Slitte pneumatiche (serie ZV)

- Guida di scorrimento a ricircolo di sfere registrabile.
- Azionamento a doppio effetto.
- Alimentazione posteriore.
- Fine corsa opzionali regolabili con deceleratore, elastomero o vite.
- Dispositivo per l'arresto d'emergenza (versione KP).
- Attuatore opzionale per le fermate intermedie.
- Sensori magnetici opzionali.

Pneumatic slides (series ZV)

- *Adjustable recirculating ball-bearing guide.*
- *Double acting.*
- *Rear air supply.*
- *Optional end stroke adjusters with shock-absorber, rubber bumper or grub screw.*
- *Emergency stopper (KP version).*
- *Optional actuator for intermediate stops.*
- *Optional magnetic sensors.*



ZV25...DS



ZV25...DSKP

	ZV25030DS ZV25030DSKP	ZV25060DS ZV25060DSKP	ZV25100DS ZV25100DSKP	ZV25150DS ZV25150DSKP	ZV25200DS ZV25200DSKP
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Pressure range*	1 ÷ 8 bar				
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.				
Forza di apertura a 6 bar *Extension force at 6 bar*	265 N				
Forza di chiusura a 6 bar *Retraction force at 6 bar*	238 N				
Corsa totale massima *Maximun total stroke*	30 mm	60 mm	100 mm	150 mm	200 mm
Tempo di azionamento minimo *Minimum actuating time*	0.06 s	0.11 s	0.21 s	0.30 s	0.43 s
Consumo d'aria per ciclo *Cycle air consumption*	33 cm^3	61 cm^3	113 cm^3	174 cm^3	235 cm^3
Peso *Weight*	610 g 660 g	730 g 780 g	1000 g 1050 g	1320 g 1370 g	1635 g 1685 g

Fine-corsa

Per la regolazione della corsa si possono utilizzare deceleratori idraulici Enidine, ammortizzatori di gomma (FGD) o grani (FPD), a seconda dell'energia cinetica che l'unità deve sopportare.

L'energia che la slitta deve dissipare ad ogni fine corsa è:

$$E = \frac{m_{WP} \times s^2}{t^2}$$

dove:

m_{WP} è la massa trasportata [kg];
s è la corsa [m];
t è il tempo di traslazione [s].

I valori ammessi di E sono riportati nella tabella dell'energia cinetica sottostante.

End-stroke

The stroke can be adjusted by Enidine shock-absorbers, rubber bumpers (FGD), or grub screws (FPD), according with the kinetic energy the slide has to bear.

The energy the slide has to dissipate at each end stroke is:

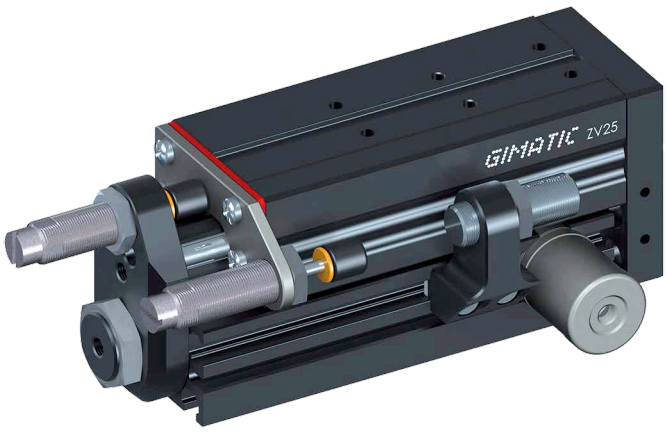
where:

m_{WP} *is the work piece mass [kg];*
s *is the travel stroke [m];*
t *is the travel time [s].*

The maximum permitted values of E are in the kinetic energy table below.



	ENIDINE	FGD	FPD
	TK10-3MB	FGD1030 (L=30 mm)	FPD1030 (L=30 mm)
E	0.41 J	0.14 J	0.05 J



Ripetibilità

Gli accessori usati per la regolazione del fine corsa influenzano la ripetibilità.
Usare il deceleratore o il grano, quando è necessario un posizionamento preciso (+/-0.02mm) a fine corsa.

Repeatability

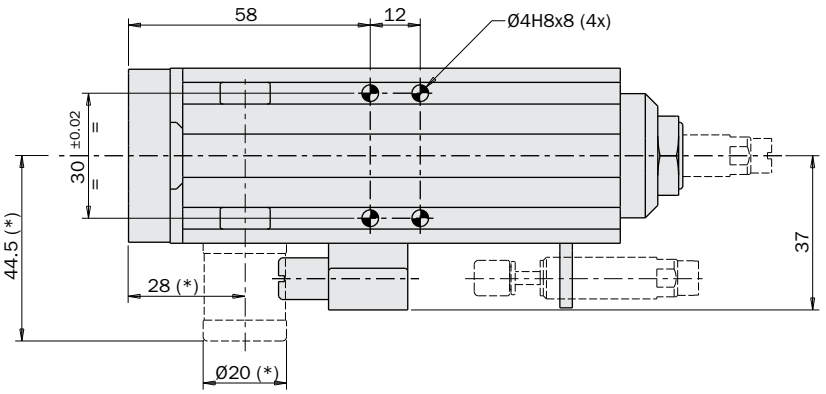
The accessories used for the end-stroke adjustment affect the slide repeatability.
Use the shock-absorber option or the grub screw option, when a precise end-stroke positioning (+/-0.02mm) is needed.

