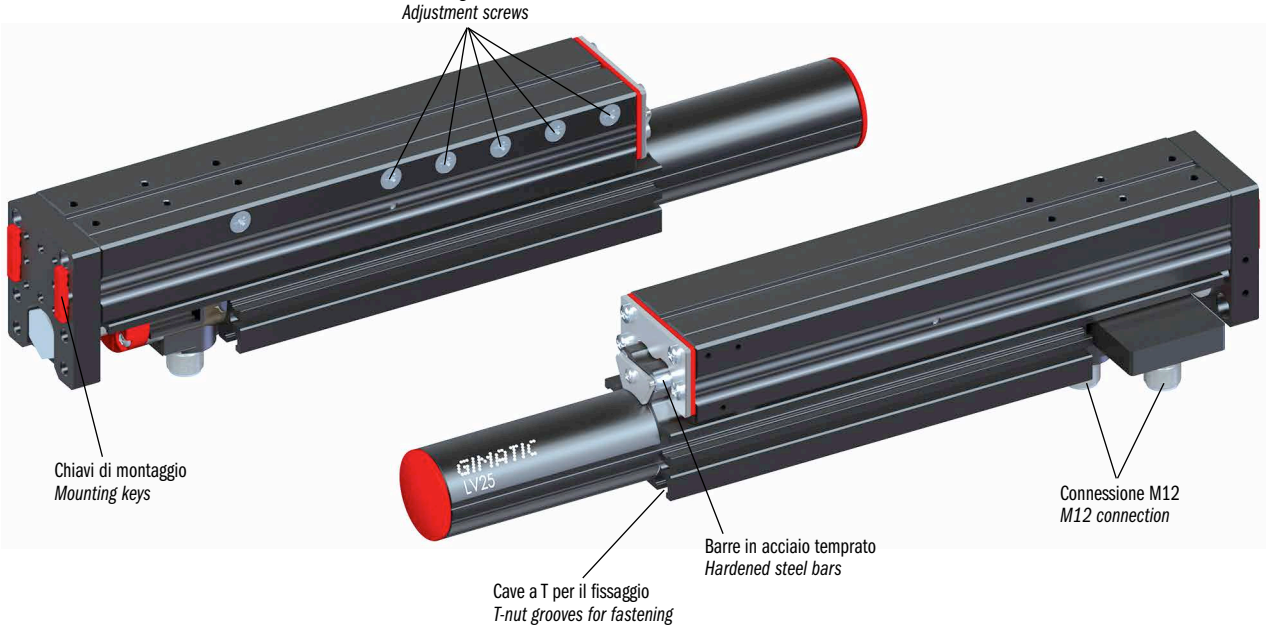
Attuatori lineari elettrici

- Motore lineare integrato.
- Sensore encoder integrato.
- Sistema di guida a ricircolo di sfere.
- Corse 50mm, 100mm, 150mm e 200mm.
- Montaggio con dadi a "T".
- Connessione elettrica M12 standard.
- Compatibile con molteplici azionamenti di mercato.
- Compensatori del peso opzionali.
- Sensori magnetici di Homing opzionali.
- Compatibile con le guide lineari elettriche LVP e pneumatiche ZVP.

Electrical linear actuators

- *Integrated linear motor.*
- *Integrated encoder sensor.*
- *Recirculating ball-bearing guide system.*
- *50mm, 100mm, 150mm and 200mm strokes.*
- *T-nut mounting.*
- *M12 standard electrical connection.*
- *Compatible with several drivers available on the market.*
- *Optional weight compensators.*
- *Optional magnetic homing sensors.*
- *Compatible with LVP electric linear guides and ZVP linear pneumatic guides.*

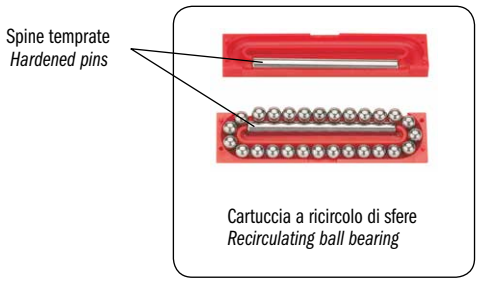


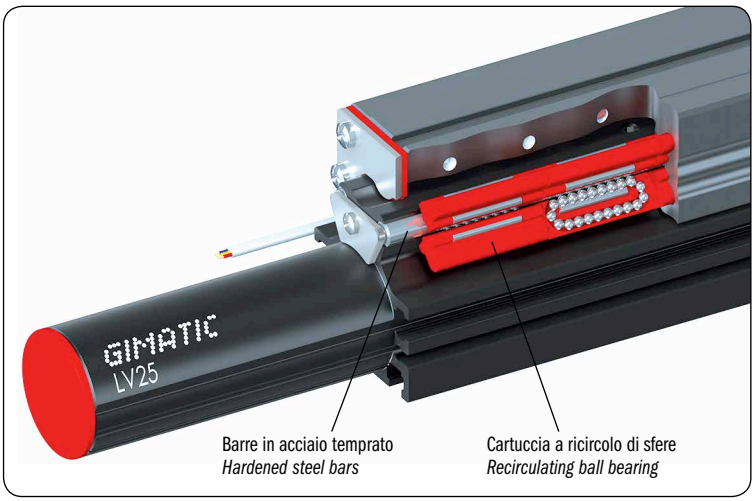
Guida di scorrimento a ricircolo di sfere

- Struttura in alluminio estruso disegnata per essere leggera e dissipare il calore.
- Barre temprate inserite nel corpo di alluminio.
- Cuscinetti di lunga durata.
- Precarico registrabile per la regolazione a gioco zero.

Recirculating ball bearing guide

- *Structure in extruded aluminium designed to be lightweight and dissipate heat.*
- *Hardened steel bars inserted in the aluminium body.*
- *Long life bearings.*
- *Adjustable preloading for zero backlash adjustment.*





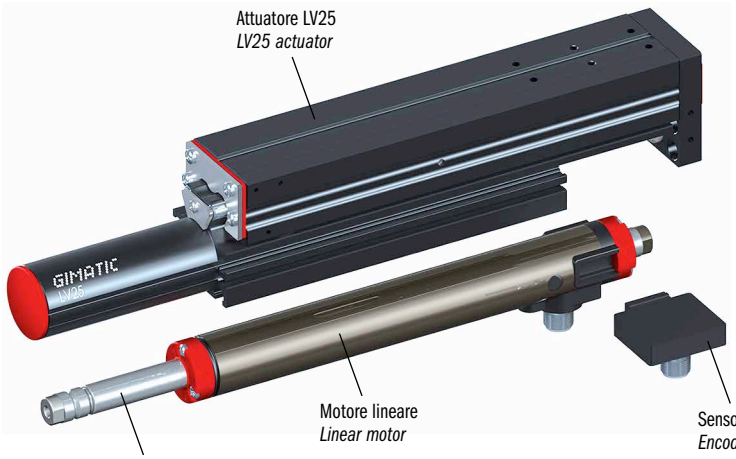
Codice d'ordine — *Order code*

(*)
Articolo in preparazione
Under construction

		050						
		100						
		150			70	ABZ		
LV	25	200	-		300*	SIN*		HALL

Taglia motore / *Motor size*
Corsa / *Stroke*
Tensione di BUS / *BUS voltage*
Sensore encoder / *Encoder sensor*
Sensore di fasatura / *Phase sensor*

		LV25050		LV25100		LV25150		LV25200	
Corsa *Stroke*		50 mm		100 mm		150 mm		200 mm	
Massa parti solidali allo slider *Mass of the parts integral with the slider*		560 g		670 g		850 g		1050 g	
Massa parti solidali allo statore *Mass of the parts integral with the stator*		610 g		710 g		975 g		1135 g	
Massa totale (motore incluso) *Total Mass (motor included)*		1170 g		1380 g		1825 g		2185 g	
Codice d'ordine *Order code*		LV25050-70	LV25050-300	LV25100-70	LV25100-300	LV25150-70	LV25150-300	LV25200-70	LV25200-300
Motore lineare *Linear motor*		ML2570X4	ML25300X4	ML2570X4	ML25300X4	ML2570X6	ML25300X6	ML2570X6	ML25300X6
Tensione di BUS *BUS voltage*		72 Vdc	325 Vdc	72 Vdc	325 Vdc	72 Vdc	325 Vdc	72 Vdc	325 Vdc
Forza di picco *Peak force*		98.1 N	117 N	98.1 N	117 N	105.4 N	131.6 N	105.4 N	131.6 N
Corrente di picco *Peak current*	(110°C)	7.7 A	3.1 A	7.7 A	3.1 A	5.2 A	2.1 A	5.2 A	2.1 A
Costante di forza *Force constant*		12.7 N/A	34.4 N/A	12.7 N/A	34.4 N/A	20.3 N/A	62.7 N/A	20.3 N/A	62.7 N/A
Forza continuativa *Continuous force*		32.1 N	28.8 N	32.1 N	28.8 N	51.7 N	31.9 N	51.7 N	31.9 N
Corrente continuativa *Continuous current*	(110°C)	2.53 A	0.84 A	2.53 A	0.84 A	2.55 A	0.51 A	2.55 A	0.51 A
Resistenza termica *Thermal resistance*		1.35 °C/W	1.2 °C/W	1.35 °C/W	1.2 °C/W	0.9 °C/W	2.1 °C/W	0.9 °C/W	2.1 °C/W
Velocità massima *Maximum speed*		2 m/s							
Temperatura di esercizio *Temperature range*		5 ÷ 80 °C							
Grado di protezione *Environmntal Degree*		IP67							



Carichi di sicurezza

Consultare le tabelle dei carichi ammissibili.
Carichi eccessivi possono danneggiare l'attuatore lineare e comprometterne il funzionamento.

