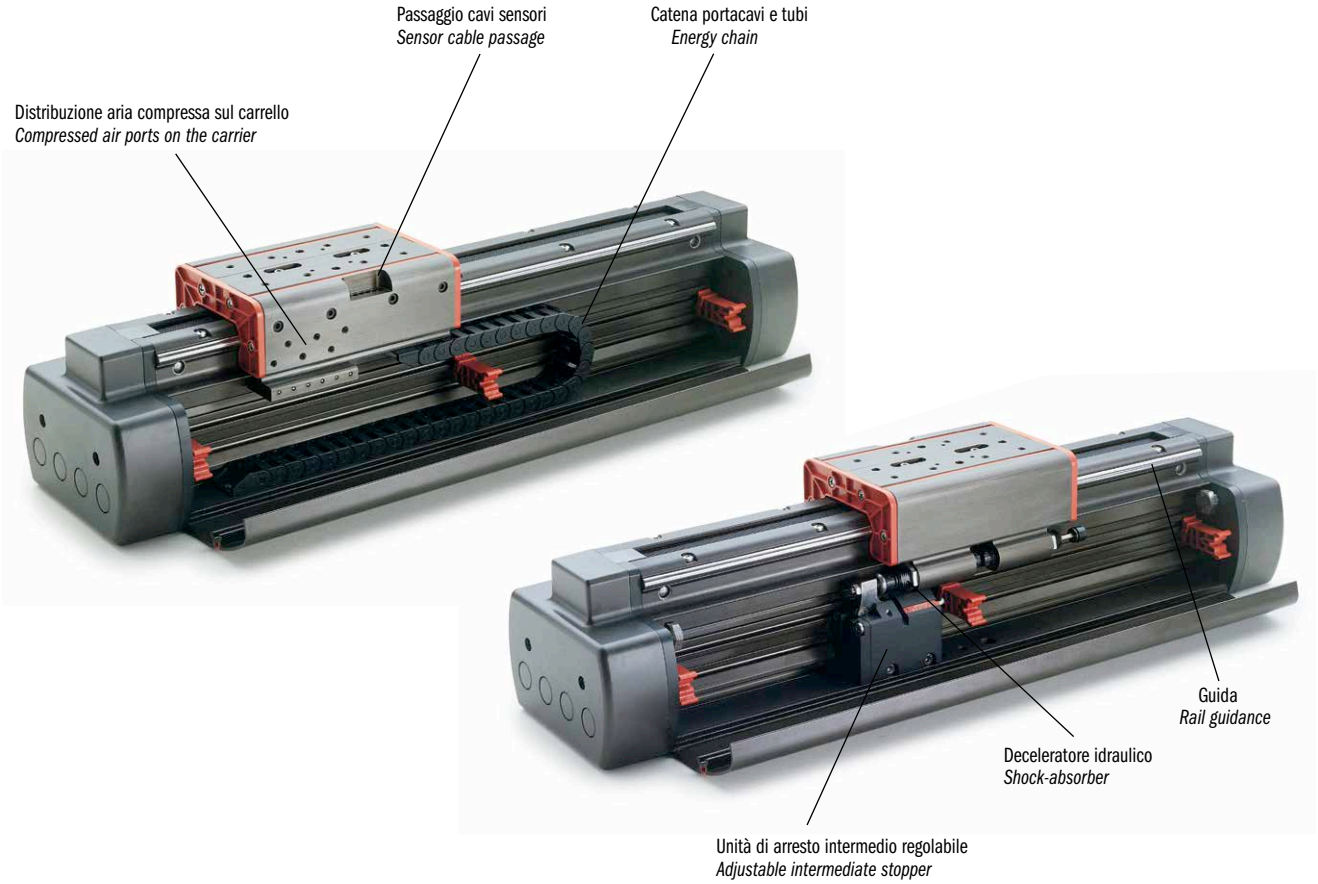
Unità pneumatica di traslazione lineare

- Struttura rigida e robusta.
- Fino a 30kg trasportabili sul carrello.
- Guida su cuscinetti a ricircolo di sfere.
- Sistema esclusivo di trasmissione a cinghia.
- Deceleratori idraulici sul carrello.
- Deceleratori supplementari opzionali.
- Possibilità di un secondo carrello.
- Possibilità di arresti intermedi.
- Possibilità di alloggiare internamente una catena portacavi.
- Sensori magnetici opzionali.
- Interfacciabile con il sistema Gimapick.

Pneumatic linear slide

- *High stiffness and deflection resistance.*
- *Up to 30kg on the carrier.*
- *Guidance with recirculating ball-bearings.*
- *Exclusive belt drive system.*
- *Hydraulic shock-absorbers on the carrier.*
- *Optional additional shock-absorbers.*
- *Optional second carrier.*
- *Optional intermediate stoppers.*
- *Optional internal energy chain.*
- *Optional magnetic sensors.*
- *Compatible with Gimapick system.*

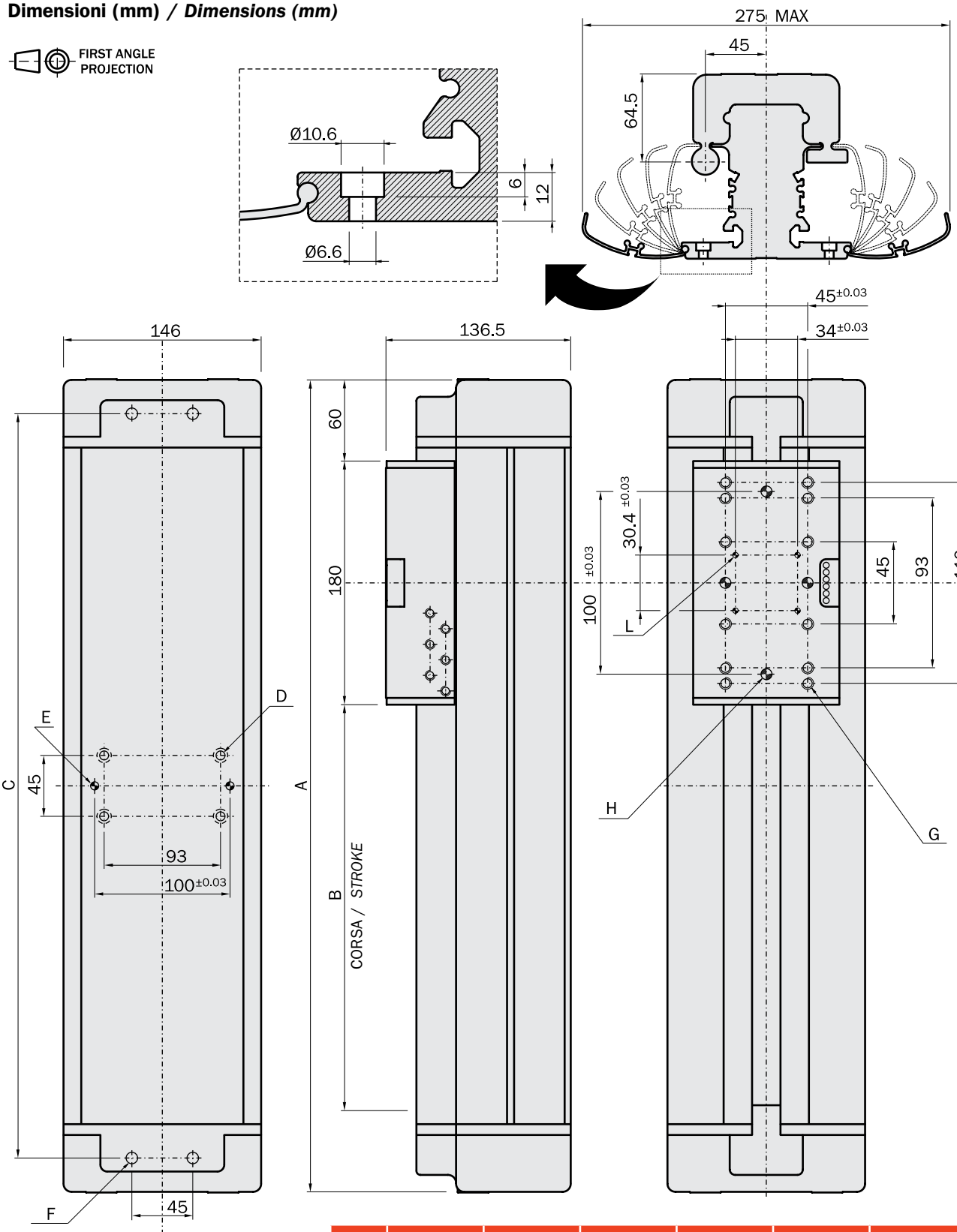


	L40-0300	L40-0500	L40-0800	L40-1000	L40-1500	L40-2000
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Forza a 6 bar *Force at 6 bar*	350 N					
Corsa *Stroke*	300 mm	500 mm	800 mm	1000 mm	1500 mm	2000 mm
Consumo d'aria per ciclo *Cycle air consumption*	435 cm^3	686 cm^3	1063 cm^3	1314 cm^3	1943 cm^3	2571 cm^3
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	10.4 kg	13.2 kg	17 kg	19.8 kg	26.6 kg	33.4 kg

09/2013

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION



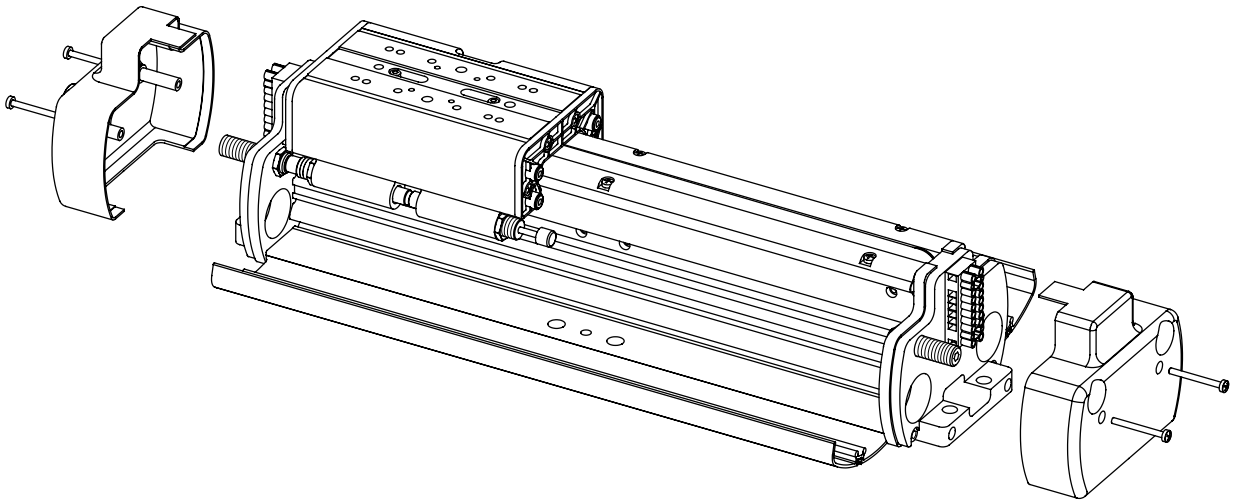
	L40-0300	L40-0500	L40-0800	L40-1000	L40-1500	L40-2000
A	600	800	1100	1300	1800	2300
B	300	500	800	1000	1500	2000
C	550	750	1050	1250	1750	2250
D	N°4 Fori / Holes Ø6.6					
E	N°2 Fori / Holes Ø6 H8 x 12mm					
F	N°4 Fori / Holes Ø9					
G	N°12 Fori / Holes M6x10mm					
H	N°4 Fori / Holes Ø6 H8 x 12mm					
L	N°4 Fori / Holes Ø3 H8 x 8mm					

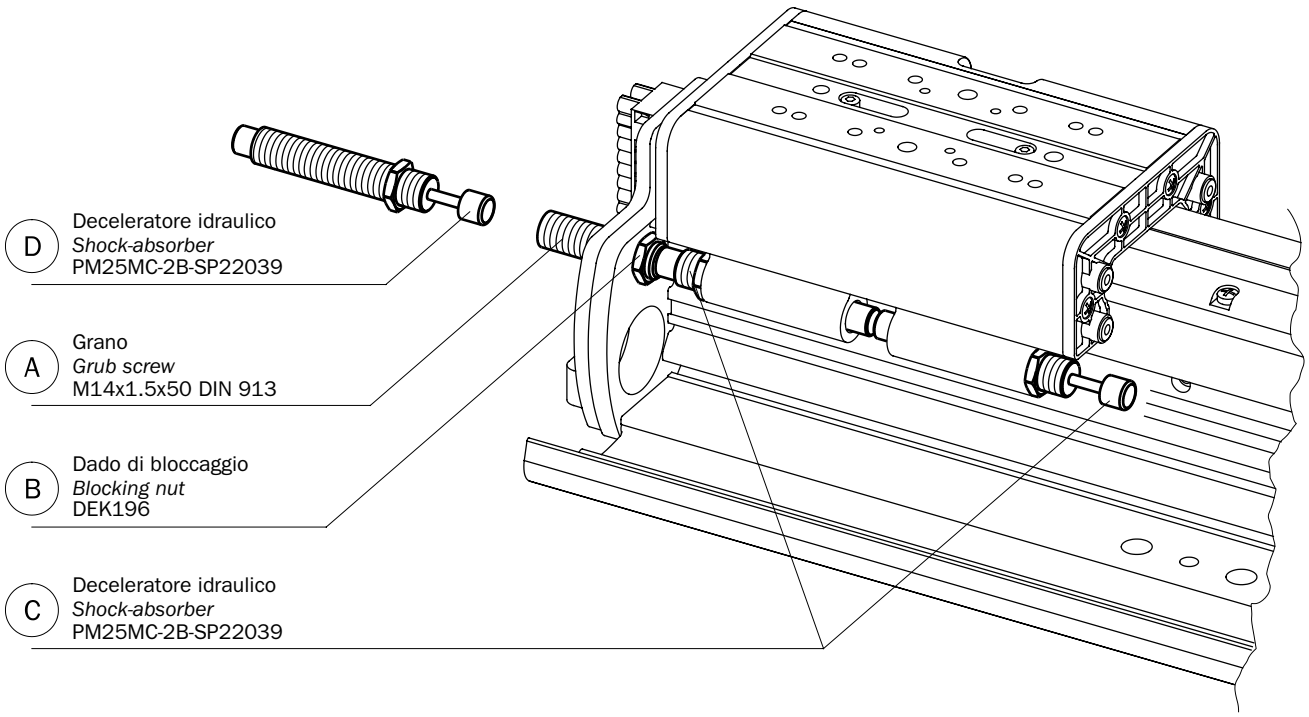
Regolazione della corsa

La corsa può essere limitata di:
- 50mm variando la posizione dei due deceleratori idraulici (C) posti sul carrello;
- 50mm variando la posizione dei due finecorsa standard (i grani A) posti nelle due spalle;
- 80mm variando la posizione dei due finecorsa opzionali (i deceleratori D).

