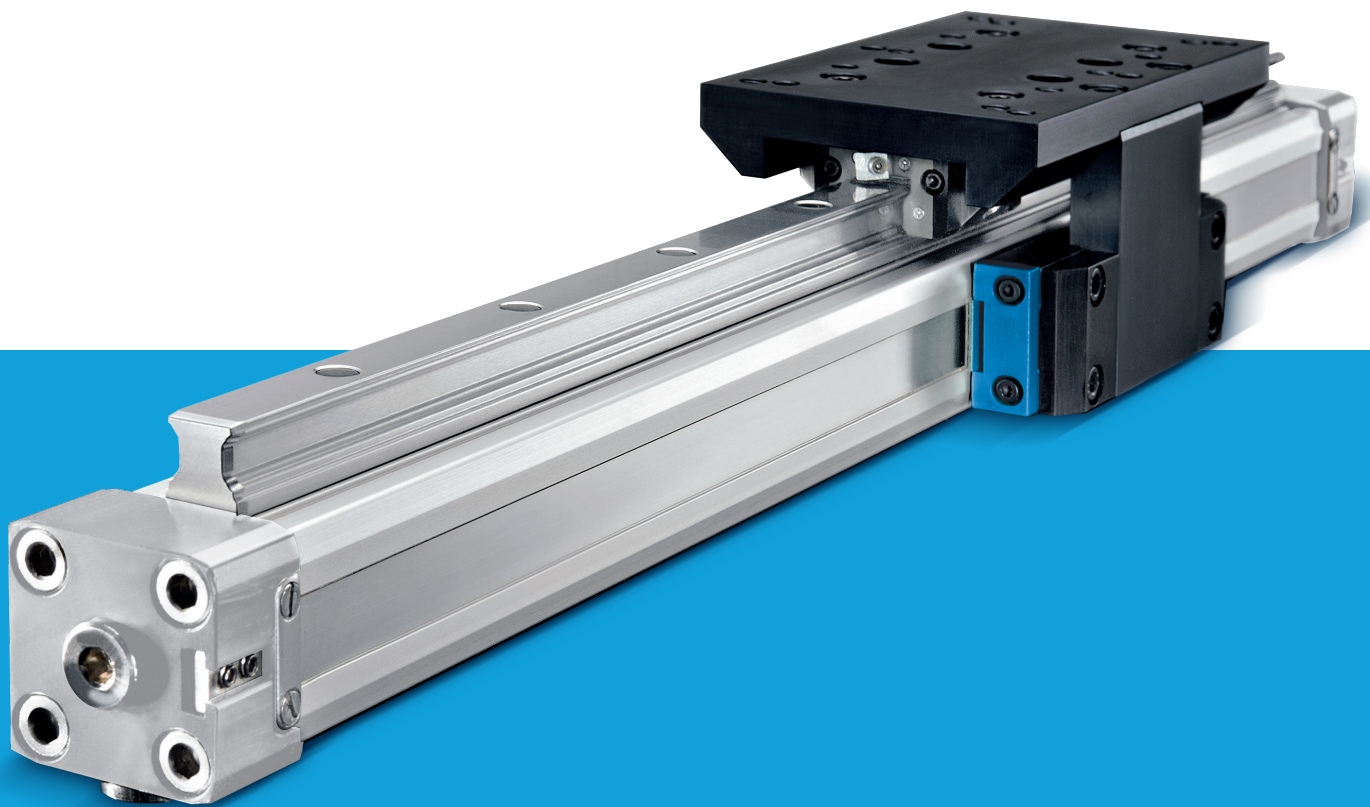


04_04.

SERIE R1E CON GUIDA A SFERE

R1E-SERIES WITH BALL BEARING GUIDE



Questo sistema lineare estremamente robusto della serie R1E 16-63 è stato sviluppato appositamente per l'uso nelle macchine utensili e industrie di robotica. Il movimento forza migliore per questa serie è il nostro collaudato cilindro senza stelo Ø 16-63mm.

This extremely robust linearsystem refers to the series R1E 16-63 has been especially developed for use in the machine tool and robotics industries. The move force for this guide is our proven rodless cylinder Ø 16-63 mm.

