



 A business of **BARNES**

ATTUATORI

Linear actuators

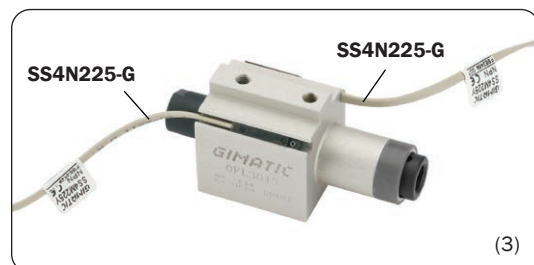


Cilindro pneumatico a corsa breve, con stelo antirotazione, foro passante e codolo

- Azionamento a doppio effetto.
- Due taglie disponibili.
- Foro passante per l'alimentazione di ventose (4).
- Tre cave con sfere per l'anti-rotazione dello stelo (1).
- Codolo standard per il montaggio con i prodotti MFI (2).
- Sensori magnetici opzionali (3).
- Grasso alimentare FDA-H1.

Short stroke pneumatic cylinder, with non-rotative through hole rod and mounting stud

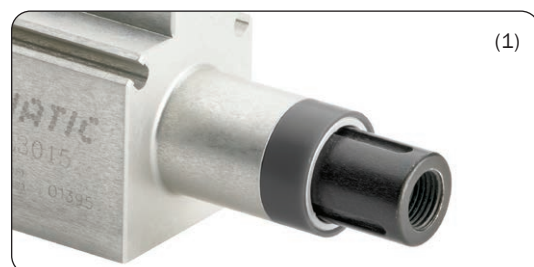
- Double-effect.
- Two sizes available.
- Through hole for vacuum cup feeding (4).
- Three grooves with balls for non-rotative rod (1).
- Clampable stud for mounting by MFI products (2).
- Optional magnetic sensors (3).
- FDA-H1 food-grade grease.



(3)



(4)



(1)

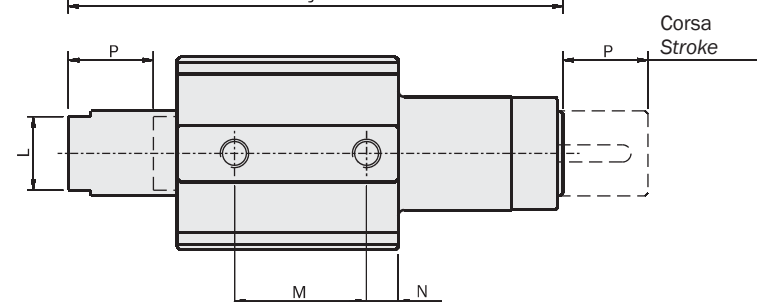
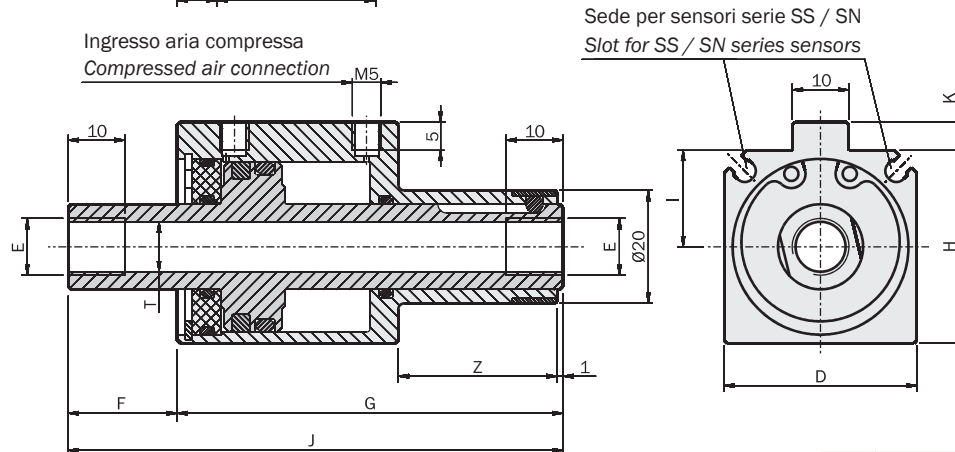
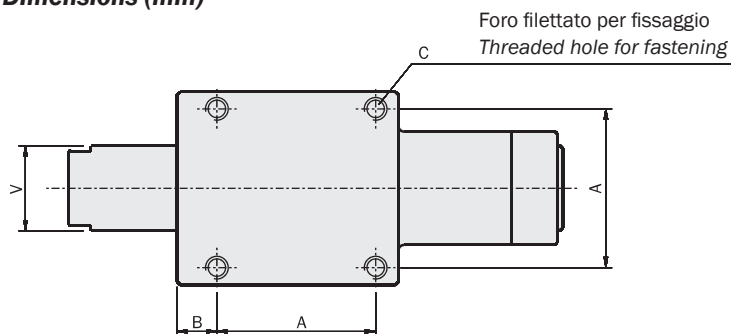


(2)



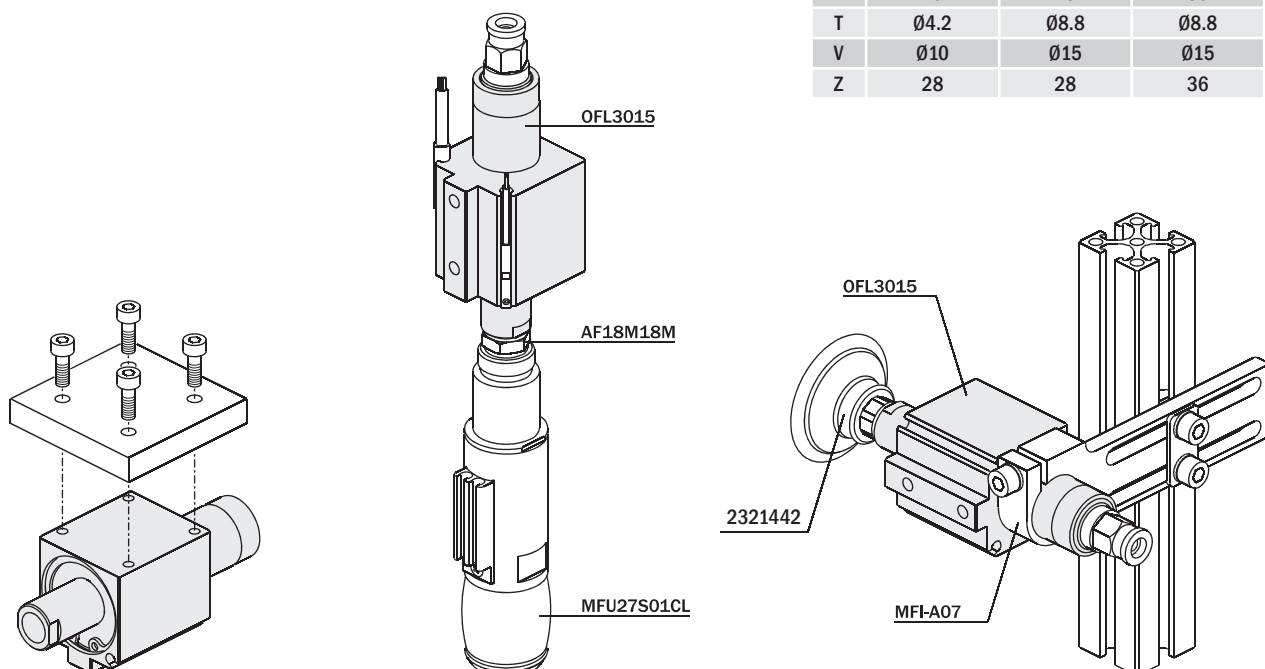
	OFL2010	OFL3015	OFL3030
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]		
Pressione di esercizio Pressure range	2 ÷ 8 bar		
Temperatura di esercizio Temperature range	5° ÷ 60 °C.		
Corsa Stroke	10 mm	15 mm	30 mm
Alesaggio Piston bore	20 mm	30 mm	30 mm
Forza di chiusura / apertura a 6 bar Closing /opening force at 6 bar	130 N	300 N	300 N
Consumo d'aria per ciclo Cycle air consumption	4.7 cm ³	16 cm ³	32 cm ³
Tempo di azionamento minimo Minimum actuating time	0.02 s	0.06 s	0.15 s
Peso Weight	60 g	110 g	140 g

Dimensioni (mm) Dimensions (mm)



	OFL2010	OFL3015	OFL3030
A	19	28	28
B	9	7	7
C	M3x4	M4x6	M4x6
D	24	34	34
E	M5	G1/8"	G1/8"
F	14.2	19.2	34.2
G	59	68	91
H	25	34	34
I	13	17	17
J	74.2	87.2	125.2
K	4	5	5
L	8	13	13
M	16	23.3	38.3
N	5	5.6	5.6
P	10	15	30
T	Ø4.2	Ø8.8	Ø8.8
V	Ø10	Ø15	Ø15
Z	28	28	36

Esempi di utilizzo Application examples

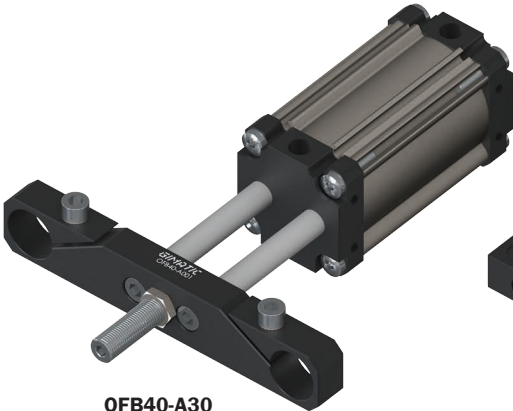
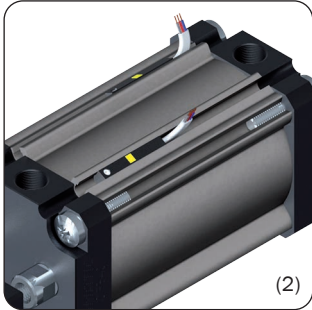
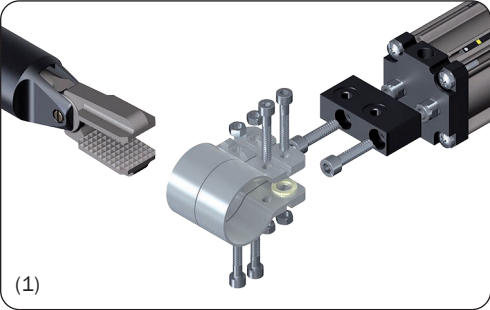


Cilindro guidato con steli gemellati

- Doppio effetto.
- Alesaggio: 40mm.
- Corsa: 30mm oppure 50mm.
- Vari accessori per il fissaggio (1).
- Sensori magnetici opzionali (2).
- Grasso alimentare FDA-H1.

Guided cylinder with twin rods

- Double acting.
- Piston bore: 40mm.
- Stroke: 30mm or 50mm.
- Several mounting accessories (1).
- Optional magnetic sensors (2).
- FDA-H1 food-grade grease.



OFB40-A30
OFB40-A50



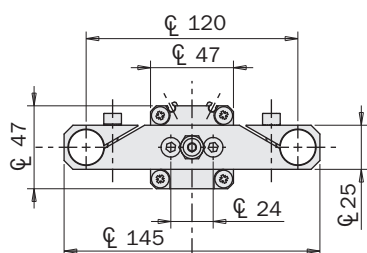
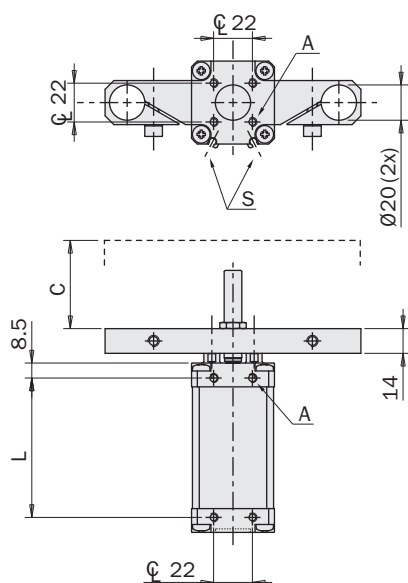
OFB40-B30
OFB40-B50



OFB40-C30
OFB40-C50

	OFB40-A30	OFB40-A50	OFB40-B30	OFB40-B50	OFB40-C30	OFB40-C50
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]					
Pressione di esercizio Pressure range	2 ÷ 8 bar					
Temperatura di esercizio Temperature range	5° ÷ 60 °C.					
Alesaggio Piston bore	Ø40 mm					
Forza di chiusura a 6 bar Retraction force at 6 bar	660 N					
Forza di apertura a 6 bar Extension force at 6 bar	754 N					
Corsa (±0.3 mm) Stroke	30 mm	50 mm	30 mm	50 mm	30 mm	50 mm
Consumo d'aria per ciclo Cycle air consumption	71 cm ³	118 cm ³	71 cm ³	118 cm ³	71 cm ³	118 cm ³
Peso Weight	475 g	520 g	395 g	445 g	405 g	455 g

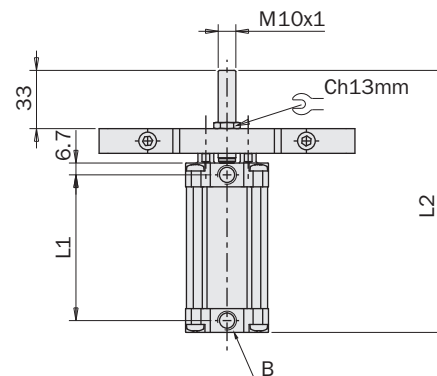
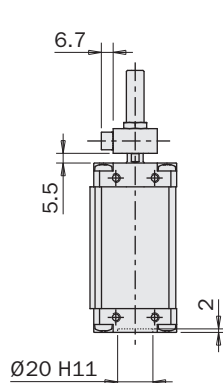
Dimensioni (mm) Dimensions (mm)



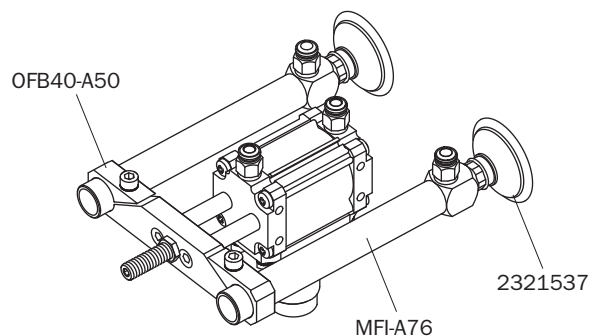
- A** Fori di fissaggio
Fastening holes
- B** Connessione per raccordo aria
Air connection port
- C** Corsa
Stroke
- S** Cava per sensore magnetico
Magnetic sensor slot

	OFB40-A30	OFB40-A50
A	M5x10	M5x10
B	1/8	1/8
C	30	50
L	59	79
L1	62.6	82.6
L2	128.5	148.5

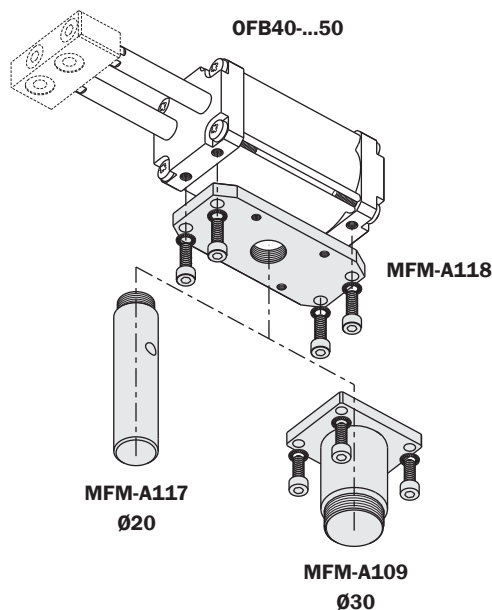
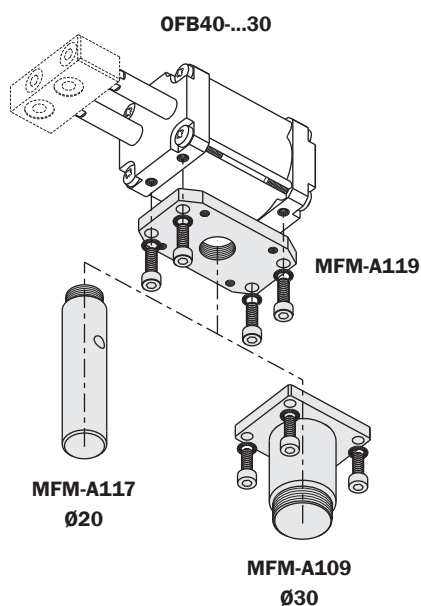
FIRST ANGLE
PROJECTION



Esempi di utilizzo Application examples



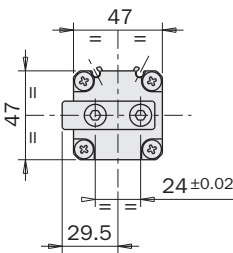
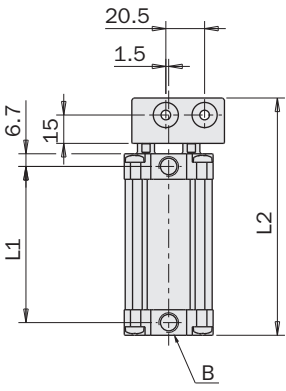
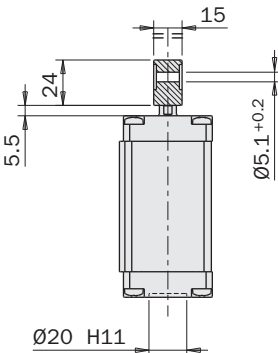
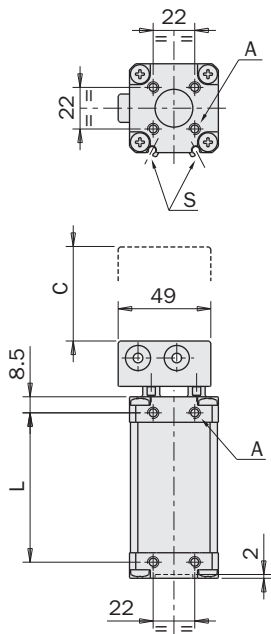
Fissaggio del cilindro Cylinder mounting