Le quote Y0 e Z0 identificano il centro del cuscinetto lineare (quote rilevate in condizioni di massima apertura).

Fx s, Fz s, Mx s, My s, Mz s sono i carichi statici massimi ammissibili.
Fx d, Fz d, Mx d, My d, Mz d sono i carichi dinamici massimi ammissibili.
I carichi statici sono quelli applicabili alla slitta quando il carrello é fermo, i carichi dinamici sono quelli applicabili durante il movimento.

Il carico dinamico rappresenta il carico limite con cui gli attuatori sono testati ad 1 milione di cicli completi di apertura e chiusura.

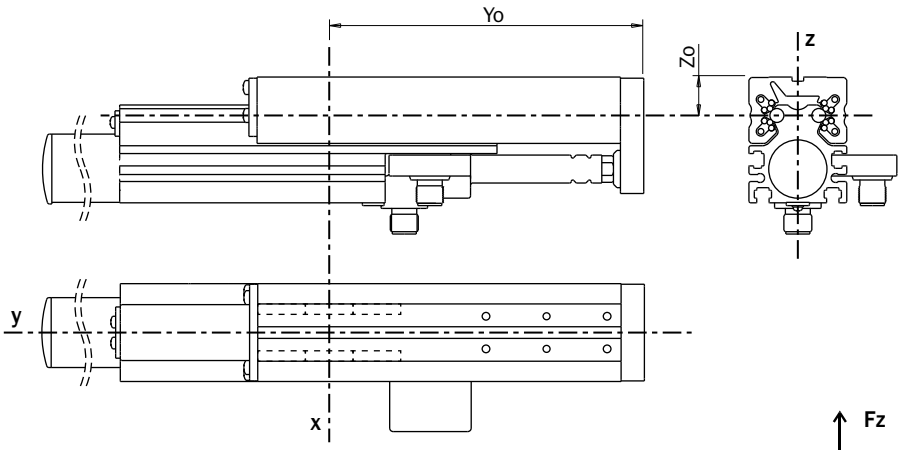
Safety loads

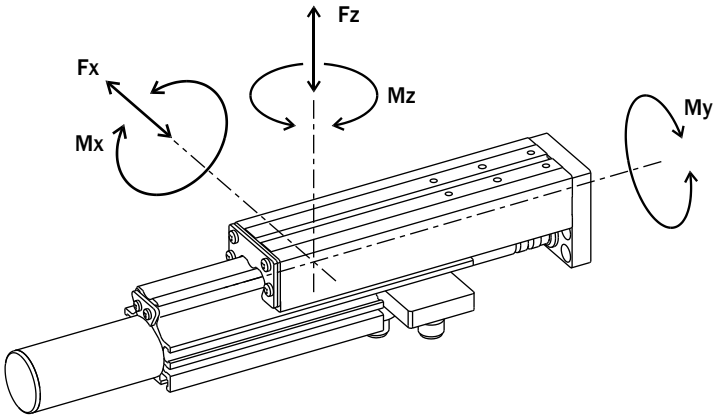
Check the tables below.
Excessive loads can damage the linear unit and cause functioning troubles.

The dimensions Y0 and Z0 identify the centre of the linear bearing (dimensions measured under conditions of maximum opening).

Fx s, Fz s, Mx s, My s, Mz s are maximum permitted static loads.
Fx d, Fz d, Mx d, My d, Mz d are maximum permitted dynamic loads.
The static loads can be applied when the carrier is motionless, the dynamic loads when the carrier is running.

The dynamic load represents the limit load at which actuators are tested with 1 million full opening and closing cycles.





	LV25050	LV25100	LV25150	LV25200
Zo	16.5 mm	16.5 mm	16.5 mm	16.5 mm
Yo	122.5 mm	162.5 mm	227 mm	291.5 mm
Fx s	120 N	120 N	160 N	200 N
Fz s	120 N	120 N	160 N	200 N
Mx s	19 Nm	19 Nm	28 Nm	36 Nm
My s	11 Nm	11 Nm	14 Nm	18 Nm
Mz s	19 Nm	19 Nm	28 Nm	36 Nm
Fx d	60 N	60 N	80 N	100 N
Fz d	60 N	60 N	80 N	100 N
Mx d	3.8 Nm	3.8 Nm	5.6 Nm	7.2 Nm
My d	2.2 Nm	2.2 Nm	2.8 Nm	3.6 Nm
Mz d	3.8 Nm	3.8 Nm	5.6 Nm	7.2 Nm

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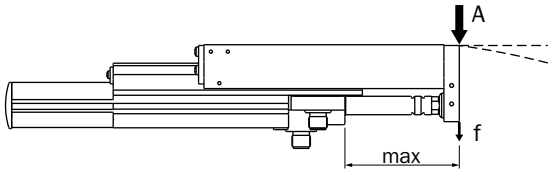
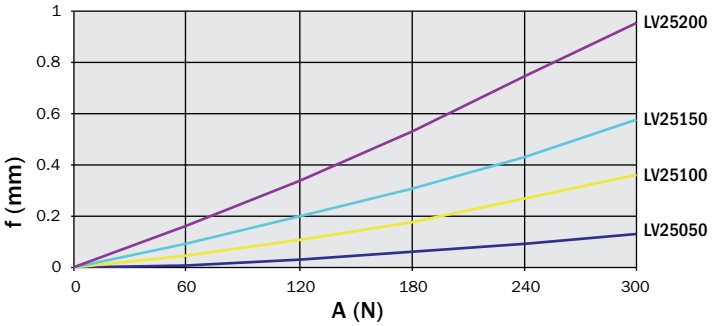
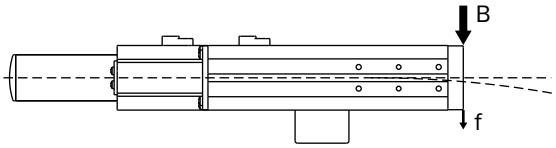
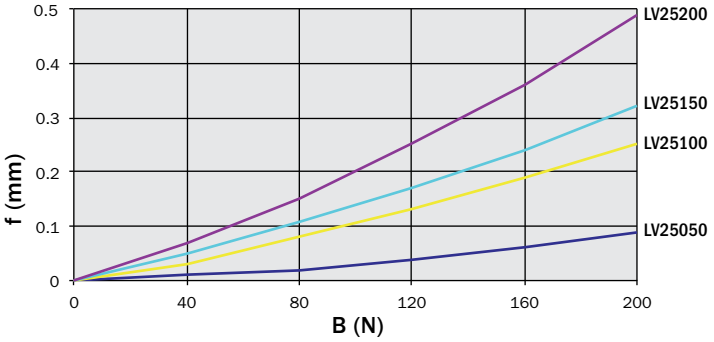
Flessione

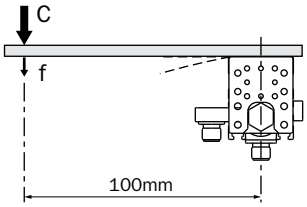
Deflection

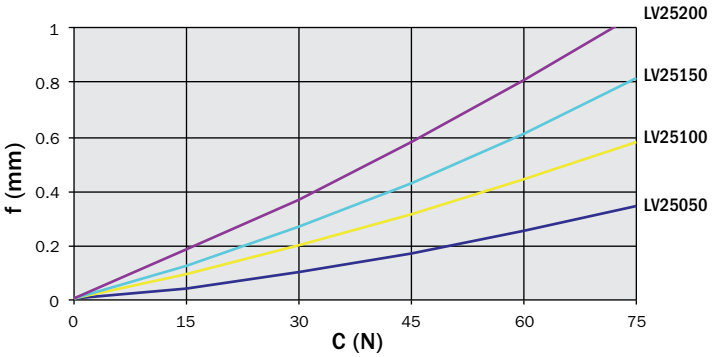










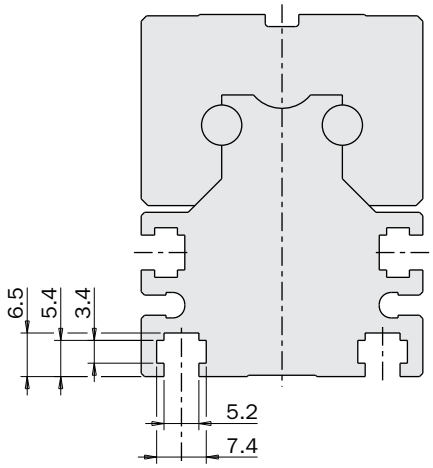


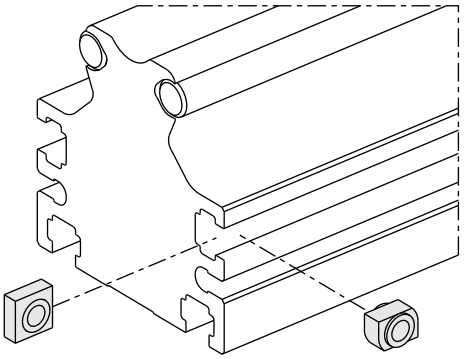
Cave per dadi a “T”

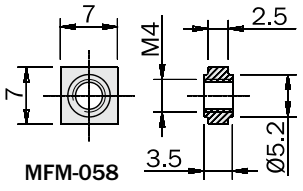
Tutte le cave hanno le stesse dimensioni ed è possibile utilizzare i dadi a "T".