BENEFICI | BENEFITS

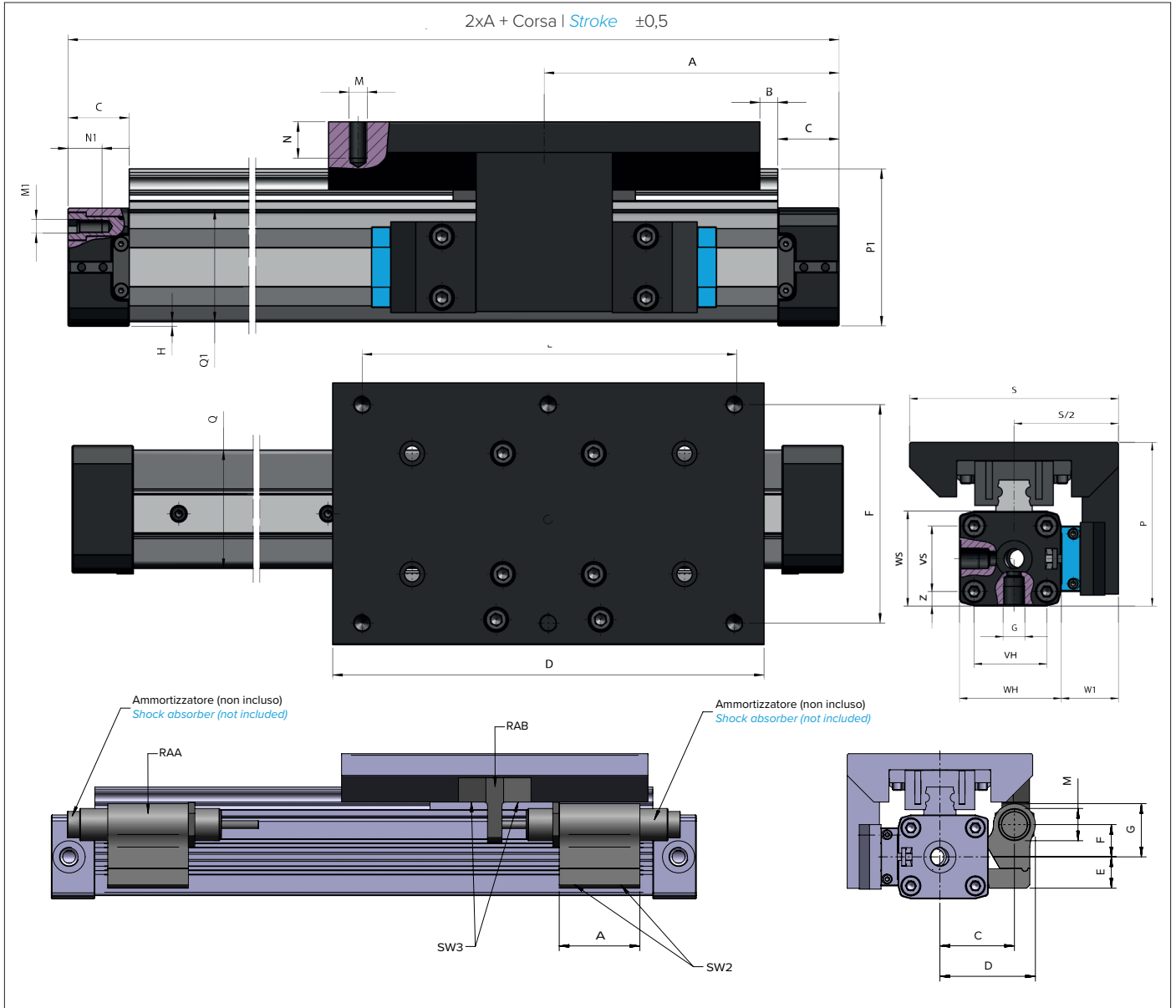
- Elevate caratteristiche di carico
- Elevato carico statico in tutte le direzioni
- Scorrimento silenzioso
- Robusto alloggiamento del cuscinetto
- Facile accesso all'ingrassatore
- Binario di guida temprato e rettificato
- Cuscinetto a basso attrito
- Facile intercambiabilità

- High loading characteristics
- High static loading in all directions
- Quiet and smooth running
- Robust bearing housing
- Easy access to grease nipple
- Hardened and grinded guiderail
- Low friction bearing
- Easy interchangeability