Stroke adjustment

The stroke can be reduced by:
- *50mm changing the position of the shock-absorbers (C) on the carrier;*
- *50mm changing the position of the standard end-stroke grub screws (A) on the end side plates;*
- *80mm changing the position of the optional shock-absorbers (D) on the end side plates.*

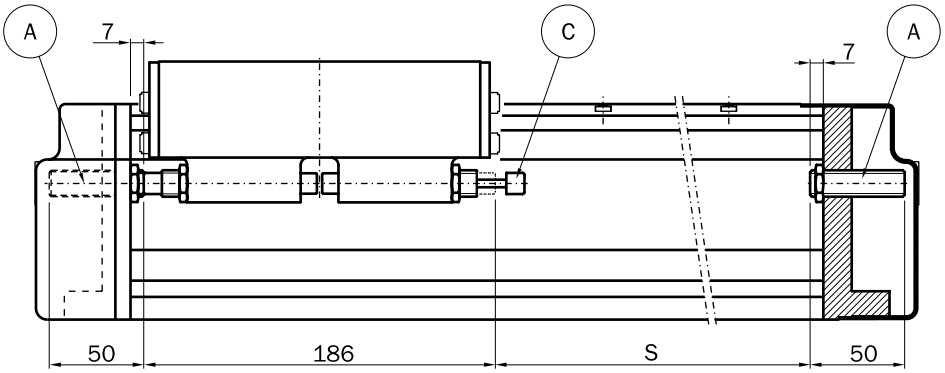




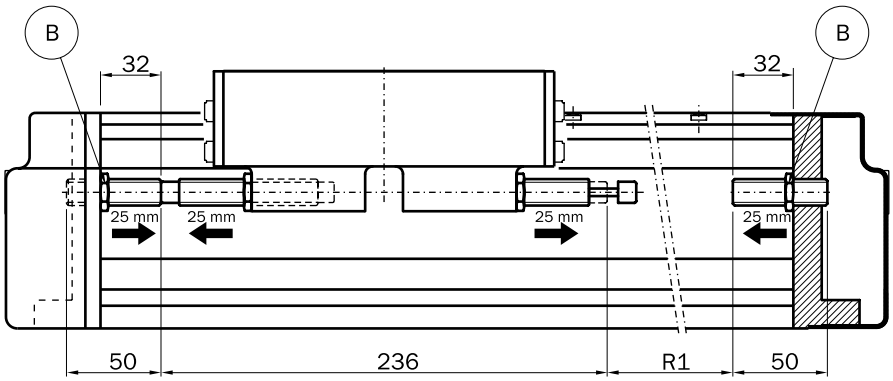
Regolazione della corsa / *Stroke adjustment*

CORSA STANDARD / *STANDARD STROKE*

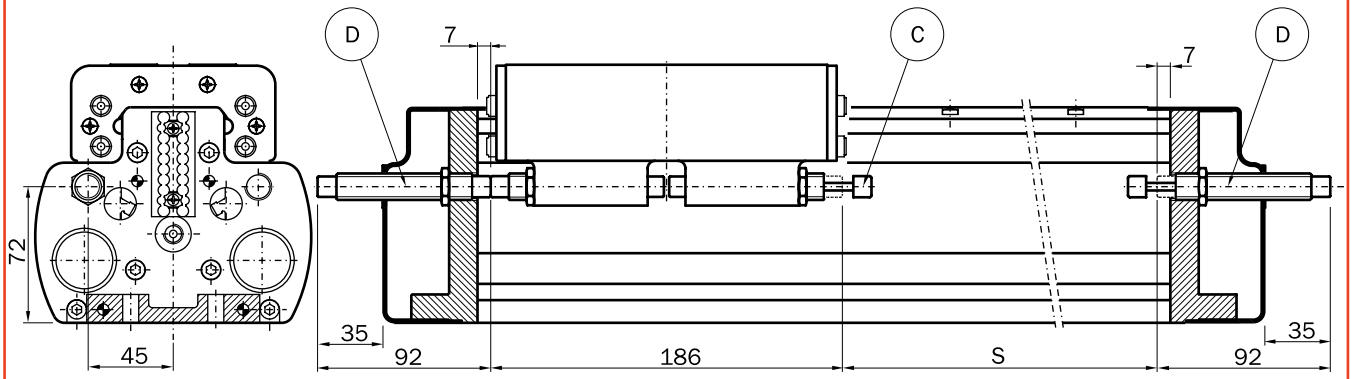
	S	R1
L40-0300	300	200
L40-0500	500	400
L40-0800	800	700
L40-1000	1000	900
L40-1500	1500	1400
L40-2000	2000	1900



CORSA RIDOTTA / *REDUCED STROKE*

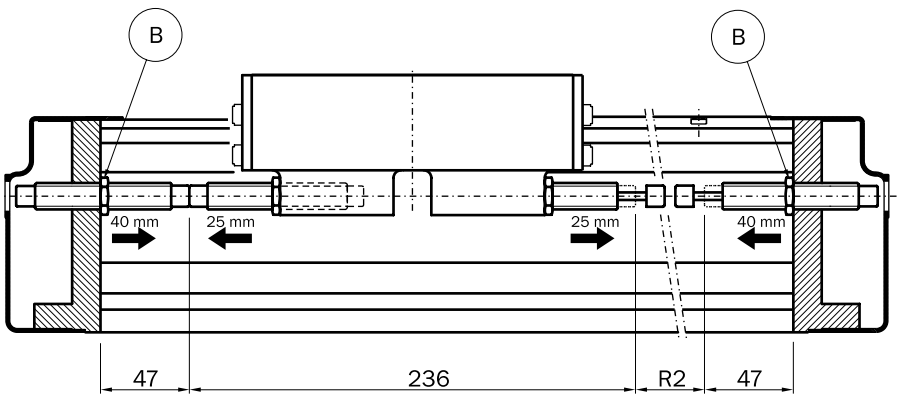


CORSA STANDARD CON DECELERATORI OPZIONALI / *STANDARD STROKE WITH OPTIONAL SHOCK-ABSORBERS*



CORSA RIDOTTA CON DECELERATORI OPZIONALI / *REDUCED STROKE WITH OPTIONAL SHOCK-ABSORBERS*

	S	R2
L40-0300	300	170
L40-0500	500	370
L40-0800	800	670
L40-1000	1000	870
L40-1500	1500	1370
L40-2000	2000	1870

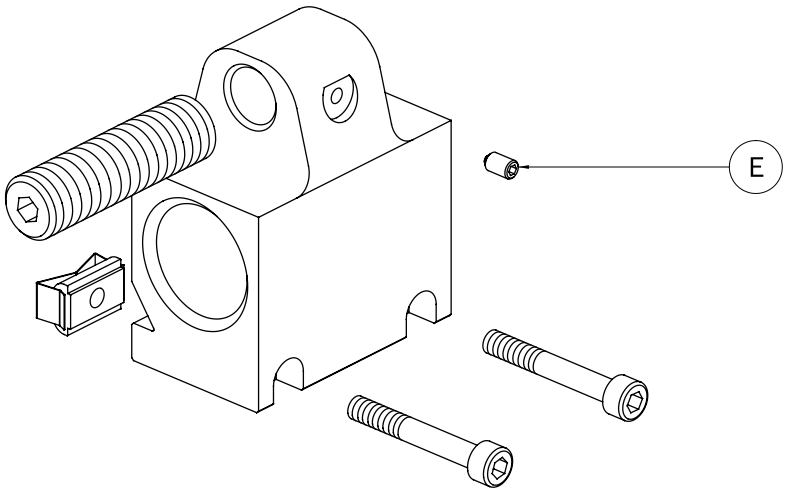


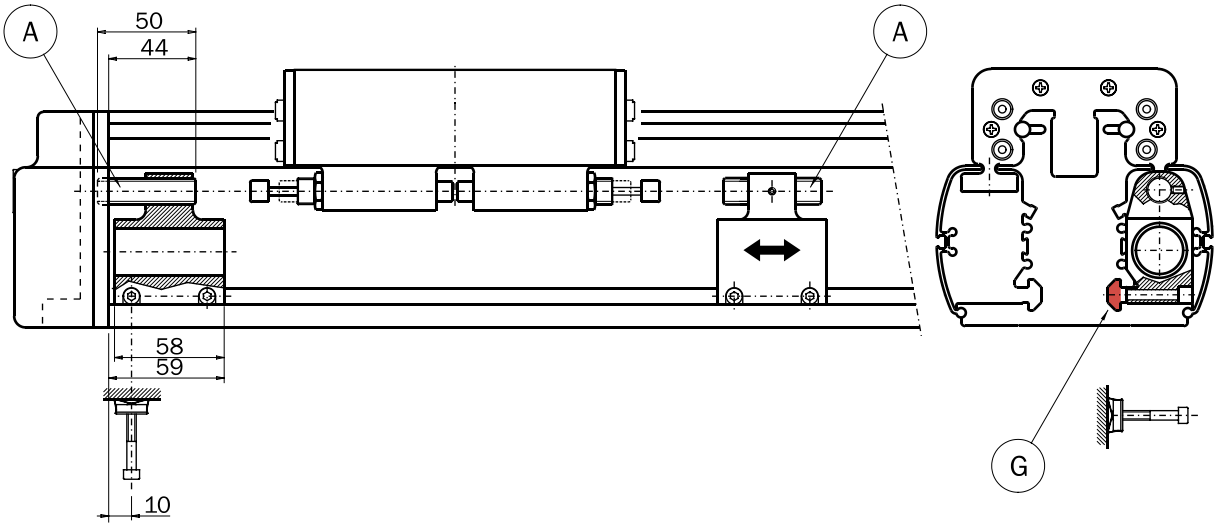
Regolazione della corsa con LS-FX

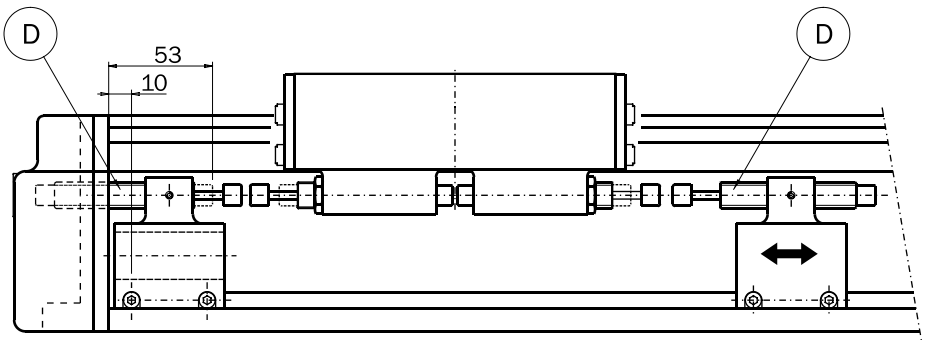
La corsa dell'unità lineare L40 può essere limitata anche con la battuta di arresto supplementare LS-FX (opzionale).
Questa può essere fissata in qualsiasi posizione lungo la cava (G).
In caso di necessità è possibile sostituire il grano (A) con il deceleratore opzionale (D).
Il grano (E) con la pastiglia serve per il bloccaggio.

Stroke adjustment by LS-FX

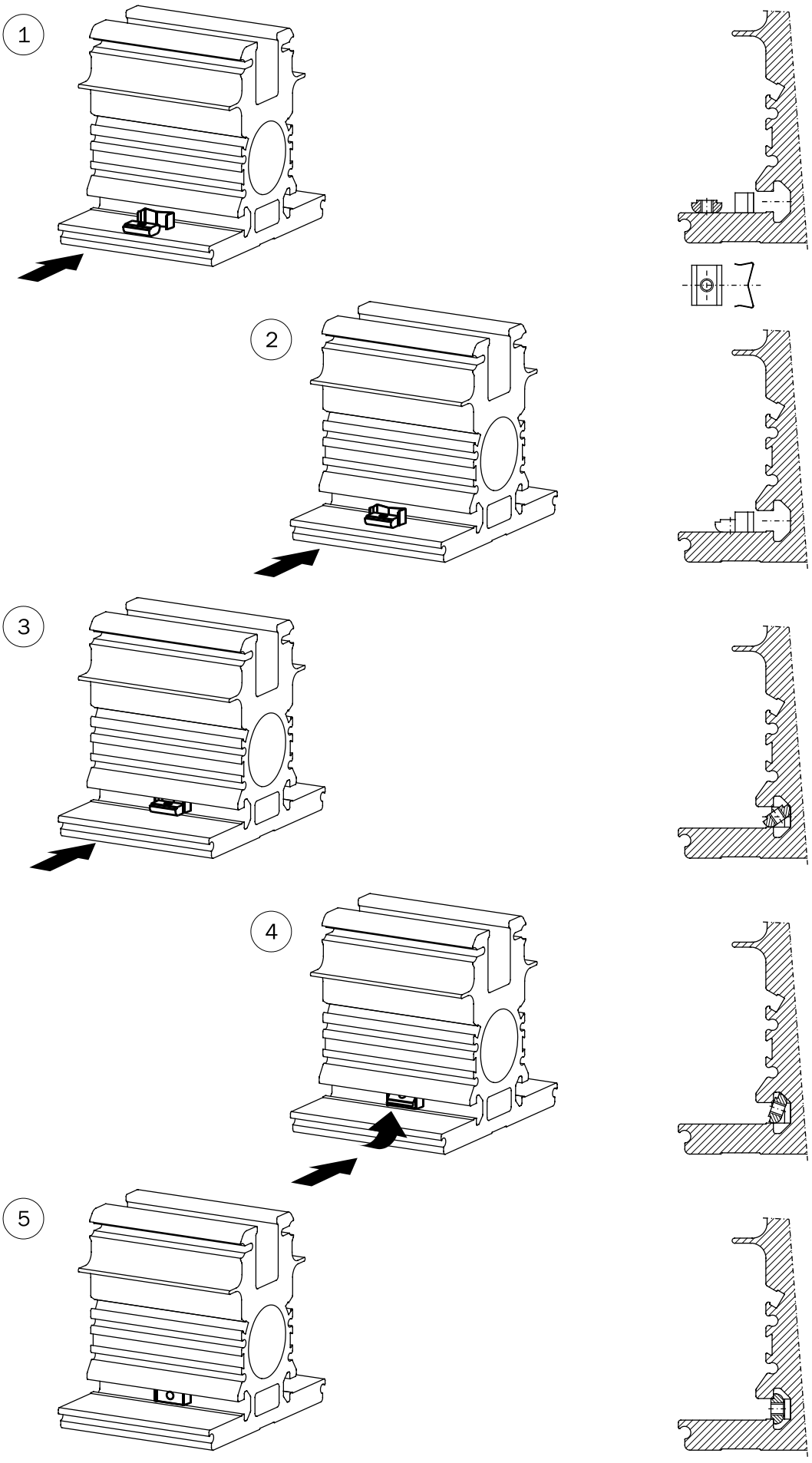
The stroke of the linear unit L40 can be also reduced by the additional end-stroke unit LS-FX (optional).
It can be fitted in any position along the groove (G).
If necessary the grub screw (A) can be replaced with optional shock-absorber (D).
The grub screw (E) with pad is used for locking.







Posizionamento dei “dadi a T” / *Placing of “T-nuts”*

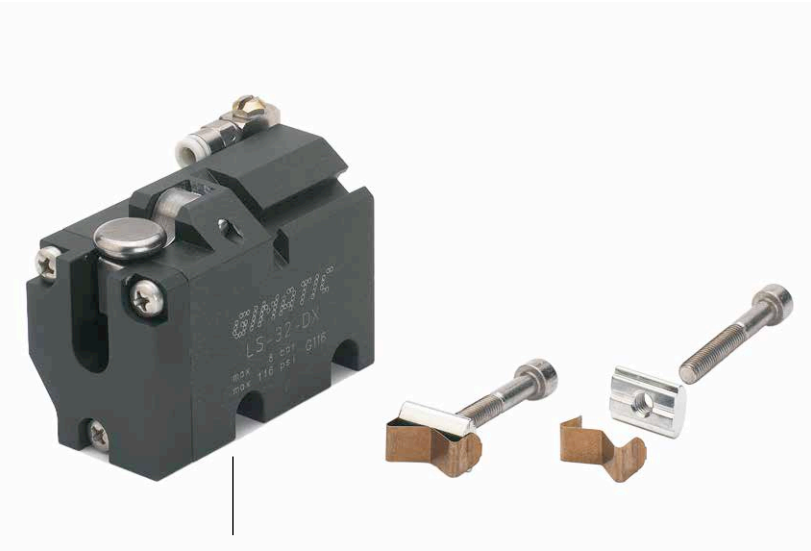


Unità di arresto intermedio

Sono disponibili in due versioni simmetriche, per arrestare con precisione assoluta, in posizioni intermedie, il carrello proveniente da destra (LS-32-DX), o da sinistra (LS-32-SX). Un pistone, azionato pneumaticamente, fa sollevare una battuta meccanica, attraverso un leveraggio a ginocchiera, irreversibile. Cessata l'alimentazione la battuta meccanica rientra in posizione di riposo sotto l'azione di una molla. In questa posizione si accende il sensore (opzionale).

Intermediate stopping units

Available in two symmetric models, they are used to stop the carrier, with high precision, in the intermediate positions when it comes from the right (LS-32-DX), or from the left (LS-32-SX). One pneumatic piston lifts an irreversible mechanical end stroke by a toggle system. Without pressure, the end stroke returns to the rest position by a reset spring. In this position the optional magnetic sensor is on.