T-nut grooves

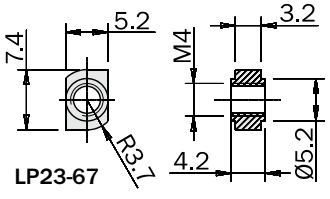
All slots have the same size and T-nuts can be used.





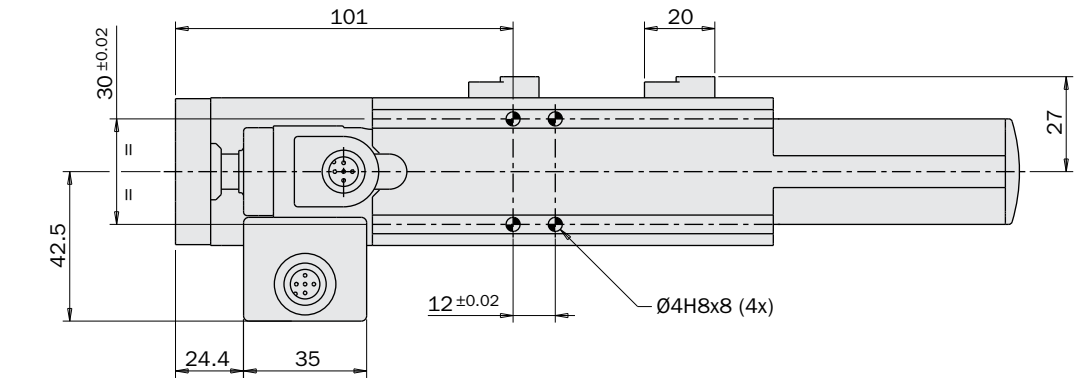


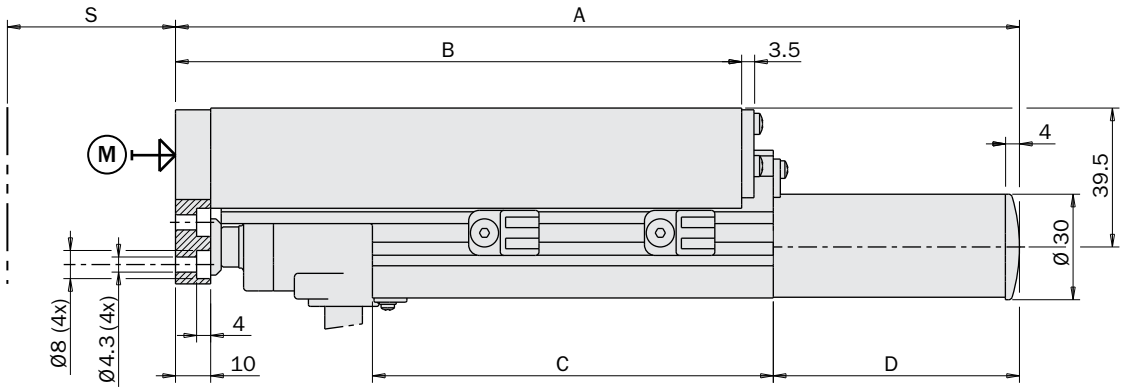
MFM-058

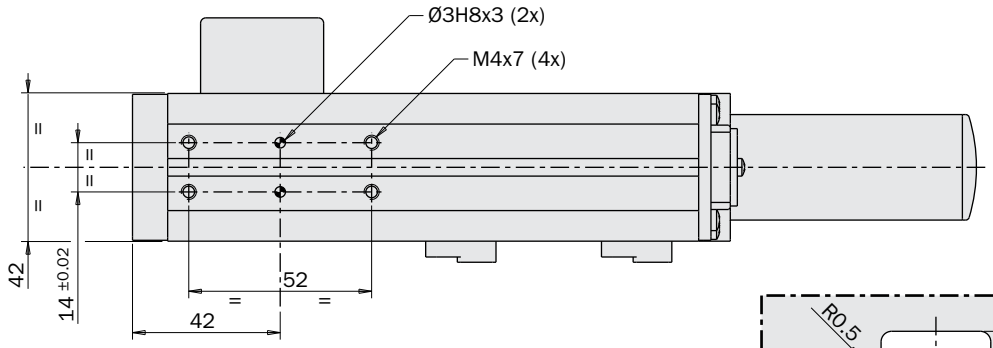


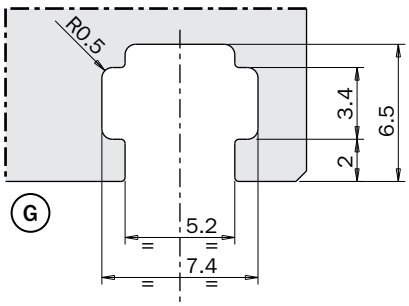
LP23-67

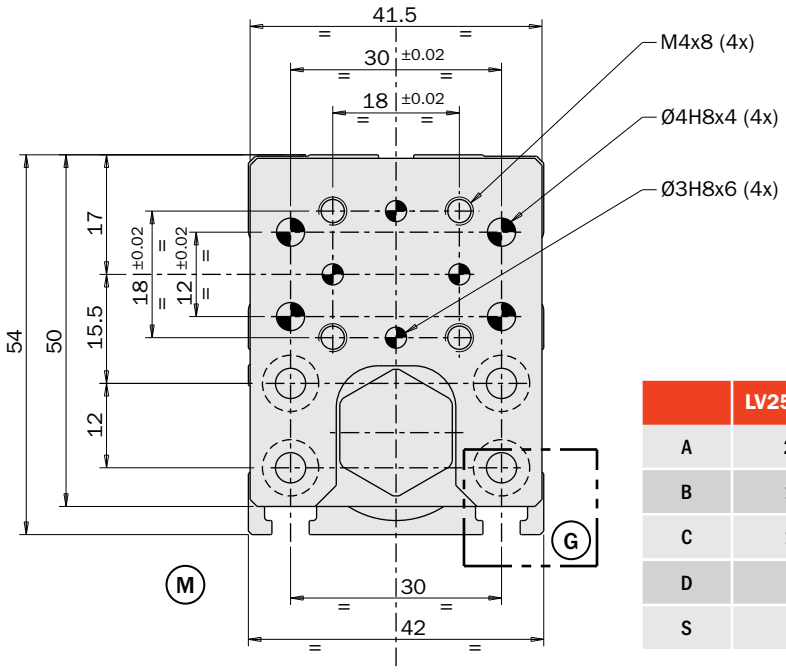
Dimensioni (mm) / *Dimensions (mm)*











FIRST ANGLE PROJECTION

	LV25050-...	LV25100-...	LV25150-...	LV25200-...
A	245	296	349	419
B	166	206	285	364
C	114	154	233	312
D	70	81	55	46
S	50	100	150	200

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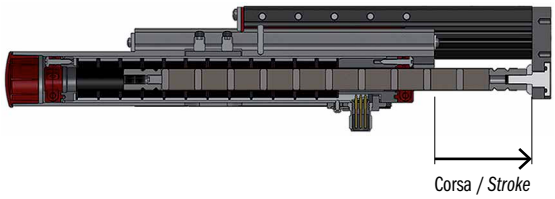
LV25050...

La spinta esercitabile dall'attuatore dipende dall'accoppiamento e dalla velocità relativa tra primario e secondario.
L'apertura del carrello sfila lo slider magnetico dal motore facendo proporzionalmente calare la forza.

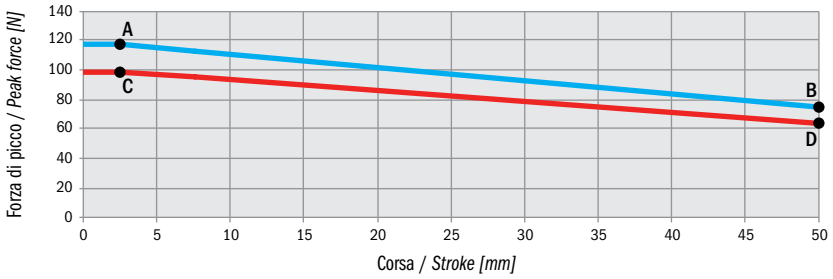
LV25050...

The actuator thrust depends on the coupling and the relative speed between the primary winding and the secondary winding. The opening of the carrier extracts the magnetic slider from the motor thus proportionally decreasing the force.



LV25050-300 (ML25300X4)
LV25050-70 (ML2570X4)

	Forza *Force*	Corsa *Stroke*
A	117 N	2.5 mm
B	74.3 N	50 mm
C	98.1 N	2.5 mm
D	63.1 N	50 mm

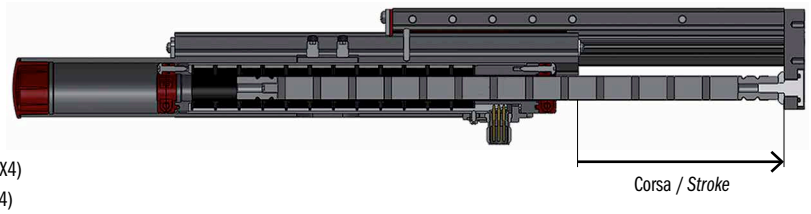


LV25100...