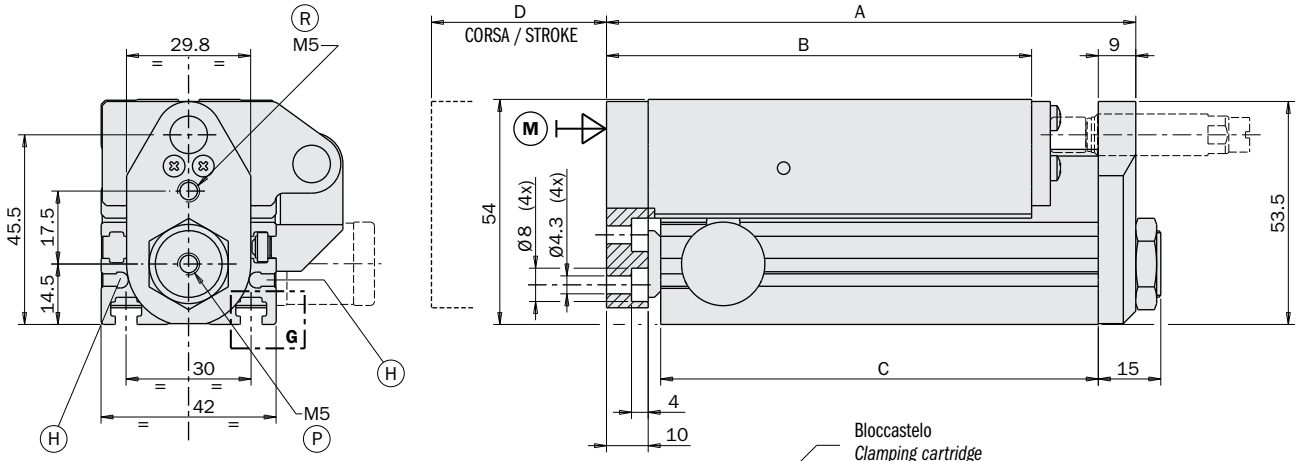
Dimensioni (mm) / *Dimensions (mm)*

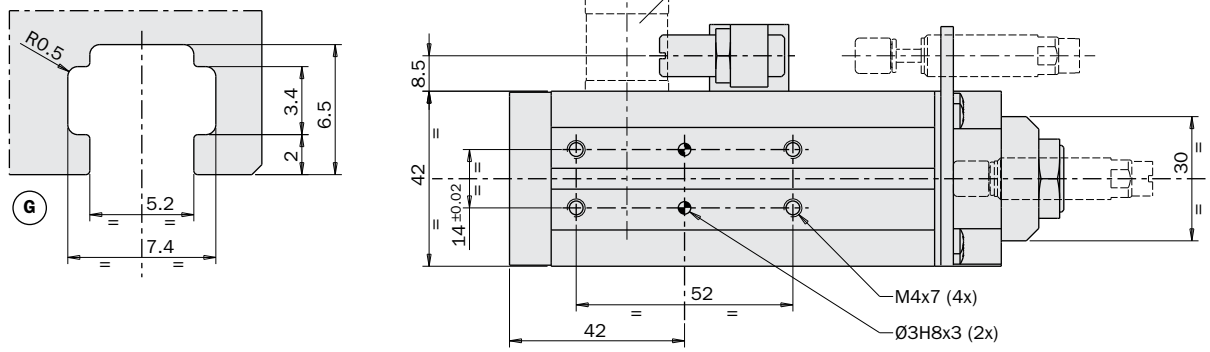
Ⓟ Ingresso aria
Air connection

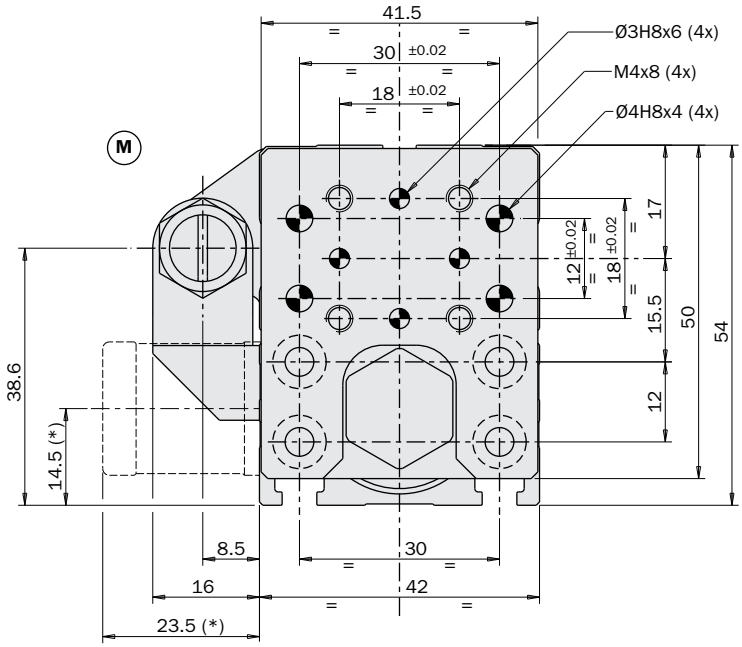
Ⓡ Ingresso aria
Air connection

Ⓗ Sede per sensori
Sensor groove









	A	B	C	D
ZV25030DS ZV25030DSKP	127	102	105	30
ZV25060DS ZV25060DSKP	157	132	135	60
ZV25100DS ZV25100DSKP	226	201	204	100
ZV25150DS ZV25150DSKP	305	280	283	150
ZV25200DS ZV25200DSKP	384	359	362	200

(*)
Solo per la versione ...DSKP
Only ...DSKP version

FIRST ANGLE PROJECTION

09/2013

Fissaggio

La slitta può essere montata in posizione fissa, oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la slitta ed il suo carico sono sottoposti.

Il corpo della slitta deve essere fissato usando le cave sul fondo (1). Usare i dadi MFM-058.

Il carico può essere fissato sulla piastra frontale (2 o 3), oppure sul dorso del carrello (4).