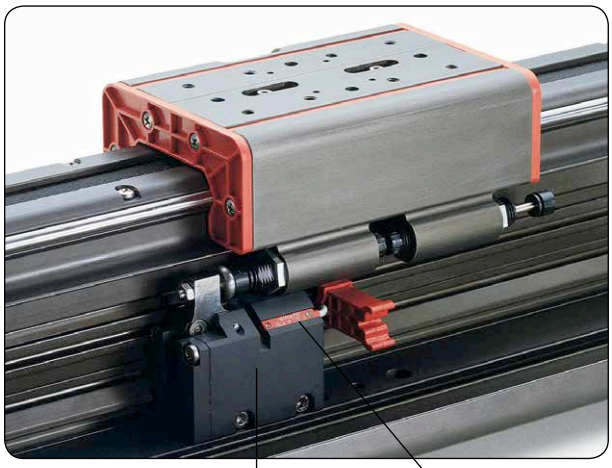
LS-32-DX



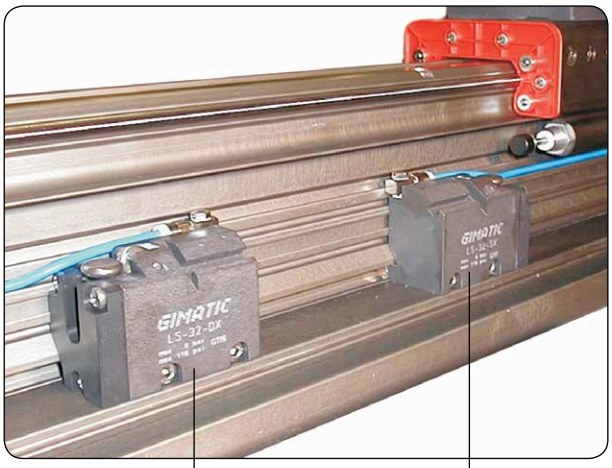
LS-32-SX







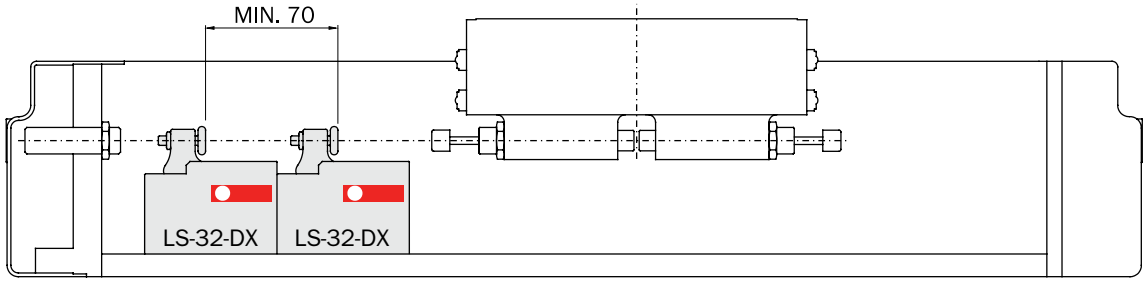
LS-32-DX **SL...**

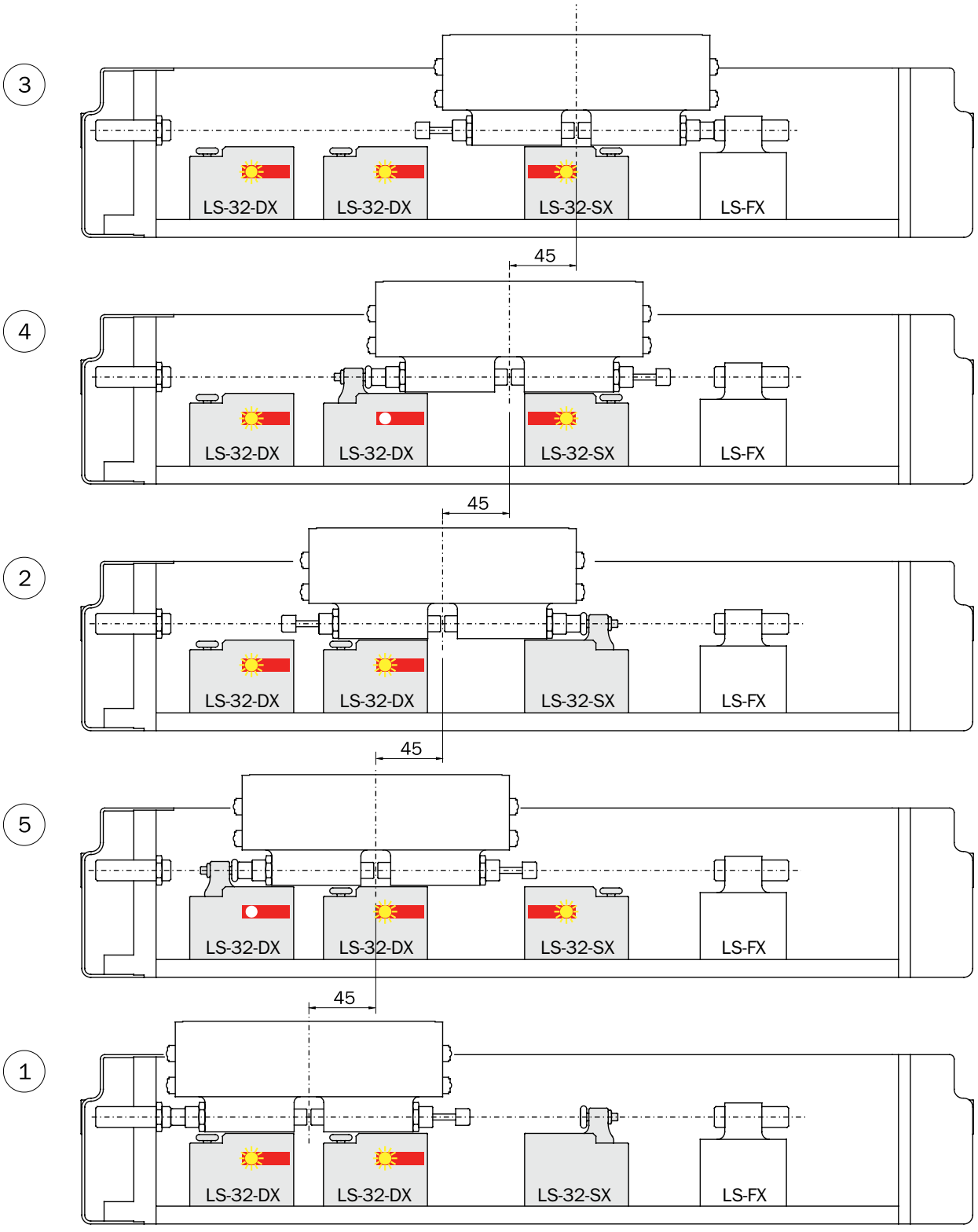


LS-32-DX **LS-32-SX**

Esempi di applicazione delle unità di arresto intermedio

Application examples of the intermediate stopping units



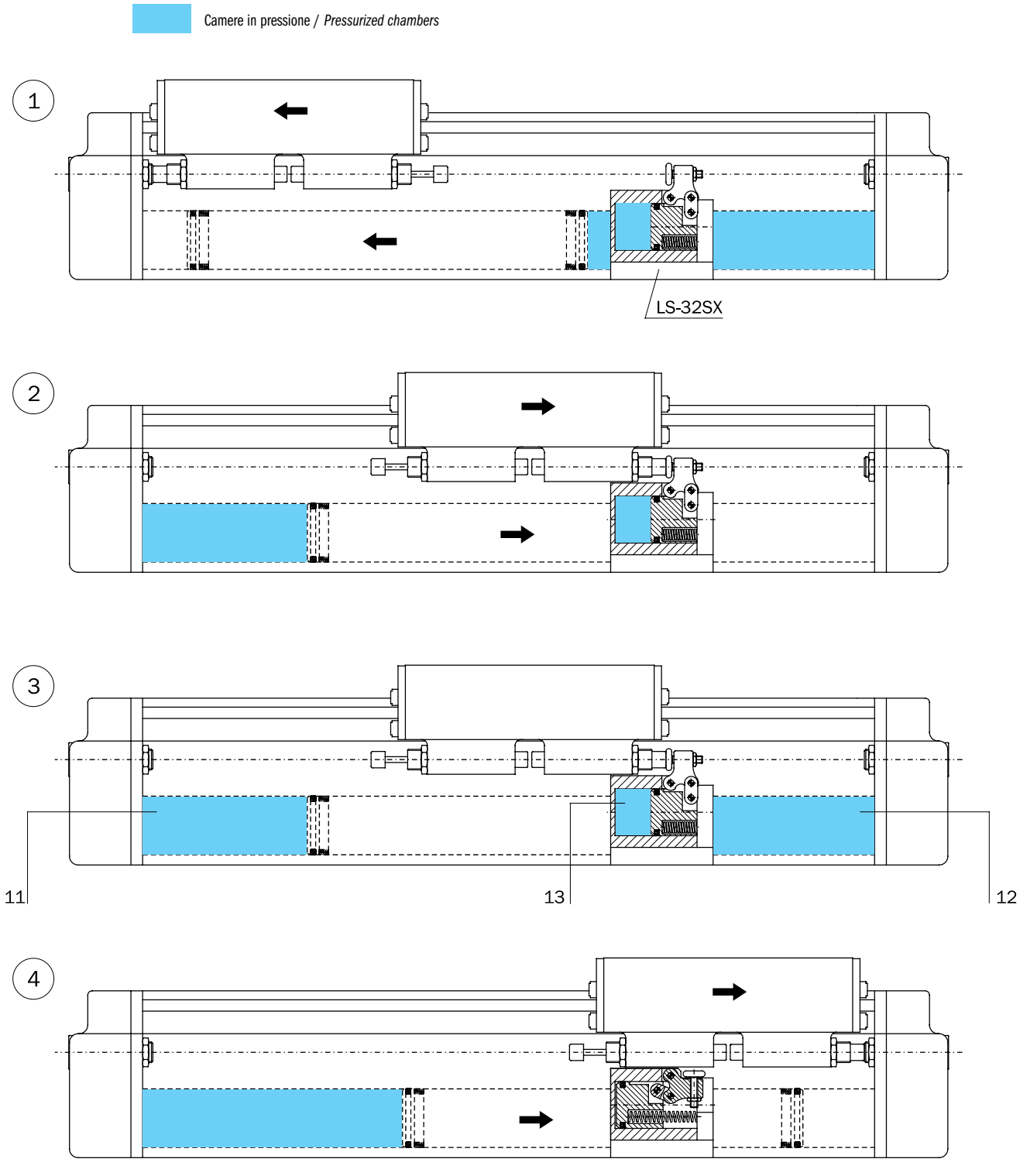


Gestione pneumatica con un'unità di arresto intermedio

La velocità di traslazione del carrello deve essere controllata con regolatori di flusso che strozzino l'aria in uscita dalle camere (vedere anche il circuito pneumatico).
Quindi per un funzionamento corretto dell'unità bisogna bilanciare la pressione nelle due camere del cilindro (figura 3), prima di togliere aria all'unità di arresto intermedio.

Compressed air management with an intermediate stopping unit

The travel speed of the carrier must be adjusted by flow controllers which throttle the air coming out from the chambers (see also the pneumatic circuit).
Therefore, to avoid uncontrolled movements, the pressure must be balanced in both cylinder chambers (figure 3), before the air is removed from the intermediate stopping unit.



Circuito pneumatico

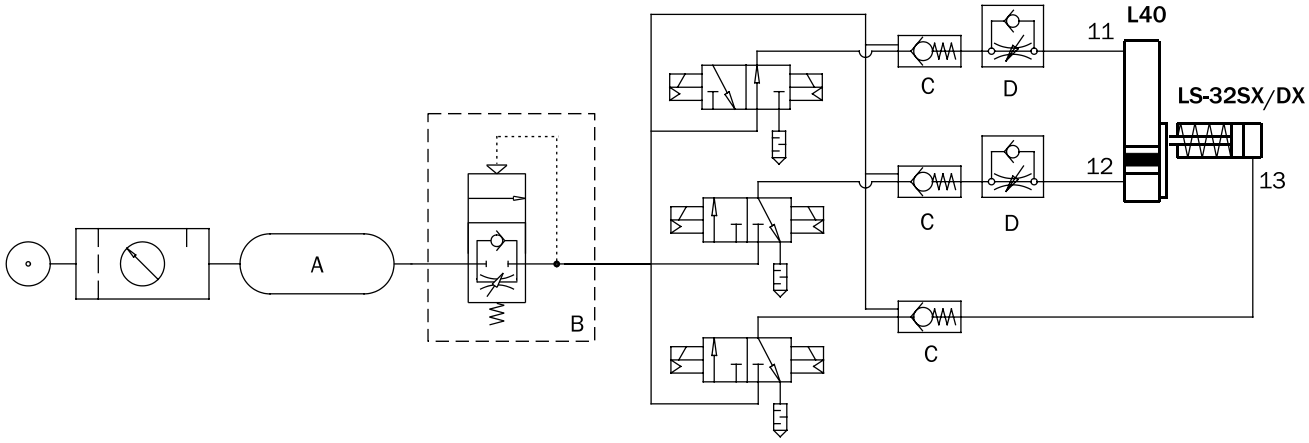
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

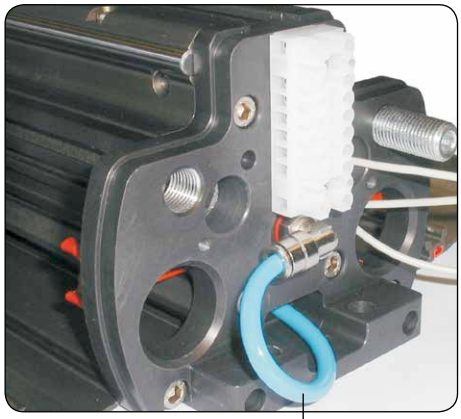


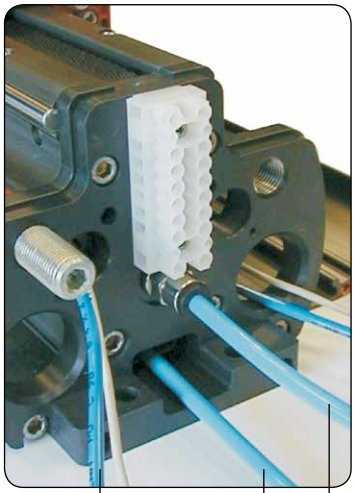
Connessione pneumatica

L'unità lineare si alimenta con aria compressa dai fori sulle spalle montandovi due raccordi dell'aria G1/8 ed i relativi tubi (non forniti).
L'unità di arresto intermedio si alimenta dal suo raccordo con un tubo Ø4mm (non fornito).
L'aria compressa deve essere filtrata (5÷40 µm) e non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita dell'unità. L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding must be accomplished on the air ports in the end side plates with fittings G1/8 and hoses (not supplied).
The intermediate stopping unit is pressurized by its fitting with a Ø4mm hose (not supplied).
The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



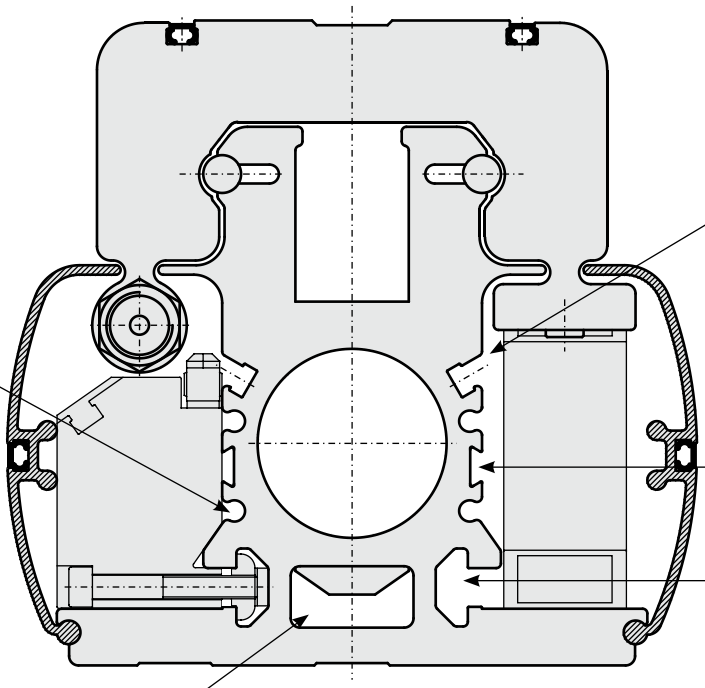




Sezione dell'unità lineare / *Linear unit section*

Lato per le unità di arresto intermedio
Intermediate stopping unit side

Lato per la catena portacavi
Energy chain side



Sede per i tubi Ø4mm (alimentazione delle unità di arresto intermedio)
Housing for Ø4mm hoses (used for compressed air feeding of intermediate stopping units)