CARATTERISTICHE TECNICHE | TECHNICAL DATA

Design	Cilindro senza stelo, doppio effetto, trasmissione diretta	Design	Rodless cylinder, double acting, direct load transmission
Corse		Strokes	
Ø 16mm	100-3300mm con incrementi di 1mm	ø 16 mm	100-3300mm, in increments of 1mm
Ø 25-63mm	100-5700mm, con incrementi di 1mm (corse più lunghe disponibili su richiesta)	ø 25-63 mm	100-5700mm, in increments of 1mm (longer strokes on request)
Attacco	(M5, G1/8", G1/4", G3/8")	Air inlet	(M5, G1/8", G1/4", G3/8")
Montaggio	Libero	Mounting	Free
Forze e Momenti	Vedi Forze e Momenti	Forces + moments	See Forces and moments
Forze Sopportate	Vedi Diagramma di Deformazione	Support Forces	See Deflection Diagram
Temperature	(da -10°C a +80°C) altre temperature su richiesta	Temperatures	(-10°C to +80°C) other temperatures on request
Materiali		Materials	
Cilindro	Alluminio anodizzato ad alta resistenza	Barrel	High-strength anodized aluminum
Guida	Acciaio/Acciaio inossidabile	Guide	Steel/ Stainless steel
Tappi Terminali	Alluminio anodizzato ad alta resistenza	End caps	High-strength anodized aluminum
Asse del pistone	Alluminio anodizzato ad alta resistenza	Piston axle	High-strength anodized aluminum
Guarnizioni	Materiale sintetico resistente ai lubrificanti (V < 1m/s (NBR) (V > = 1m/s (Viton)	Seals	Oilproof synthetic material (V < 1m/s (NBR)(V > = 1m/s (Viton)
Nastro di tenuta	Acciaio inossidabile	Sealing bands	Stainless steel
Tappi dei pistoni	Materiale sintetico resistente all'usura	Piston caps	Wear proof synthetic material
Parti scorrevoli	Materiale sintetico resistente all'usura	Sliding parts	Wear proof synthetic material
Campo di pressione	0,5-8,0 bar	Pressure range	0,5-8,0 bar
Fluido	Aria compressa, filtrata max. 50µm	Medium	Compressed air, filtered max. 50µm

DIMENSIONI | DIMENSIONS

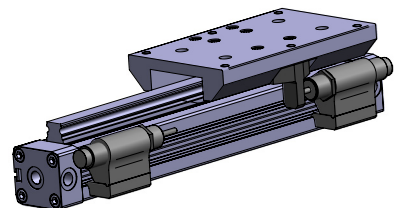


SISTEMA DI GUIDA A CARRO SINGOLO + SISTEMA DI GUIDA A CARRO DOPPIO SINGLE CARRIAGE GUIDE SYSTEM + DOUBLE CARRIAGE GUIDE SYSTEM

Ø	A	B	C	D	E	F	G	H	M	N	M1	N1	P	P1	Q x Q1	S	S2	VH	VS	WH	WS	W1	Z
16	65	5	15	90	70	36	M5	1,0	M4	10	M3	7	48,9	34	24,5 x 25	63	31,5	18	18	27	27	18	4,5
25	100	4,5	23	145	125	64	1/8	2,0	M6	12	M5	10	73	52,3	36 x 36	80	40	27	27	40	40	20	6,5
32	125	3	27	190	164	96	1/4	2,0	M8	13	M6	14	90	69,3	48 x 52	115	57,5	40	36	56	52	30,5	8,0
40	150	25	30	190	164	96	1/4	7,0	M8	18	M6	17	105	84,3	58 x 58	115	57,5	54	54	69	72	24,5	9,0
50	175	34,5	33	215	180	110	1/4	1,0	M8	20	M6	18	130	102,3	77 x 78	130	65	70	70	80	80	28,5	5,0
63	215	57,5	50	215	180	140	3/8	2,0	M8	20	M8	18	155	128,3	102 x 102	170	85	78	78	106	106	31,5	14,0

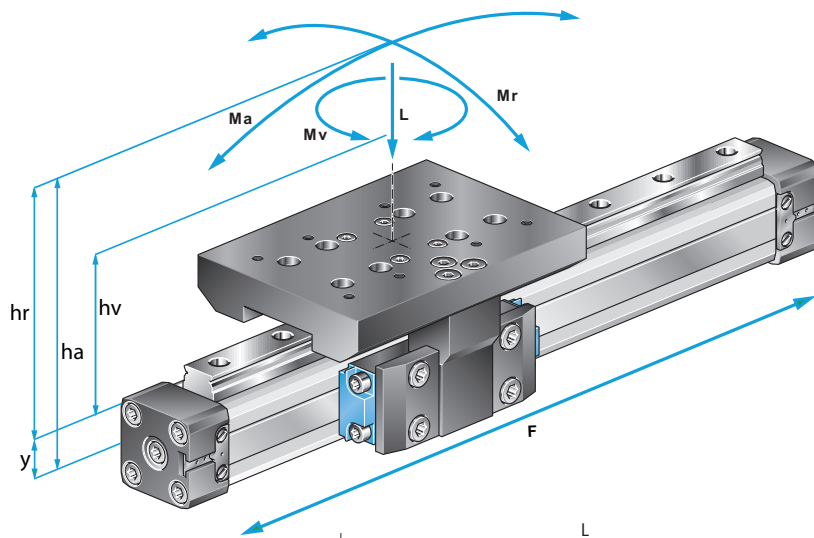
ACCESSORI DI MONTAGGIO PER AMMORTIZZATORE | SHOCK ABSORBER MOUNTING

	A	C	D	E	F	G	M	SW2	SW3
16	28	22,2	29,2	13,2	9	16	M10 x 1	SW3	SW3
25	50	31,4	41,4	11,7	15,5	25,5	M14 x 1,5	SW4	SW4
32	50	46,2	59,2	19,4	20	33	M20 x 1,5	SW4	SW4
40	50	47,2	60,2	19,4	20	33	M20 x 1,5	SW4	SW4
50	70	63	79	11	31	59	M25 x 1,5	-	-
-	-	-	-	-	-	-	-	-	-