La spinta esercitabile dall'attuatore dipende dall'accoppiamento e dalla velocità relativa tra primario e secondario.
L'apertura del carrello sfila lo slider magnetico dal motore facendo proporzionalmente calare la forza.

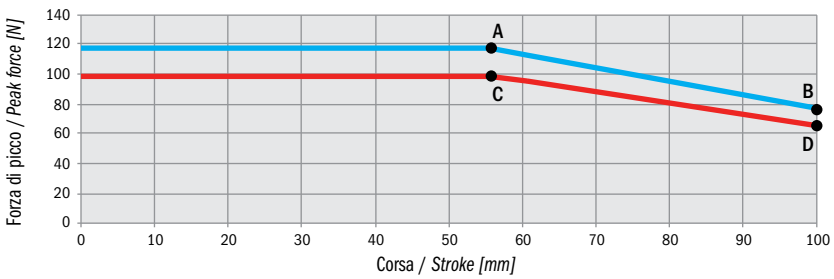
LV25100...

The actuator thrust depends on the coupling and the relative speed between the primary winding and the secondary winding. The opening of the carrier extracts the magnetic slider from the motor thus proportionally decreasing the force.



LV25100-300 (ML25300X4)
LV25100-70 (ML2570X4)

	Forza *Force*	Corsa *Stroke*
A	117 N	55.5 mm
B	77 N	100 mm
C	98.1 N	55.5 mm
D	65.3 N	100 mm

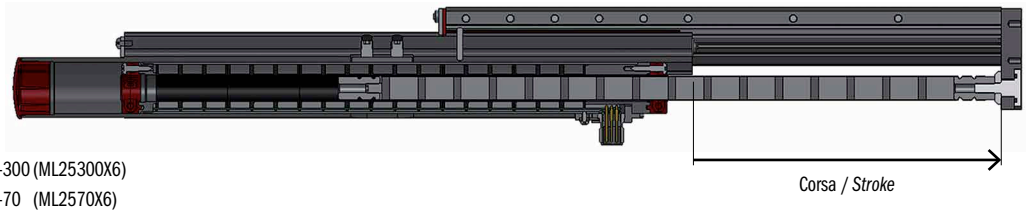


LV25150...

La spinta esercitabile dall'attuatore dipende dall'accoppiamento e dalla velocità relativa tra primario e secondario.
L'apertura del carrello sfila lo slider magnetico dal motore facendo proporzionalmente calare la forza.

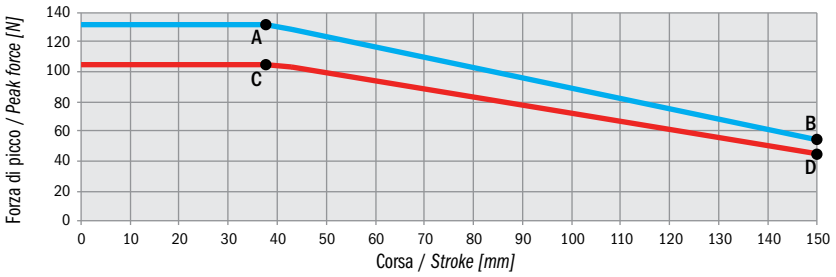
LV25150...

The actuator thrust depends on the coupling and the relative speed between the primary winding and the secondary winding. The opening of the carrier extracts the magnetic slider from the motor thus proportionally decreasing the force.



LV25150-300 (ML25300X6)
LV25150-70 (ML2570X6)

	Forza *Force*	Corsa *Stroke*
A	131.6 N	37.7 mm
B	54.4 N	150 mm
C	105.4 N	37.7 mm
D	45 N	150 mm

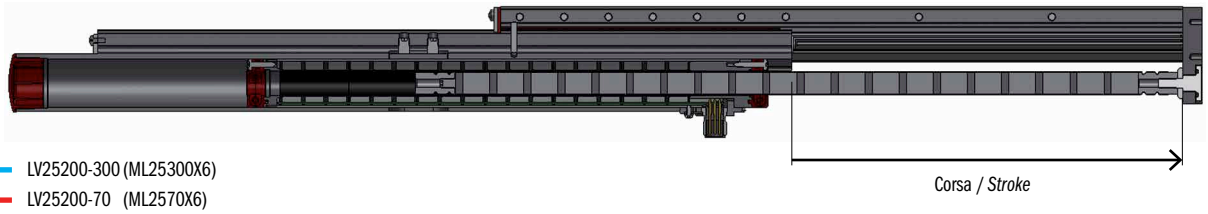


LV25200...

La spinta esercitabile dall'attuatore dipende dall'accoppiamento e dalla velocità relativa tra primario e secondario.
L'apertura del carrello sfila lo slider magnetico dal motore facendo proporzionalmente calare la forza.

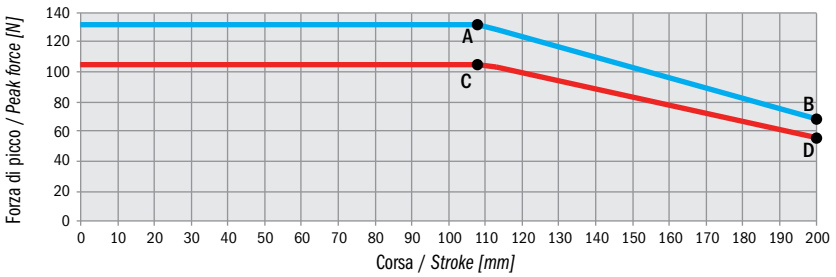
LV25200...

The actuator thrust depends on the coupling and the relative speed between the primary winding and the secondary winding. The opening of the carrier extracts the magnetic slider from the motor thus proportionally decreasing the force.



LV25200-300 (ML25300X6)
LV25200-70 (ML2570X6)

	Forza *Force*	Corsa *Stroke*
A	131.6 N	107.7 mm
B	68.1 N	200 mm
C	105.4 N	107.7 mm
D	55.7 N	200 mm



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LV25-KIT-01

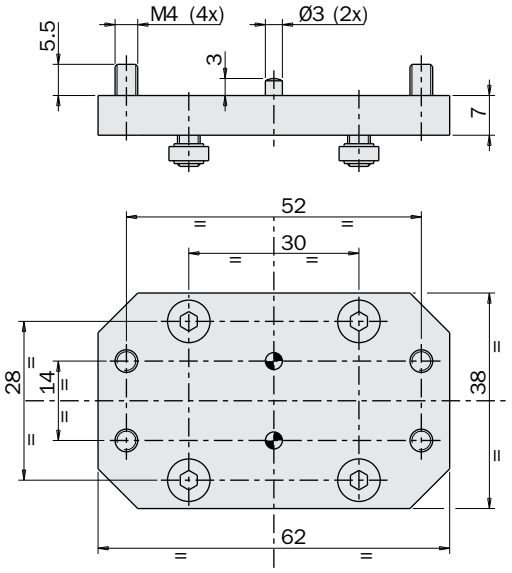
Interfaccia di montaggio

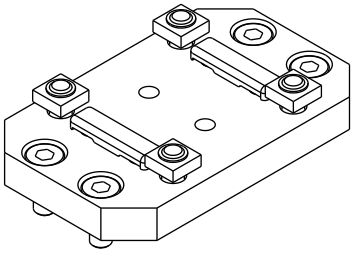
- Peso: 57g.