Cava per sensore
Sensor groove

Cava per la clip di fissaggio del carter laterale
Groove for the clip fixing the lateral cover

Cava per dadi a "T"
T-nut groove

Foro passante inferiore per il passaggio di tubi e cavi
Lower through hole for hoses and cables

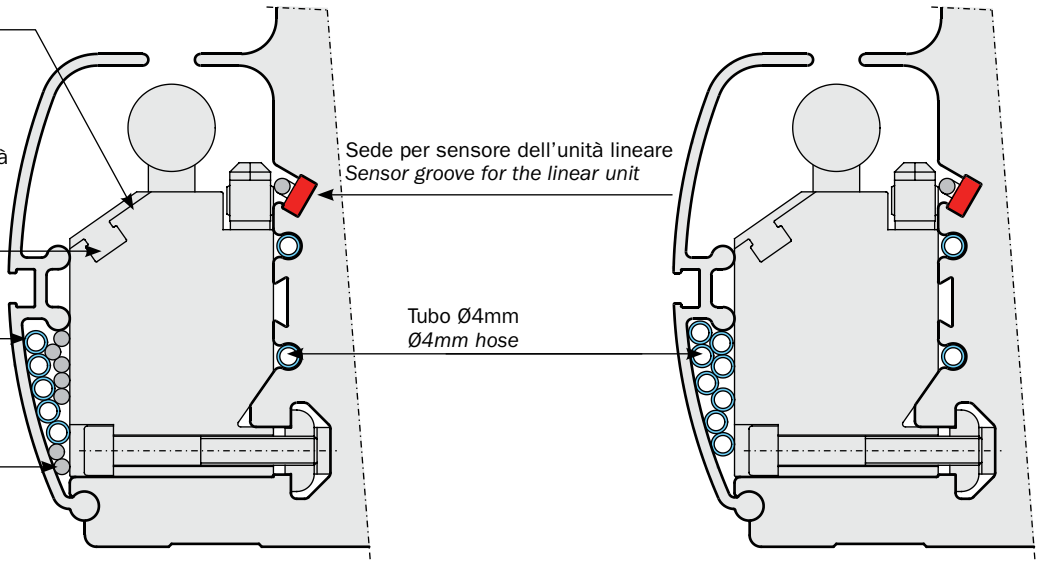
Posizionamento di tubi e cavi / *Hose and cable placement*

Unità di arresto intermedio
Intermediate stopping unit

Sede per sensore dell'unità di arresto intermedio
Sensor groove for the intermediate stopping unit

Tubo Ø4mm
Ø4mm hose

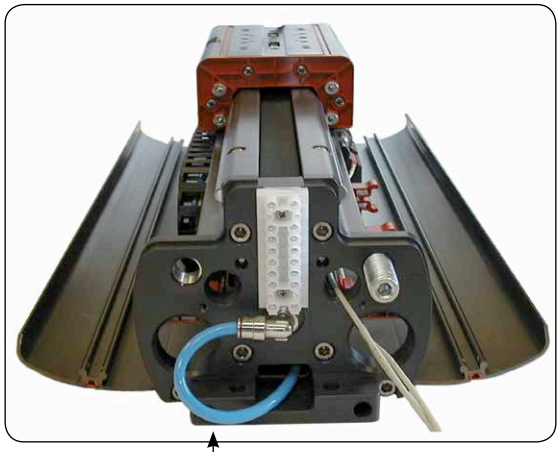
Cavo sensore Ø2.7mm
Ø2.7mm sensor cable



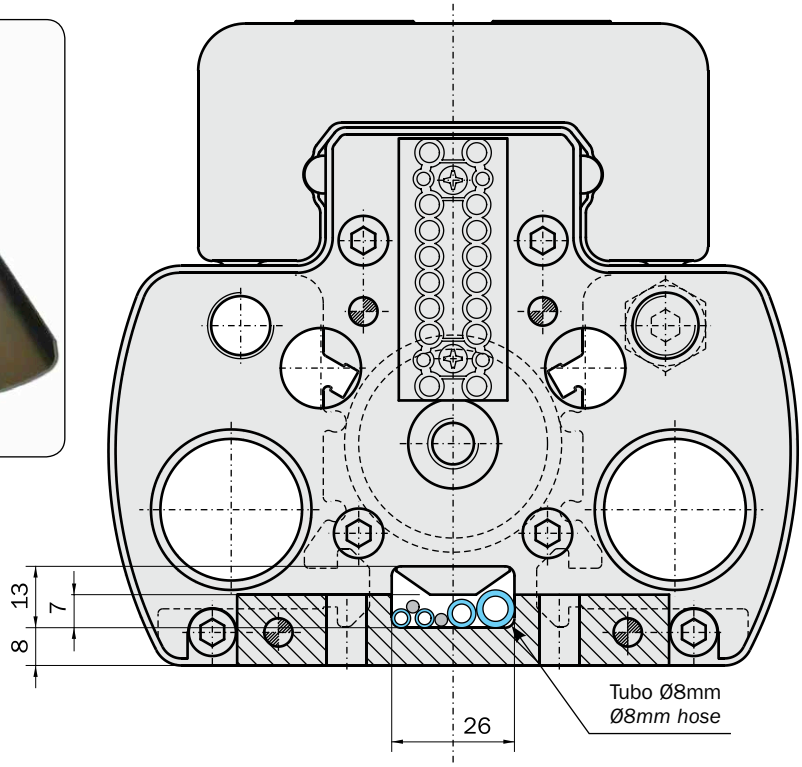
Sede per sensore dell'unità lineare
Sensor groove for the linear unit

Tubo Ø4mm
Ø4mm hose

Foro passante inferiore / *Lower through hole*

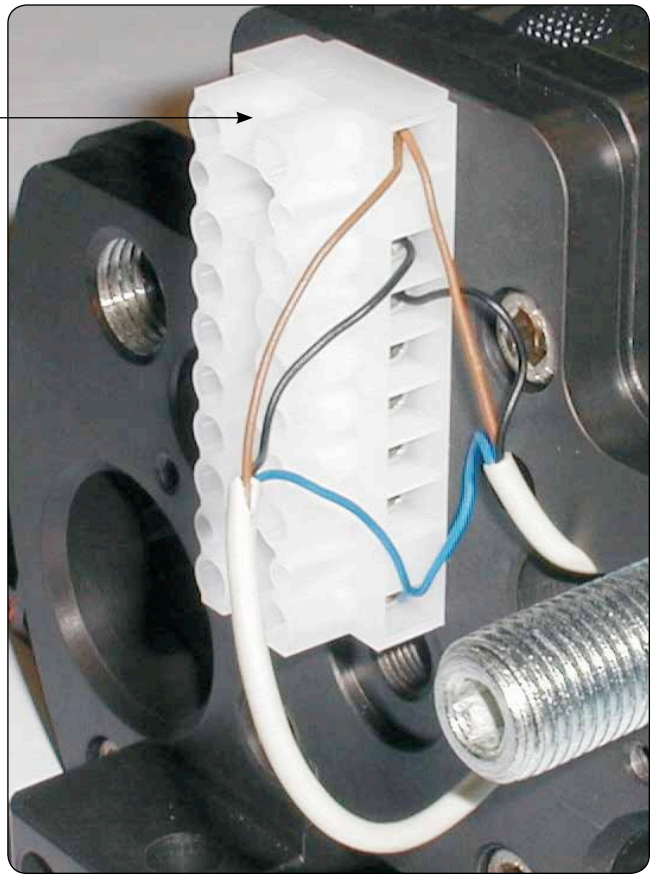


Tubo Ø6mm
Ø6mm hose

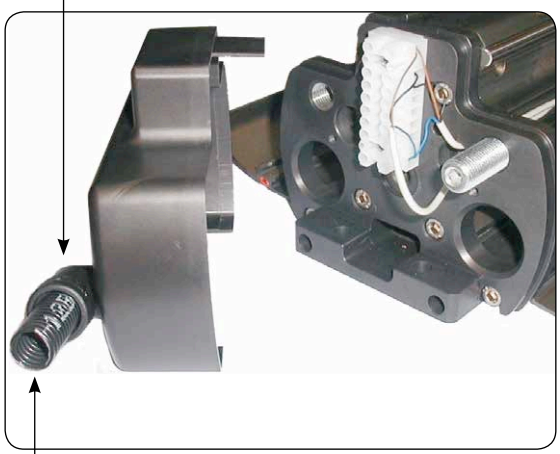


Scatola di derivazione / *Junction box*

Morsettiera a 8 connessioni
8 stud terminal block



PMA-TEA BVWD-P112



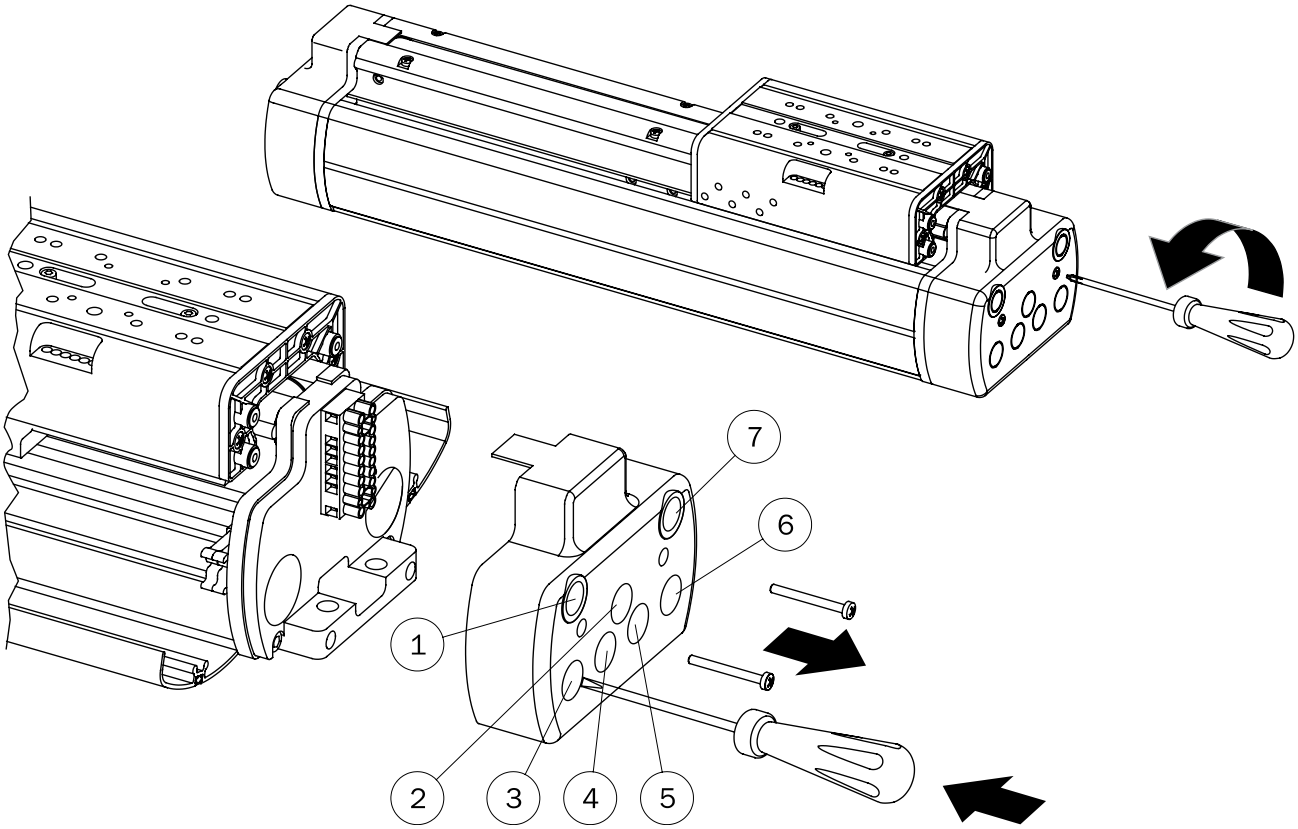
PMA-TEA PIST-12B

Carter di testa

I carter alle due estremità si smontano rimuovendo due viti e sono dotati di sette diaframmi pre intagliati che si possono rimuovere con un cacciavite.

Head cover

The end side plastic covers, provided with seven detachable diaphgrams, can be removed screwing out two screws.



I diaframmi 1-7 corrispondono alla posizione dei grani (o deceleratori supplementari) di fine corsa.

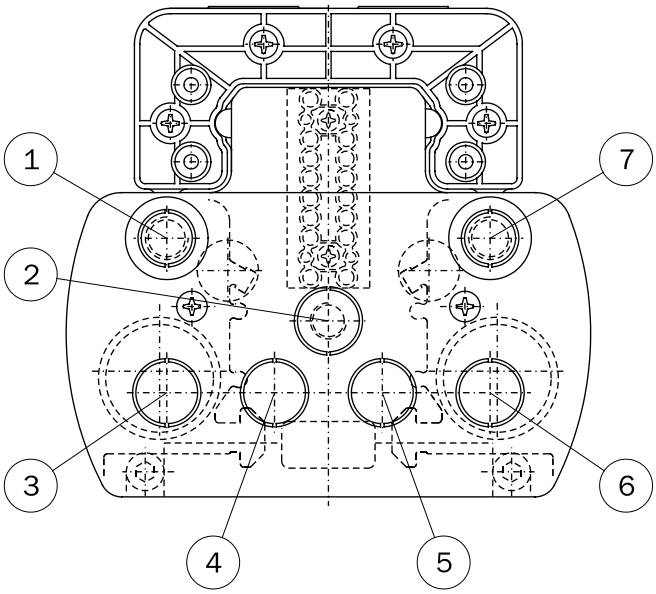
Il diaframma 2 corrisponde alla posizione del raccordo per l'alimentazione dell'unità.

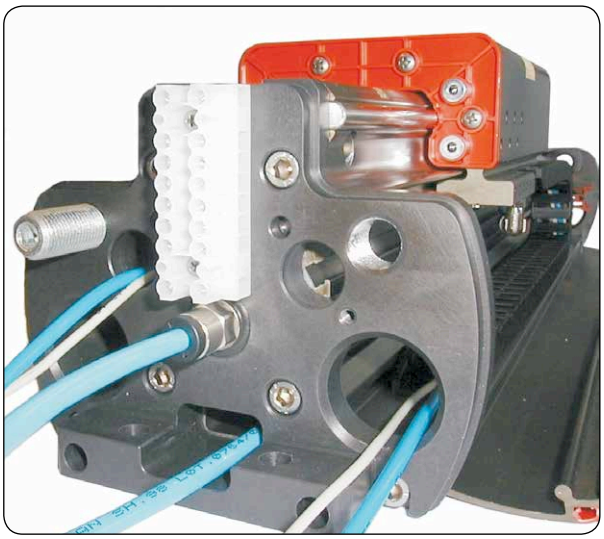
I diaframmi 3-4-5-6 si usano per far uscire altri tubi e cavi.

The diaphragms 1-7 are in front of the end stroke screws (or supplementary shock-absorbers).

The diaphragm 2 is in front of the fitting for compressed air feeding.

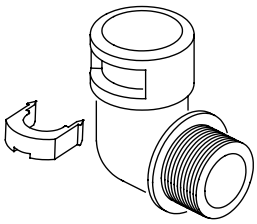
The diaphragms 3-4-5-6 can be removed to allow other hoses and cables to come out.