FORZE E MOMENTI | FORCES AND MOMENTS

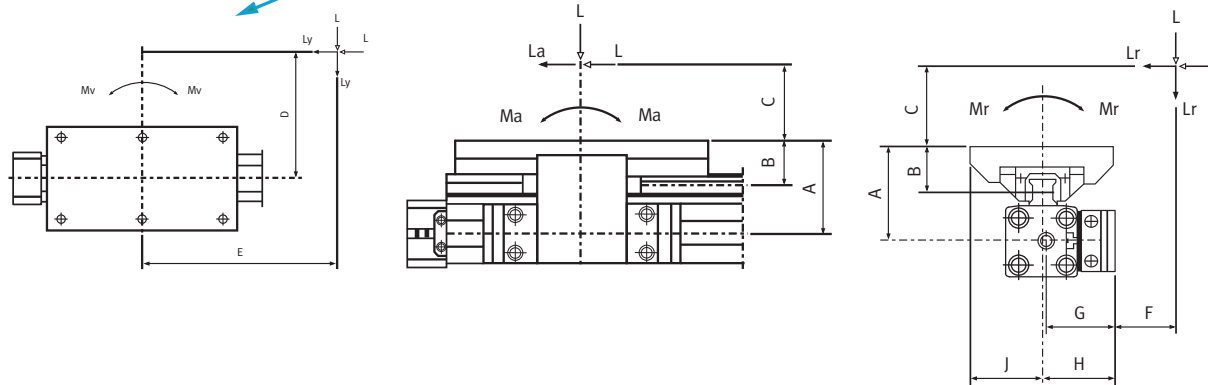
SISTEMA DI GUIDA A CARRO SINGOLO | SINGLE CARRIAGE GUIDE SYSTEM



FORMULE
FORMULAS

$$M_a = F * h_a$$

$$M_r = F * h_r$$

$$M_v = F * h_v$$


Diametro	16	25	32	40	50	63	Diameter	16	25	32	40	50	63
Forza (6bar) (N)	110	250	420	640	1000	1550	Effect force (6 bar) (N)	110	250	420	640	1000	1550
Ammortizzo (mm)	15	21	26	32	32	40	Cushioning (mm)	15	21	26	32	32	40
A (mm)	35,0	53,0	64,0	69	90	102	A (mm)	35,0	53,0	64,0	69	90	102
B (mm)	19,0	26,0	29,7	29,7	40	38,5	B (mm)	19,0	26,0	29,7	29,7	40	38,5
C/D/E/F (mm)	Dimensioni secondo progettazione						C/D/E/F (mm)	Dimensions according to the design					
G (mm)	30,3	38,0	55,0	54,5	65	75	G (mm)	30,3	38,0	55,0	54,5	65	75
H (mm)	31,5	40,0	57,5	57,5	68,5	85	H (mm)	31,5	40,0	57,5	57,5	68,5	85
J (mm)	31,5	40,0	57,5	57,5	65	85	J (mm)	31,5	40,0	57,5	57,5	65	85
Forza massima L (N)	500	1500	3000	3000	4000	4000	Load forces max L (N)	500	1500	3000	3000	4000	4000
Forze del momento La, Lr, Lv (N)	500	1500	3000	3000	4000	4000	Moment forces max La, Lr, Lv (N)	500	1500	3000	3000	4000	4000
Momenti assiali massimi Ma (Nm)	8	40	58	58	200	200	Axial moments max Ma (Nm)	8	40	58	58	200	200
Momenti radiali massimi Mr (Nm)	4	15	23	23	70	70	Radial moments max Mr (Nm)	4	15	23	23	70	70
Torsione massima Mv (Nm)	8	40	58	58	200	200	Torsion moments max Mv (Nm)	8	40	58	58	200	200

- 1. I momenti sopra menzionati (Ma max, Mr max, Mv max) sono relativi al centro del binario di guida. La forza di carico (L) è la sintesi di tutte le singole forze relative alla massa. Il centro della massa può essere posizionato all'interno o all'esterno della superficie del carrello.
- 2. Normalmente il carrello subirebbe un carico dinamico, che deve essere individuato attraverso il calcolo della forza del pistone necessaria (F) e della capacità del sistema con guida a sfere. La formula è la seguente:

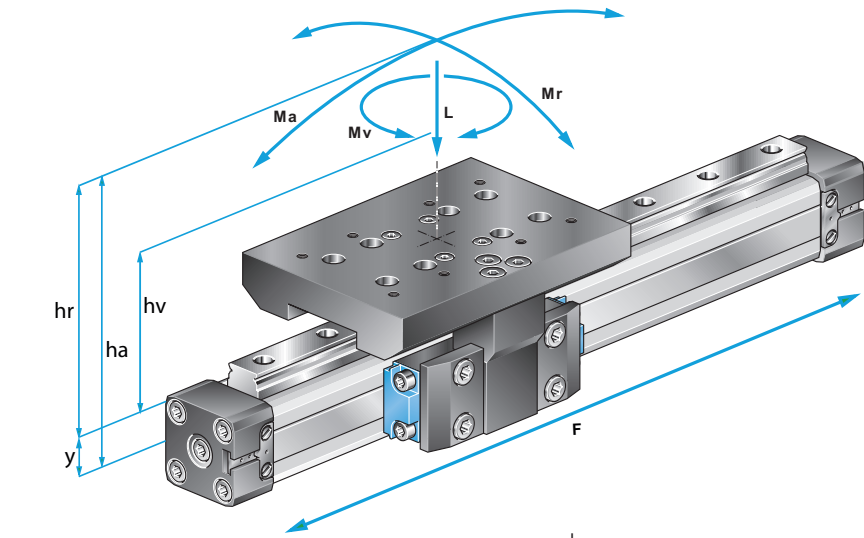
$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

- 1. The above mentioned moments (Ma max, Mr max, Mv max) are related to the guide rail centre. The load force (L) is the summary of all single forces related to the common centre of the mass. The centre of the mass can be placed inside or outside the surface area of the carriage.
- 2. Normally the carriage would experience a dynamic load, which has to be considered with the calculation of needed piston force (F) and capacity of the ballguided system. Use the following calculation formula:

$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

FORZE E MOMENTI | FORCES AND MOMENTS

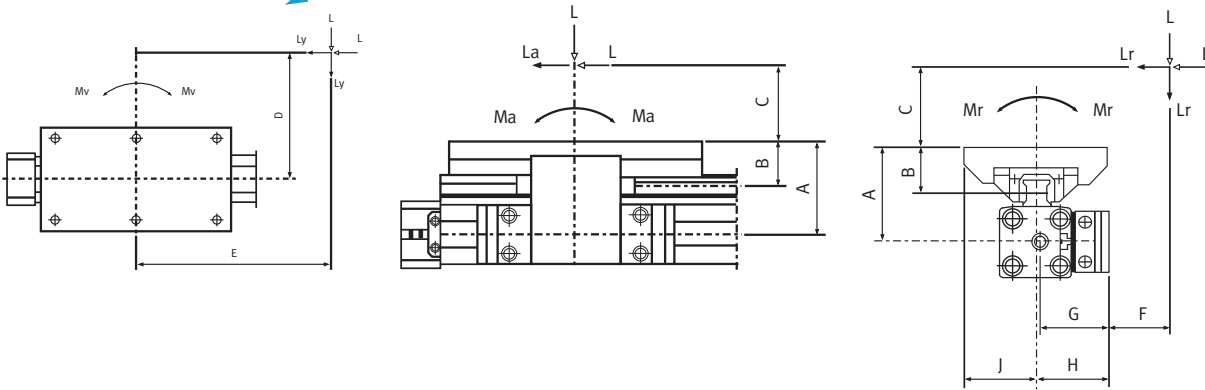
SISTEMA DI GUIDA A CARRO DOPPIO | DOUBLE CARRIAGE GUIDE SYSTEM



FORMULE
FORMULAS

$$M_a = F * h_a$$

$$M_r = F * h_r$$

$$M_v = F * h_v$$


Diametro	16	25	32	40	50	63
Forza (6bar) (N)	110	250	420	640	1000	1550
Ammortizzo (mm)	15	21	26	32	32	40
A (mm)	35,0	53,0	64,0	69	90	102
B (mm)	19,0	26,0	29,7	29,7	40	38,5
C/D/E/F (mm)	Dimensioni secondo progettazione					
G (mm)	30,3	38,0	55,0	54,5	65	75
H (mm)	31,5	40,0	57,5	57,5	68,5	85
J (mm)	31,5	40,0	57,5	57,5	65	85
Forza massima L (N)	500	1500	3000	3000	4000	4000
Forze del momento La, Lr, Lv (N)	500	1500	3000	3000	4000	4000
Momenti assiali massimi Ma (Nm)	15	85	115	115	400	400
Momenti radiali massimi Mr (Nm)	8	35	45	45	140	140
Torsione massima Mv (Nm)	15	85	115	115	400	400