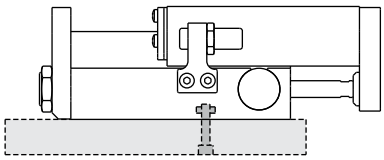
Fastening

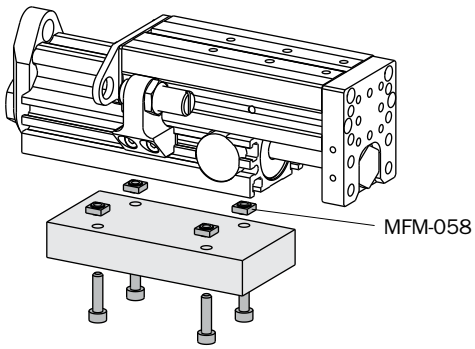
The slide can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the slide and its load.

The slide body must be fastened by the slots on the bottom (1). Use the nuts MFM-058.

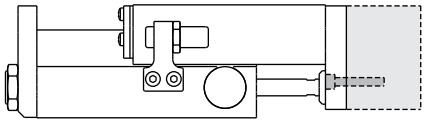
The load can be fastened on the front plate (2 or 3), or on the top of the slider (4).

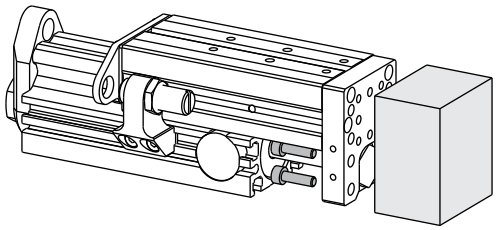
1



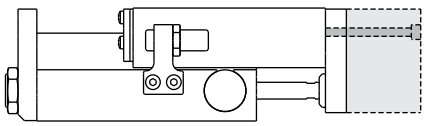


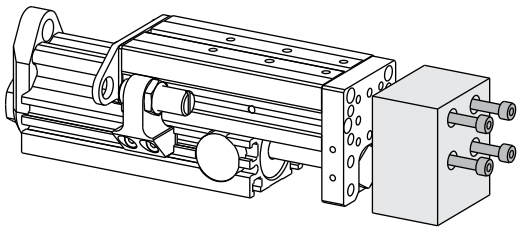
2



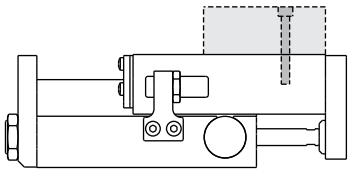


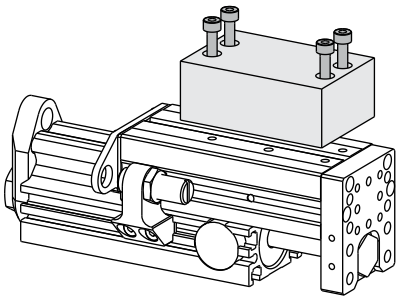