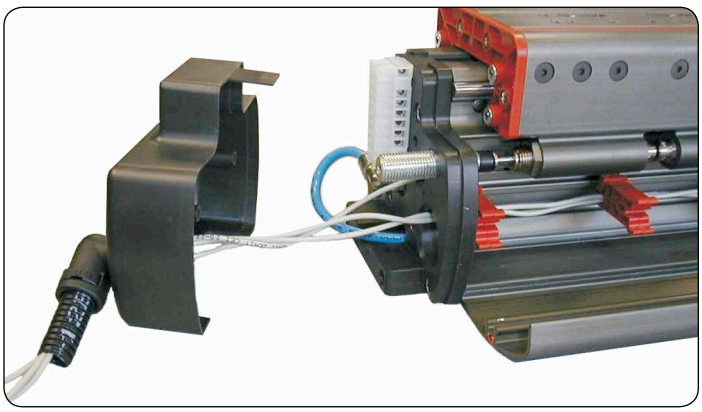


Connessioni / *Connections*

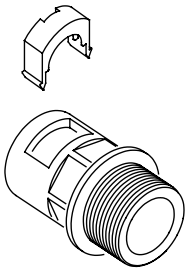
Raccordo a 90° maschio
Sheath elbow male fitting



PMA-TEA
BVWD-P112



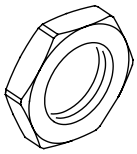
Raccordo dritto maschio
Sheath male fitting



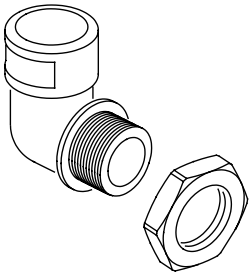
PMA-TEA
BVND-P112

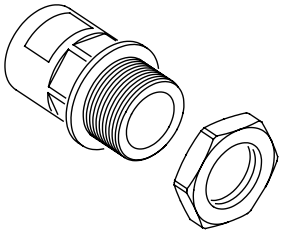


Dado di bloccaggio
Locking nut

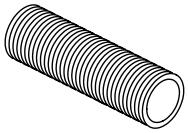


TEAFLEX
D22

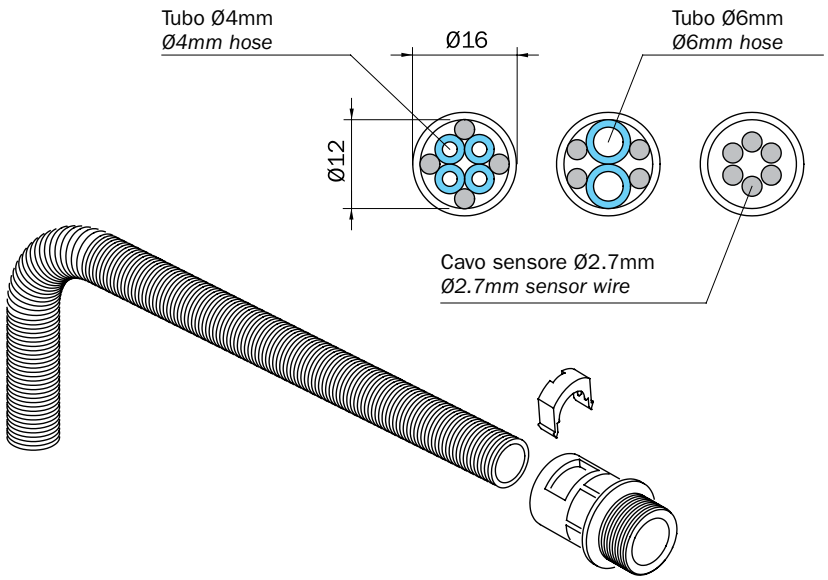




Guaina passacavo
Sheath



PMA-TEA
PIST-12B



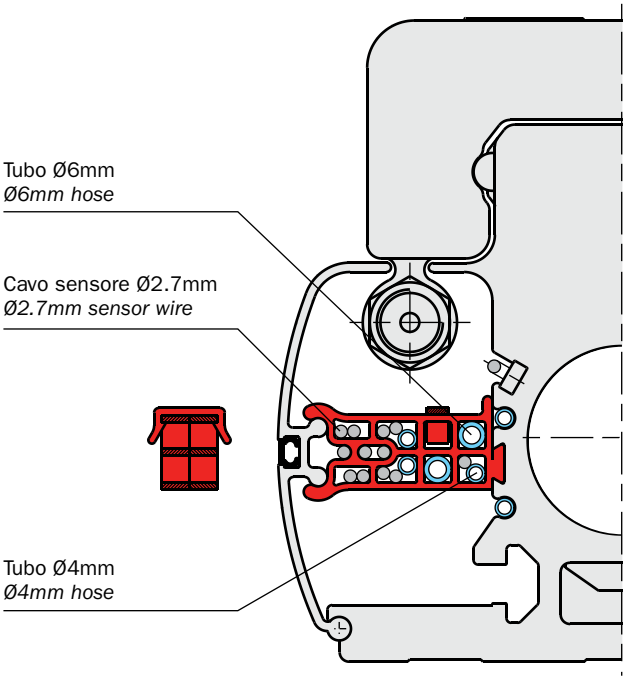
Clip LS-CP

È usata per il fissaggio dei carter laterali, ma può essere utile anche per facilitare il cablaggio.
Per montarla bisogna seguire la procedura sotto illustrata.

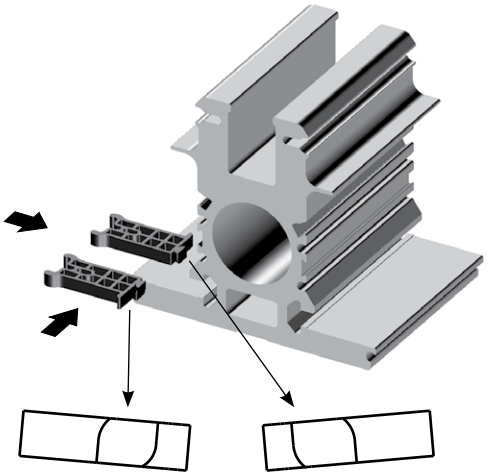
Clip LS-CP

It is used to fasten the lateral covers, but it is useful also for easy positioning of cables and hoses.
Follow the sequence in the pictures to mount the clip.

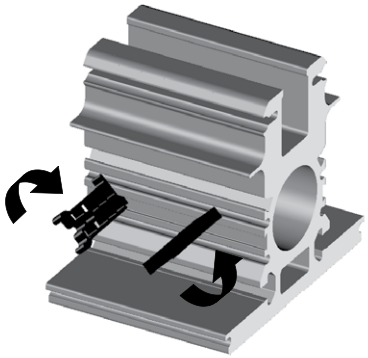




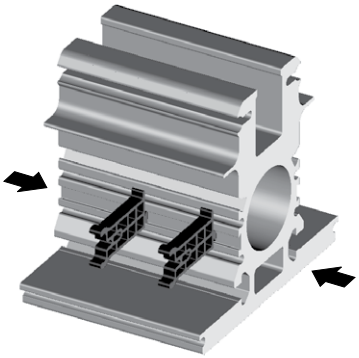
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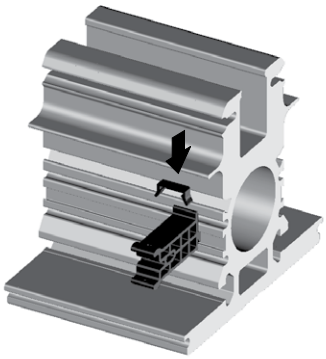
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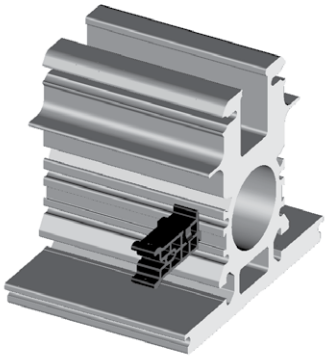
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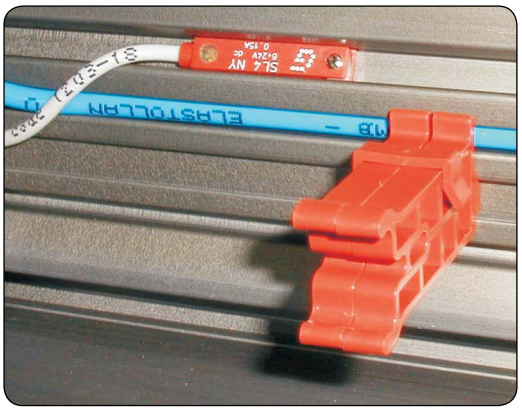


4



5





ATTUATORI LINEARI
LINEAR ACTUATORS

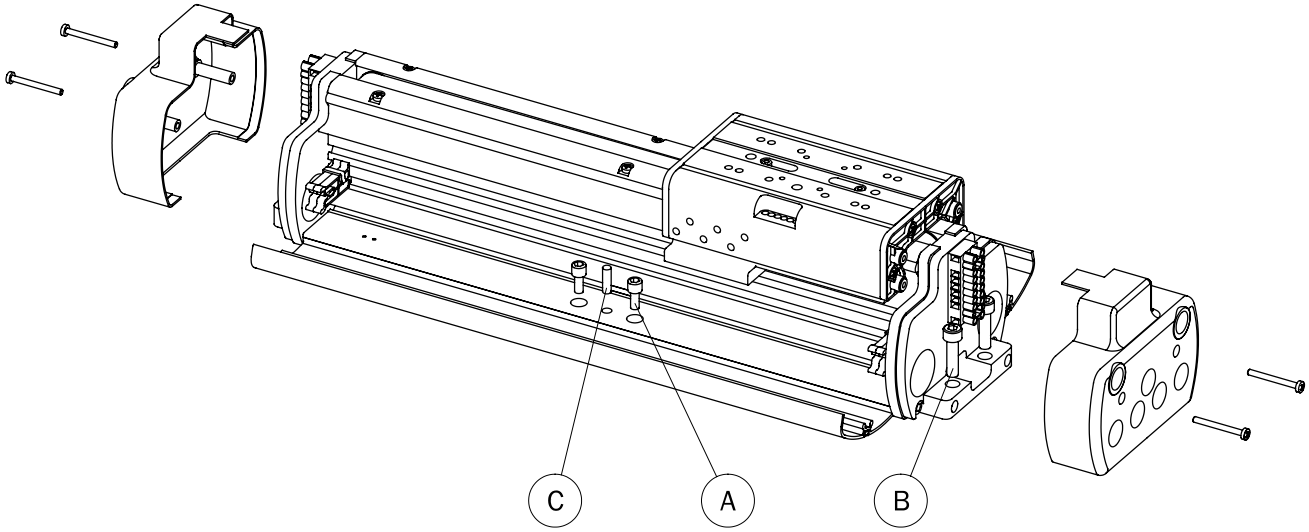
09/2013

Fissaggio

L'unità può essere montata in posizione fissa oppure su parti in movimento.
Per fissare l'unità dalle spalle laterali usare le quattro viti M8 (B). Oppure si possono usare le quattro viti M6 (A) e le due spine Ø6mm (C).
Lasciare lo spazio necessario per l'apertura dei coperchi.

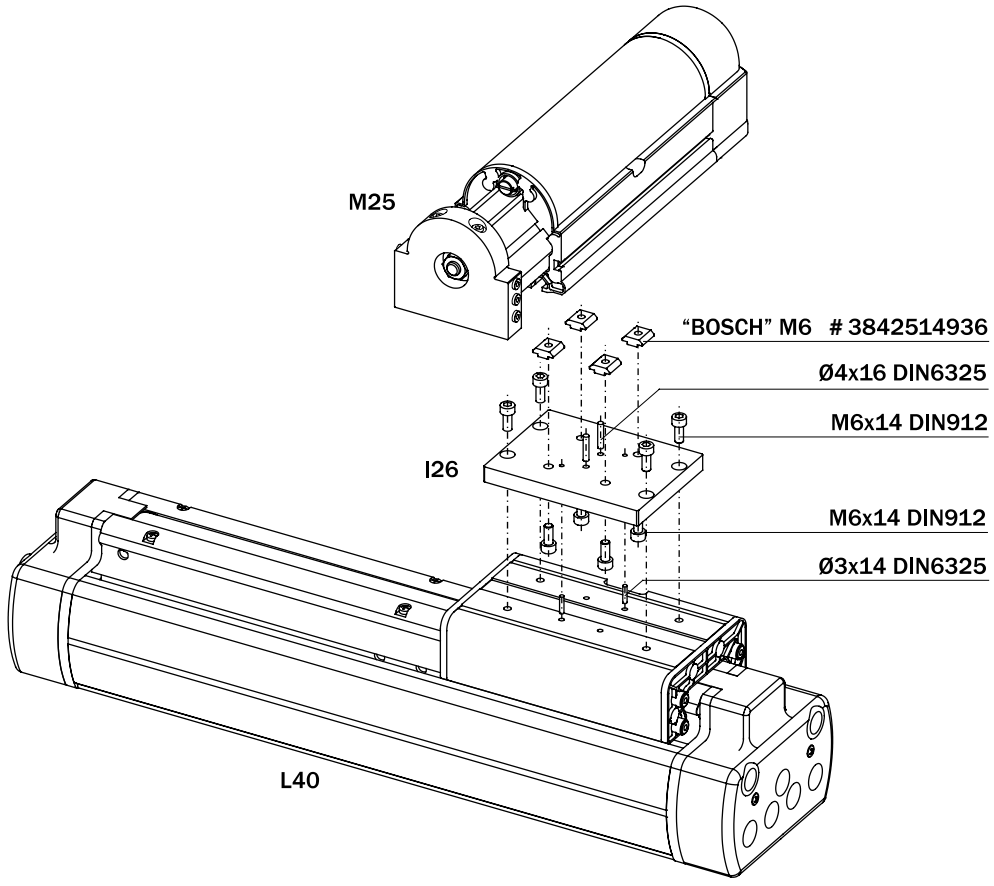
Fastening

The unit can be fastened to a static or moving part.
Use four M8 screws (B) to fasten the linear unit to the end side plates. It is also possible to use the four screws M6 (A) and the two Ø6mm pins (C).
Allow room to open the covers.



Per fissare il carico sul carrello sono disponibili dodici fori filettati M6x10mm, quattro fori per spine di riferimento Ø6H8x12mm e quattro fori per spine di riferimento Ø3H8x8mm.
L'esempio mostra il fissaggio dell'attuatore lineare M25 tramite l'interfaccia I26.

To fasten the pay load on the carrier, twelve threaded holes M6x10mm, four dowel pin holes Ø6H8x12mm and four dowel pin holes Ø3H8x8mm are available.
The picture below shows the fastening of the unit M25 by the interface I26.

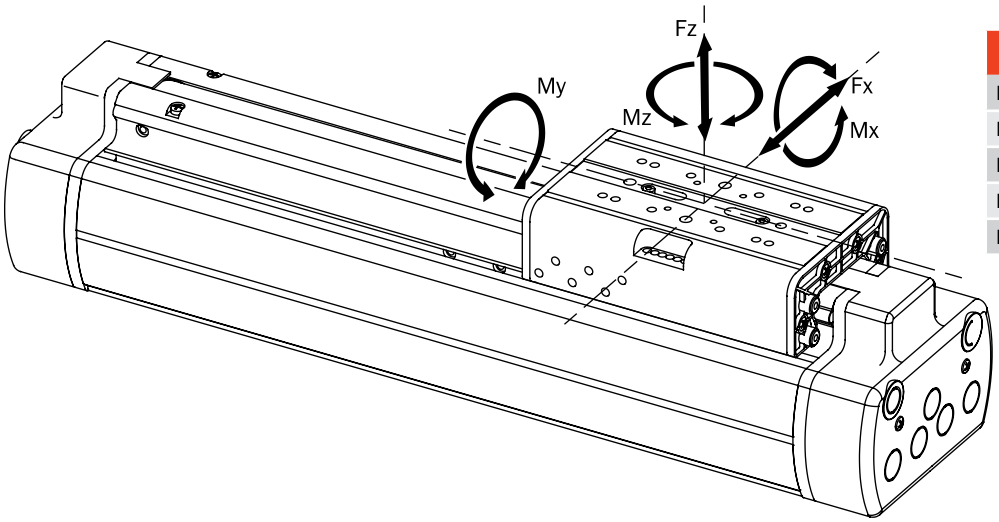


Carichi di sicurezza

Controllare le tabelle ed i grafici seguenti.
Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Fx, Fz, Mx, My, Mz sono i carichi massimi ammissibili.
Verificare che l'indice di carico LF sia inferiore all'unità.

Safety loads

Check the following tables and graphs.
Excessive loads can damage the unit, cause functioning troubles and endanger the safety of the operator.
Fx, Fz, Mx, My, Mz are maximum permitted loads.
The load factor LF must be lower than 1.