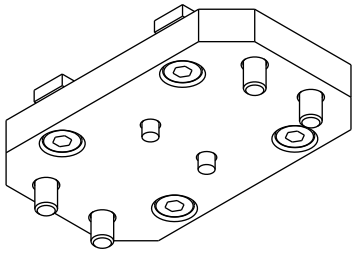
LV25-KIT-01

Mounting interface plate

- *Weight: 57g.*

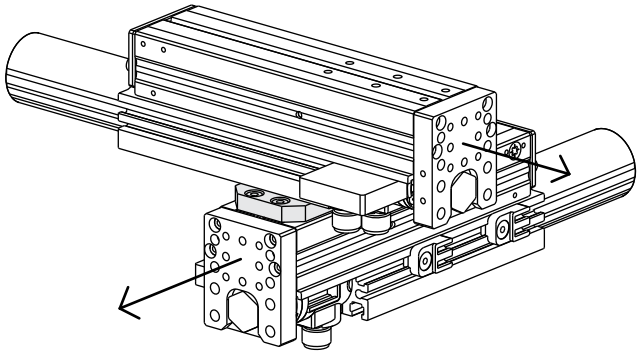


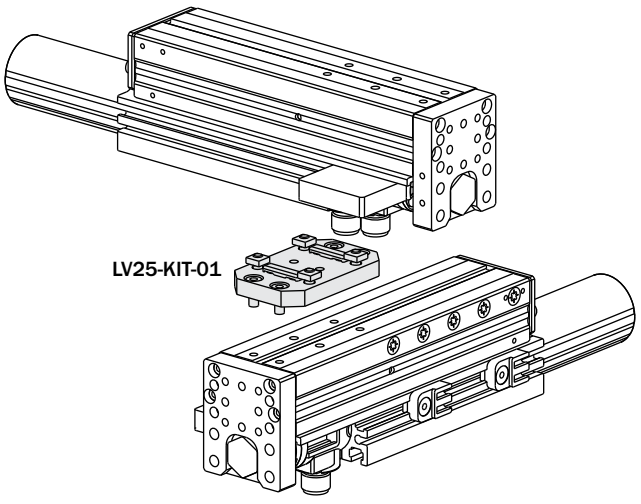




Esempio di applicazione

Application example

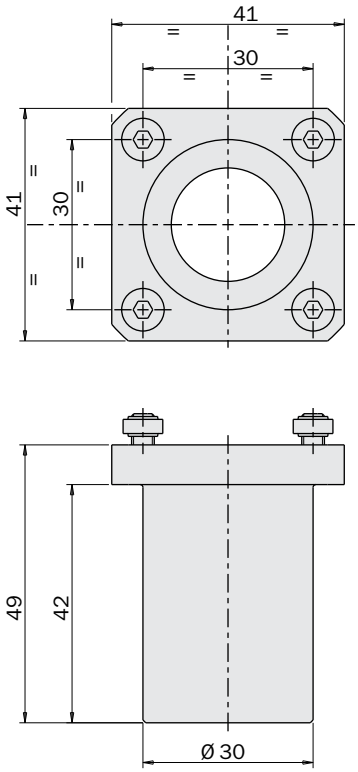




LV25-KIT-02 (*)

Interfaccia di montaggio

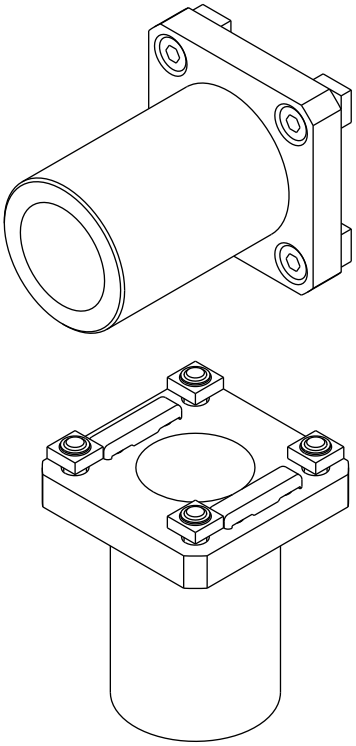
- Peso: 80g.



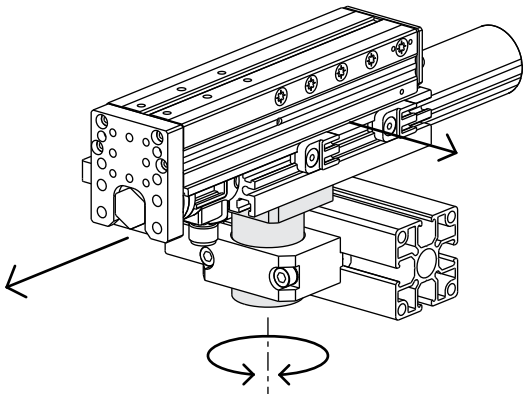
LV25-KIT-02 (*)

Mounting interface plate

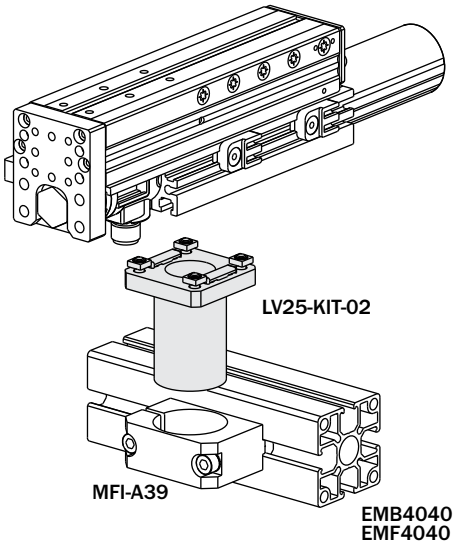
- *Weight: 80g.*



Esempio di applicazione



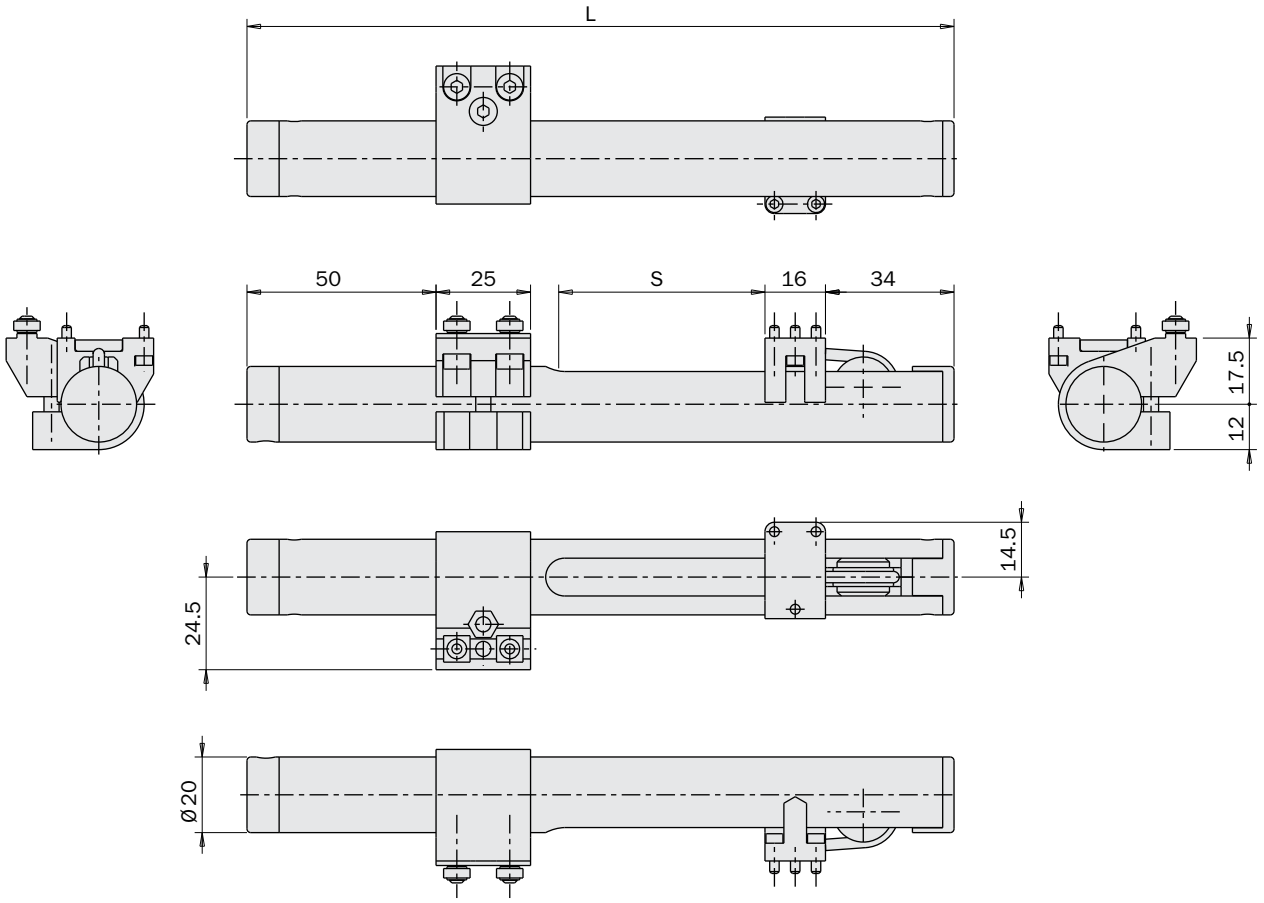
Application example



(*)
Articolo in preparazione
Under construction

Bilanciatori a molla

Spring compensators



	LV25-KIT-50	LV25-KIT-100	LV25-KIT-150	LV25-KIT-200
Attuatore lineare *Linear actuator*	LV25050	LV25100	LV25150	LV25200
L	187 mm	227 mm	284 mm	339 mm
Massa totale *Total Mass*	105 g	136 g	165 g	191 g
Corsa (S) *Stroke (S)*	50 mm	100 mm	150 mm	200 mm
Rigidezza *Stiffness*	100 N/m			

LV25-KIT-04

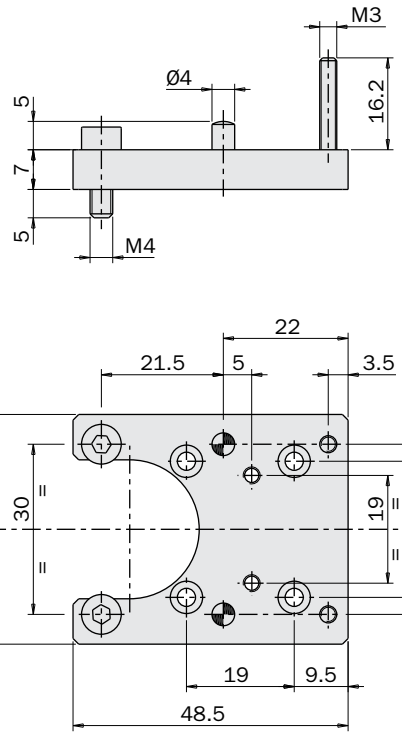
Interfaccia di testa

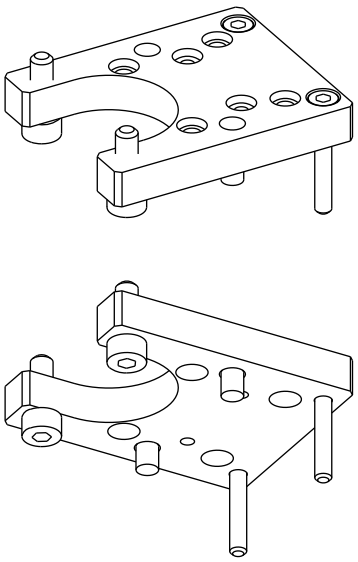
- Peso: 30g.