3



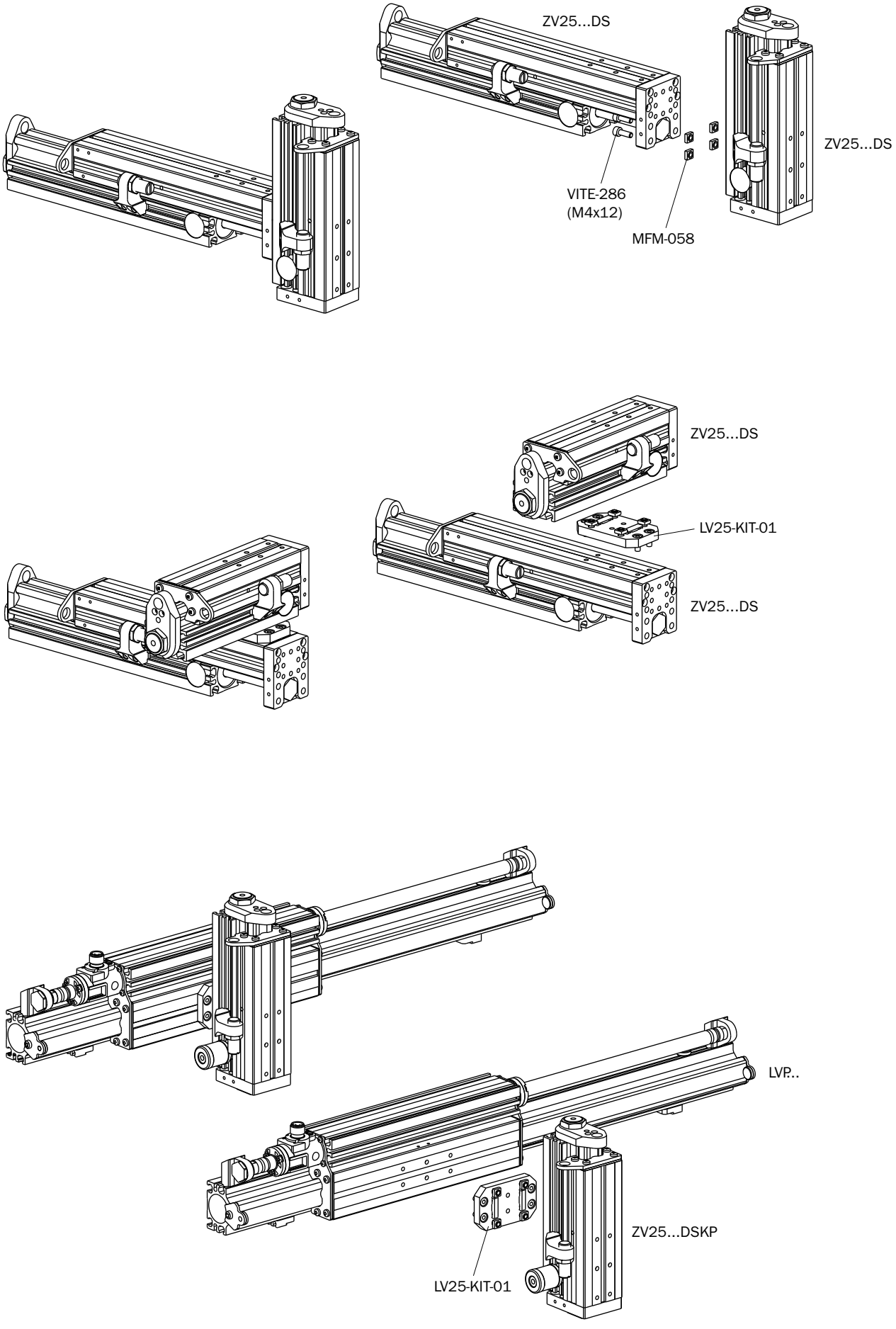


4





Esempi di applicazione ***Application examples***

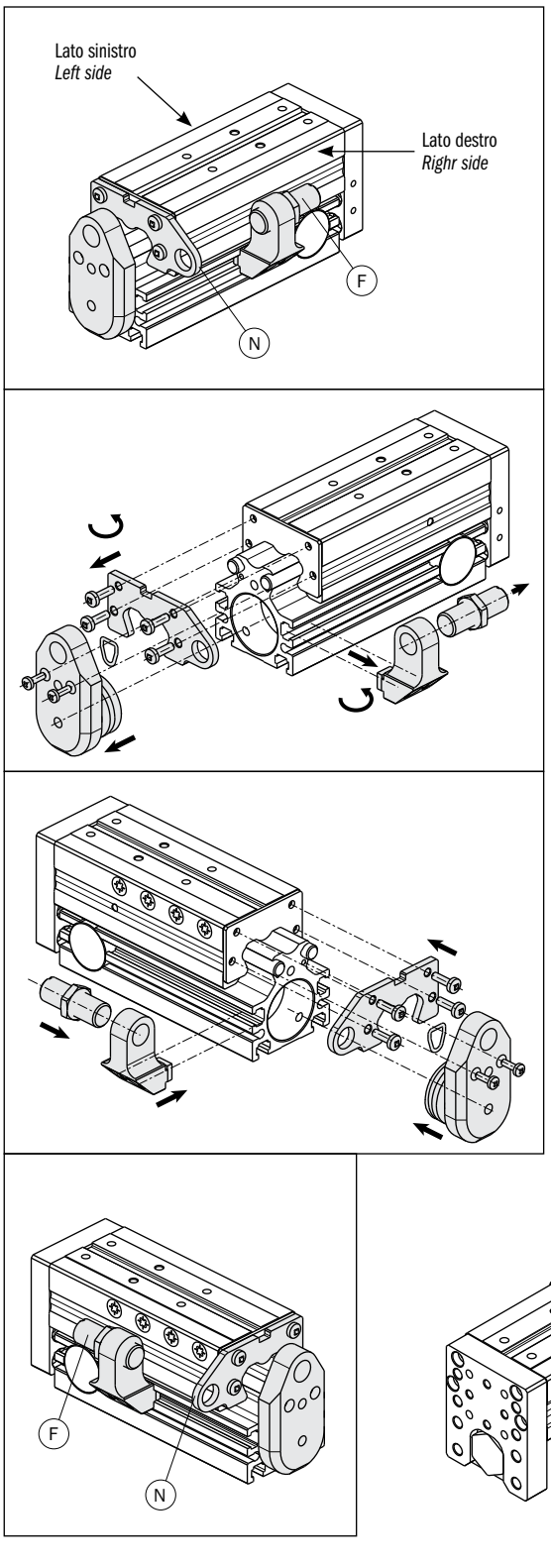


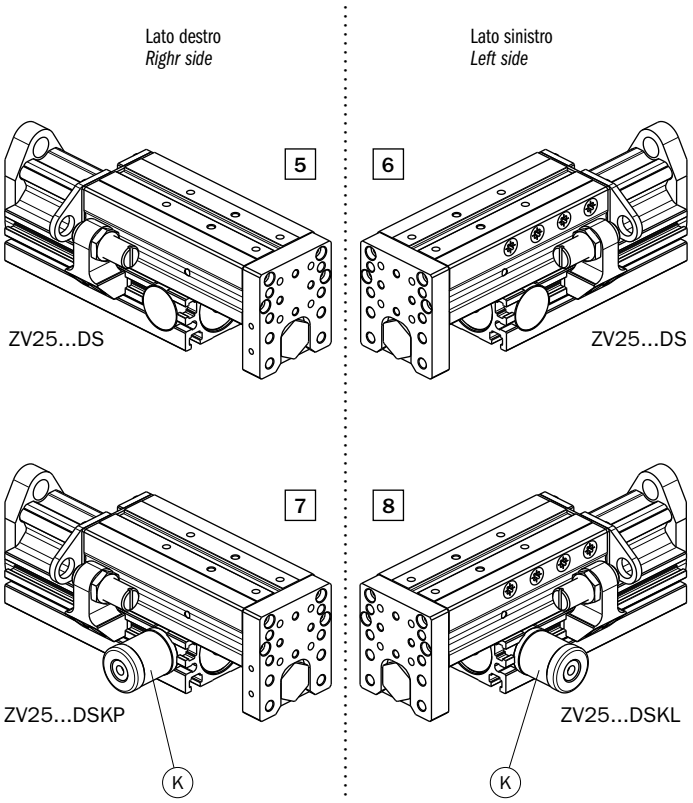
Versioni specchiate

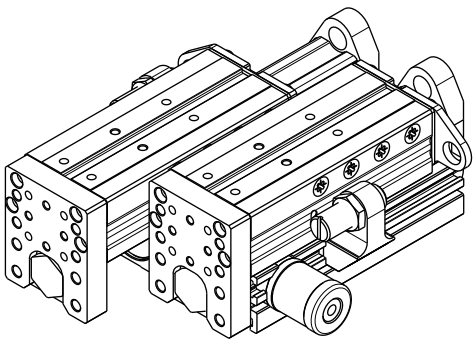
Le versioni DS hanno il fine corsa montato sul lato destro [5].
Ma, se necessario, è facile spostare il grano (F) sull'altro lato [6] e ruotare la piastra (N).
Le versioni DSKP [7] hanno sia il fine corsa che il blocca stelo (K) sul lato destro.
In questo caso la versione specchiata [8] deve essere assemblata in fabbrica (richiedere l'esecuzione speciale DSKL).