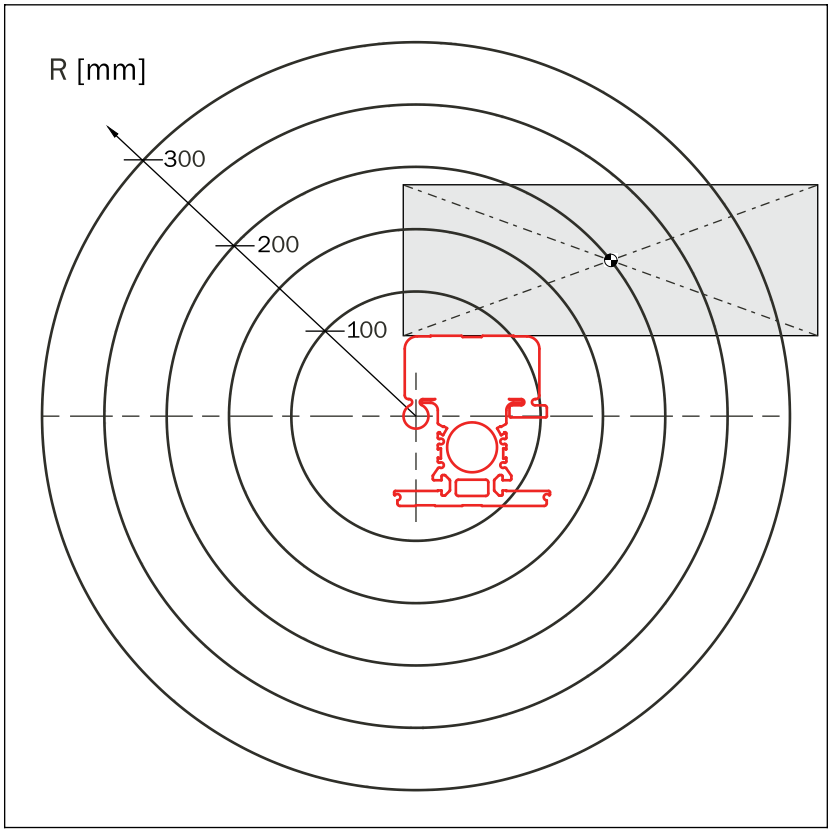


	Max
Fx	3000 N
Fz	3000 N
Mx	100 Nm
My	130 Nm
Mz	100 Nm

$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leq 1$$

L'energia cinetica che è possibile assorbire in un singolo urto dipende dal numero di deceleratori usati e dalla distanza di questi dal baricentro del carico applicato sul carrello.
Se, come nell'esempio mostrato, il baricentro cade a 200mm di distanza, allora l'energia cinetica ammissibile con due deceleratori è E2=24J, con il solo deceleratore di serie è E1=10J.

The admissible kinetic energy in a single shock depends on the number of shock-absorbers used and on their distance from the barycenter of the load on the carrier.
If, as in the picture, the barycenter is 200mm far, the admissible kinetic energy with two shock-absorbers is E2=24J, with only one standard shock-absorber is E1=10J.



R	E1	E2
100 mm	12 J	28 J
150 mm	11 J	26 J
200 mm	10 J	24 J
250 mm	9 J	22 J
300 mm	8 J	20 J

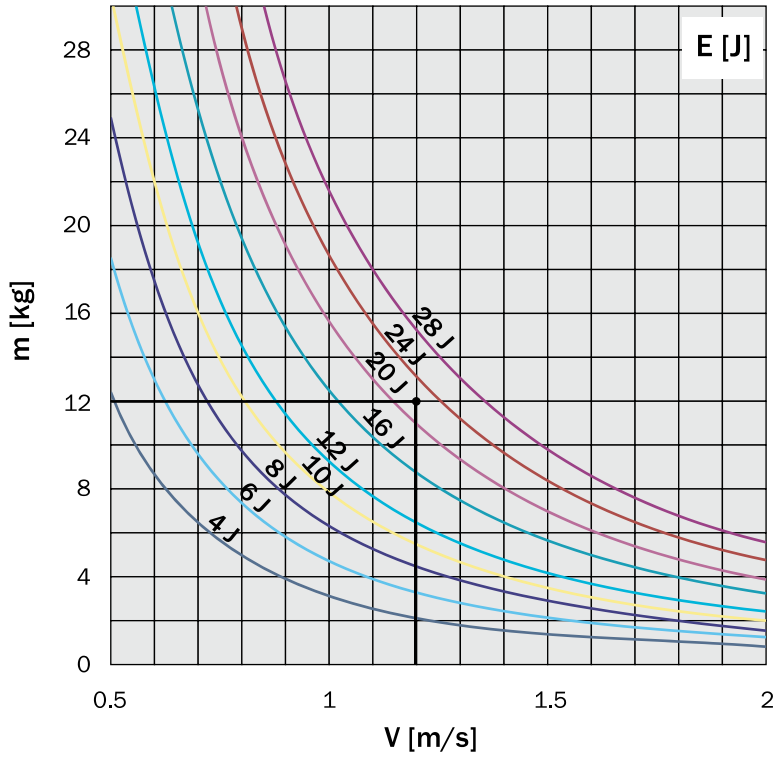
R Distanza fra il centro del deceleratore ed il baricentro dell'applicazione
Distance from the shock-absorber to the baricenter of the pay load

E1 Energia ammissibile con n°1 deceleratore
Admissible kinetic energy with one shock-absorber

E2 Energia ammissibile con n°2 deceleratori
Admissible kinetic energy with two shock-absorbers

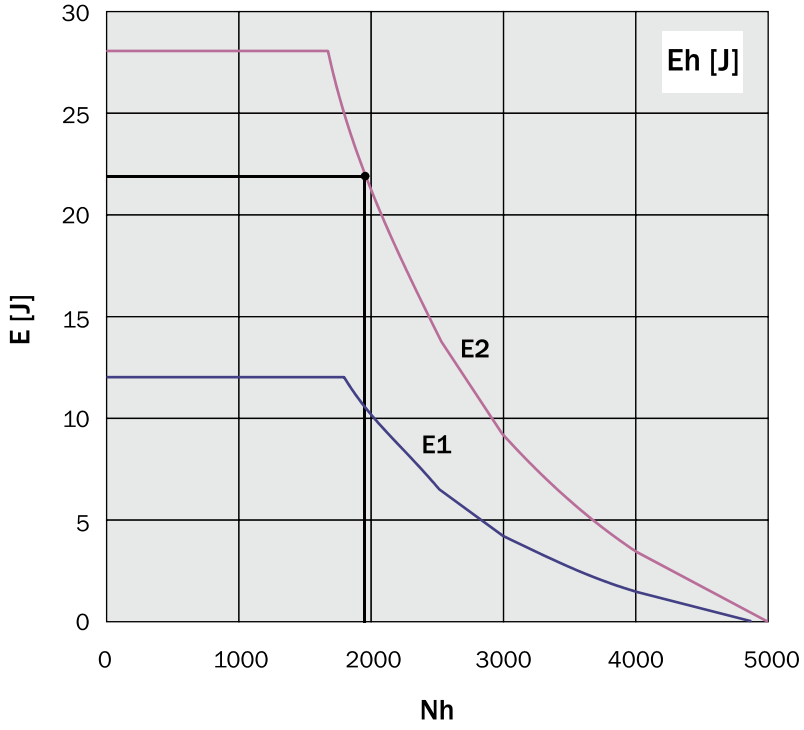
La massa trasportata m [kg] e la velocità media di traslazione v [m/s] devono determinare un valore di energia cinetica inferiore a quello ammissibile.
Se per esempio si movimenta un peso di 12kg ad una velocità di 1.2m/s, il corrispondente valore di energia è 22J, ammissibili se E2=24J.

The pay load m [kg] and the medium travel speed v [m/s] must give a kinetic energy value lower than the permitted one.
For example, if the pay load is 12kg and the speed is 1.2m/s, the corresponding energy is 22J, lower than E2=24J.



Il numero di cicli possibili in un'ora Nh, si determina con il grafico seguente.
Se per esempio, il valore di energia è 22J per ogni urto e si utilizzano due deceleratori, allora saranno possibili al massimo 1900 urti in un'ora.

Nh is the number of permitted cycles per hour: it is determined by the following diagram.
For example, if the energy value is 22J per shock and two shock-absorbers are used, therefore a maximum number of 1900 shocks per hour is possible.

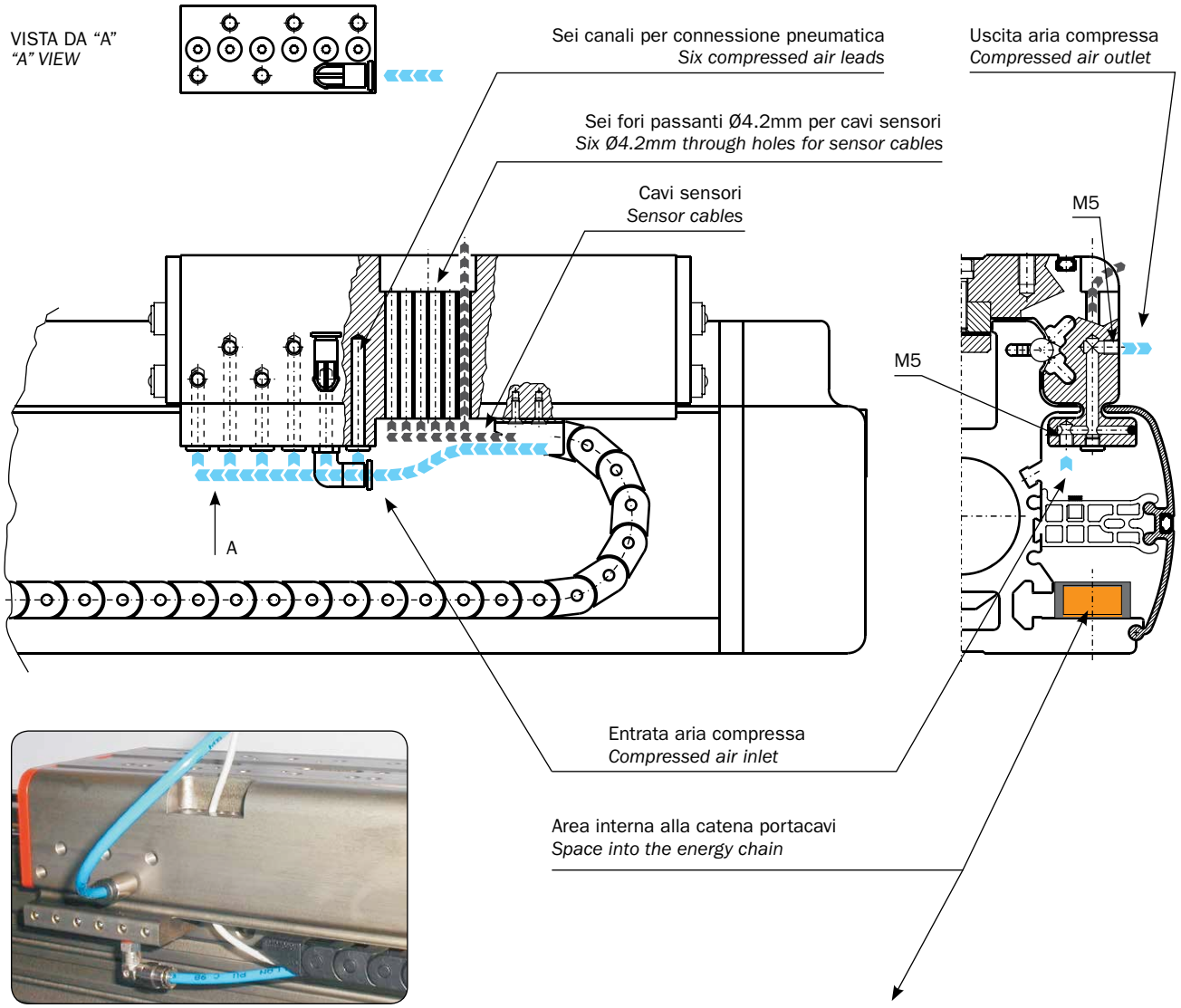


Catena portacavi

È possibile alloggiare su un lato dell'unità la catena portacavi e nasconderla completamente sotto il coperchio laterale.
Con questa catena è possibile portare al carrello i tubi per l'aria compressa ed i cavi per i sensori di eventuali componenti pneumatici trasportati.
I tubi passano nei sei canali del carrello attraverso una serie di raccordi M5 (non forniti), mentre per i cavi sono previsti sei fori passanti Ø4.2mm .

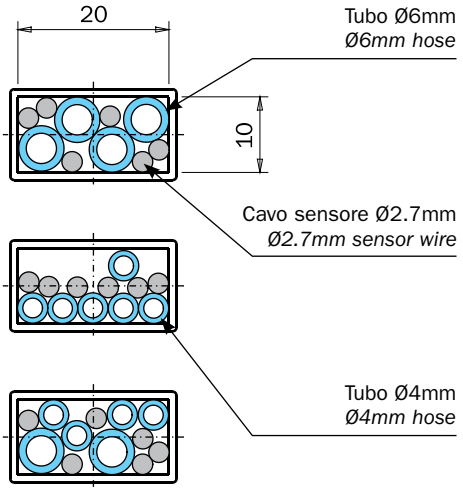
Energy chain

On one side of the unit it is possible to fit the energy chain under the lateral cover.
With this chain it is possible to guide the hoses and the sensor cables for the pneumatic accessories transported by the carrier.
The hoses run into the six leads of the carrier through M5 fittings; six Ø4.2mm through holes are provided for cables.



	Codice catena *Energy chain code*
L40-0300	LS-CH300
L40-0500	LS-CH500
L40-0800	LS-CH800
L40-1000	LS-CH1000
L40-1500	LS-CH1500
L40-2000	LS-CH2000



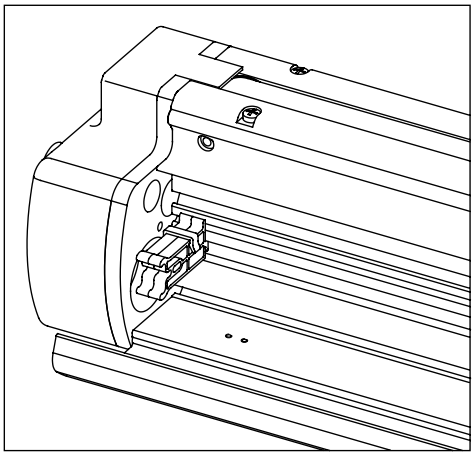


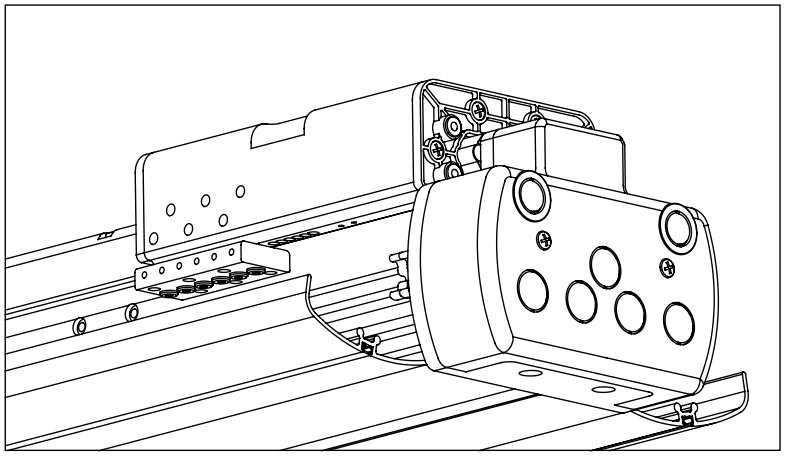
Montaggio della catena portacavi

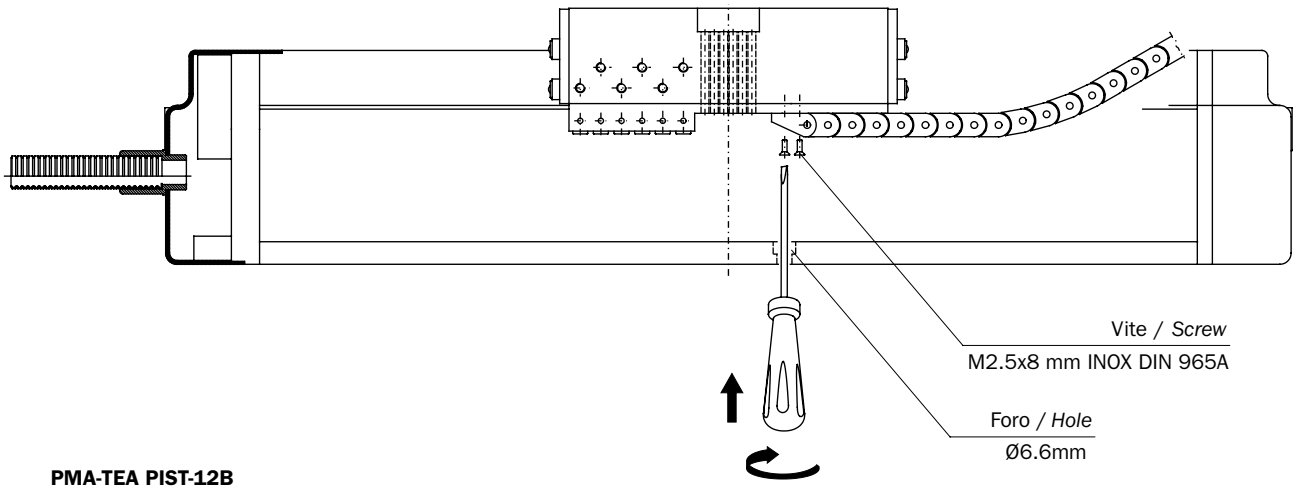
I tubi ed i cavi vanno inseriti nella catena prima di fissarla con le viti.