Dimensioni (mm)
Dimensions (mm)

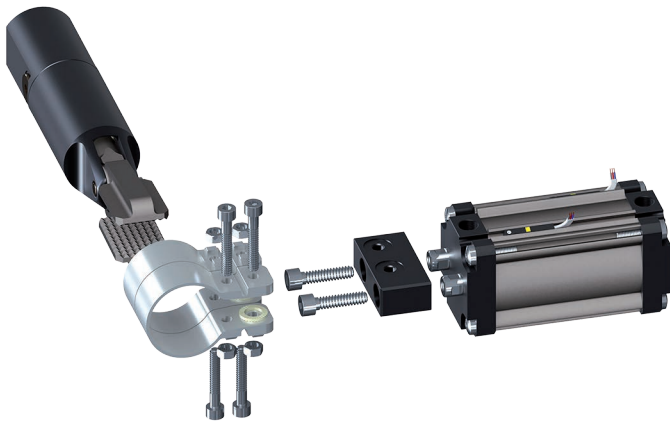
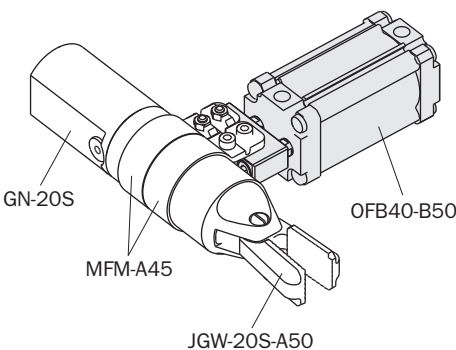
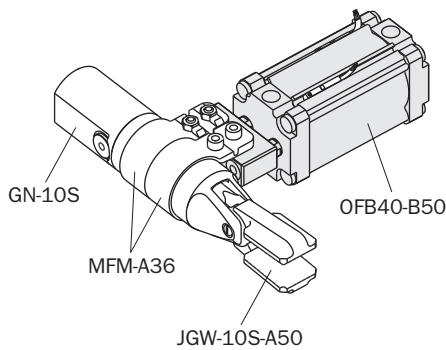
	OFB40-B30	OFB40-B50
A	M5x10	M5x10
B	1/8	1/8
C	30	50
L	59	79
L1	62.6	82.6
L2	105.5	125.5

FIRST ANGLE
PROJECTION

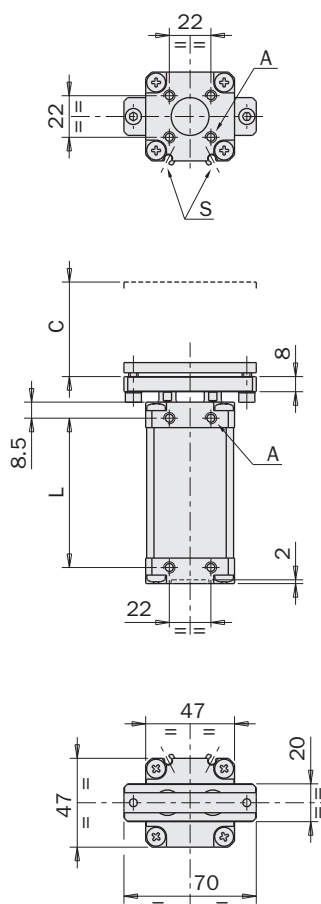


- A Fori di fissaggio
Fastening holes
- B Connessione per raccordo aria
Air connection port
- C Corsa
Stroke
- S Cava per sensore magnetico
Magnetic sensor slot

Esempi di utilizzo
Application examples

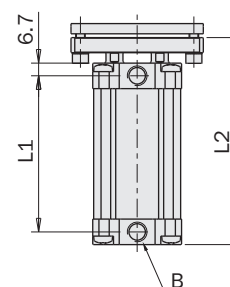
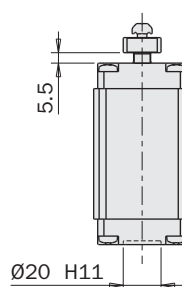


Dimensioni (mm) **Dimensions (mm)**



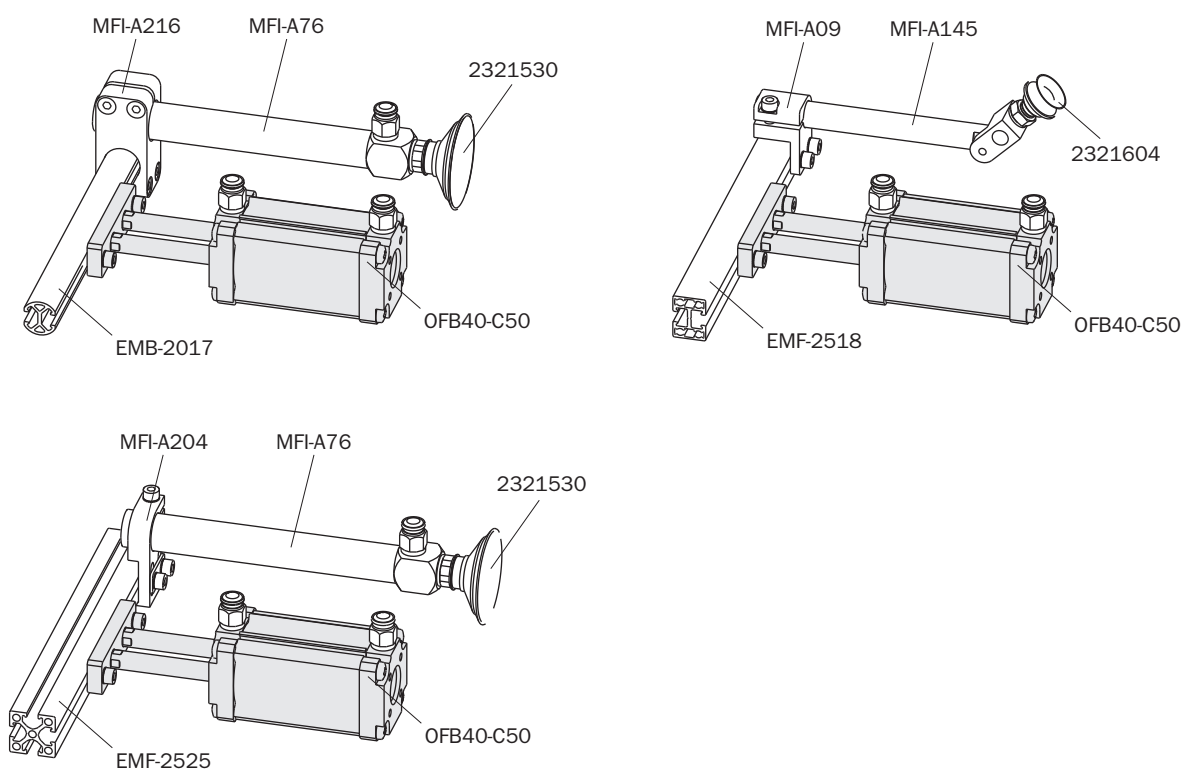
	OFB40-C30	OFB40-C50
A	M5x10	M5x10
B	1/8	1/8
C	30	50
L	59	79
L1	62.6	82.6
L2	89.5	109.5

FIRST ANGLE
PROJECTION



- A** Fori di fissaggio
Fastening holes
- B** Connessione per raccordo aria
Air connection port
- C** Corsa
Stroke
- S** Cava per sensore magnetico
Magnetic sensor slot

Esempi di utilizzo **Application examples**

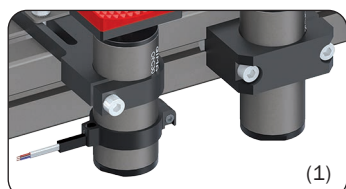


Mini cilindri universali a semplice effetto, antirotazione

- Alesaggio: 10mm, 16mm, 25mm.
- Corsa: 10mm, 20mm, 30mm.
- Vari accessori MFI... per il fissaggio a cravatta sul diametro esterno (1).
- Vari accessori da montare sullo stelo (2).
- Sensori e fascette opzionali (3).
- Grasso alimentare FDA-H1.

General purpose, single-acting, anti-rotation mini cylinders

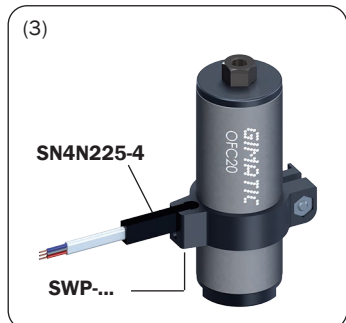
- Piston bore: 10mm, 16mm, 25mm.
- Stroke: 10mm, 20mm, 30mm.
- Several accessories MFI... for the clamp mounting on the external diameter (1).
- Several accessories to be mounted on the rod (2).
- Optional sensors and clamps (3).
- Food grade grease FDA-H1.



(1)



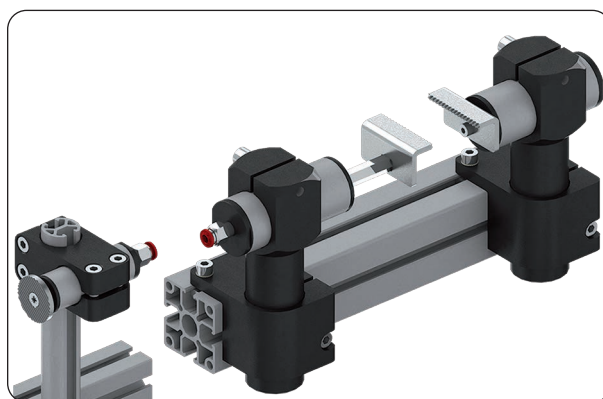
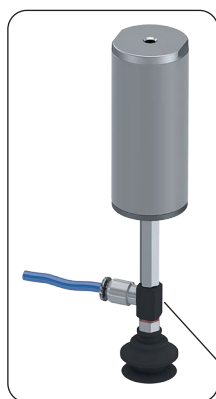
(2)



(3)

SN4N225-4

SWP...



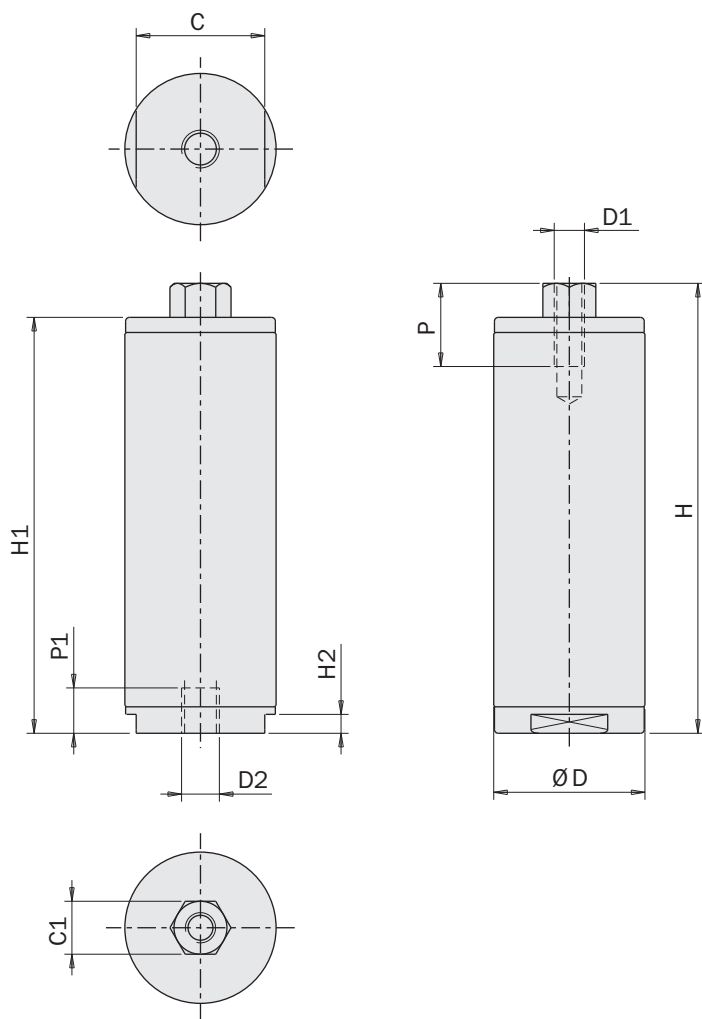
B

A

	MFI-A361	MFI-A362	MFI-A364	MFI-A365
A	M5	G1/8	M4	M3
B	M5	G1/8	M5	M5



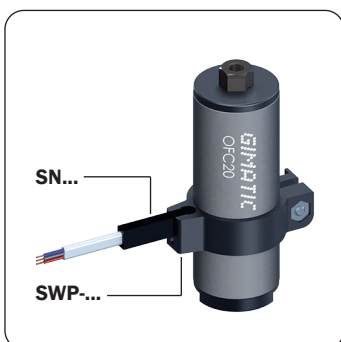
	OFC14-10	OFC20-20	OFC30-30
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]		
Pressione di esercizio Pressure range	2 ÷ 8 bar		
Temperatura di esercizio Temperature range	5° ÷ 60 °C.		
Corsa Stroke	10 mm	20 mm	30 mm
Alesaggio Piston bore	Ø10 mm	Ø16 mm	Ø25 mm
Forza di chiusura a 0 bar Closing force at 0 bar	4 N	8 N	23 N
Forza di apertura a 6 bar Opening force at 6 bar	43 N	113 N	271 N
Consumo d'aria per ciclo Cycle air consumption	1 cm ³	4 cm ³	15 cm ³
Peso Weight	20 g	40 g	85 g

Dimensioni (mm)
Dimensions (mm)


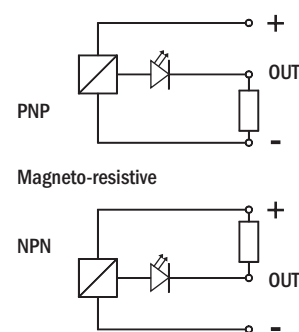
	OFC14-10	OFC20-20	OFC30-30
C	12	17	27
C1	5.5	7	7
D	Ø14	Ø20	Ø30
D1	M3	M4	M4
D2	M5	M5	M5
H	50	59.5	75
H1	45.5	55	70.5
H2	2.5	2.5	2.5
P	7	9	9
P1	6	6	6

FIRST ANGLE PROJECTION

OFC	SWP-...
OFC14-10	SWP-014
OFC20-20	SWP-020
OFC30-30	SWP-030



SN...		
SN4N225-G	PNP	Cavo 2.5m 2.5m cable
SN4M225-G	NPN	
SN3N203-G	PNP	Connettore M8 Snap M8 plug connector
SN3M203-G	NPN	

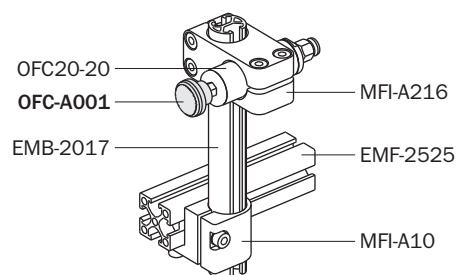
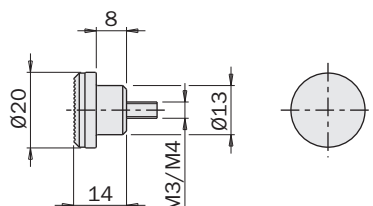


Kit opzionali Optional kits

	OFC-A001	OFC-A002	OFC-A003	OFC-A004	OFC-A005	OFC-A006	OFC-A007	OFC-A008	OFC5
OFC14-10	☒	☒	☒	☐	☒	☒	☐	☒	☐
OFC20-20	☒	☒	☒	☒	☒	☐	☒	☐	☒
OFC30-30	☒	☒	☒	☒	☒	☐	☒	☐	☒
Peso Weight	15 g	25 g	15 g	25 g	35 g	19 g	11 g	50 g	40 g

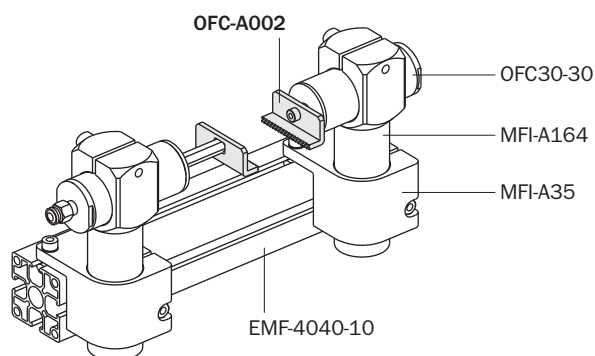
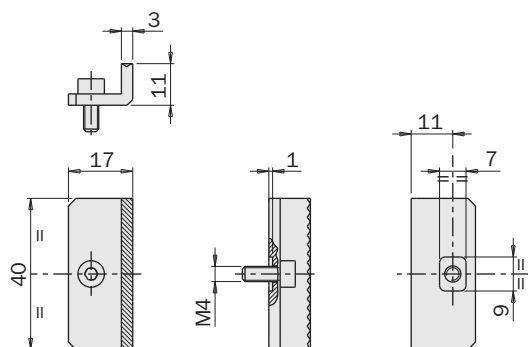
OFC-A001