LV25-KIT-04

Head interface

- *Weight: 30g.*

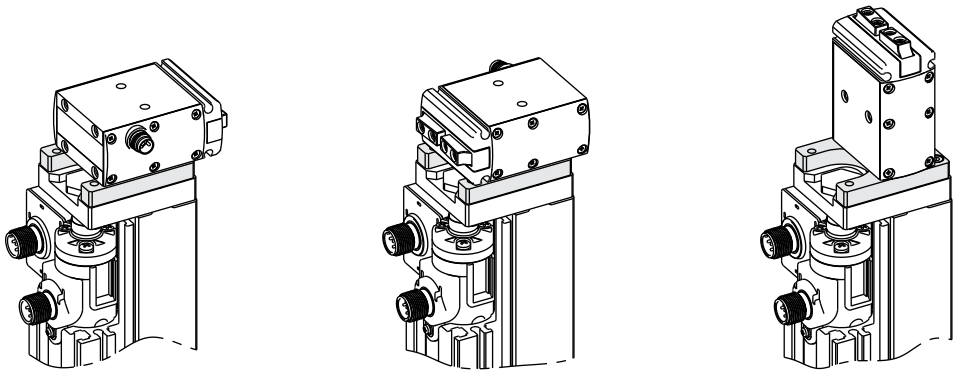




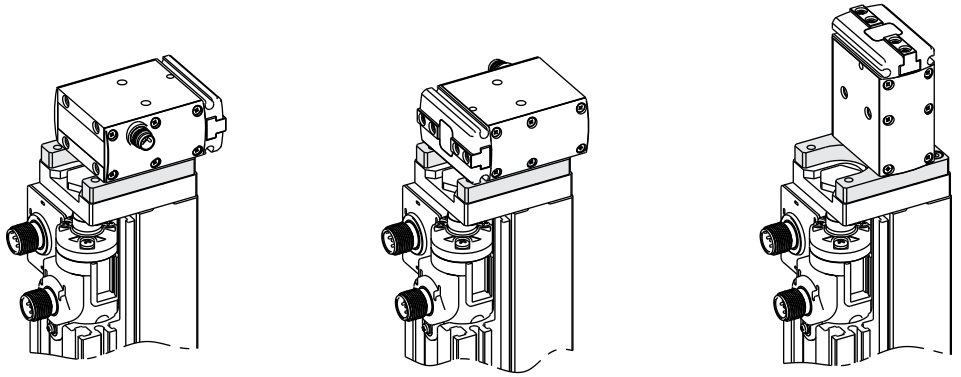
Esempi di applicazione

Application examples

MPBM1640



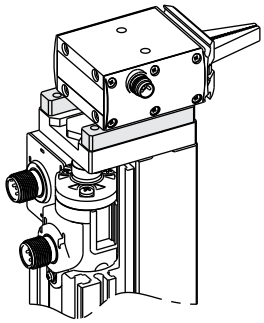
MPPM1606

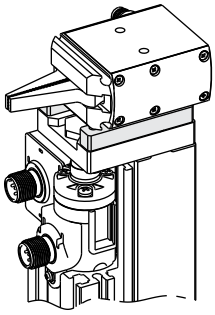


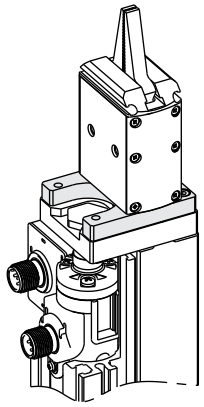
Esempi di applicazione

Application examples

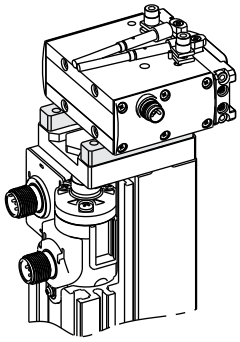
MPBS1630

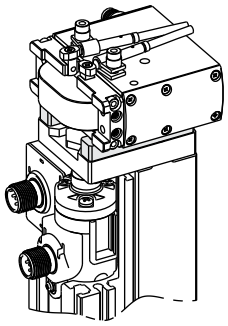


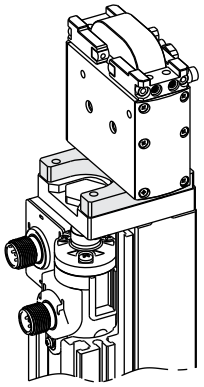




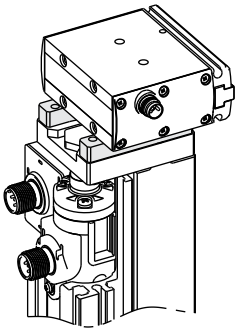
MPRM1690

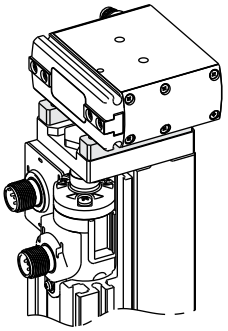


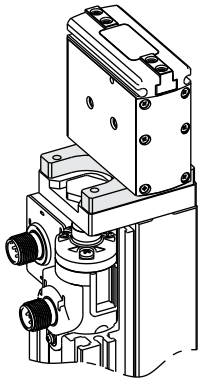




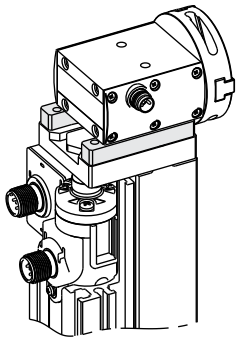
MPXM1612

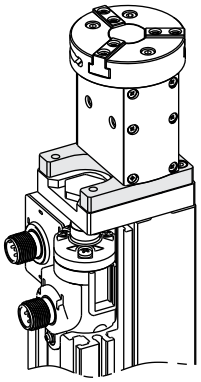




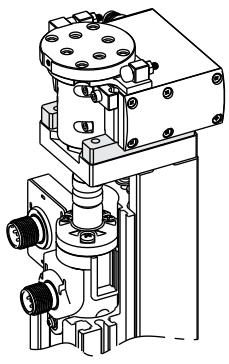


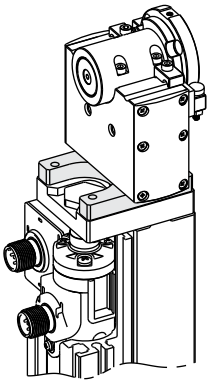
MPTM1606





MRE16180





LV25-KIT-07

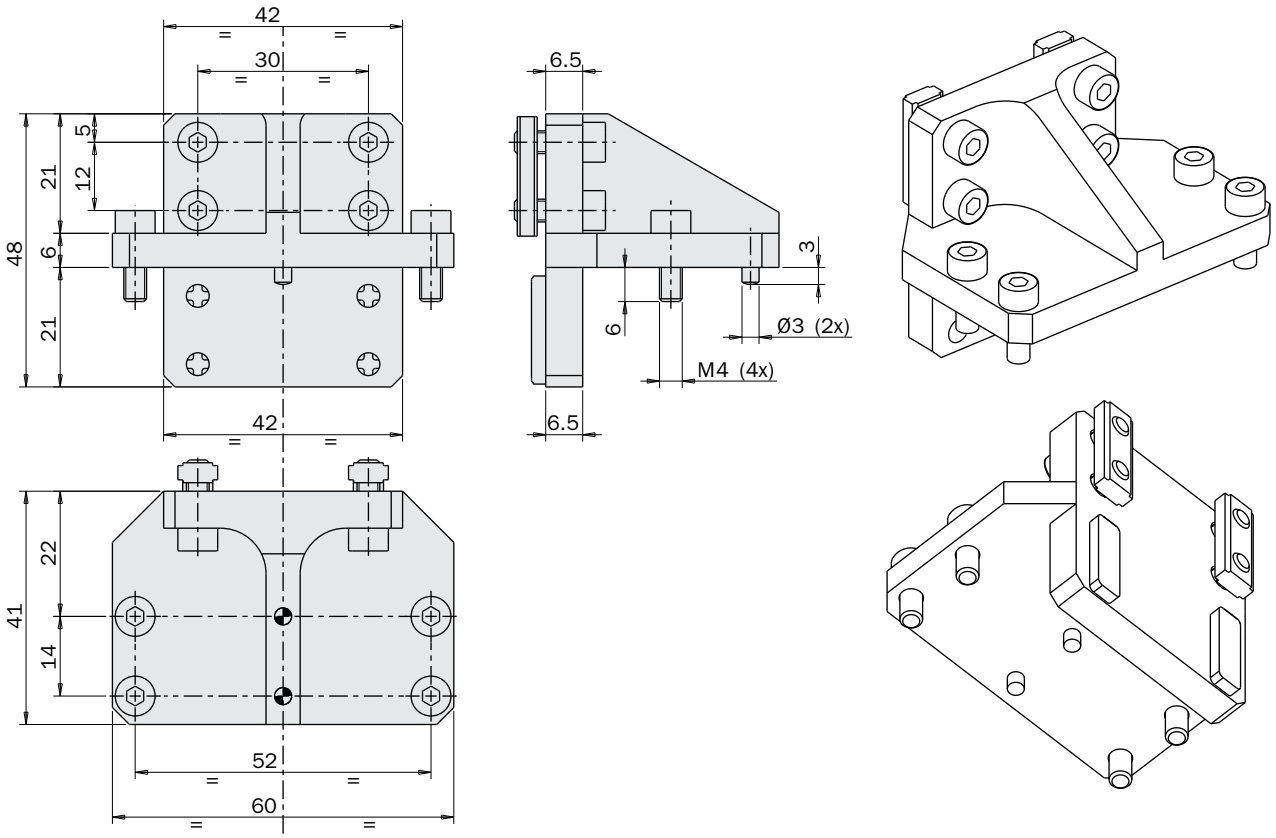
Interfaccia di montaggio

- Peso: 90g.

LV25-KIT-07

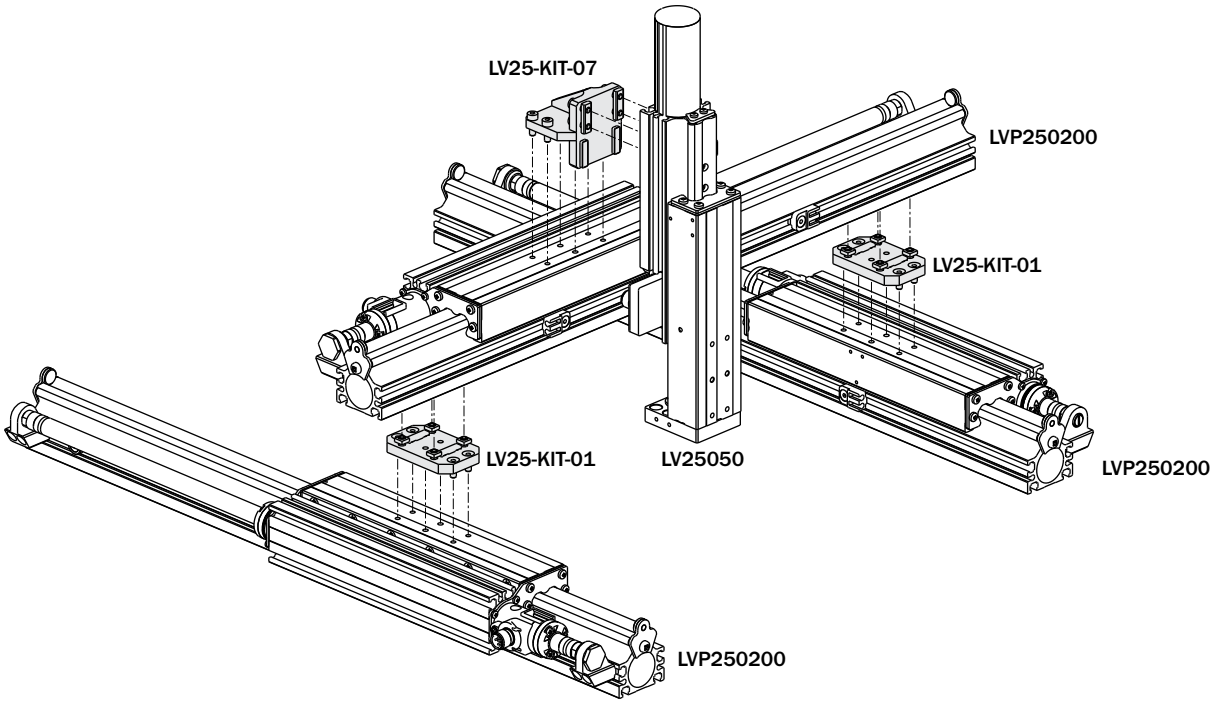
Mounting interface plate

- *Weight: 90g.*



Esempio di applicazione

Application example



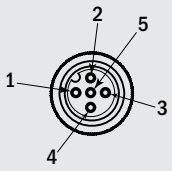
Connettori

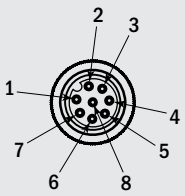
La connessione del motore, sensore encoder, sensori extracorsa ed eventuali pinze elettriche è possibile grazie a connettori assiali e angolari con cavo flessibile per posa mobile.

Connectors

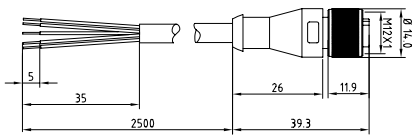
Motor, sensors and grippers connection can be done thanks to the axial and 90° angular standard connectors with special flexible cable for moving applications.

0° assiale	CFGM1200525P	CFGM1200825P	*0° axial*
90° angolare	CFGM1290525P	CFGM1290825P	*90° angular*
Applicazione	Motore / Motor	Encoder / Encoder	*Application*
Tipo contatto	Femmina / Female		*Contact type*
Numero contatti	5	8	*Number of contacts*
Lunghezza standard	2.5 m		*Standard length*