Mounting of the energy chain

Hoses and cables must be inserted in the chain before to fixing it to the unit.

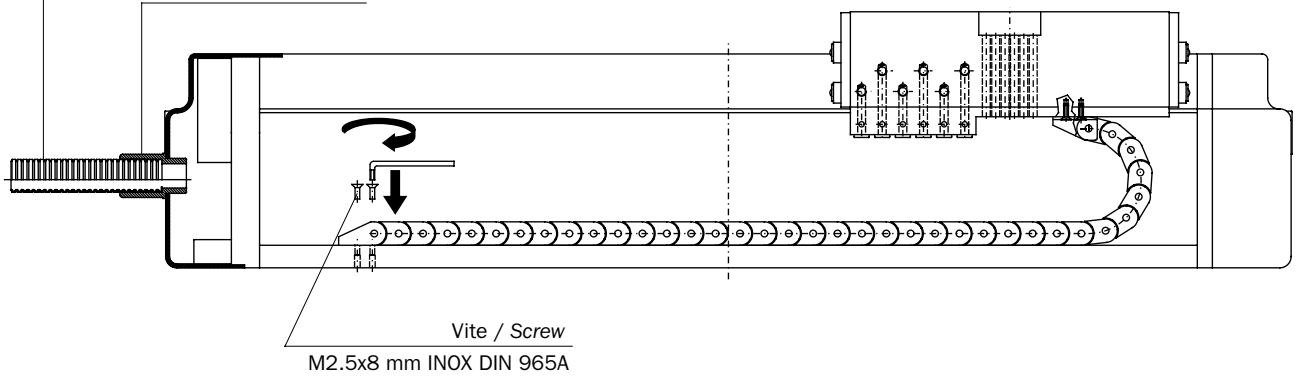




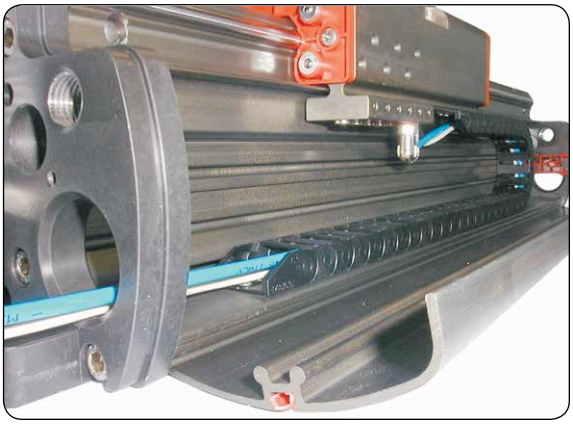


PMA-TEA PIST-12B

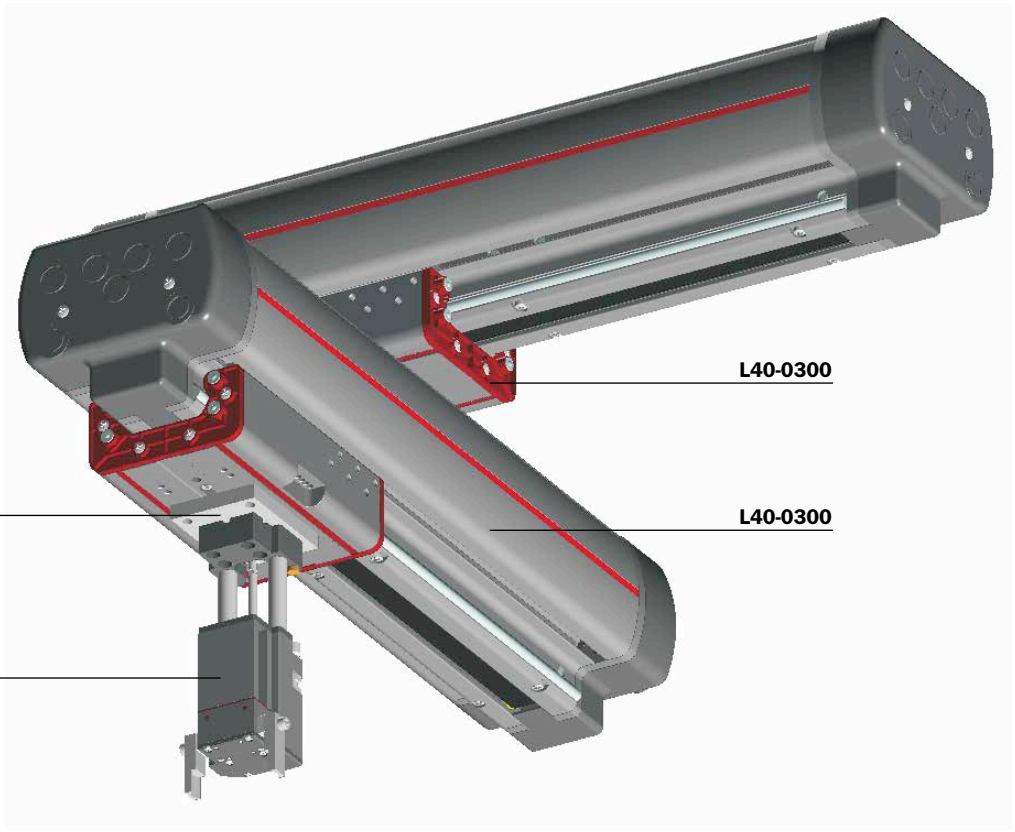
PMA-TEA BVND-PI12



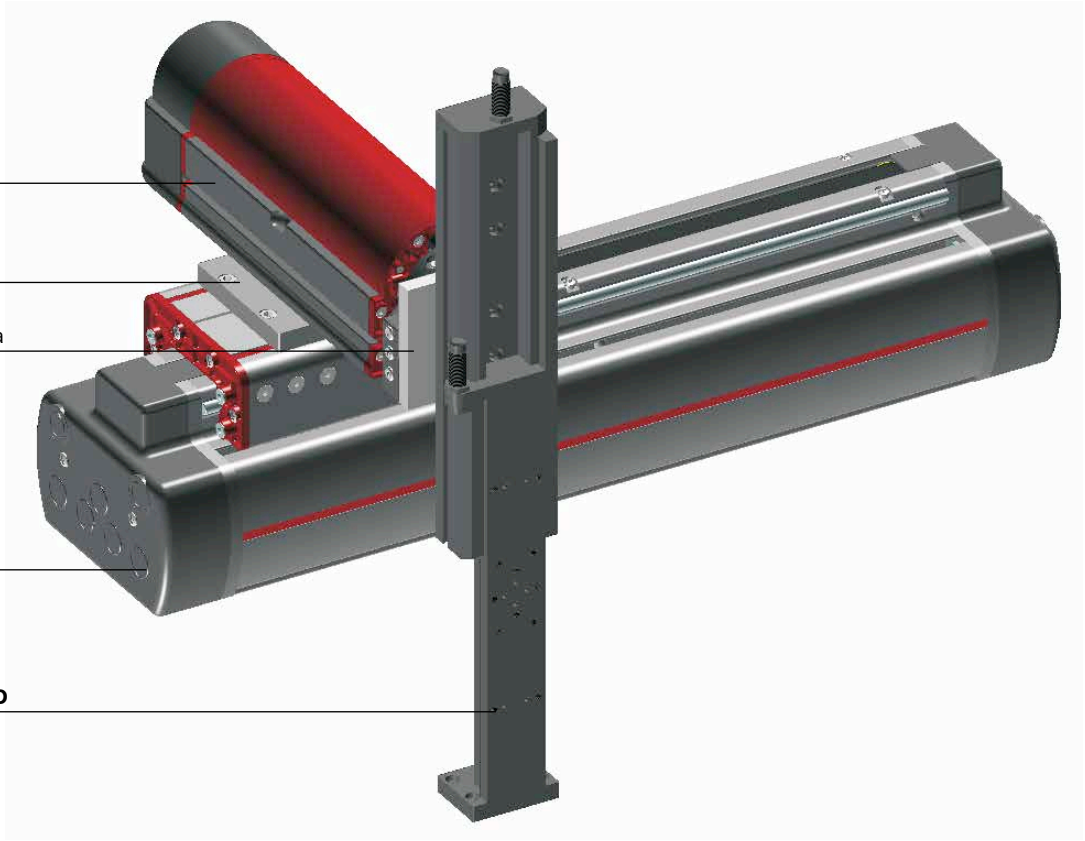




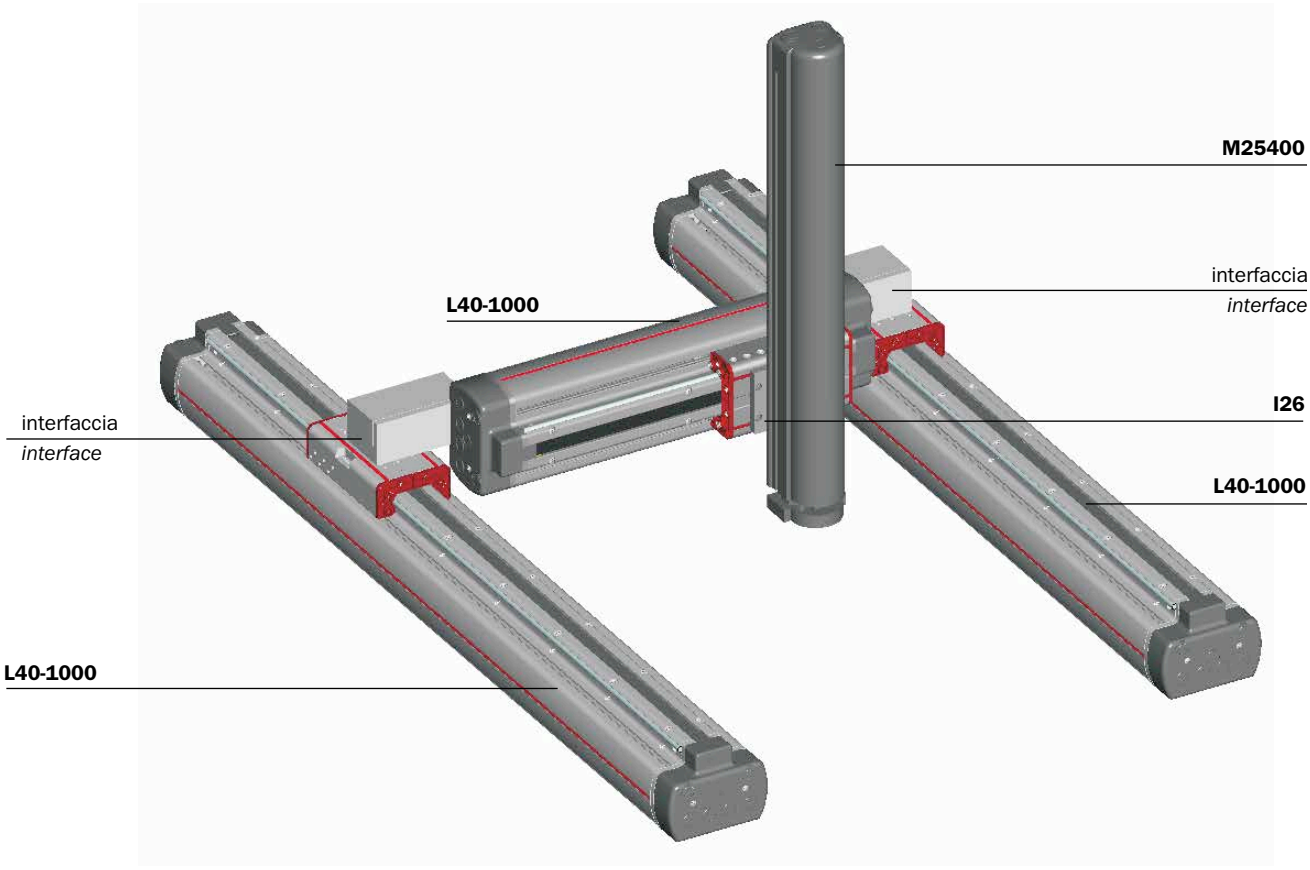
Esempio di applicazione / *Application example*



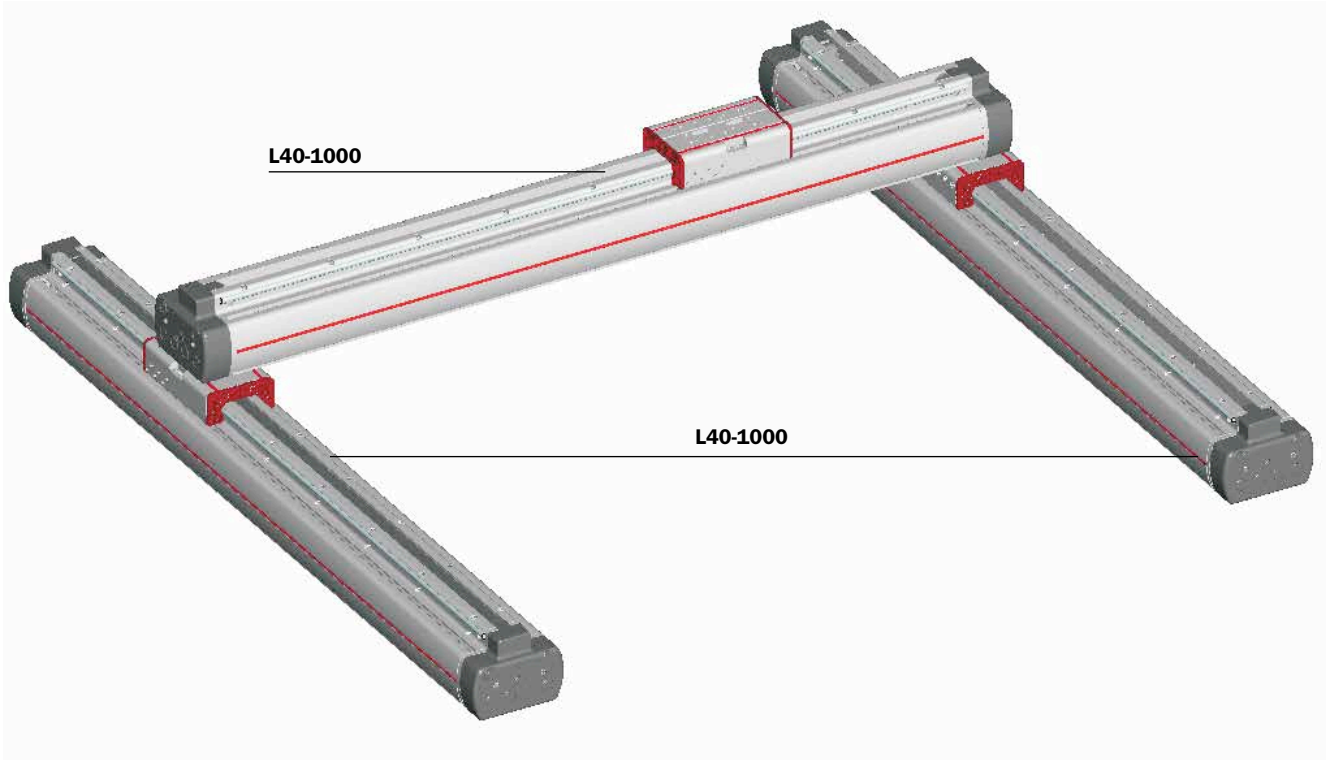
Esempio di applicazione / *Application example*