Diameter	16	25	32	40	50	63
Effect force (6 bar) (N)	110	250	420	640	1000	1550
Cushioning (mm)	15	21	26	32	32	40
A (mm)	35,0	53,0	64,0	69	90	102
B (mm)	19,0	26,0	29,7	29,7	40	38,5
C/D/E/F (mm)	Dimensions according to the design					
G (mm)	30,3	38,0	55,0	54,5	65	75
H (mm)	31,5	40,0	57,5	57,5	68,5	85
J (mm)	31,5	40,0	57,5	57,5	65	85
Load forces max L (N)	500	1500	3000	3000	4000	4000
Moment forces max La, Lr, Lv (N)	500	1500	3000	3000	4000	4000
Axial moments max Ma (Nm)	15	85	115	115	400	400
Radial moments max Mr (Nm)	8	35	45	45	140	140
Torsion moments max Mv (Nm)	15	85	115	115	400	400

- 1. I momenti sopra menzionati (Ma max, Mr max, Mv max) sono relativi al centro del binario di guida. La forza di carico (L) è la sintesi di tutte le singole forze relative alla massa. Il centro della massa può essere posizionato all'interno o all'esterno della superficie del carrello.
- 2. Normalmente il carrello subirebbe un carico dinamico, che deve essere individuato attraverso il calcolo della forza del pistone necessaria (F) e della capacità del sistema con guida a sfere. La formula è la seguente:

$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

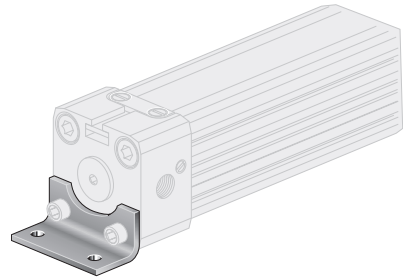
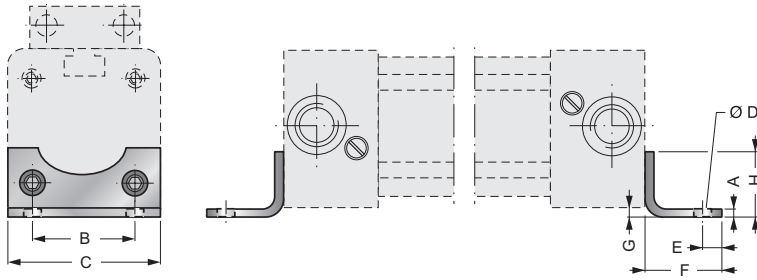
- 1. The above mentioned moments (Ma max, Mr max, Mv max) are related to the guide rail centre. The load force (L) is the summary of all single forces related to the common centre of the mass. The centre of the mass can be placed inside or outside the surface area of the carriage.
- 2. Normally the carriage would experience a dynamic load, which has to be considered within calculation of needed piston force (F) and capacity of the ballguided system. Use the following calculation formula:

$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

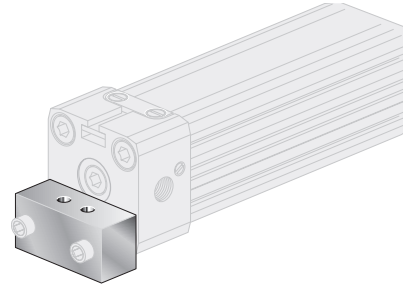
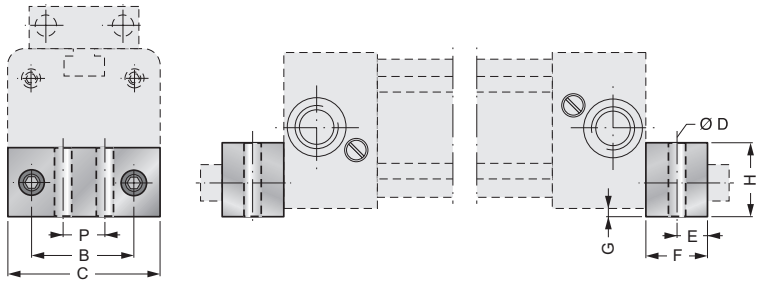
ACCESSORI | MOUNTINGS

PIEDINO | END COVER BRACKET (FOOT)

RPA16S - RPA25S*

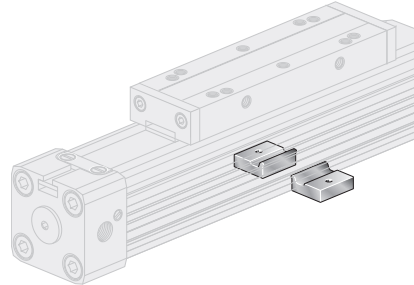
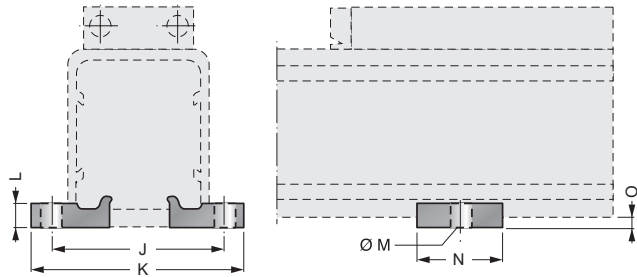