Bottone con gommino in HNBR
Button with HNBR rubber pad



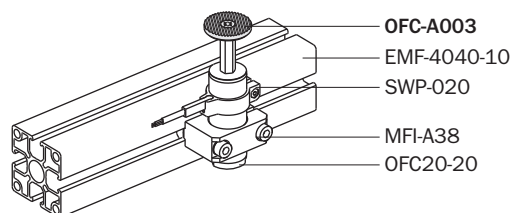
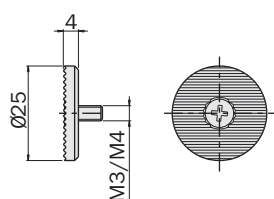
OFC-A002

Artiglio in acciaio
Steel claw



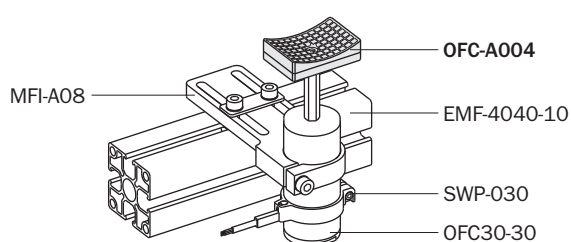
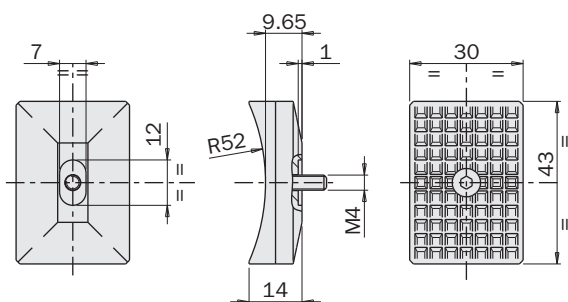
OFC-A003

Bottone in acciaio
Steel button



OFC-A004

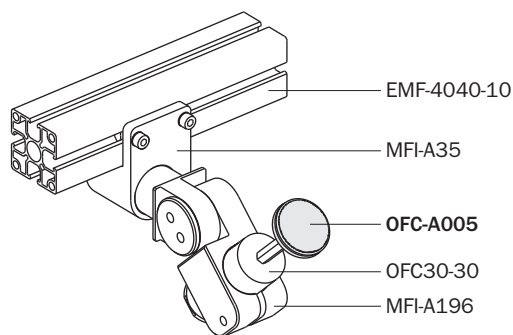
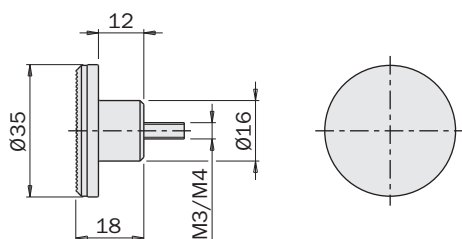
Spintore concavo con gommino in TPU
Concave pusher with TPU rubber pad



Kit opzionali Optional kits

OFC-A005

Bottone con gommino in HNBR
Button with HNBR rubber pad



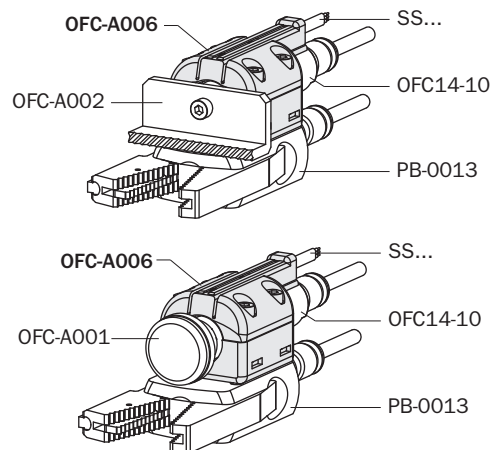
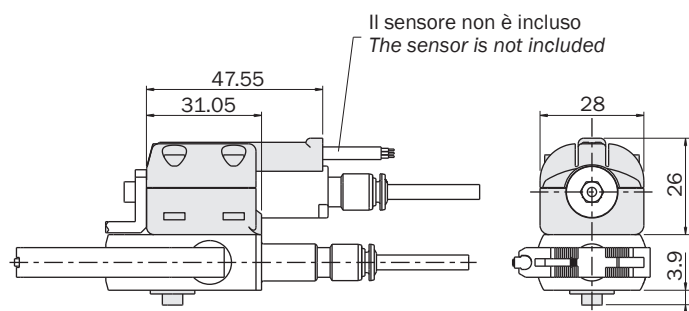
OFC-A006

Staffa per il fissaggio di OFC14-10 sulle pinze PB

- Utile per espellere la materozza quando si incastra sulle dita della pinza.
- Layout compatto di tubi e cavi.
- Sensore magnetico SS opzionale.
- Materiale PA12GB.

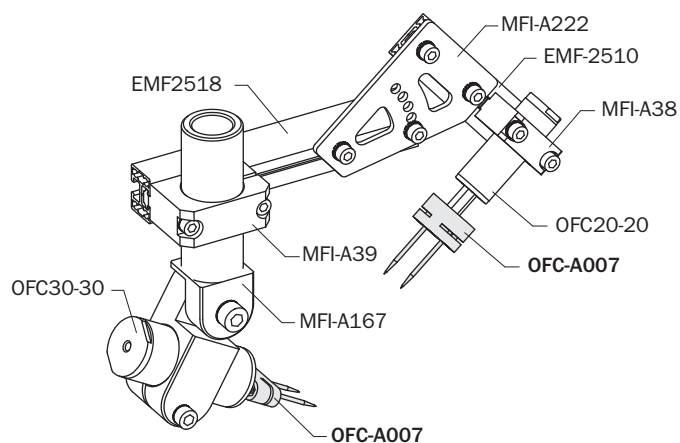
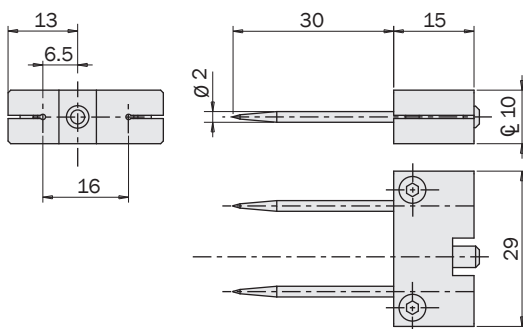
Bracket for mounting cylinder OFC14-10 on PB grippers

- Useful to extract the sprue when it is stuck on the gripper fingers.
- Compact layout of hoses and cables.
- Optional SS magnetic sensor.
- Material PA12GB.



OFC-A007

Porta aghi
Needle holder



Kit opzionali Optional kits

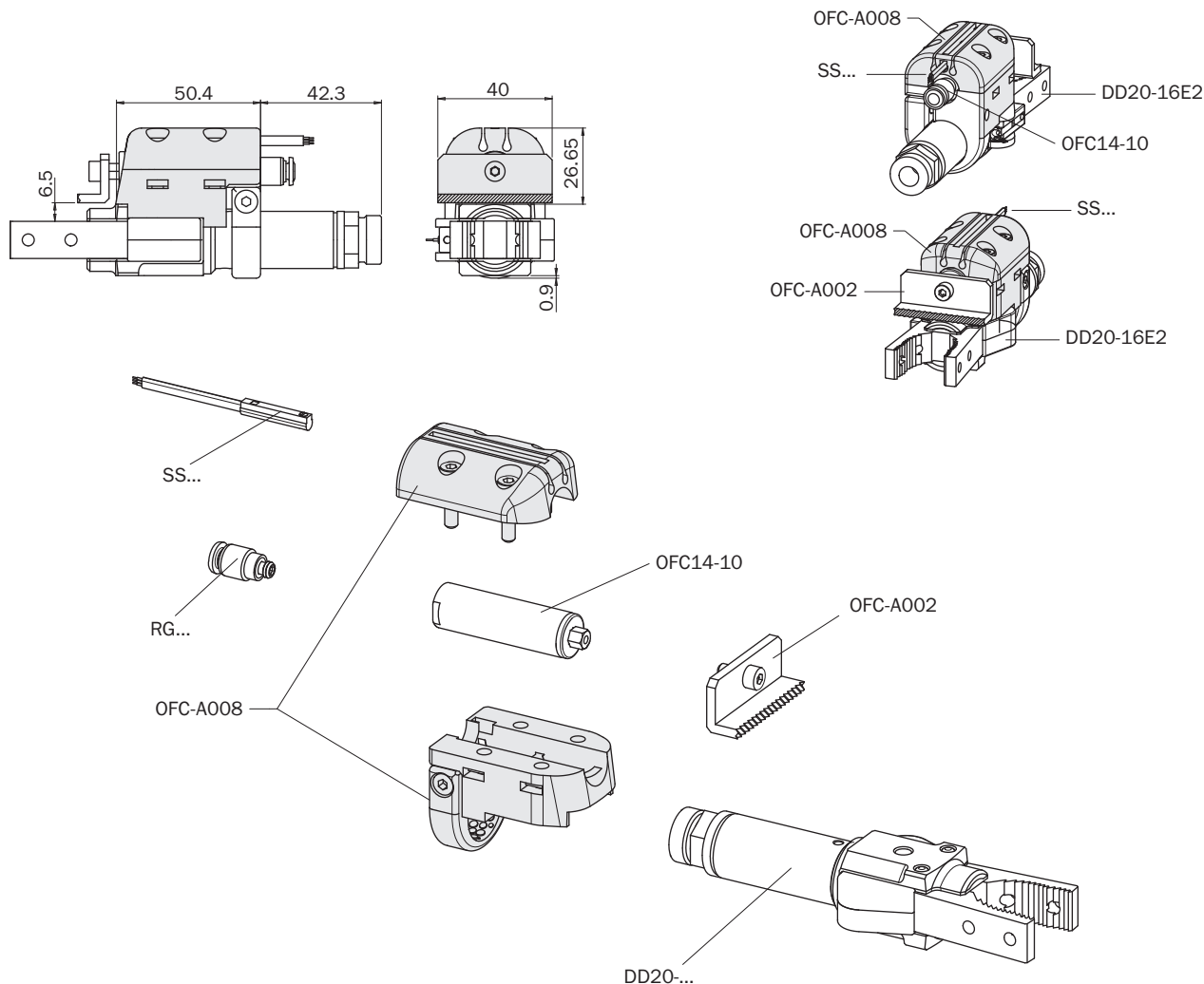
OFC-A008

Staffa per il fissaggio di OFC14-10 sulle pinze DD

- Utile per espellere la materozza quando si incastra sulle dita della pinza.
- Layout compatto di tubi e cavi.
- Sensore magnetico SS opzionale.
- Materiale PA12GB.

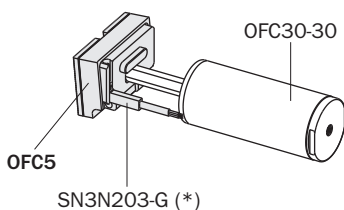
Bracket for mounting cylinder OFC14-10 on DD grippers

- Useful to extract the sprue when it is stuck on the gripper fingers.
- Compact layout of hoses and cables.
- Optional SS magnetic sensor.
- Material PA12GB.

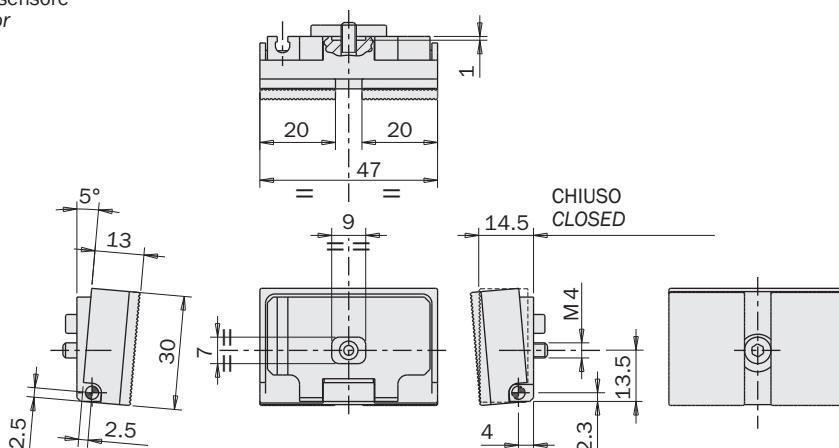


OFC5

Spintore a interruttore con gommino in HNBR e sensore
Switch pusher with HNBR rubber pad and sensor



(*)
Il sensore SN3N203-G è incluso
The sensor SN3N203-G is included

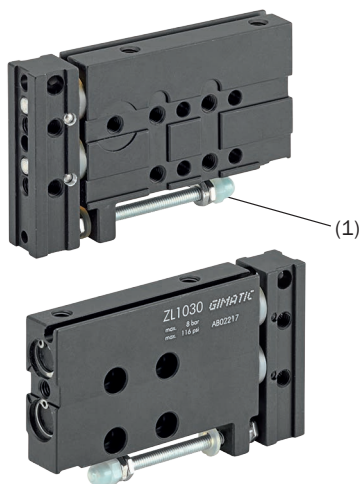


This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

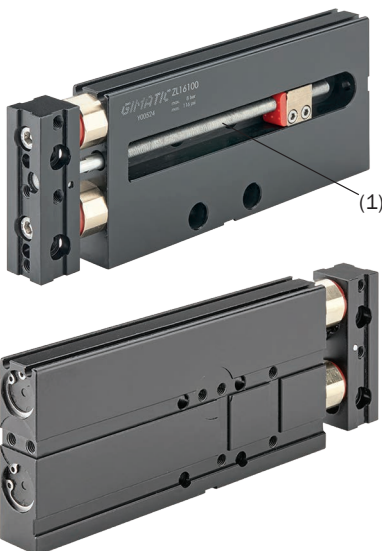
Slitte pneumatiche (serie ZL)

- Disegnate per gli EOAT.
- Azionamento a doppio effetto.
- Profilo piatto.
- Regolazione della corsa di apertura (1).
- Ammortizzatori in poliuretano (2).
- Sensori magnetici opzionali (3).

ZL1030

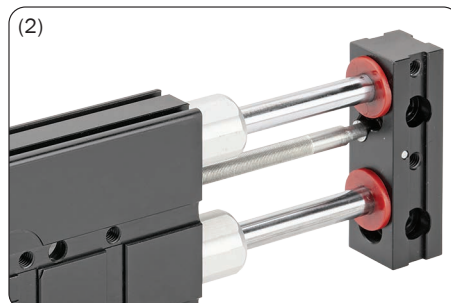


ZL16... ZL25...



Pneumatic slides (series ZL)

- Designed for EOATs.
- Double-acting.
- Flat profile.
- Opening stroke adjustment (1).
- Polyurethane shock-absorbers (2).
- Optional magnetic sensors (3).



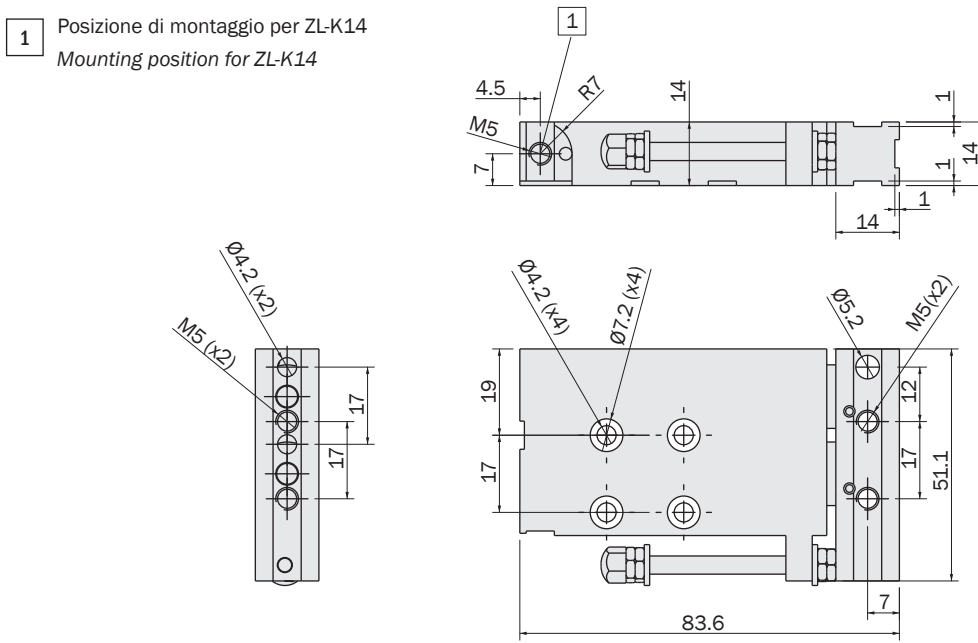
SS4N225-G	PNP	Cavo 2.5m
SS4M225-G	NPN	2.5m cable
SS3N203-G	PNP	Connettore M8
SS3M203-G	NPN	M8 snap plug connector

	ZL1030	ZL1650	ZL16100	ZL2550	ZL25100
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]				
Pressione di esercizio Pressure range	2 ÷ 8 bar				
Temperatura di esercizio Temperature range	5 ÷ 60 °C				
Forza di chiusura a 6 bar Retraction force at 6 bar	60 N	150 N		380 N	
Forza di apertura a 6 bar Extension force at 6 bar	80 N	200 N		500 N	
Corsa Stroke (±0.3 mm)	0 ÷ 30 mm	0 ÷ 50 mm	0 ÷ 100 mm	0 ÷ 50 mm	0 ÷ 100 mm
Consumo d'aria per ciclo Cycle air consumption	9 cm ³	37 cm ³	70 cm ³	90 cm ³	177 cm ³
Tempo di azionamento minimo Minium actuating time	0.06 s	0.13 s	0.24 s	0.24 s	0.45 s
Frequenza massima di lavoro Maximum working frequency	1 Hz				
Peso Weight	0.13 kg	0.41 kg	0.58 kg	0.88 kg	1.16 kg