Esempio di applicazione / *Application example*



Esempio di applicazione / *Application example*

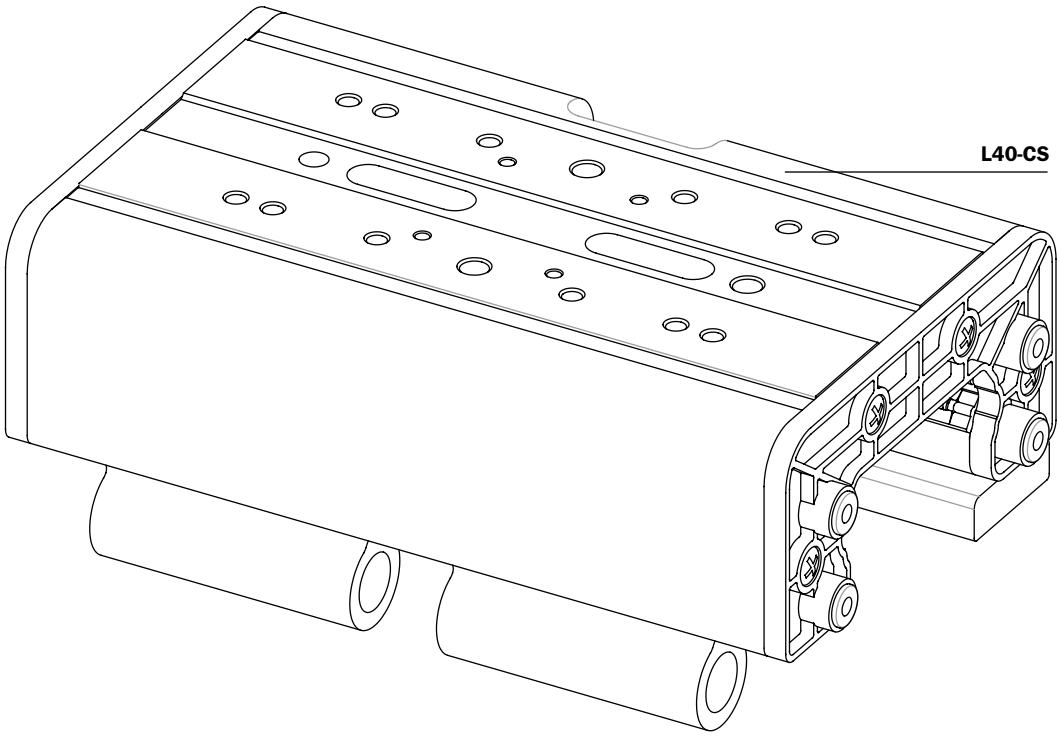


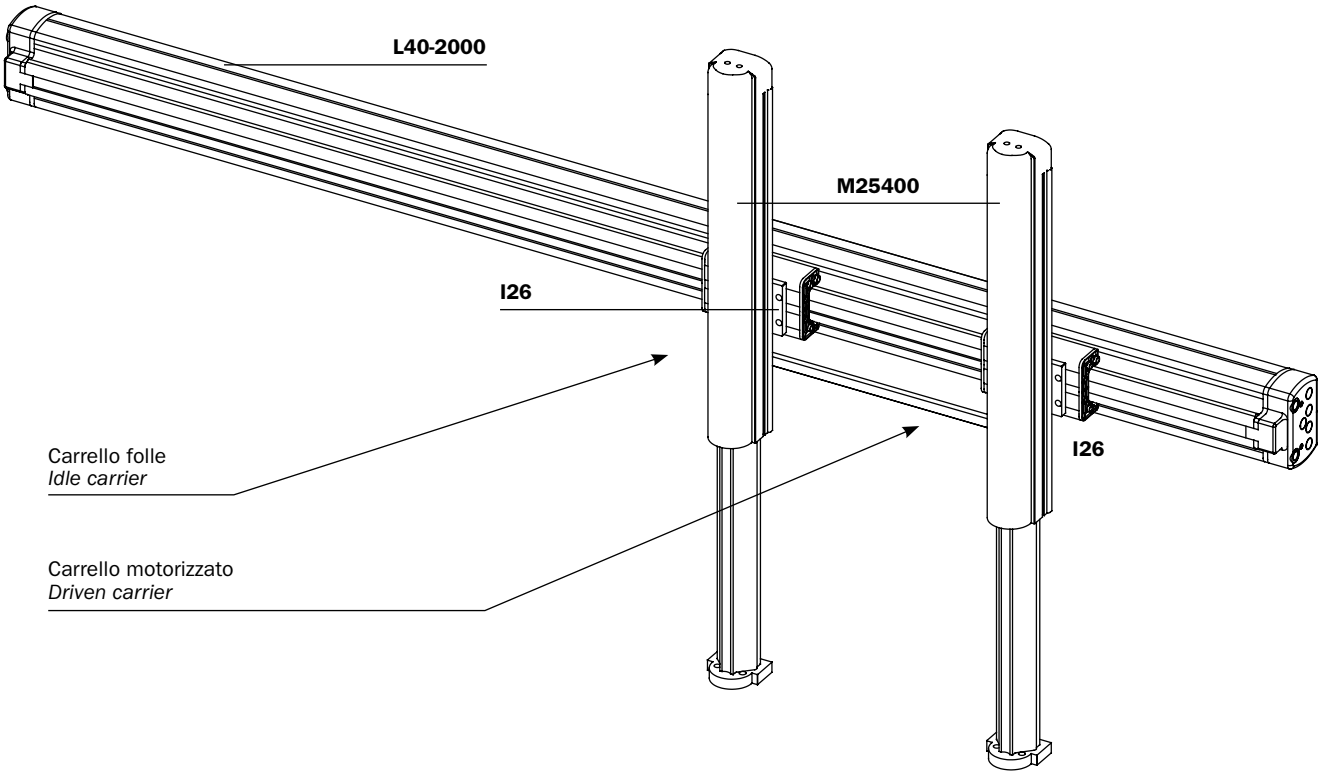
Secondo carrello

L'unità può essere equipaggiata su richiesta di un secondo carrello folle (codice L40-CS), montato sulla stessa rotaia.
Il montaggio del secondo carrello deve essere richiesto al costruttore.
Peso: 1.6 kg.

Second carrier

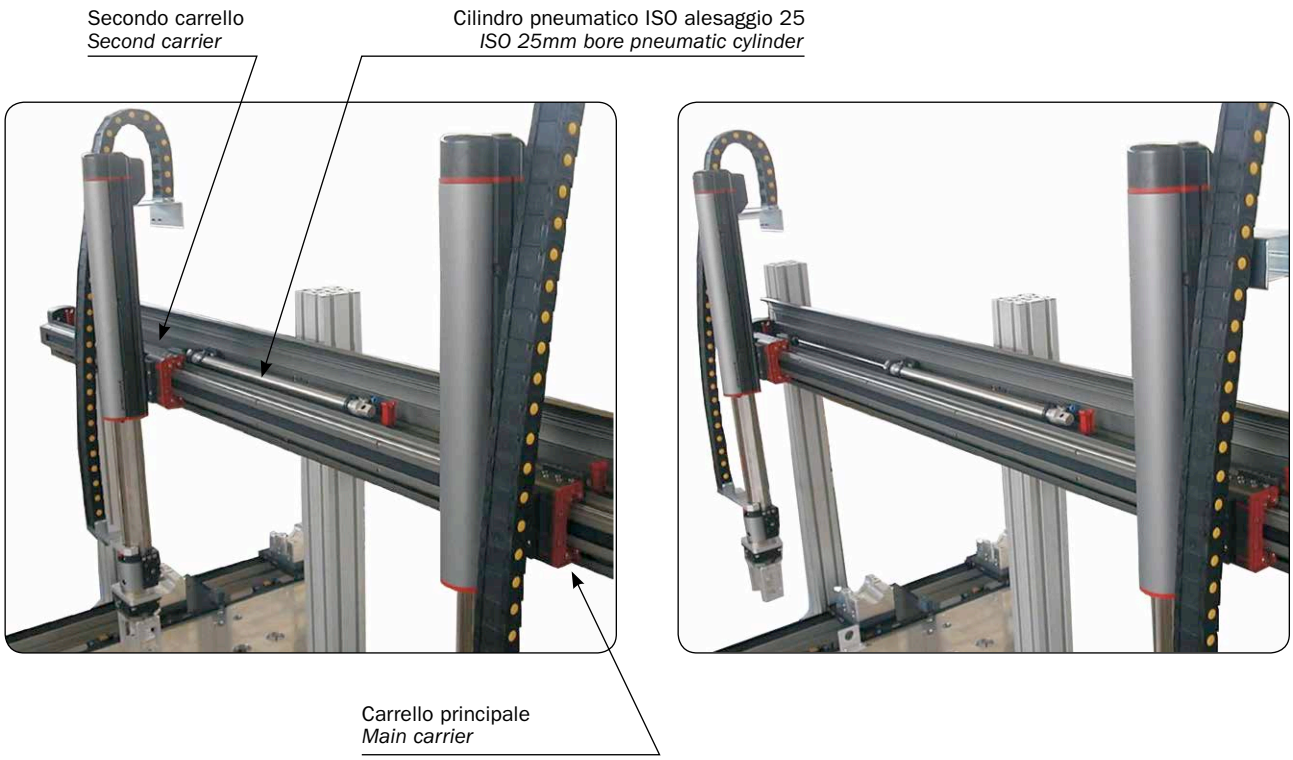
The unit can be equipped, upon request, with a second idle carrier on the rail (code L40-CS).
The second carrier must be mounted by the manufacturer.
Weight: 1.6kg.





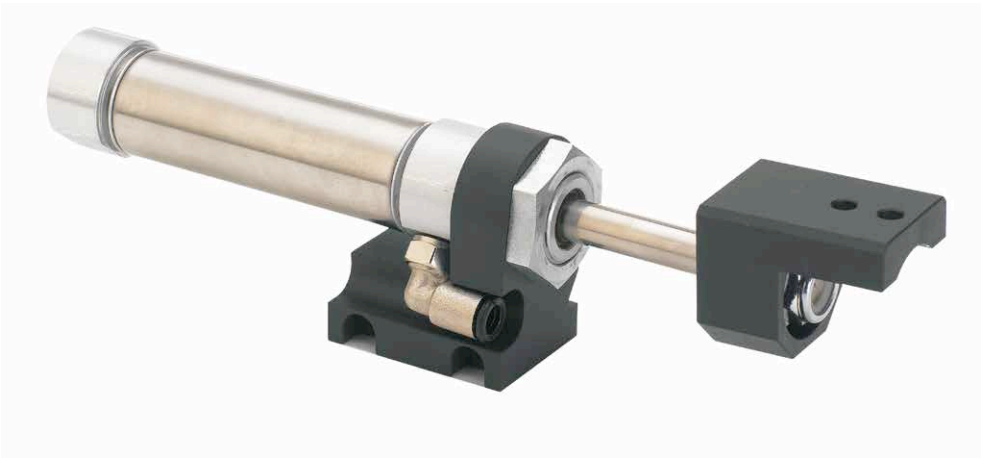
Il secondo carrello può anche essere azionato indipendentemente dal carrello principale, tramite un cilindro pneumatico ISO alesaggio 25, alloggiabile sotto il coperchio laterale (alternativamente alla catena).
Gimatic fornisce il kit di montaggio del cilindro (codice LS-CL).

Moreover the second carrier can be driven independently from the main carrier, by an ISO 25mm bore pneumatic cylinder, to fit under the lateral cover (instead of the energy chain).
Gimatic supplies the mounting kit for the cylinder (code LS-CL).





LS-CL



Sensori

Il rilevamento della posizione è affidato a sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete montato sul pistone.
Anche lo stato dell'unità di arresto intermedio si può rilevare con lo stesso tipo di sensore.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

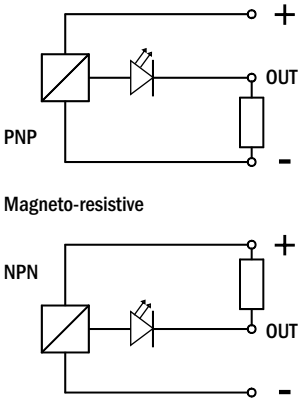
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The same type of sensor can also check the status of the intermediate stopping unit.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:

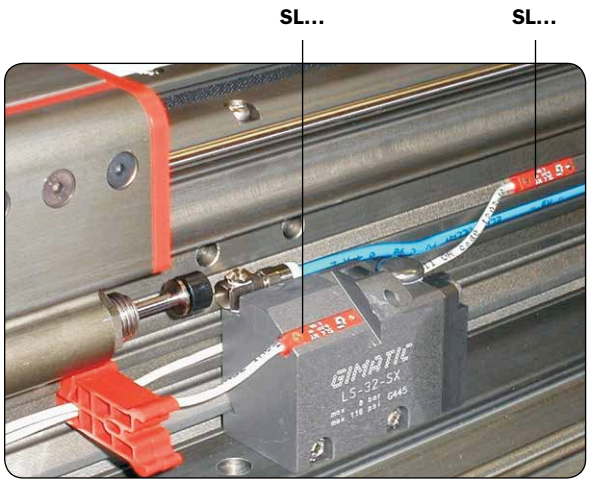


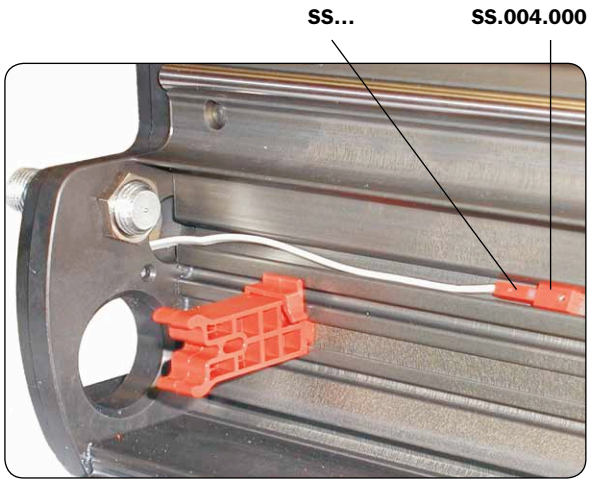


			L40-...	LS-32...
SL4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑
SL4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.



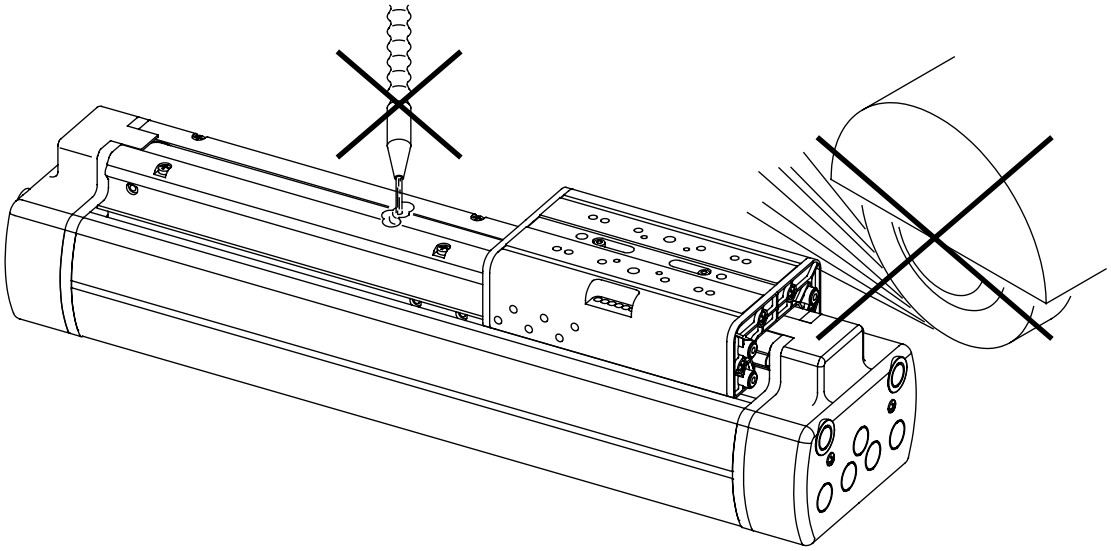


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Evitare soprattutto che sporco e corpi estranei entrino nella sede della cinghia di trasmissione.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Keep the drive belt groove free from dirt and foreign bodies.
Never let non-authorized persons or objects stand within the operating range of the slide.
Never operate the slide if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

Il precarico dei cuscinetti del carrello è regolato in fabbrica. NON UTILIZZARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.

Controllare periodicamente l'efficienza dei deceleratori e sostituirli immediatamente se manifestano un decadimento delle loro prestazioni di smorzamento.

Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

Maintenance

The preloading of the bearings had been set in factory. NEVER USE THE ADJUSTING SCREWS TOMODIFY IT.

Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performance decreases.

Periodically check the steel bars and lubricate when dry. The suitable grease is available in 90 grams tubes. Ordering code: GLP500-90.