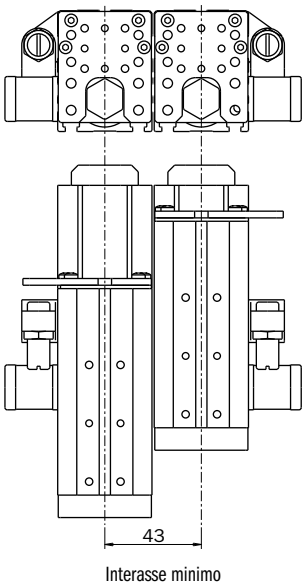
Mirrored versions

The DS versions have the end-of-stroke stroke device mounted on the right side [5]. But, if necessary, the grub screw (F) can easily be moved to the other side [6] and the plate (N) be rotated.
The DSKP versions [7] have both the end-of-stroke device and the rod lock unit (K) on the right side.
In this case the mirrored version [8] must be assembled in factory (request the DSKL special version).







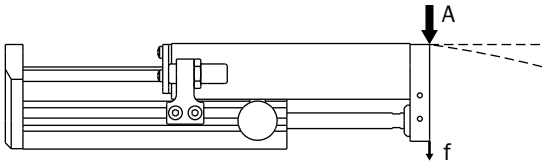


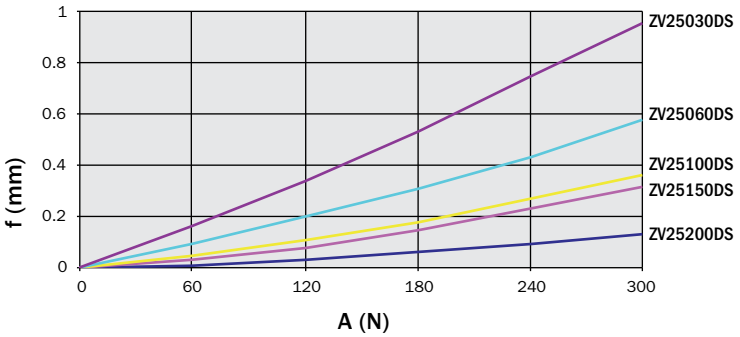
Flessioni

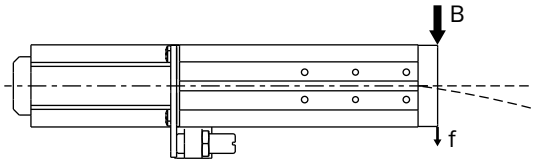
I grafici mostrano la flessione f (mm) nei tre sensi indicati, in funzione delle forze A, B o C e della corsa della slitta.

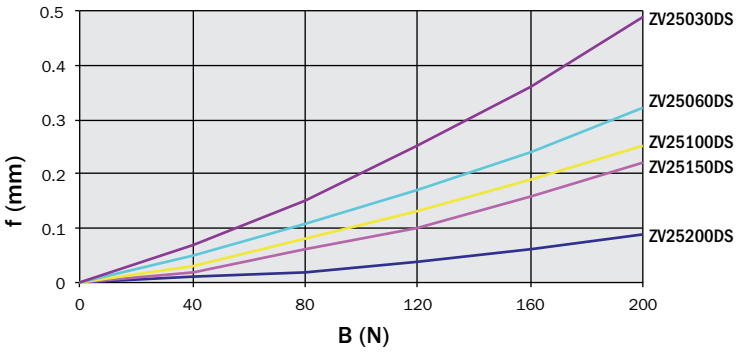
Deflection

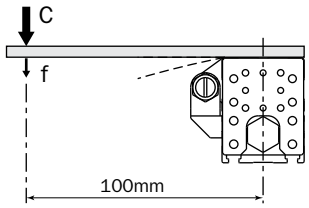
The graphs show the deflection f (mm) in the three directions shown, as a function of forces A, B or C and the stroke of the slide.

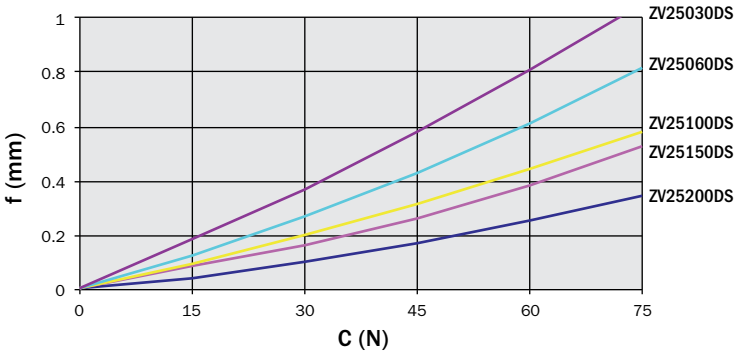












Carichi di sicurezza

Consultare le tabelle dei carichi ammissibili.
Carichi eccessivi possono danneggiare la slitta e comprometterne il funzionamento.

Le quote Yo e Zo identificano il centro del cuscinetto lineare.

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.

Nelle tabelle è riportato anche il massimo peso trasportabile (m max).