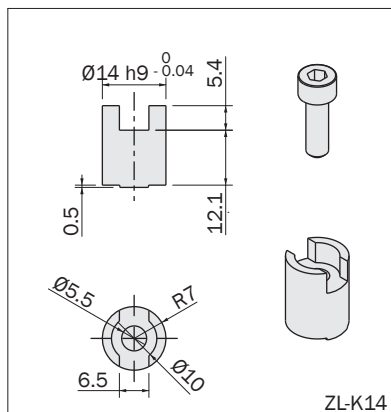
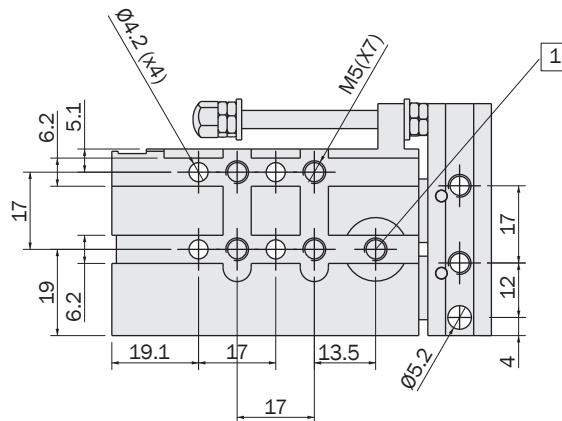
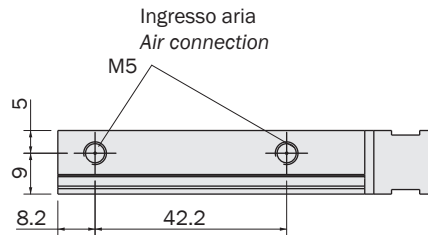
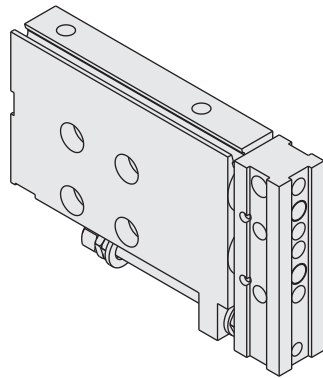
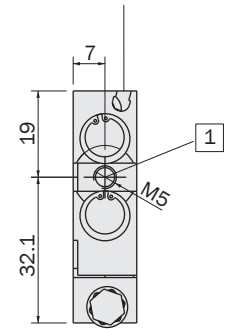
Dimensioni (mm)
Dimensions (mm)

ZL 10

- 1 Posizione di montaggio per ZL-K14
Mounting position for ZL-K14



Cava per sensore serie SS
Slot for SS sensor

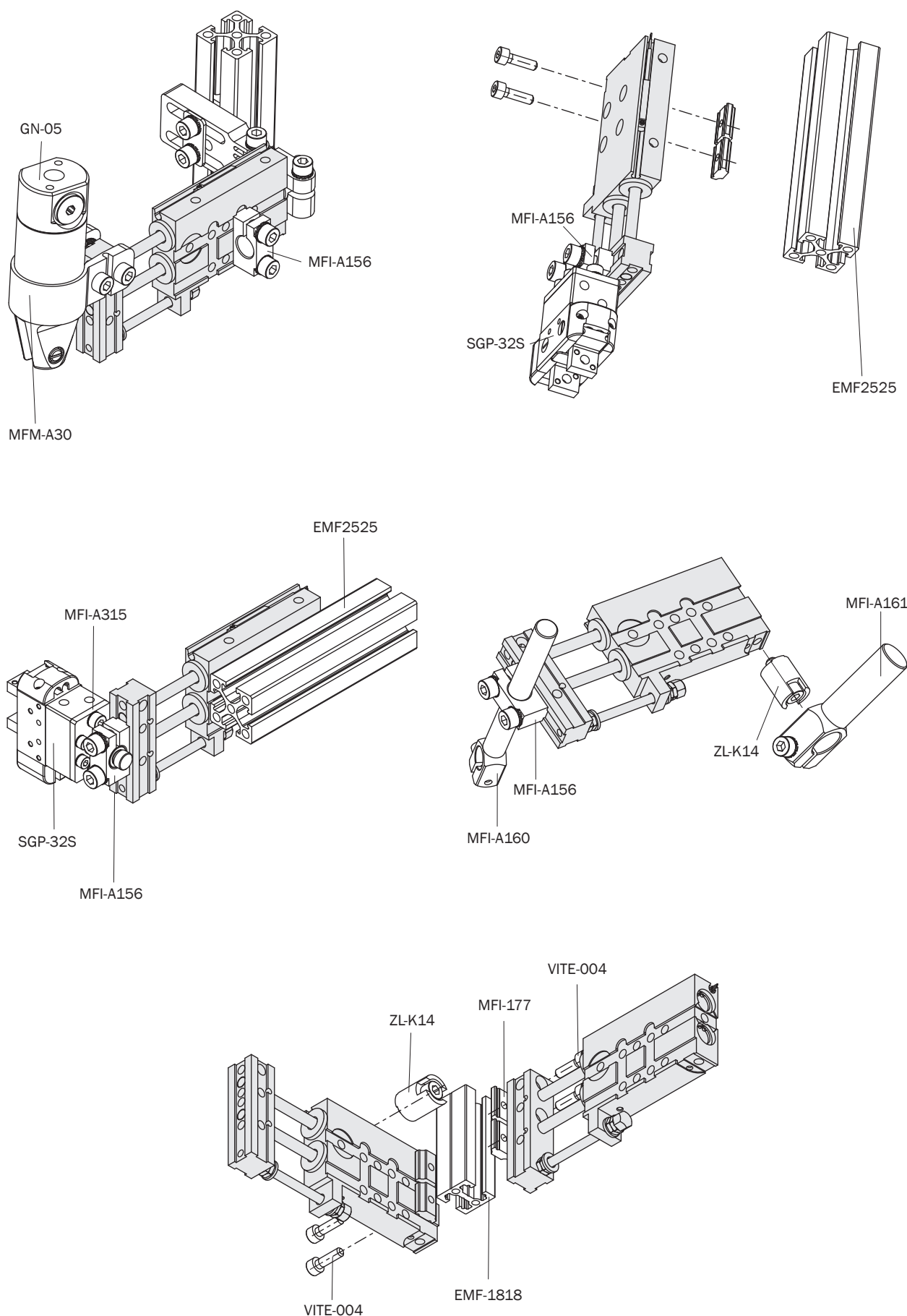


FIRST ANGLE
PROJECTION

Esempio di utilizzo

Application example

ZL 10

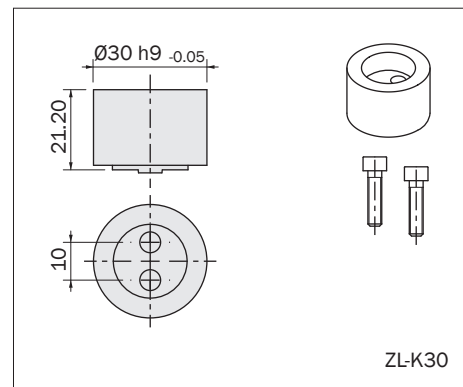
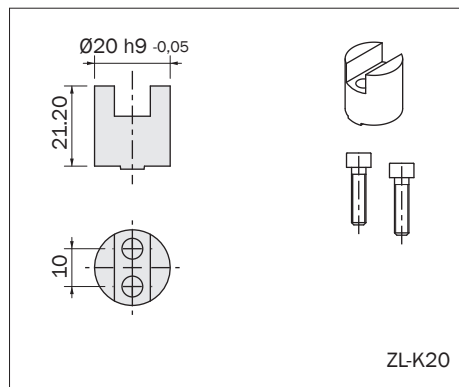
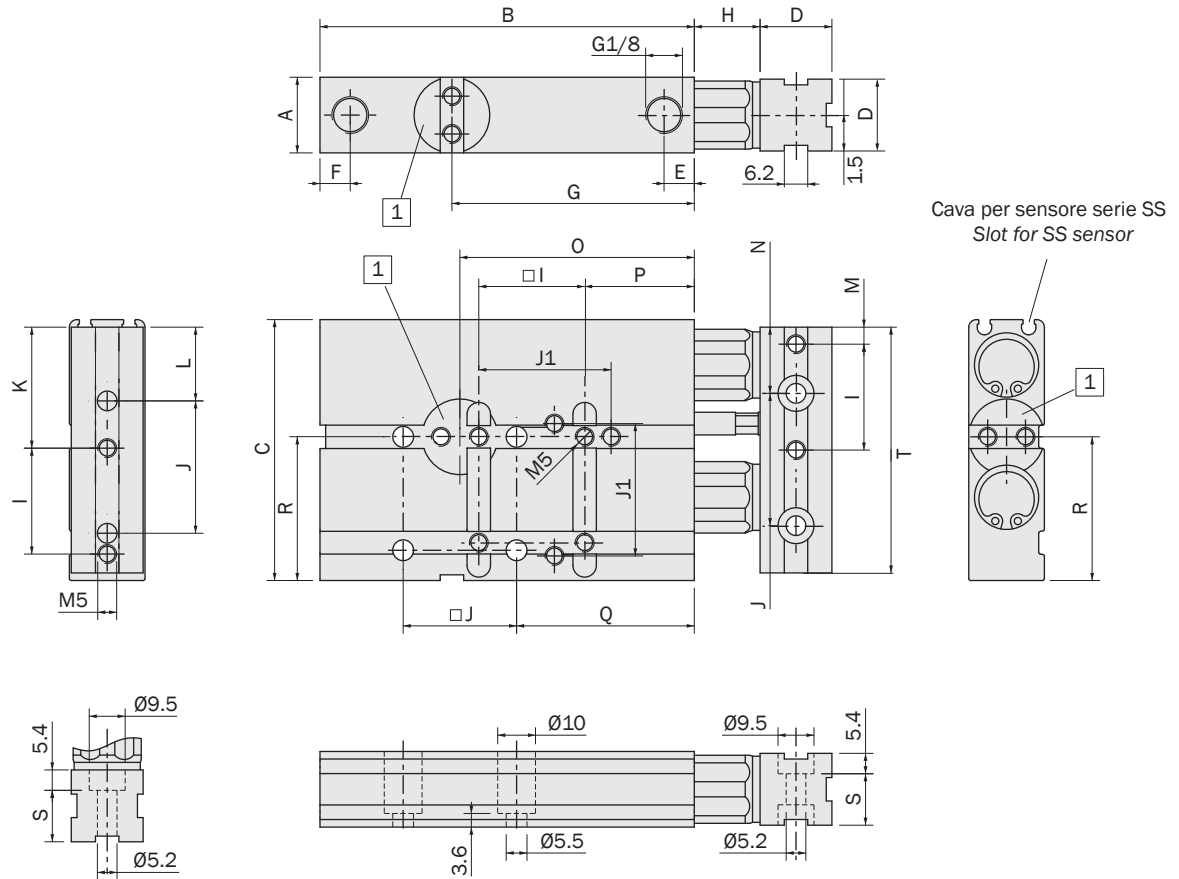


Dimensioni (mm)
Dimensions (mm)

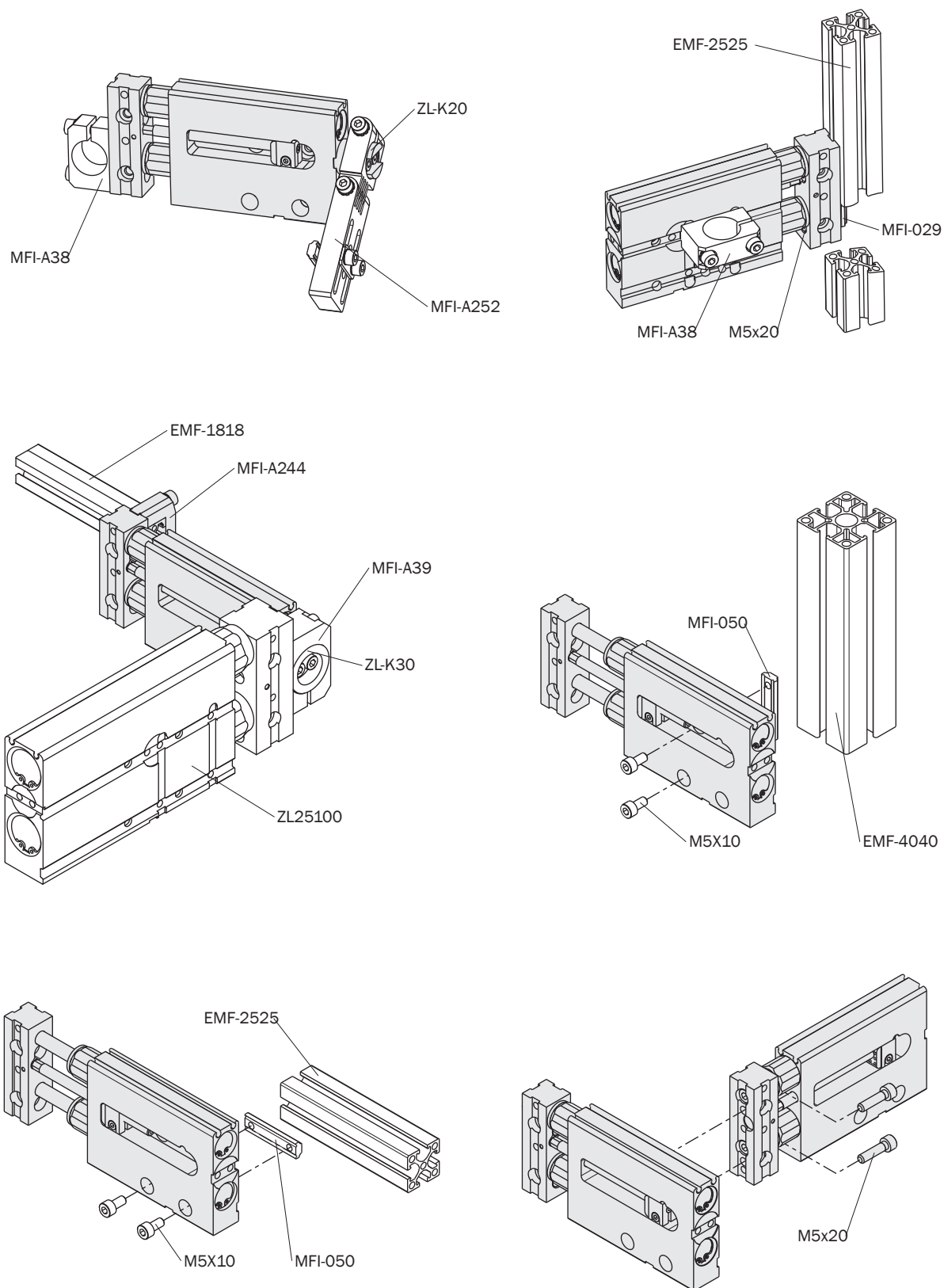
ZL16
ZL25

	A	B	C	D	E	F	G	H	I	J	J1	K	L	M	N	O	P	Q	R	S	T
ZL1650	20	99	69	19	8	8	64.1	17.4	28	35	35	32	19.5	4.5	17.5	62	29	47	38	13.6	65
ZL16100	20	149	69	19	8	8	64.1	17.4	28	35	35	32	19.5	4.5	17.5	62	29	47	38	13.6	65
ZL2550	30	101	87	29	8.5	9.5	64.1	17.4	40	40	-	24.5	31.5	7	22	62	17	37	47	23.6	78
ZL25100	30	151	87	29	8.5	9.5	64.1	17.4	40	40	-	24.5	31.5	7	22	62	17	37	47	23.6	78

1 Posizione di montaggio per ZL-K20 e ZL-K30
Mounting position for ZL-K20 e ZL-K30

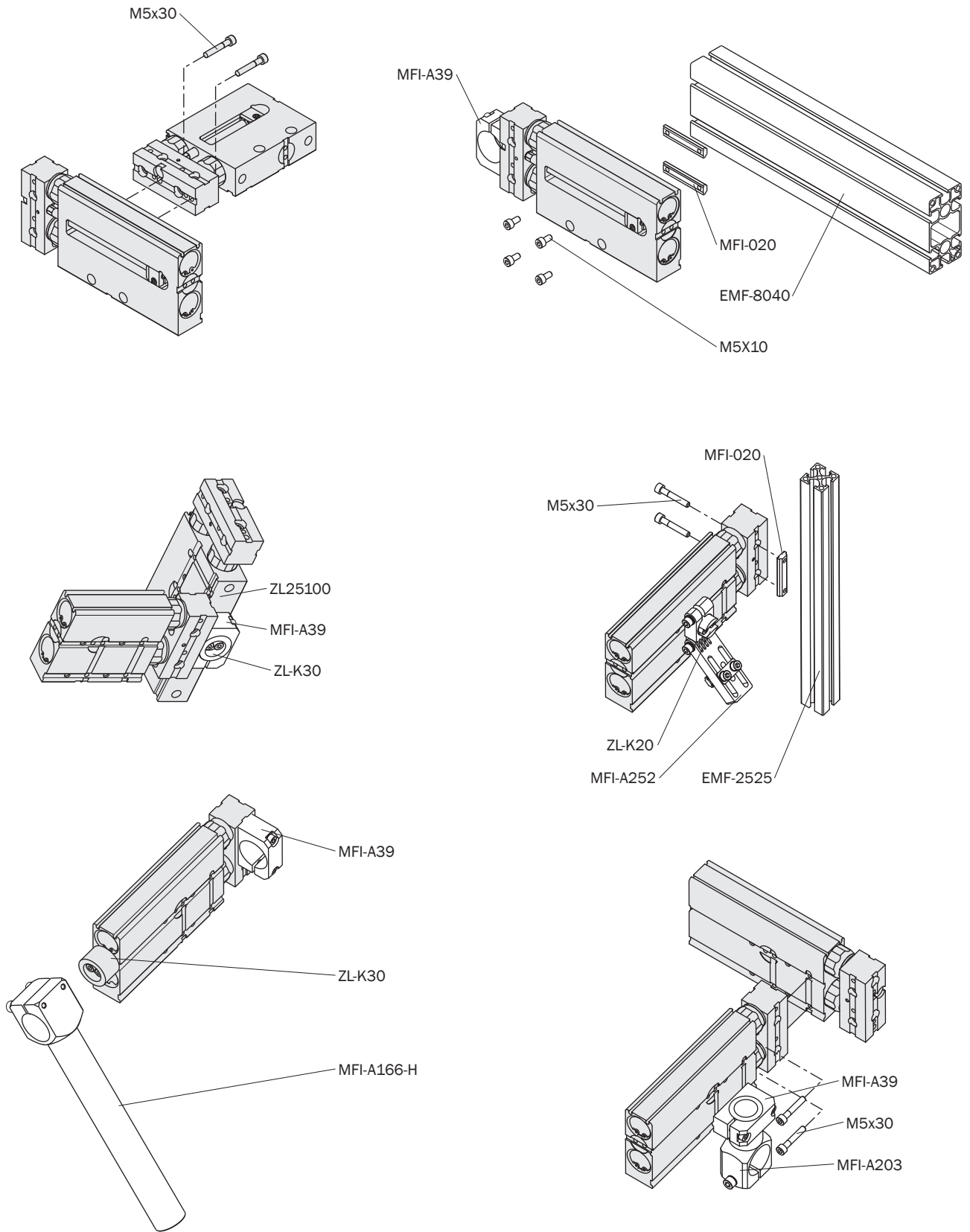


FIRST ANGLE
PROJECTION



Esempio di utilizzo
Application example

ZL 25



Mini slitte pneumatiche serie ZE-P

- Alesaggio 6, 10 oppure 16 mm.
- Corsa 10, 20, 30 mm.
- Varie possibilità di fissaggio.
- Azionamento a doppio effetto.
- Ammortizzatori elastici interni.
- Sensori magnetici opzionali.