Materiale	Rame nudo / Bare Copper		*Material*
Trefolatura	42 x 0.10 mm	32 x 0.10 mm	*Stranding*
Sezione - AWG	0.34 mm² / 22	0.25 mm² / 24	*Section - AWG*
Resistenza elettrica	< 58.16 Ω/km	< 76.33 Ω/km	*Electrical resistance*
Diametro conduttori	Ø 1.30 mm	Ø 1.15 mm	*Conductor diameter*
Mescola conduttori	PP		*Conductor compound*
Schermatura	Totalmente schermato / Fully shielded		*Shield*
Tipo schermo	Maglia / Braid		*Shield type*
Diametro cavo	Ø 6.3 mm ±0.2 mm		*Cable diameter*
Materiale cavo	PUR		*Cable material*
Colore esterno	RAL 9005		*Cable color*
Caratteristiche	Oil, Hydraulic fluide and UV resistant, Silicone, Pb, Cd, Hg, FCKW and Halogen free		*Features*
Raggio min. curvatura	63 mm		*Min. bending radius*
Normative	2002/95/CE, EN 50363-10-2, IEC 60344		*Reference standards*
Disposizione colori	1 Marrone / Brown 2 Bianco / White 3 Blu / Blue 4 Nero / Black 5 Grigio / Gray	1 Bianco / White 2 Marrone / Brown 3 Verde / Green 4 Giallo / Yellow 5 Grigio / Gray 6 Rosa / Pink 7 Blu / Blue 8 Rosso / Red	*Color layout*





CFGM1200525P



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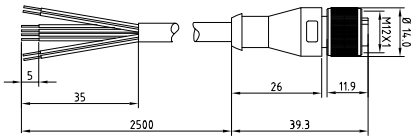

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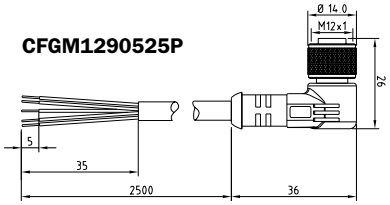

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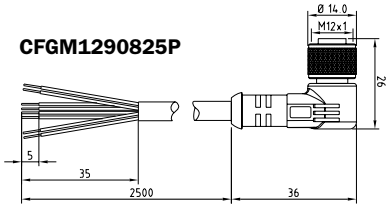


Sensori

Il rilevamento della posizione di extracorsa e azzeramento è affidato a sensori magnetici di prossimità (opzionali), fissati sul profilo della slitta utilizzando speciali staffe.

Se necessario è possibile utilizzare sensori a più alta sensibilità (con suffisso HS).

Sensors

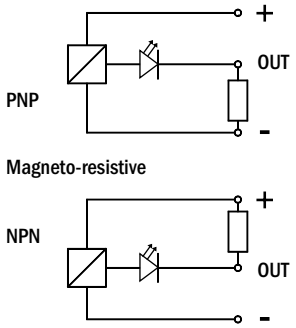
Extrastroke and zero position detection is made by magnetic proximity sensors (optional) fixed on the profile of the slide with special brackets.

High-sensitivity sensors (HS suffix) can be used, if necessary.