RPA32A - RPA40A - RPA50A - RPA63A*



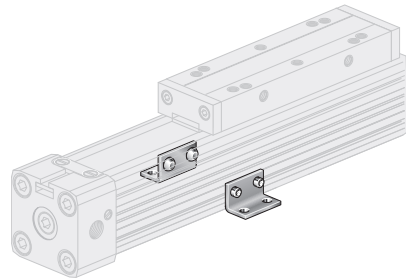
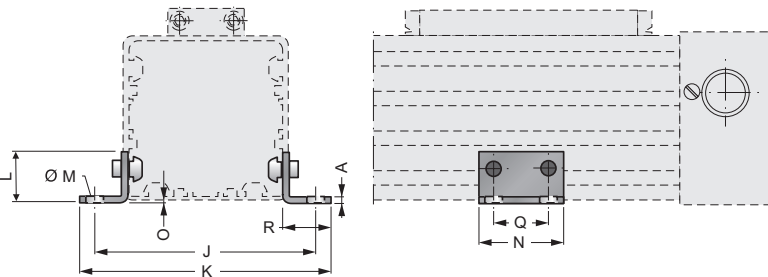
SUPPORTO CENTRALE | MID SECTION SUPPORT

RFC16A - RFC25A*



Ø32 e Ø40 versioni disponibili su richiesta | *other versions available on request*

RFC50A - RFC63A*



Ø	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
16	1,5	18	26	3,6	4,0	14	1,5	12,5	41,5	53,5	5	Ø5,5	20	3	-	-	-
25	2,5	27	40	5,5	6,0	22	2	18	48,5	60	6	Ø5,5	20	4	-	-	-
32	5,0	36	51	6,5	8,0	24	4	20	82	91	30	Ø4,5	45	6	20	30	20
40	5,0	54	71	9	11,5	24	2	20	90	99	25	Ø4,5	45	8,5	30	30	20
50	5,0	70	80	9	12,5	25	1,0	25	123	148	35	6,5	45	1	45	30	35
63	5,0	78	105	11	15	30	2,0	40	147	172	35	6,5	45	3,5	48	30	35

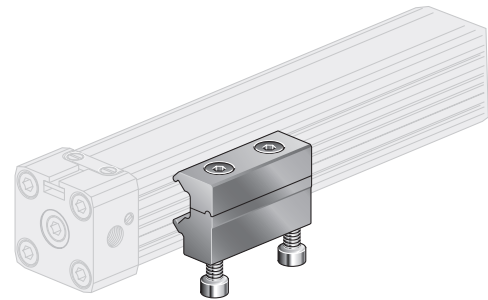
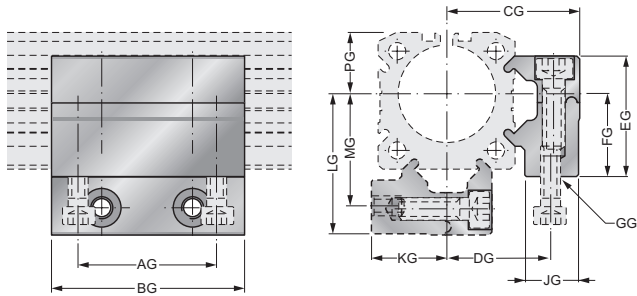
*)Applicazione | Application No.

RPA16S = Ø16	RFC16A = Ø16
RPA25S = Ø25	RFC25A = Ø25
RPA32A = Ø32	RFC32A = Ø32
RPA40A = Ø40	RFC40A = Ø40
RPA50A = Ø50	RFC50A = Ø50
RPA63A = Ø63	RFC63A = Ø63

ACCESSORI | MOUNTINGS

SUPPORTO CENTRALE, TIPO G | *MOBILE MID SECTION SUPPORT, G TYPE*

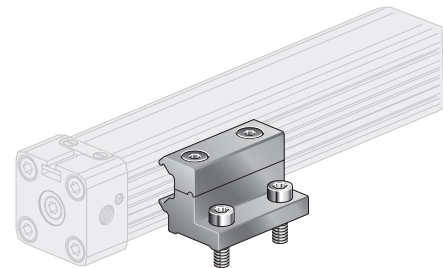
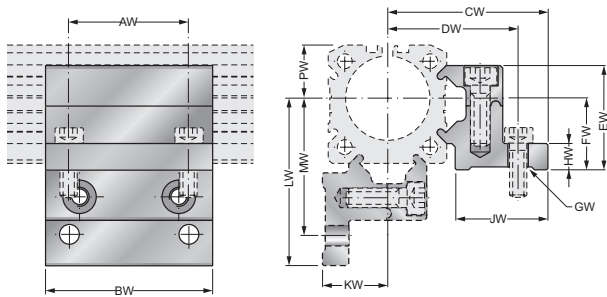
RFG16A - RFG25A - RFG32A