Pneumatic mini-slides series ZE-P

- Piston bore 6, 10 or 16 mm.
- Stroke 10, 20, 30 mm.
- Several fastening options.
- Double acting.
- Internal elastic bumpers.
- Optional magnetic sensors.

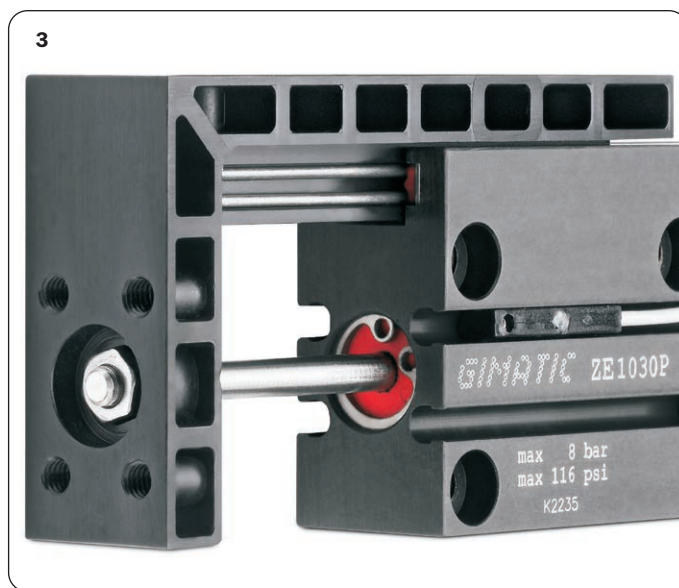
**ZE0630P****ZE1030P****ZE1630P**

Pur essendo perfettamente intercambiabile con la precedente serie ZE, la ZE-P può contare su:

- 1- Cuscinetti lineari a sfere, con gabbia in poliossimetilene.
- 2- Guida su alberini temprati e rettificati.
- 3- Carrello monoblocco stampato in zama.

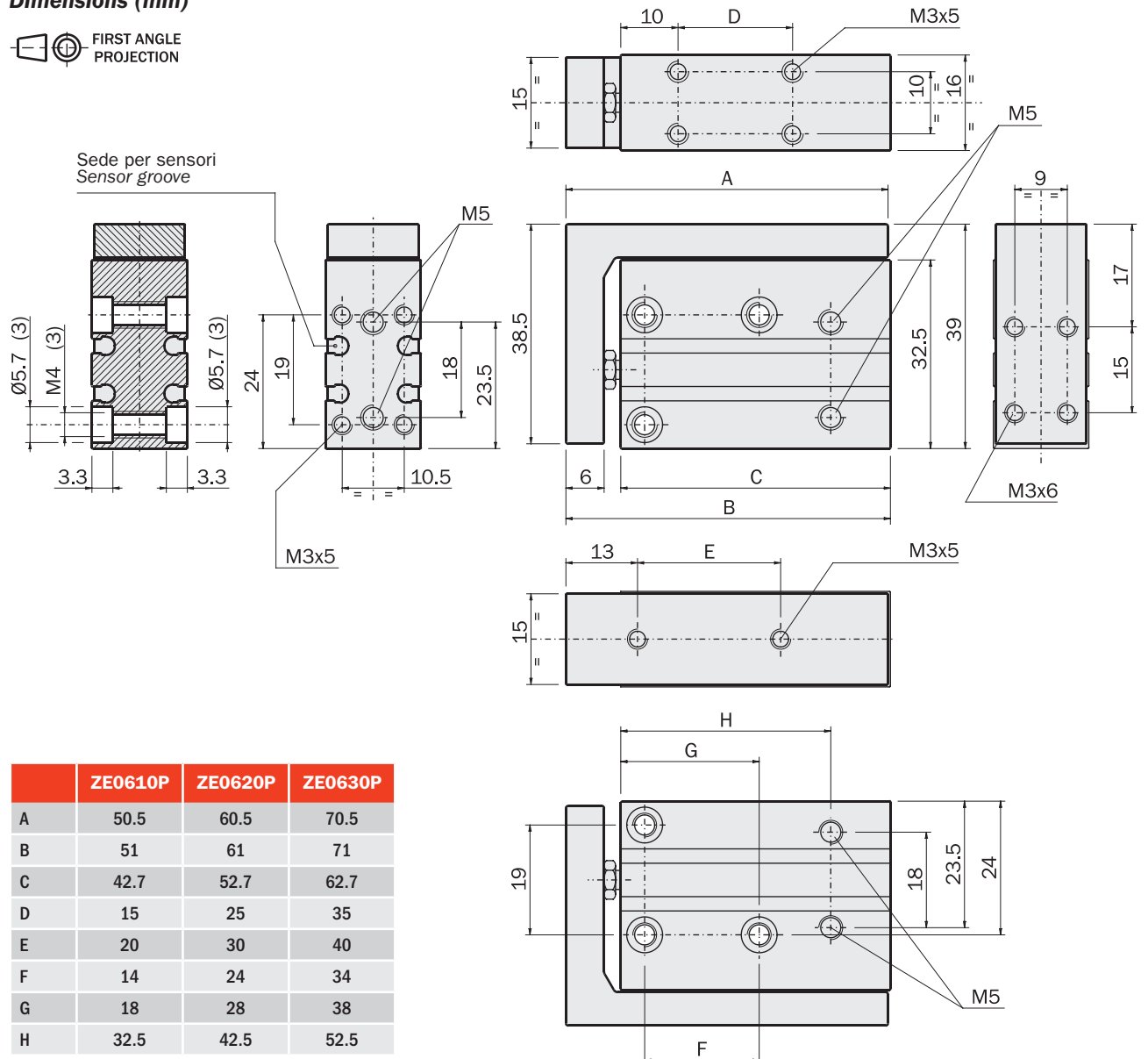
Even if it is completely interchangeable with the previous ZE series, the ZE-P is provided with:

- 1- Linear ball bearings, with cage in polyoxymethylene.
- 2- Guide with built-in hardened and ground shafts.
- 3- One-block carrier moulded in zamak.

**1****2****3**

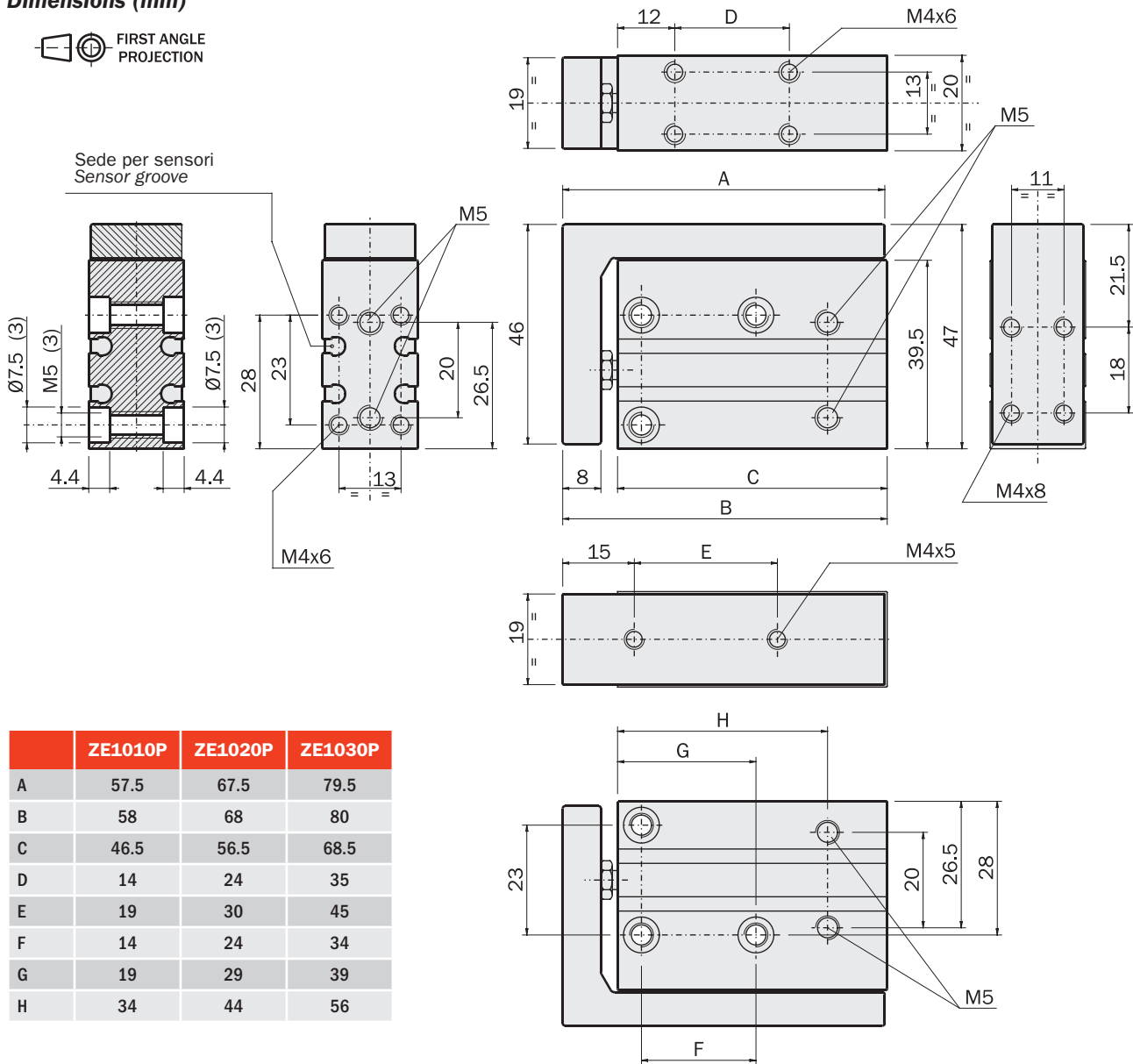
	ZE0610P	ZE0620P	ZE0630P
Peso Weight	90 g	105 g	120 g
Tempo di azionamento minimo Minimum actuating time	0.015 s	0.020 s	0.030 s
Frequenza massima di lavoro Maximum working frequency	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo Air consumption per cycle	0.7 cm ³	1.3 cm ³	1.9 cm ³
Corsa Stroke (+1 mm)	10 mm	20 mm	30 mm
Forza di apertura a 6 bar Extension force at 6 bar	13 N		
Forza di chiusura a 6 bar Retraction force at 6 bar	10 N		
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]		
Pressione di esercizio Pressure range	2÷8 bar		
Temperatura di esercizio Temperature range	5÷60 °C		

Dimensioni (mm)
Dimensions (mm)



	ZE1010P	ZE1020P	ZE1030P
Peso Weight	150 g	175 g	200 g
Tempo di azionamento minimo Minimum actuating time	0.030 s	0.050 s	0.060 s
Frequenza massima di lavoro Maximum working frequency	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo Air consumption per cycle	1.7 cm³	3.3 cm³	4.8 cm³
Corsa Stroke (+1 mm)	10 mm	20 mm	30 mm
Forza di apertura a 6 bar Extension force at 6 bar	40 N		
Forza di chiusura a 6 bar Retraction force at 6 bar	33 N		
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]		
Pressione di esercizio Pressure range	2÷8 bar		
Temperatura di esercizio Temperature range	5÷60 °C		

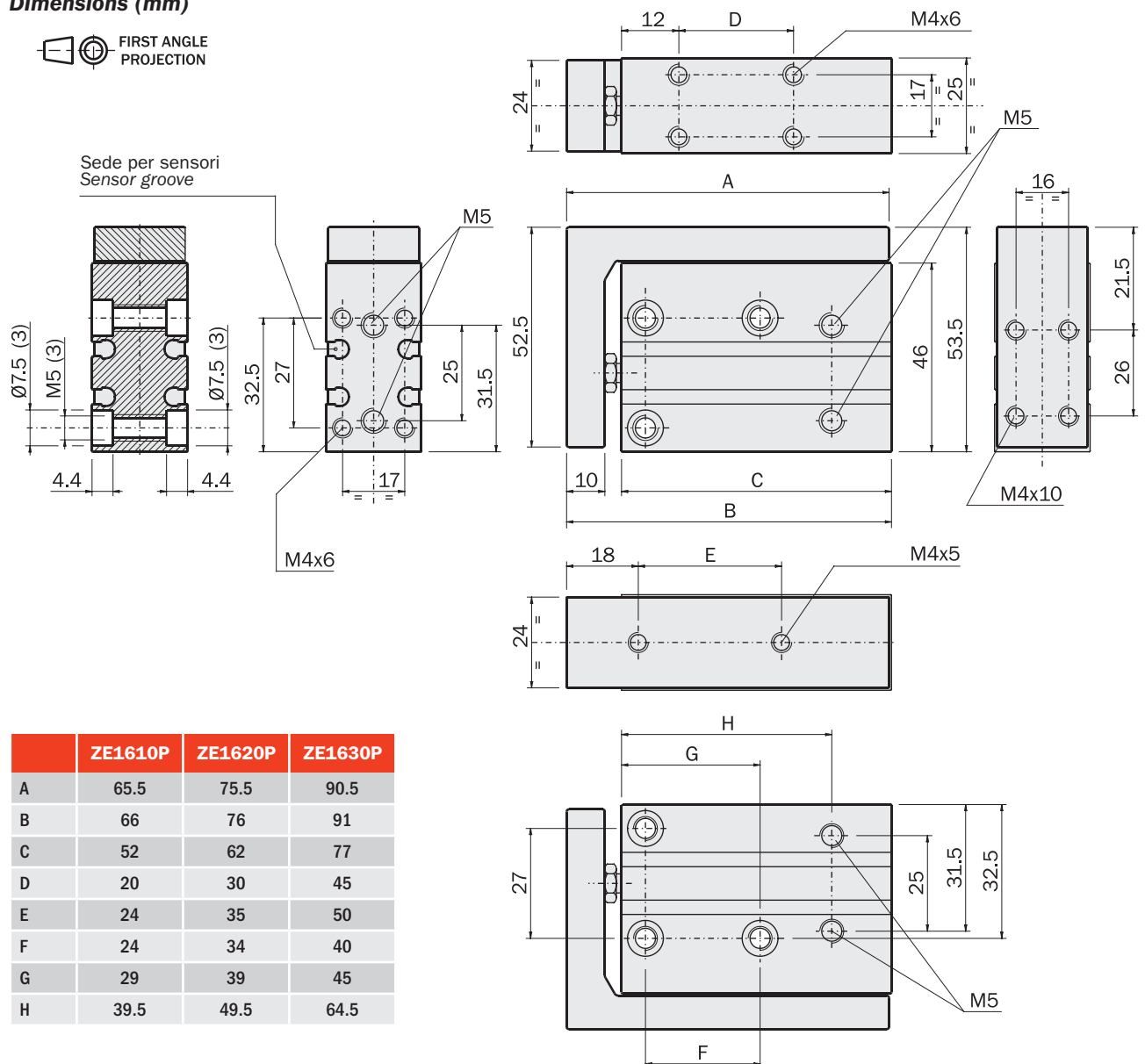
Dimensioni (mm)
Dimensions (mm)



	ZE1010P	ZE1020P	ZE1030P
A	57.5	67.5	79.5
B	58	68	80
C	46.5	56.5	68.5
D	14	24	35
E	19	30	45
F	14	24	34
G	19	29	39
H	34	44	56

	ZE1610P	ZE1620P	ZE1630P
Peso Weight	265 g	295 g	340 g
Tempo di azionamento minimo Minimum actuating time	0.050 s	0.070 s	0.090 s
Frequenza massima di lavoro Maximum working frequency	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo Air consumption per cycle	4.4 cm ³	8.3 cm ³	12 cm ³
Corsa Stroke (+1 mm)	10 mm	20 mm	30 mm
Forza di apertura a 6 bar Extension force at 6 bar	110 N		
Forza di chiusura a 6 bar Retraction force at 6 bar	100 N		
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]		
Pressione di esercizio Pressure range	2÷8 bar		
Temperatura di esercizio Temperature range	5÷60 °C		

Dimensioni (mm)
Dimensions (mm)