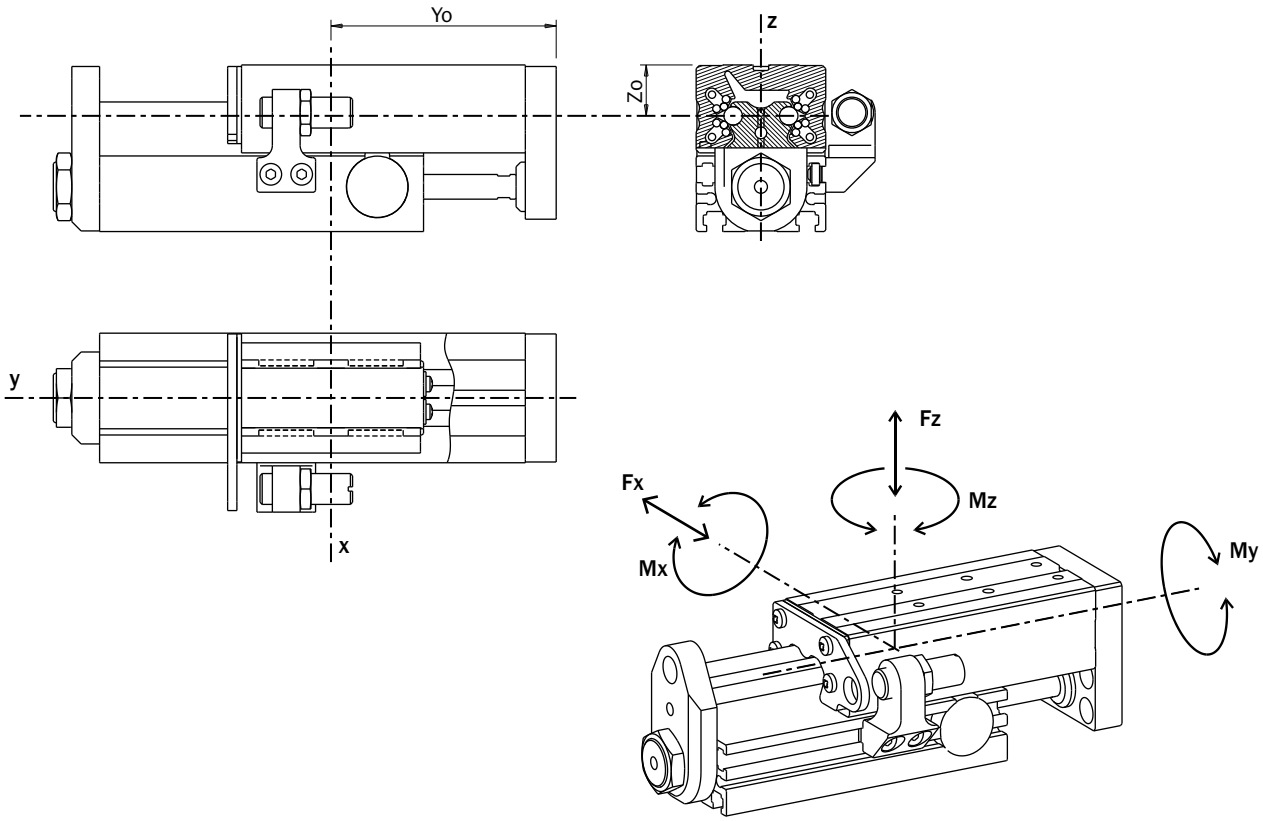
Safety loads

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

The dimensions Yo and Zo identify the linear bearing center position.

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.

In the tables you can also find the maximum payload (m max).



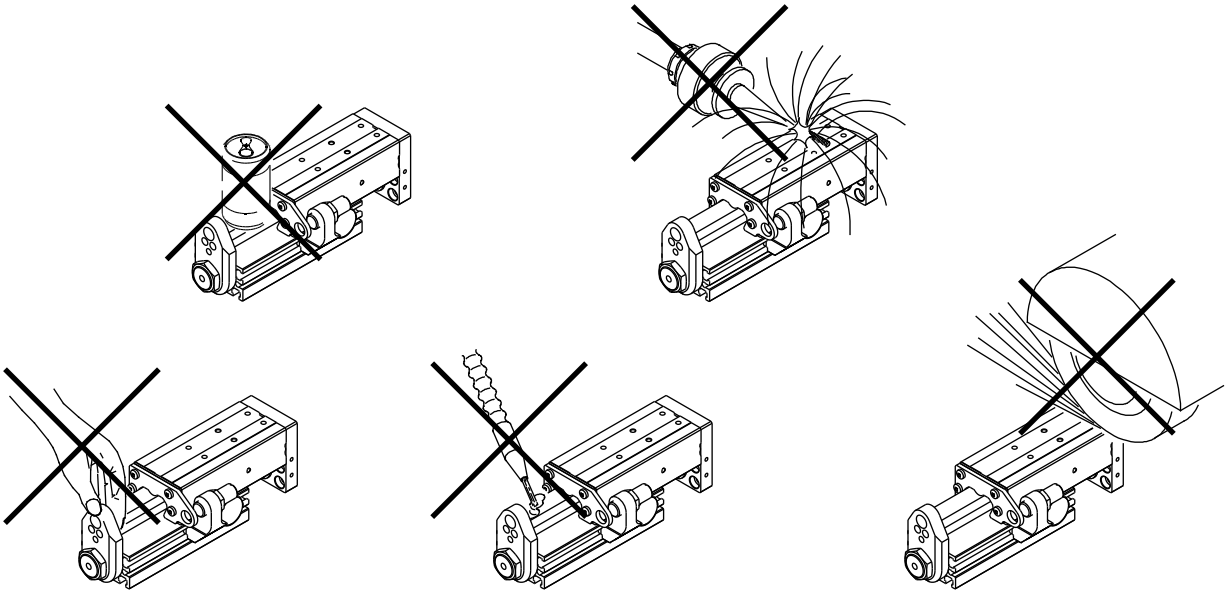
	ZV25030DS ZV25030DSKP	ZV25060DS ZV25060DSKP	ZV25100DS ZV25100DSKP	ZV25150DS ZV25150DSKP	ZV25200DS ZV25200DSKP
Zo	16.5 mm	16.5 mm	16.5 mm	16.5 mm	16.5 mm
Yo	73 mm	103 mm	157 mm	222 mm	287 mm
Fx s	80 N	80 N	120 N	160 N	200 N
Fz s	80 N	80 N	120 N	160 N	200 N
Mx s	8 Nm	8 Nm	19 Nm	28 Nm	36 Nm
My s	7 Nm	7 Nm	11 Nm	14 Nm	18 Nm
Mz s	8 Nm	8 Nm	19 Nm	28 Nm	36 Nm
Fx d	40 N	40 N	60 N	80 N	100 N
Fz d	40 N	40 N	60 N	80 N	100 N
Mx d	1.6 Nm	1.6 Nm	3.8 Nm	5.6 Nm	7.2 Nm
My d	1.4 Nm	1.4 Nm	2.2 Nm	2.8 Nm	3.6 Nm
Mz d	1.6 Nm	1.6 Nm	3.8 Nm	5.6 Nm	7.2 Nm
m max	4 kg	4 kg	5 kg	5 kg	5 kg