Ø	AG	BG	CG	DG	EG	FG	GG	JG	KG	LG	MG	PG
16	18,0	30,0	27,5	18,4	21,0	15,0	M4	11,5	13,9	29,0	19,7	10,8
25	36,0	50,0	34,5	27,0	31,3	22,0	M5	14,0	20,0	36,5	29,0	16,0
32	36,0	50,0	41,8	34,2	39,0	30,0	M6	14,0	27,6	47,0	39,5	21,5

SUPPORTO CENTRALE, TIPO W | *MOBILE MID SECTION SUPPORT, W TYPE*

RFW16A - RFW25A - RFW32A



Ø	AW	BW	CW	DW	EW	FW	GW	HW	JW	KW	LW	MW	PW
16	18,0	30,0	37,0	32,5	21,0	15,0	ø4,5	6,0	22,4	13,9	38,0	32,9	10,8
25	36,0	50,0	47,5	40,0	31,3	22,0	ø5,5	10,0	26,0	20,0	49,5	42,0	16,0
32	36,0	50,0	56,0	47,4	39,0	30,0	ø6,5	10,0	28,5	27,6	61,0	52,5	21,5

CILINDRO | CYLINDER

••••• Dettagli per la definizione della corsa (0100-5700 mm)

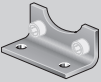
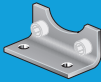


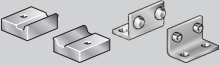
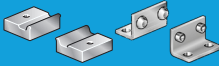
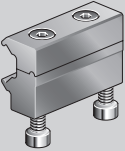
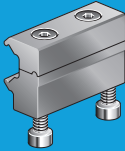
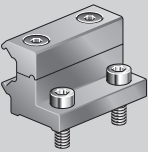
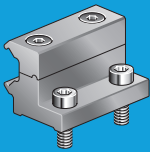
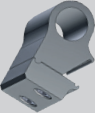
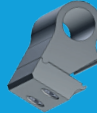
••••• *Ident-figures for stroke definition (0100-5700 mm)*

Ø 16-63MM

Tipo	Ø [mm]	Varianti	Types	Ø [mm]	Variants
R1EØ/••••	16	ST Guida a carro singolo Cilindro senza stelo R1B Unità lineare	R1EØ/••••	16	ST <i>Single carriage system</i> <i>Rodless cylinder R1B</i> <i>Linear unit</i>
	25	DS Guida a carro doppio Cilindro senza stelo R1B Unità lineare		25	DS <i>Double carriage system</i> <i>Rodless cylinder R1B</i> <i>Linear unit</i>
	32			32	
	40			40	
	50			50	
	63			63	

Versione speciale: guarnizioni in Viton e acciaio inossidabile su richiesta
Special version: Viton seals and stainless steel on request

ACCESSORI PER CILINDRI | CYLINDER MOUNTINGS

TIPO	Ø [mm]	DESCRIZIONE	TYPES	Ø [mm]	DESCRIPTION
Accessori di fissaggio			Mounting accessories		
Piedino			Foot		
RPAØS	16 25	Set di montaggio RPAØS: 2 staffe 4 viti 10.9 zincate placcate acc. DIN 912	RPAØS	16 25	Connection set RPAØS: 2 brackets 4 zinc-plated 10.9 screws acc. DIN 912
					
RPAØA	32 40 50 63	Set di montaggio RPAØA: 2 staffe 4 viti 10.9 zincate placcate acc. DIN 912	RPAØA	32 40 50 63	Connection set RPAØA: 2 brackets 4 zinc-plated 10.9 screws acc. DIN 912
					
Supporto centrale			Mid-section support		
RFCØA	16 25 50 63	Set di montaggio RFCØA: Staffe del corpo Alluminio anodizzato	RFCØA	16 25 50 63	Connection Set RFCØA: body brackets anodised aluminium
					
Supporto centrale tipo G			Mobile mid-section support G type		
RFGØA	16 25 32	Colore: naturale Materiale: AL	RFGØA	16 25 32	Colour: natur Material: AL
					
Supporto centrale tipo W			Mobile mid-section support W type		
RFWØA	16 25 32	Colore: naturale Materiale: AL	RFWØA	16 25 32	Colour: natur Material: AL
					
Accessori per ammortizzatore			Shock Absorber Mountings		
Fissaggio ammortizzatore			Shock Absorber Mounting		
RAAØZ	16 25 32 40 50	Colore: naturale Materiale: Zinco pressofuso	RAAØZ	16 25 32 40 50	Colour: natur Material: Zinc die-casting
					
Bloccaggio ammortizzatore			Shock Absorber Stop		
RABØZ	16 25 32 40 50	Colore: naturale Materiale: Zinco pressofuso	RABØZ	16 25 32 40 50	Colour: natur Material: Zinc die-casting