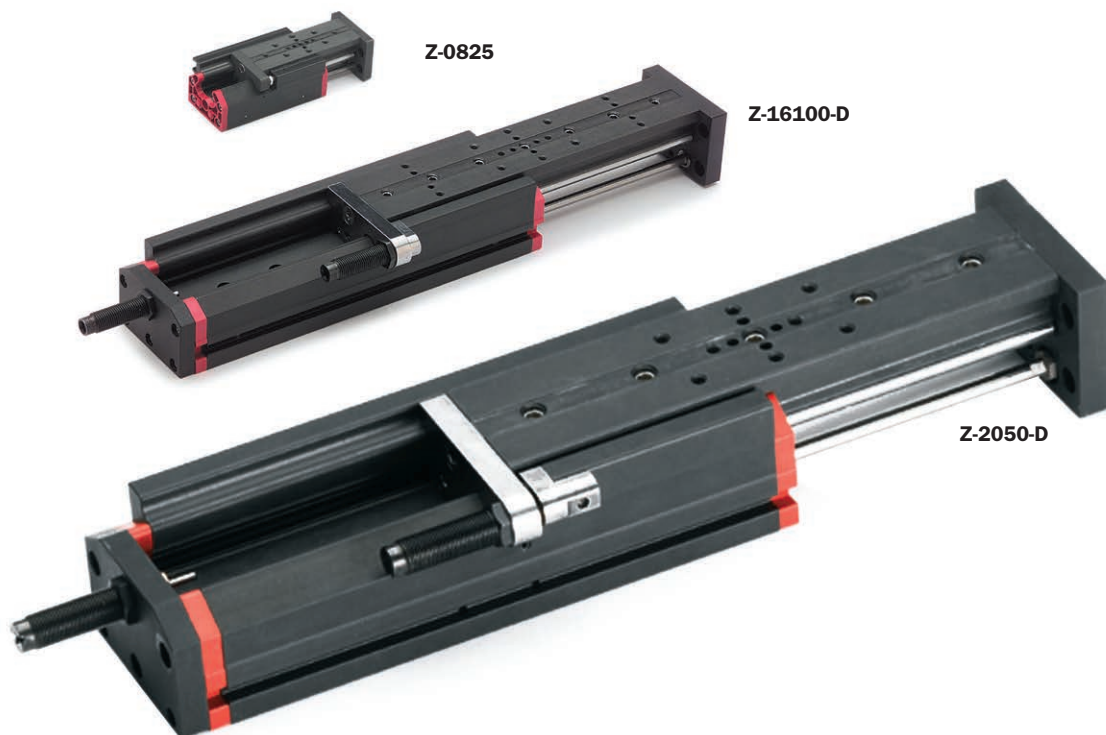


Slitte pneumatiche (serie Z)

- Alesaggio 2x8mm, 2x16mm oppure 2x20mm.
- Corsa 25mm, 50mm, 100mm, 150mm e 200mm.
- Con o senza deceleratori.
- Azionamento a doppio effetto.
- Rapporto qualità / prezzo molto favorevole.
- Sensori magnetici opzionali.

Pneumatic slides (series Z)

- Bore 2x8mm, 2x16 or 2x20mm.
- Stroke 25mm, 50mm, 100mm, 150mm and 200mm.
- With or without shock-absorbers.
- Double acting.
- Very favorable performance/price ratio.
- Optional magnetic sensors.



Guida di scorrimento a ricircolo di sfere registrabile

- Struttura in estruso di alluminio quindi peso ridotto.
- Grande rigidità dovuta alle guide in acciaio temprato inserite nella struttura.
- Guida a ricircolo di sfere a bassa usura e lunga durata di vita.
- Possibilità di registrazione del precarico sulla guida con recupero dei possibili giochi.

Adjustable recirculating ball-bearing system

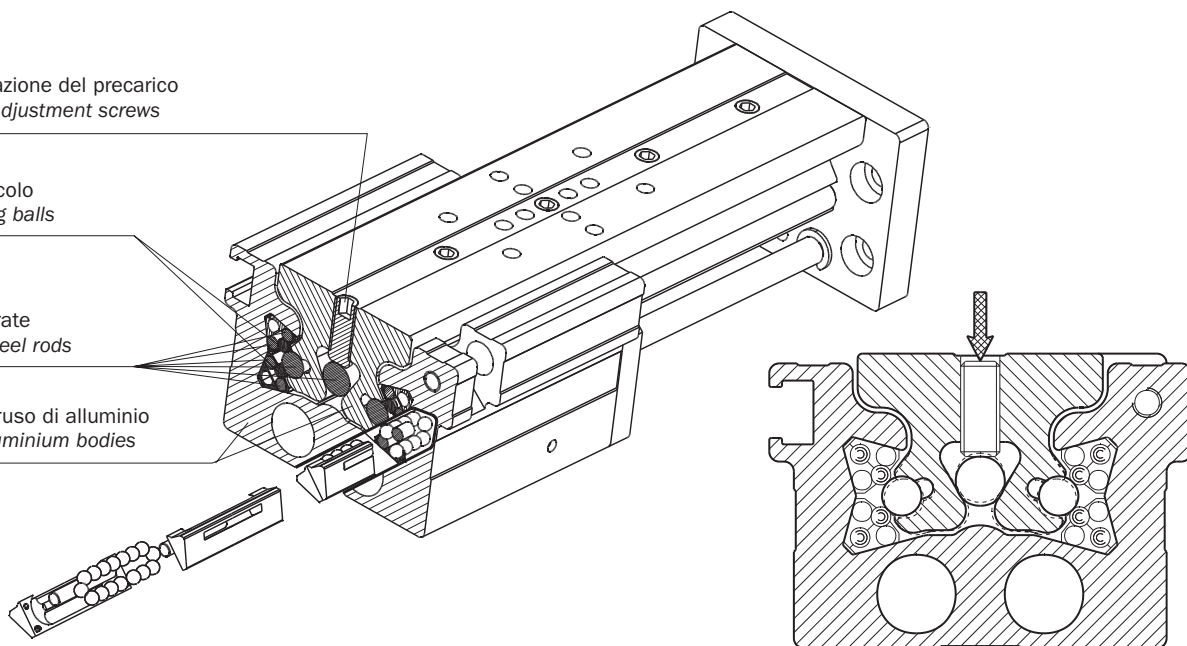
- Low weight as made from extruded aluminium profile.
- High stiffness thanks to the inserted hardened steel rods for guidance.
- Recirculating ball-bearing system provides wear resistance and extended performances.
- Possible adjustment of the preloading and taking up slack.

Viti di regolazione del precarico
Preloading adjustment screws

Sfere a ricircolo
Recirculating balls

Spine tembrate
Hardened steel rods

Corpi in estruso di alluminio
Extruded aluminium bodies



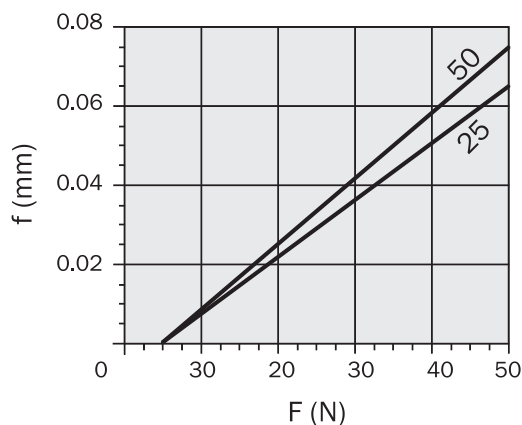
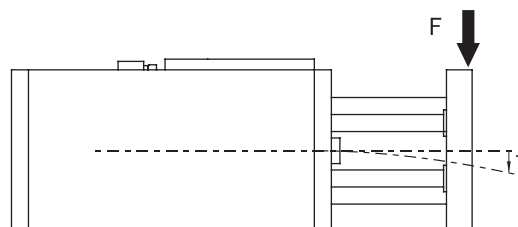
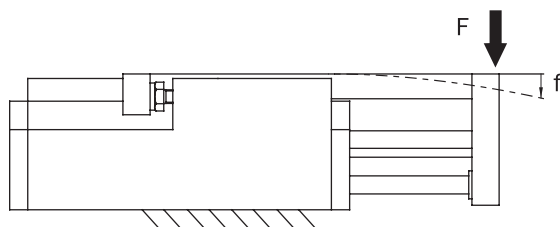
	Z-0825	Z-0825-D	Z-0850	Z-0850-D
Peso Weight	230 g	270 g	320 g	360 g
Ripetibilità Repetition accuracy	0.2 mm	0.02 mm	0.2 mm	0.02 mm
Tempo di azionamento minimo Minimum actuating time	0.054 s	0.100 s	0.080 s	0.130 s
Frequenza massima di lavoro Maximum working frequency	2 Hz	1 Hz	2 Hz	1 Hz
Consumo d'aria per ciclo Air consumption per cycle	6 cm³		11 cm³	
Corsa totale massima Maximun total stroke	25 mm		50 mm	
Forza di apertura a 6 bar Extension force at 6 bar	50 N			
Forza di chiusura a 6 bar Retraction force at 6 bar	37 N			
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]			
Pressione di esercizio Pressure range	2 ÷ 8 bar			
Temperatura di esercizio Temperature range	5 ÷ 60°C.			

Flessione

Il grafico mostra la flessione f (mm) nei due sensi indicati, in funzione della forza F (N) e della corsa della slitta.

Deflection

The graph shows the deflection f (mm) in two showed directions, as function of the force F (N) and the stroke of the slide.



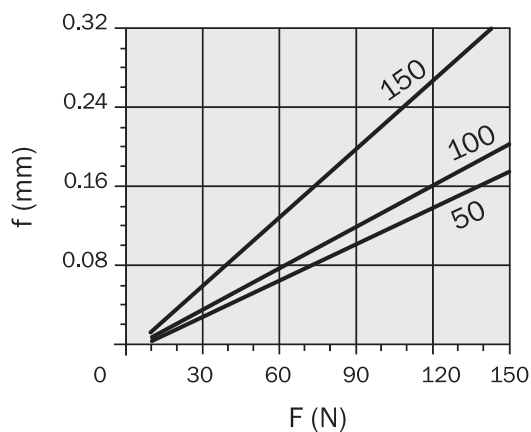
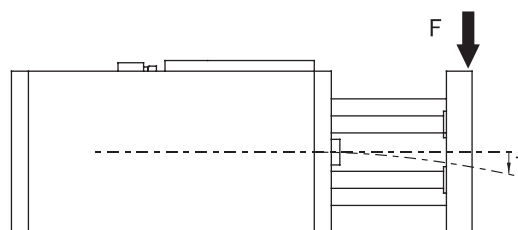
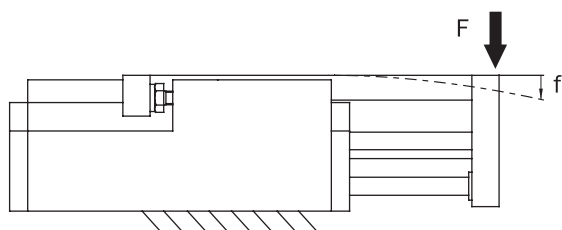
	Z-1650	Z-1650-D	Z-16100	Z-16100-D	Z-16150	Z-16150-D
Peso Weight	620 g	730 g	1010 g	1120 g	1340 g	1450 g
Ripetibilità Repetition accuracy	0.2 mm	0.02 mm	0.2 mm	0.02 mm	0.2 mm	0.02 mm
Tempo di azionamento minimo Minimum actuating time	0.080 s	0.100 s	0.120 s	0.150 s	0.220 s	0.230 s
Frequenza massima di lavoro Maximum working frequency	2 Hz	1 Hz	2 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo Air consumption per cycle	44 cm³		95 cm³		141 cm³	
Corsa totale massima Maximun total stroke	50 mm		100 mm		150 mm	
Forza di apertura a 6 bar Extension force at 6 bar	200 N					
Forza di chiusura a 6 bar Retraction force at 6 bar	170 N					
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]					
Pressione di esercizio Pressure range	2 ÷ 8 bar					
Temperatura di esercizio Temperature range	5 ÷ 60°C.					

Flessione

Il grafico mostra la flessione f (mm) nei due sensi indicati, in funzione della forza F (N) e della corsa della slitta.

Deflection

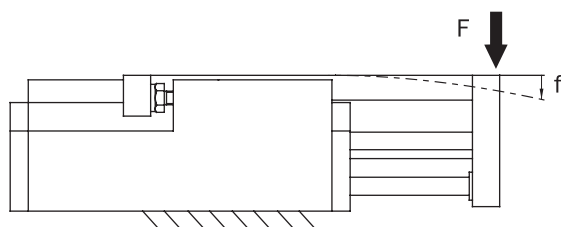
The graph shows the deflection f (mm) in two showed directions, as function of the force F (N) and the stroke of the slide.



	Z-2050-D	Z-20100-D	Z-20150-D	Z-20200-D
Peso Weight	1300 g	1950 g	2500 g	3100 g
Ripetibilità Repetition accuracy	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Tempo di azionamento minimo Minimum actuating time	0.12 s	0.19 s	0.26 s	0.31 s
Frequenza massima di lavoro Maximum working frequency	1 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo Air consumption per cycle	76 cm ³	155 cm ³	227 cm ³	310 cm ³
Corsa totale massima Maximum total stroke	50 mm	100 mm	150 mm	200 mm
Forza di apertura a 6 bar Extension force at 6 bar	330 N			
Forza di chiusura a 6 bar Retraction force at 6 bar	300 N			
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]			
Pressione di esercizio Pressure range	2 ÷ 8 bar			
Temperatura di esercizio Temperature range	5 ÷ 60°C.			

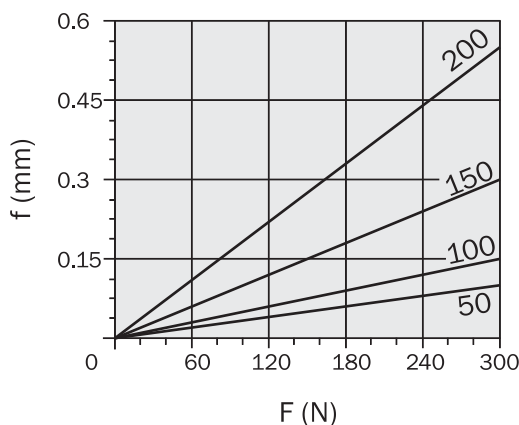
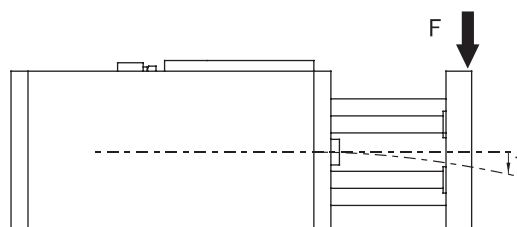
Flessione

Il grafico mostra la flessione f (mm) nei due sensi indicati, in funzione della forza F (N) e della corsa della slitta.



Deflection

The graph shows the deflection f (mm) in two showed directions, as function of the force F (N) and the stroke of the slide.



Carichi di sicurezza

Controllare le tabelle sottostanti.

Carichi eccessivi possono danneggiare la slitta, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.

F_x s, F_z s, M_x s, M_y s, M_z s sono i carichi statici massimi ammissibili.

F_x d, F_z d, M_x d, M_y d, M_z d sono i massimi carichi dinamici ammissibili.

È indicato il minimo tempo di azionamento t in funzione della massa trasportata m .

(*) Quando il tempo e la massa comportano un'eccessiva energia cinetica si deve diminuire la velocità con regolatori di flusso (non forniti).

Safety loads

Check the tables below.

Excessive loads can damage the slide, cause functioning troubles and endanger the safety of the operator.

F_x s, F_z s, M_x s, M_y s, M_z s are maximum permitted static loads. F_x d, F_z d, M_x d, M_y d, M_z d are maximum permitted dynamic loads.

It is also indicated the minimum actuating time t as a factor of the pay-load m .

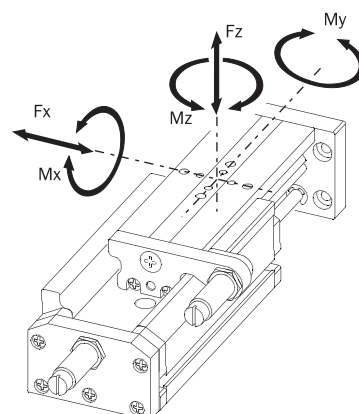
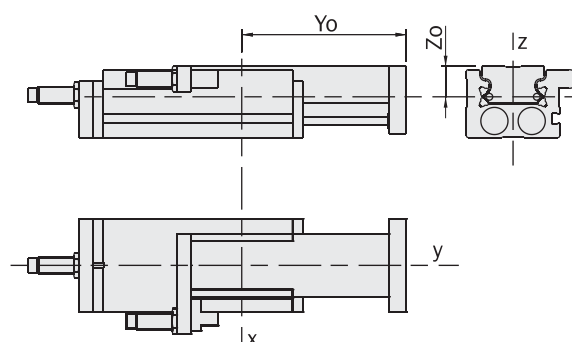
(*) When the actuating time and the pay-load produce an excessive kinetic energy you must reduce the speed by flow controllers (not supplied).