I sensori utilizzabili sono:

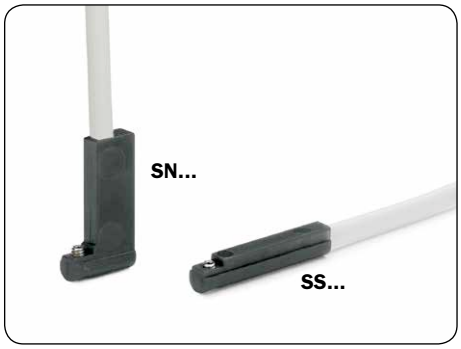
Use sensors:

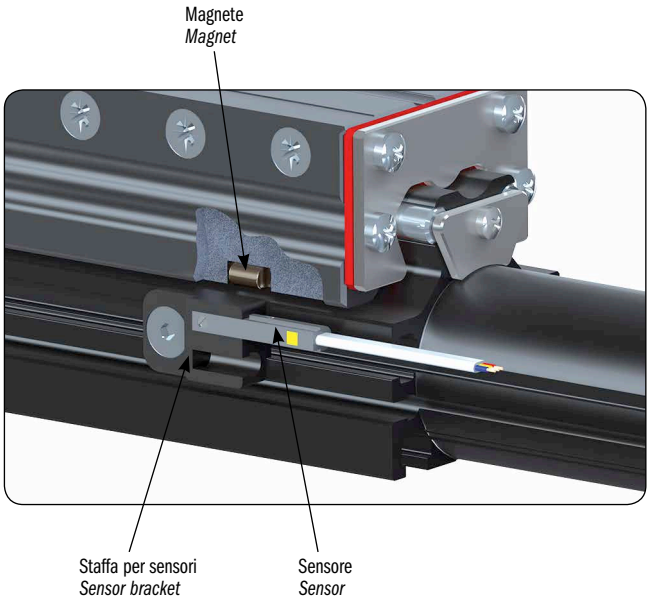
SN4N225-G	PNP	Cavo 2.5m / *2.5m Cable*
SN4M225-G	NPN	Cavo 2.5m / *2.5m Cable*
SN3N203-G	PNP	Connettore M8 / *Snap M8 plug connector*
SN3M203-G	NPN	Connettore M8 / *Snap M8 plug connector*
SS4N225-G	PNP	Cavo 2.5m / *2.5m Cable*
SS4M225-G	NPN	Cavo 2.5m / *2.5m Cable*
SS3N203-G	PNP	Connettore M8 / *Snap M8 plug connector*
SS3M203-G	NPN	Connettore M8 / *Snap M8 plug connector*



Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a 3-wire flat cable and a LED.



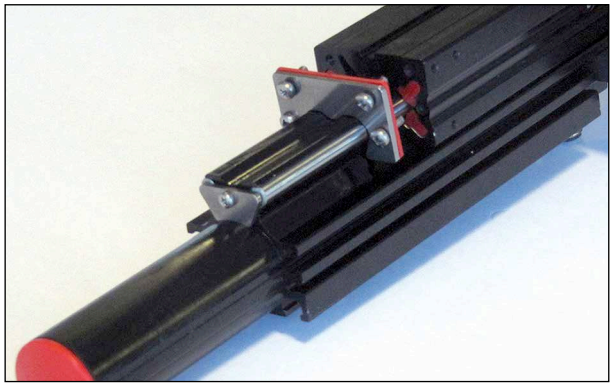


Lubrificazione

Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90grammi.
Codice di ordinazione: GPL500-90.

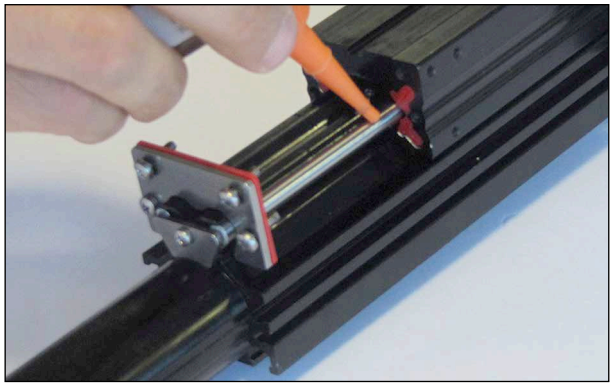
Lubrication

Periodically check the steel bars and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GPL500-90.



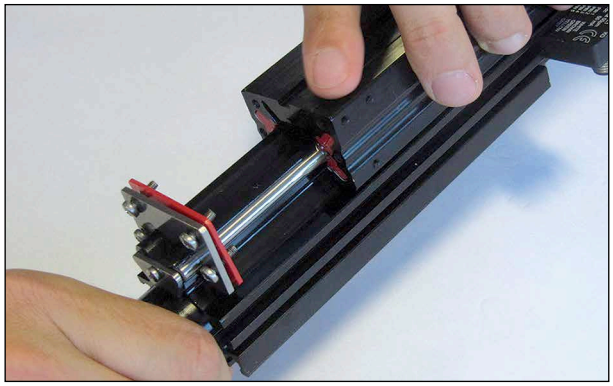
Rimuovere la placca metallica di protezione.

Remove the protection metal plate.



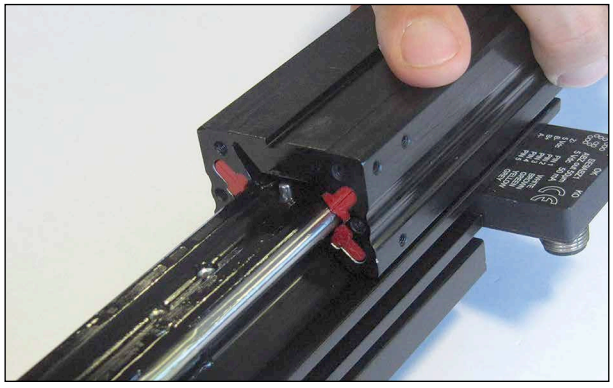
Applicare il lubrificante sulle colonne di guida in acciaio.

Lubricate the steel bars.



Muovere il carrello per distribuire il lubrificante nelle cartucce.

Move the carrier to distribute the lubricant in the ball bearings.



Attenzione a non scalzare il carrello dalla guida.

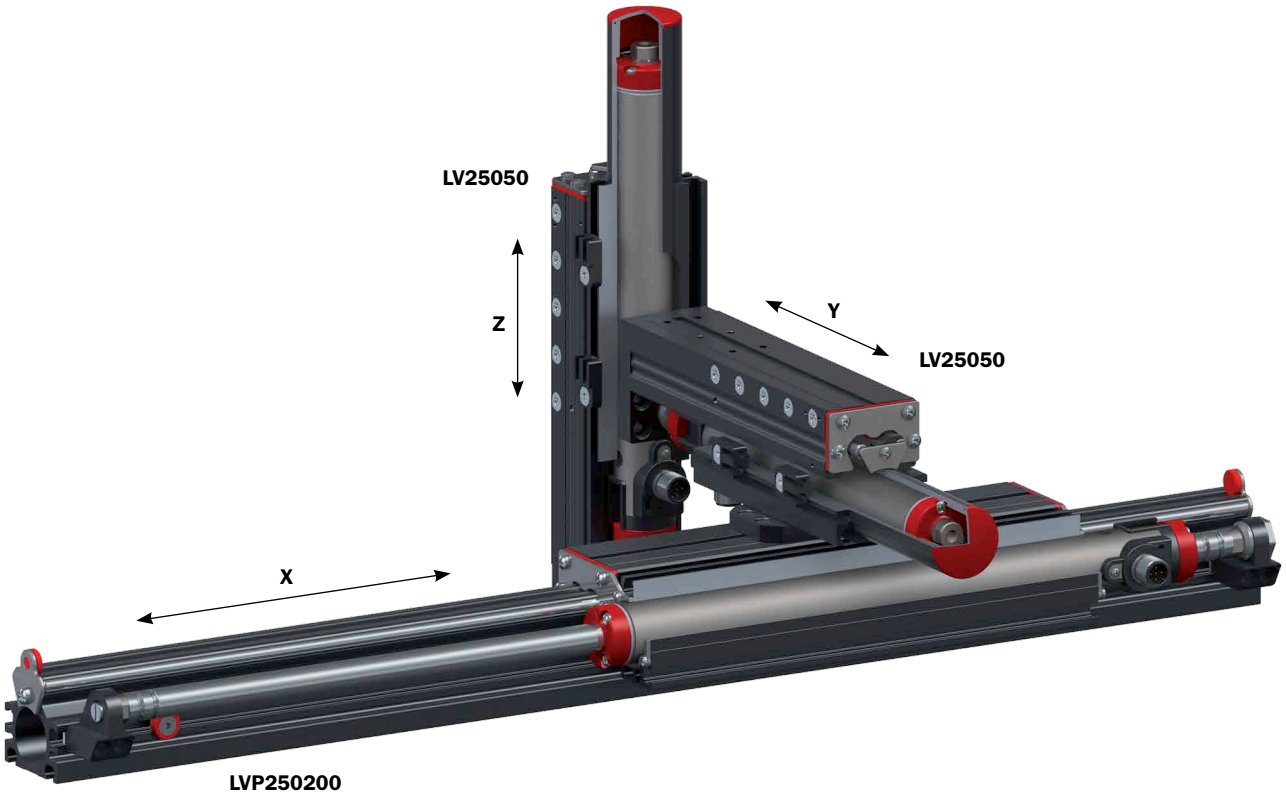
Pay attention not to drive the carrier out of the guide.

Esempio di applicazione
Manipolatore Y-Z tipo Pick & Place, azionato da motori lineari.

Application example
Y-Z Pick & Place manipulator, powered by linear motors.

Esempio di applicazione
Sistema X-Y-Z con portale.

Application example
X-Y-Z system with portal.



04/2014

Esempi di applicazione

Application examples