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
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 slide come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
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.

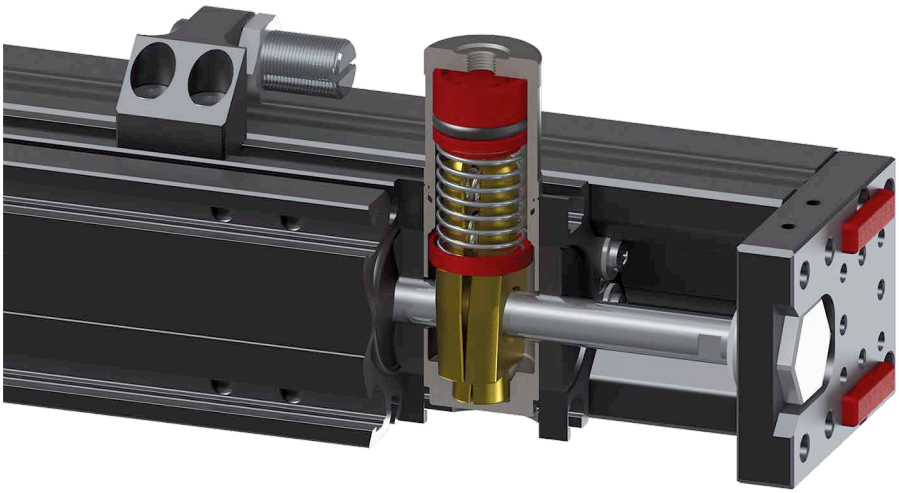


Bloccastelo

Le versioni KP/KL sono equipaggiate con un dispositivo per l'arresto d'emergenza: quando non è alimentato (minimo 3bar), un freno blocca lo stelo.

Clamping cartridge

The KP/KL versions are equipped with an emergency stopper device: when non pressurized (minimum 3bar), a brake clamps the piston rod.



Connessione pneumatica

La slitta si alimenta con aria compressa dai fori posteriori (P e R) montandovi i raccordi dell'aria M5 ed i relativi tubi (non forniti).

Aria compressa in P: apertura.
Aria compressa in R: chiusura.
Aria compressa in S: sbloccaggio del blocca stelo.

La slitta è azionata con aria compressa filtrata (5÷40 µm) 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

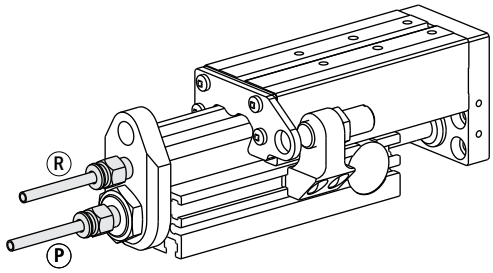
The slide is driven by compressed air supplied through the side air ports (P and R) with fittings M5 and relevant hoses (not supplied).

Compressed air in P: extension stroke.
Compressed air in R: retraction stroke.
Compressed air in S: unlocking of rod locking device.

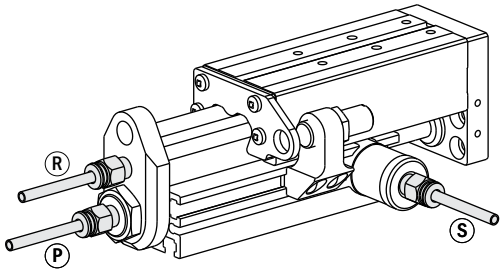
The compressed air, must be filtered from 5 to 40 µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

ZV25...DS



ZV25...DSKP
ZV25...DSKL



Circuito pneumatico

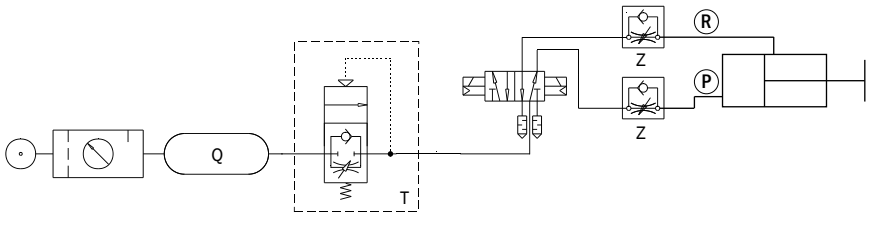
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (Q).
2- Valvola di avviamento progressivo (T).
3- Bloccastelo (K).
4- Regolatori di flusso (Z).