	Z-0825 Z-0825-D	Z-0850 Z-0850-D	Z-1650 Z-1650-D	Z-16100 Z-16100-D	Z-16150 Z-16150-D	Z-2050-D	Z-20100-D	Z-20150-D	Z-20200-D
Zo	14.5 mm	14.5 mm	18 mm	18 mm	18 mm	24 mm	24 mm	24 mm	24 mm
Yo	57 mm	87 mm	97mm	157 mm	217 mm	102 mm	167 mm	227 mm	295 mm
F_x s	60 N	60 N	200 N	250 N	250 N	250 N	350 N	350 N	450 N
F_z s	60 N	60 N	200 N	250 N	250 N	250 N	350 N	350 N	450 N
M_x s	3 Nm	6 Nm	12 Nm	24 Nm	30 Nm	15 Nm	36 Nm	45 Nm	66 Nm
M_y s	3 Nm	3 Nm	15 Nm	24 Nm	24 Nm	24 Nm	36 Nm	36 Nm	48 Nm
M_z s	3 Nm	6 Nm	12 Nm	24 Nm	30 Nm	15 Nm	36 Nm	45 Nm	66 Nm
F_x d	10 N	10 N	40 N	50 N	50 N	50 N	70 N	70 N	80 N
F_z d	10 N	10 N	40 N	50 N	50 N	50 N	70 N	70 N	80 N
M_x d	0.5 Nm	1 Nm	2 Nm	4 Nm	5 Nm	2.5 Nm	6 Nm	7.5 Nm	11 Nm
M_y d	0.5 Nm	0.5 Nm	2.5 Nm	4 Nm	4 Nm	4 Nm	6 Nm	6 Nm	8 Nm
M_z d	0.5 Nm	1 Nm	2 Nm	4 Nm	5 Nm	2.5 Nm	6 Nm	7.5 Nm	11 Nm
m max	1 kg	1 kg	4 kg	5 kg	5 kg	5 kg	7 kg	7 kg	8 kg

m	t Z-0825	t Z-0825-D	t Z-0850	t Z-0850-D
0.1 kg	0.054 s	0.180 s	0.113 s (*)	0.140 s
0.2 kg	0.066 s (*)	0.170 s	0.135 s (*)	0.137 s
0.3 kg	0.075 s (*)	0.160 s	0.155 s (*)	0.135 s
0.4 kg	0.084 s (*)	0.150 s	0.172 s (*)	0.133 s
0.5 kg	0.092 s (*)	0.140 s	0.187 s (*)	0.130 s
0.6 kg	0.099 s (*)	0.130 s	0.201 s (*)	0.136 s (*)
0.7 kg	0.106 s (*)	0.120 s	0.215 s (*)	0.142 s (*)
0.8 kg	0.112 s (*)	0.110 s	0.227 s (*)	0.147 s (*)
0.9 kg	0.118 s (*)	0.100 s	0.239 s (*)	0.152 s (*)
1 kg	0.124 s (*)	0.103 s (*)	0.250 s (*)	0.157 s (*)

m	t Z-1650	t Z-1650-D	t Z-16100	t Z-16100-D	t Z-16150	t Z-16150-D
0.1 kg	0.080 s	0.120 s	0.163 s (*)	0.160	0.274 s (*)	0.240 s
0.5 kg	0.108 s (*)	0.115 s	0.231 s (*)	0.155	0.367 s (*)	0.230 s
1 kg	0.141 s (*)	0.110 s	0.294 s (*)	0.180 (*)	0.458 s (*)	0.264 s (*)
1.5 kg	0.168 s (*)	0.116 s (*)	0.346 s (*)	0.207 (*)	0.534 s (*)	0.303 s (*)
2 kg	0.191 s (*)	0.128 s (*)	0.392 s (*)	0.230 (*)	0.600 s (*)	0.336 s (*)
2.5 kg	0.212 s (*)	0.138 s (*)	0.432 s (*)	0.251 (*)	0.659 s (*)	0.367 s (*)
3 kg	0.231 s (*)	0.148 s (*)	0.469 s (*)	0.270 (*)	0.714 s (*)	0.395 s (*)
3.5 kg	0.248 s (*)	0.157 s (*)	0.503 s (*)	0.287 (*)	0.765 s (*)	0.421 s (*)
4 kg	0.265 s (*)	0.165 s (*)	0.535 s (*)	0.303 (*)	0.812 s (*)	0.445 s (*)
4.5 kg	-	-	0.566 s (*)	0.319 s (*)	0.857 s (*)	0.468 s (*)
5 kg	-	-	0.594 s (*)	0.334 s (*)	0.900 s (*)	0.490 s (*)

m	t Z-2050-D	t Z-20100-D	t Z-20150-D	t Z-20200-D
1 kg	0.135 s	0.200 s	0.265 s	0.310 s
2 kg	0.130 s	0.195 s	0.260 s	0.319 s (*)
3 kg	0.125 s	0.190 s	0.270 s (*)	0.357 s (*)
4 kg	0.120 s	0.207 s (*)	0.296 s (*)	0.391 s (*)
5 kg	0.129 s (*)	0.224 s (*)	0.320 s (*)	0.422 s (*)
6 kg	-	0.239 s (*)	0.342 s (*)	0.451 s (*)
7 kg	-	0.252 s (*)	0.363 s (*)	0.478 s (*)
8 kg	-	-	-	0.503 s (*)

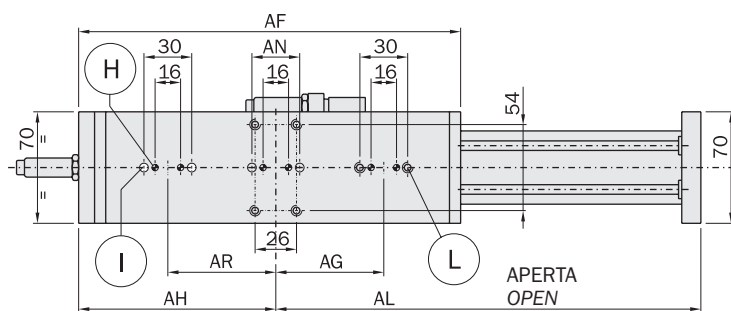
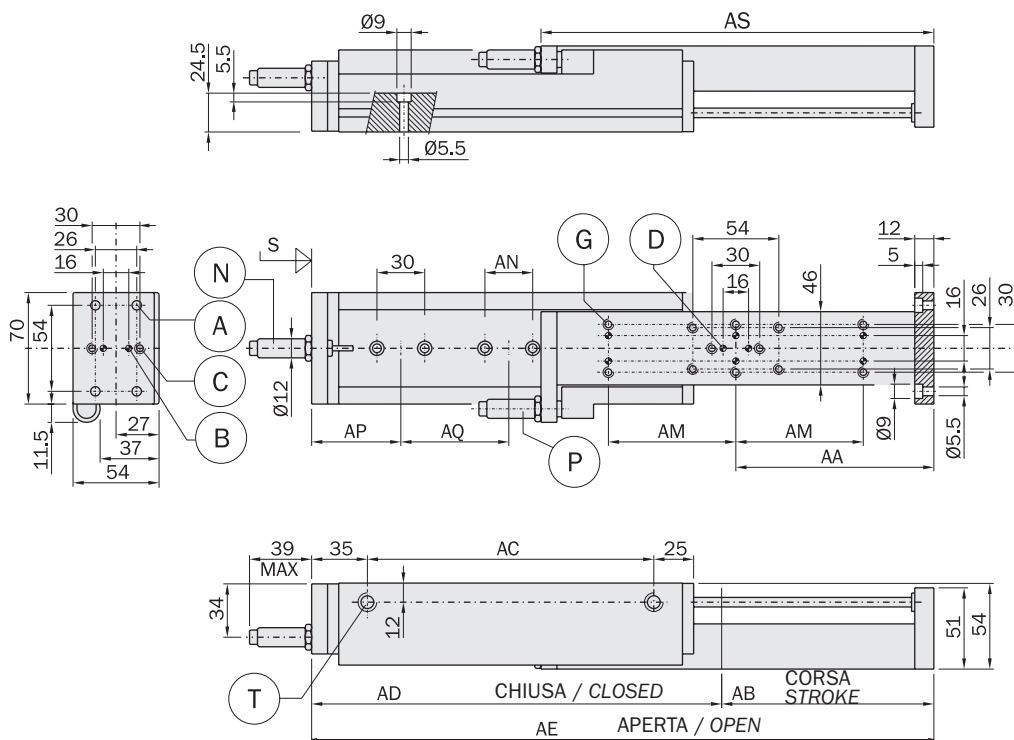
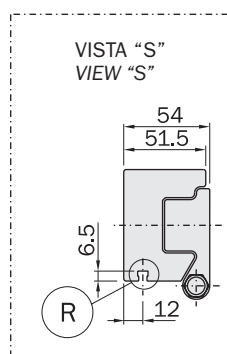


Dimensioni (mm)
Dimensions (mm)

Dimensioni (mm)
Dimensions (mm)

Dimensioni (mm)
Dimensions (mm)

	AA	AB	AC	AD	AE	AF	AG	AH	AL	AM	AN	AP	AQ	AR	AS
Z-2050-D	72	50	80	155	205	140	32	75	130	-	-	43	-	32	142
Z-20100-D	112	100	160	235	335	220	35	115	220	-	-	80	-	35	222
Z-20150-D	147	150	230	305	455	290	80	143	312	80	30	63	80	80	292
Z-20200-D	190	200	316	391	591	376	120	193	398	118	30	-	-	-	378



A	Foro passante per fissaggio <i>Through hole for fastening</i>	Ø5.5 mm
B	Foro di riferimento <i>Dowel pin hole</i>	Ø4H8x10 mm
C	Foro filettato per fissaggio <i>Threaded hole for fastening</i>	M5x12 mm
D	Foro di riferimento <i>Dowel pin hole</i>	Ø4H8x10 mm
G	Foro filettato per fissaggio <i>Threaded hole for fastening</i>	M5x8 mm
H	Foro di riferimento <i>Dowel pin hole</i>	Ø4H8x8 mm
I	Foro passante per fissaggio <i>Through hole for fastening</i>	Ø5.5 mm
L	Foro filettato per fissaggio <i>Threaded hole for fastening</i>	M5x10 mm
N	Regolazione corsa in chiusura <i>Retraction stroke adjustment</i>	
P	Regolazione corsa in apertura <i>Extension stroke adjustment</i>	
R	Sede per sensori Gimatic <i>Gimatic sensor slot</i>	
T	Ingresso aria <i>Air connection</i>	1/8" Gas



Slitta a doppia corsa per grosse pinze per materozze

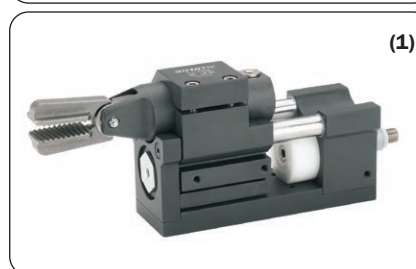
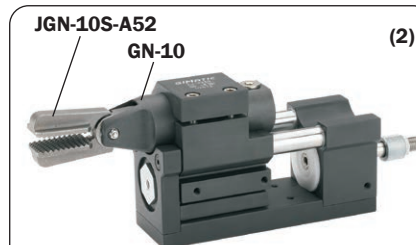
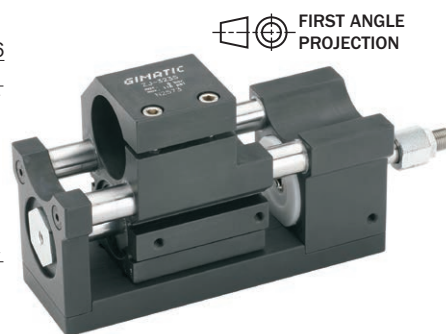
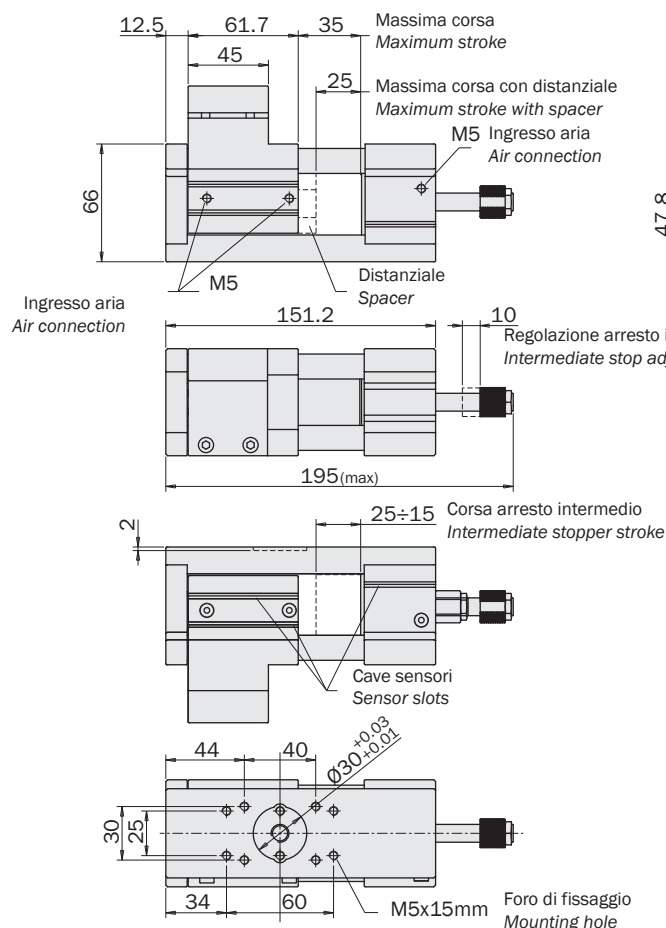
- Cilindro principale a doppio effetto con pistone da 32mm e corsa 35mm.
- Arresto intermedio a semplice effetto (1).
- Cravatta da 36mm per attuatori GN-10 (2).
- Usata per l'estrazione di paraurti.
- Sensori magnetici opzionali.
- Distanziale per riduzione corsa incluso.

Double stroke slide for large sprue grippers

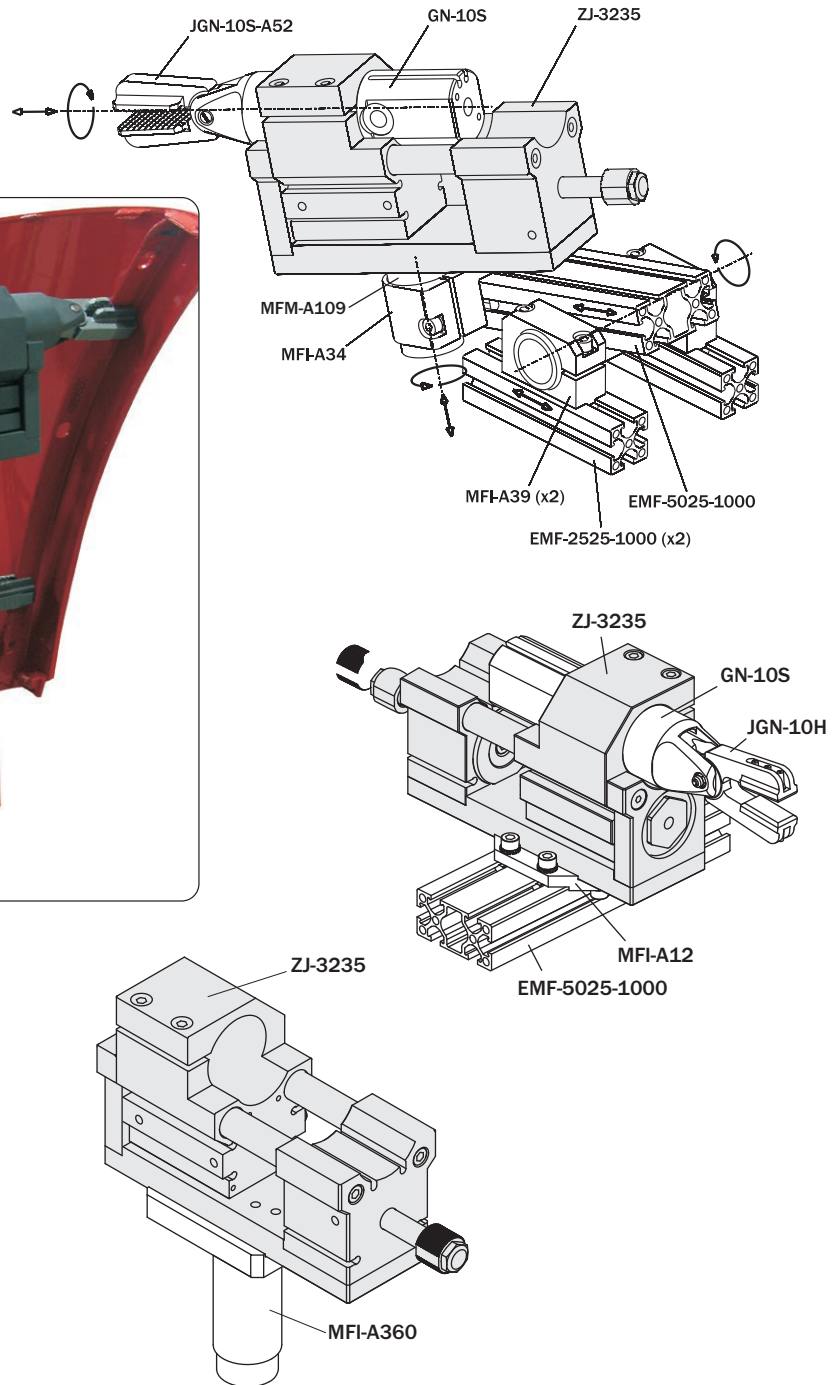
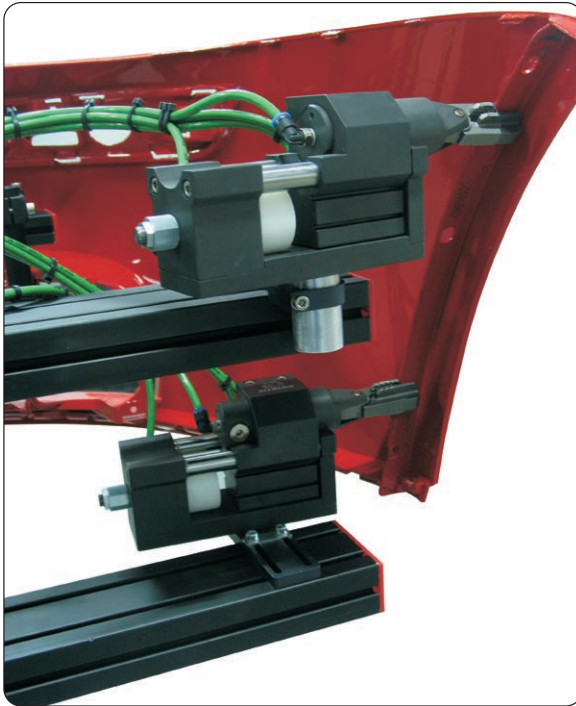
- Double-effect main cylinder with piston bore 32mm and stroke 35mm.
- Single-acting intermediate stopper (1).
- Dia. 36mm clamp for GN-10 actuator (2).
- Used for car bumpers extracting.
- Optional magnetic sensors.
- Stroke reduction spacer included.