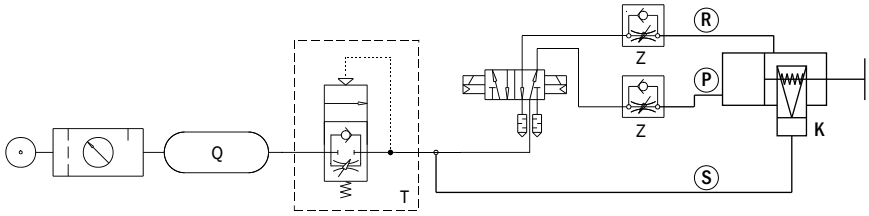
Pneumatic circuit

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

Possible solutions:
1- Compressed air storage (Q).
2- Start-up valve (T).
3- Clamping cartridge (K).
4- Flow controller (Z).



ZV25...DS



ZV25...DSKP
ZV25...DSKL

Sensori

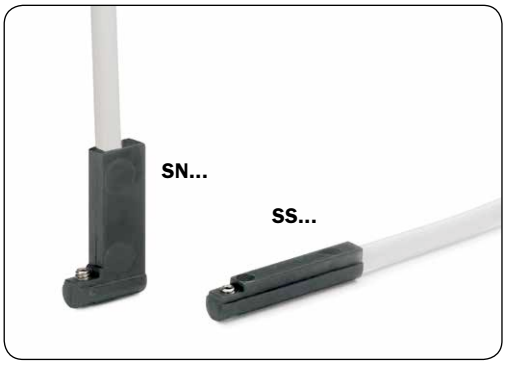
Il rilevamento della posizione è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete interno.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

Sensors

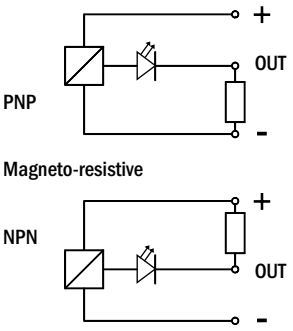
The operating position is detected by magnetic proximity sensors (optional) through an internal magnet
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:



SN4N225-G	PNP	cavo 2.5m / 2.5m cable
SN4M225-G	NPN	cavo 2.5m / 2.5m cable
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector
SN3M203-G	NPN	Connettore M8 / M8 snap 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 / M8 snap plug connector
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector



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

They are all provided with a flat three-wire cable and lamp.

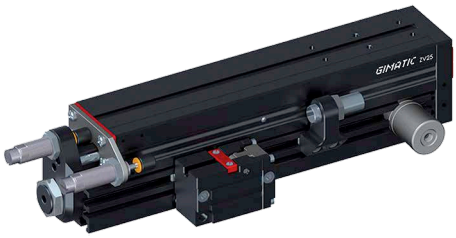


Unità di arresto intermedio LSZV-25

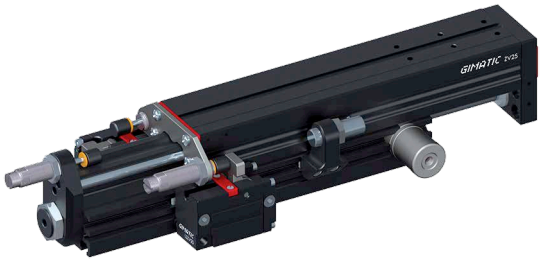
Sono usate per arrestare con precisione assoluta, in posizioni intermedie, il carrello.
Un pistone, azionato pneumaticamente, fa sollevare una battuta meccanica, attraverso un leveraggio a ginocchiera, irreversibile.
Cessata l'alimentazione la battuta meccanica rientra in posizione di riposo mediante l'azione di una molla.
Un sensore induttivo (opzionale) rileva la posizione (9).

Intermediate stopping units LSZV-25

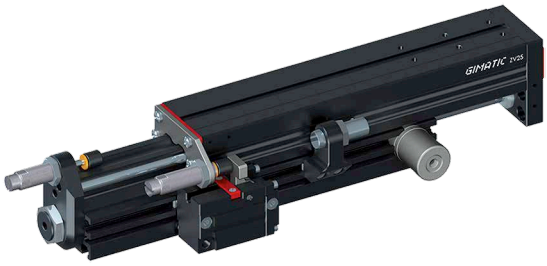
They are used to stop the carrier, with high precision, in the intermediate positions.
One pneumatic piston lifts an irreversible mechanical end stroke by a toggle system.
Without pressure, the end stroke returns to the rest position by a reset spring.
An optional inductive sensor detect the position (9).



(1a)



(2a)



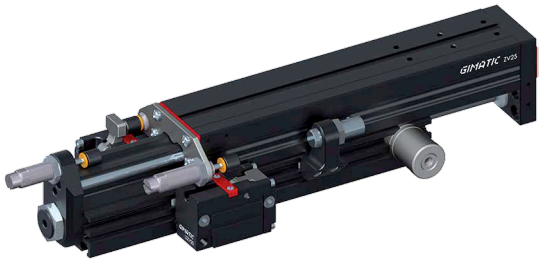
(1b)



(2b)

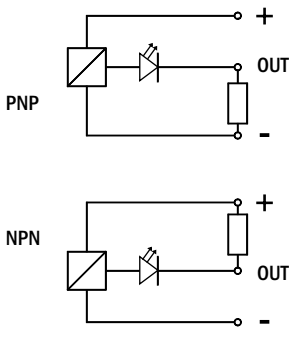


(1c)



(2c)

SI4M225-G	NPN	Cavo 2.5m / 2.5m cable
SI4N225-G	PNP	Cavo 2.5m / 2.5m cable





(9)