	ZJ-3235
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]
Pressione di esercizio Pressure range	2 ÷ 8 bar
Temperatura di esercizio Temperature range	5° ÷ 60 °C
Corsa principale senza distanziale Main stroke without spacer	35 mm
Corsa intermedia senza distanziale Intermediate stroke without spacer	10 ÷ 20 mm
Corsa principale con distanziale Main stroke with spacer	25 mm
Corsa intermedia con distanziale Intermediate stroke with spacer	0 ÷ 10 mm
Forza di trazione a 6 bar Pulling force at 6 bar	450 N
Peso Weight	1330 g

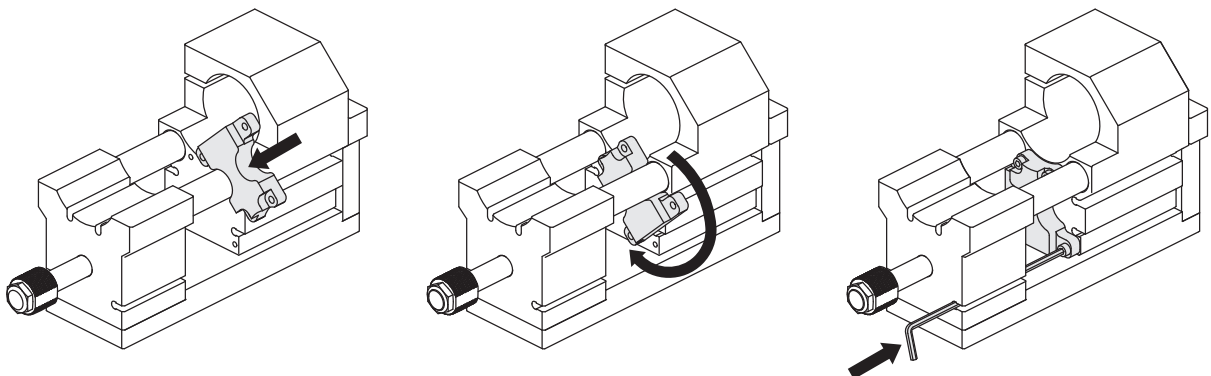
Dimensioni (mm) Dimensions (mm)



Esempi di utilizzo Application example



Montaggio del distanziale Spacer mounting



Slitte per taglierini pneumatici

- Per le materozze più difficili da tagliare è possibile avvicinare il taglierino con una slitta.
- Disponibili in due taglie: alesaggio 16 e 25 mm.
- Con molla in apertura (NO), o in chiusura (NC).
- Con (versione S), o senza predisposizione per i sensori.
- Sensori magnetici opzionali **1**.
- Corsa regolabile (fino a 10mm).



Slides for air nippers actuators

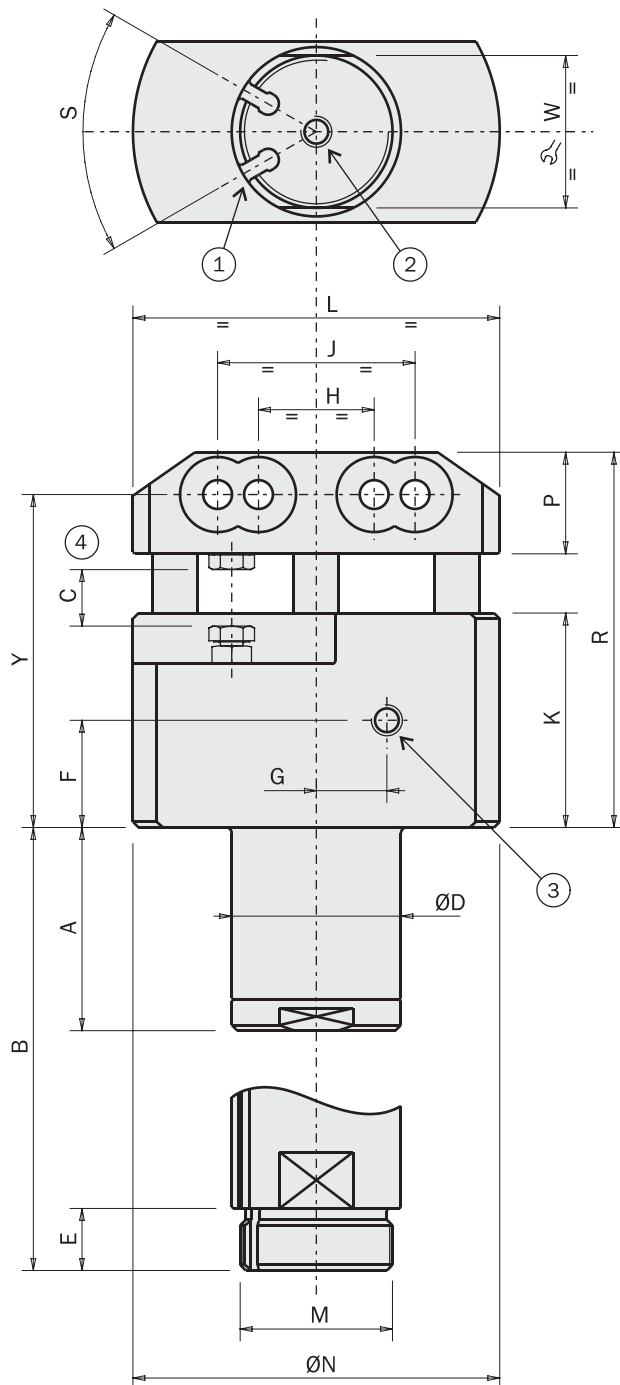
- Sliding nippers (with multiple cut action for harder to cut sprues) can be assembled.
- Available in two sizes: bore 16 and 25 mm.
- Spring open (NO), or spring closed (NC).
- With (S versions), or without sensor slots.
- Optional magnetic sensors **1**.
- Adjustable stroke (maximum 10mm).



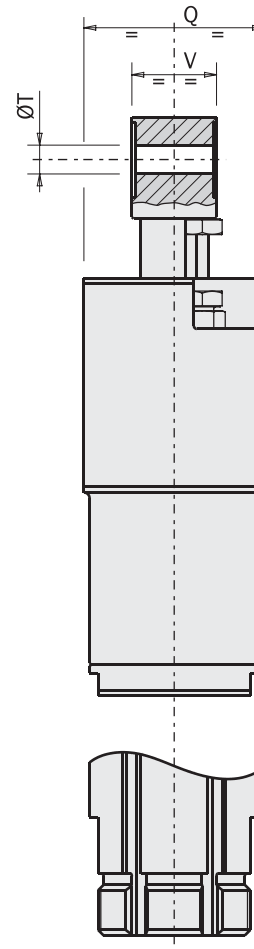
	ZG-16-NO ZG-16S-NO	ZG-16-NC ZG-16S-NC	ZG-25-NO ZG-25S-NO	ZG-25-NC ZG-25S-NC
Fluido Medium	Aria compressa a norma ISO 8573-1:2010 [7:4:4] Compressed air in compliance with ISO 8573-1:2010 [7:4:4]			
Pressione di esercizio Pressure range	4 ÷ 8 bar			
Temperatura di esercizio Temperature range	5° ÷ 60 °C			
Corsa Stroke	10 mm	10 mm	10 mm	10 mm
Alesaggio Piston bore	Ø16 mm	Ø16 mm	Ø25 mm	Ø25 mm
Forza di chiusura a 6 bar Retraction force at 6 bar	65 N	120 N	210 N	275 N
Forza di apertura a 6 bar Extension force at 6 bar	135 N	80 N	300 N	240 N
Forza di chiusura a 0 bar Retraction force at 0 bar	0 N	25 N	0 N	30 N
Forza di apertura a 0 bar Extension force at 0 bar	25 N	0 N	30 N	0 N
Consumo d'aria per ciclo Cycle air consumption	5.6 cm³	5.6 cm³	21 cm³	21 cm³
Peso senza taglierino Weight without air nipper	ZG-... 200 g	180 g 200 g	360 g 425 g	360 g 425 g

Dimensioni (mm)
Dimensions (mm)

- ① Sede per sensori
Sensor groove
- ② Alimentazione aria compressa M5
Air connection M5
- ③ Alimentazione aria compressa M5
Air connection M5
- ④ Corsa regolabile 0÷10 mm
Adjustable stroke 0÷10 mm



	ZG-16...	ZG-16S...	ZG-25...	ZG-25S...
A	29	-	36	-
B	-	63	-	78.5
C	10 max	10 max	10 max	10 max
D	Ø20	Ø20	Ø30	Ø30
E	-	8	-	11
F	17	17	19	19
G	6	6	12.5	12.5
H	20.5	20.5	20.5	20.5
J	-	-	35	35
K	31	31	38	38
L	50	50	65	65
M	-	M17x1	-	M27x1
N	Ø50	Ø50	Ø65	Ø65
P	18	18	18	18
Q	25	25	32	32
R	59.5	59.5	66.5	66.5
S	-	80°	-	60°
T	Ø5.1	Ø5.1	Ø5.1	Ø5.1
V	15	15	15	15
W	17	17	27	27
Y	52	52	59	59



Attuatore a depressione serie VAQ

- Azionato solo con il vuoto.
- I movimenti di estensione e ritrazione sono attuati automaticamente.
- La corsa si autoregola.
- Opzione VAQN per stelo anti rotazione.
- La ventosa **1** è da ordinare a parte.

Vacuum actuator series VAQ

- Operated by vacuum only.
- The extension and the retraction movements are automatically actuated.
- The stroke is self-adjusting.
- Option VAQN for anti-rotation rod.
- The suction cup **1** must be ordered separately.



VAQ1820



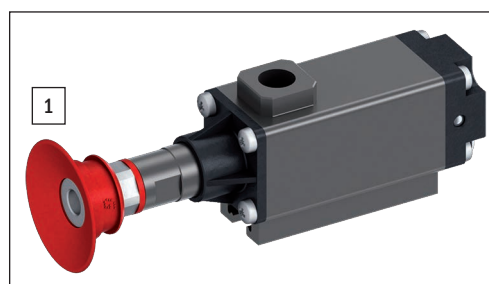
VAQ1840



VAQN1820



VAQN1840



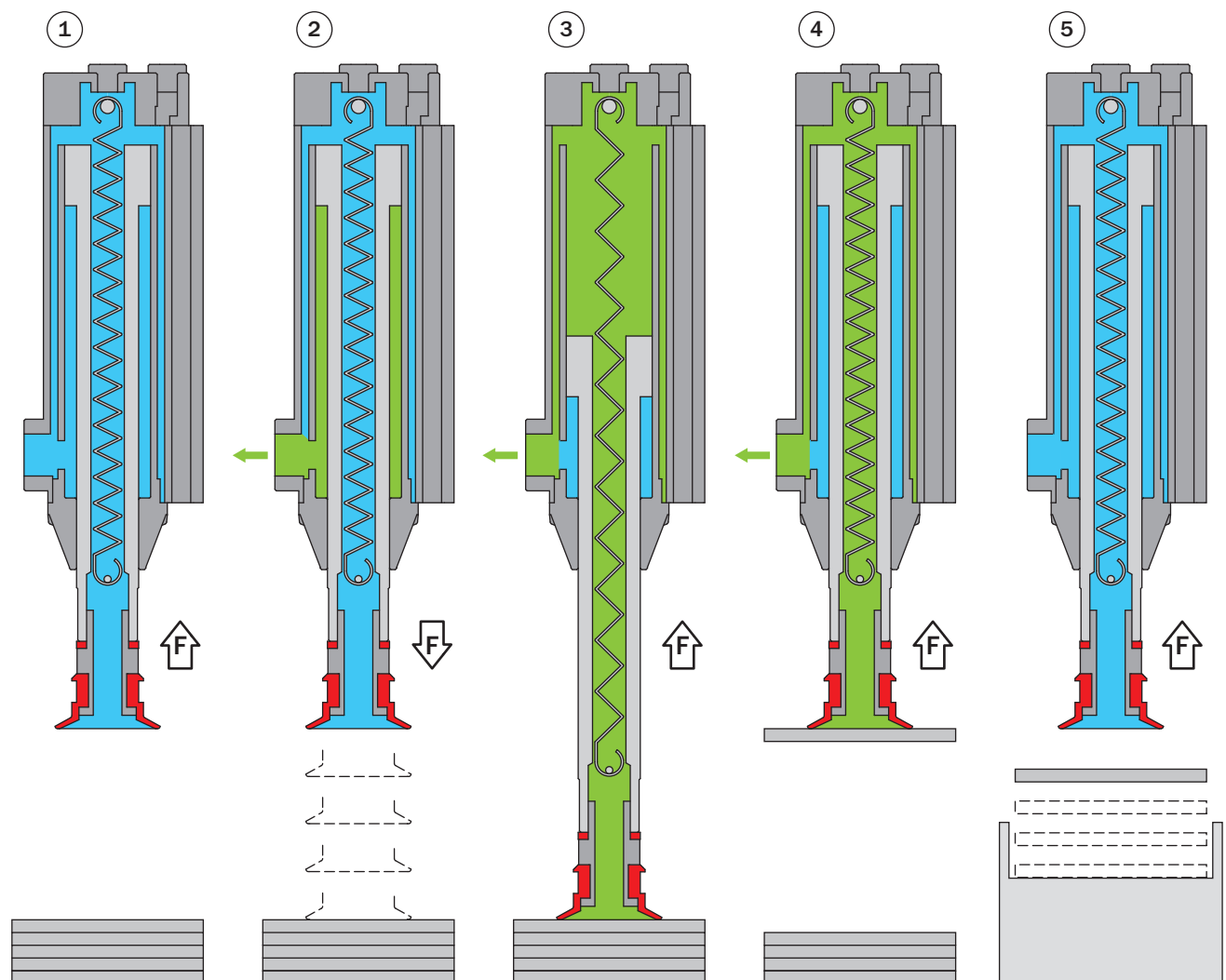
	VAQ1820 9900043	VAQ1840 9900044	VAQN1820 9900045	VAQN1840 9900046
Fluido Medium	Vuoto -0.3 ÷ -1 bar Vacuum -0.3 ÷ -1 bar			
Temperatura di esercizio Temperature range	10 ÷ 40°C.			
Forza di ritrazione a -0.6 bar Retraction force at -0.6 bar	10 N			
Carico massimo raccomandato Maximum recommended load	5 N			
Corsa totale Total stroke	25 mm	55 mm	25 mm	55 mm
Corsa a piena forza Stroke with full force	20 mm	40 mm	20 mm	40 mm
Peso Weight	90 g	125 g	105 g	145 g

Principio di funzionamento

- 1- Senza aspirazione, lo stelo viene ritratto dalla forza della molla.
 - 2- Quando si applica il vuoto, la pressione sotto il pistone è inferiore alla pressione sopra il pistone e lo stelo avanza.
 - 3- Le pressioni si invertono non appena la ventosa contatta un oggetto.
 - 4- Così lo stelo si ritrae immediatamente, sollevando l'oggetto.
 - 5- Quando l'aspirazione cessa, l'oggetto viene rilasciato, ma la molla mantiene lo stelo arretrato.
- (Invece di interrompere l'aspirazione, si può applicare un impulso di pressione attraverso il raccordo sopra il pistone).

Working principle

- 1- Without vacuum, the rod is retracted by the spring force.
 - 2- When vacuum is applied, the pressure under the piston is lower than the pressure over the piston and the rod travels forward.
 - 3- The pressures invert as soon as the vacuum cup makes contact with an object.
 - 4- Thus the rod retracts immediately, lifting the object.
 - 5- When the vacuum is removed, the object is released, but the spring holds the rod retracted.
- (Acurately, instead of removing vacuum, a pressure impulse can be provided by the air port over the piston).

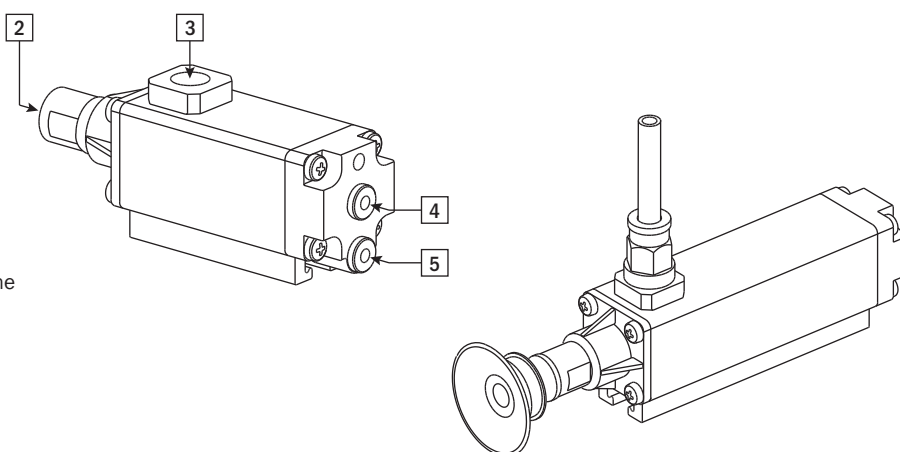


2 G1/8
Filetto femmina per ventosa
Female thread for suction cup

3 G1/8
Connessione per aspirazione
Vacuum supply port

4 M5
Connessione per impulso di pressione
Pressure impulse connection

5 M5
Connessione per sensore di vuoto
Vacuum sensor connection



Accessori

Il dispositivo anti-giro dei VAQN può essere posizionato su 3 lati in base allo spazio disponibile.

Accessories

The anti-rotation device can be positioned on 3 sides, based on the space available.

