

04_01.

SERIE R1A CARRELLO STRETTO *R1A-SERIES* NARROW CARRIER



Il corpo del cilindro è scanalato per tutta la sua lunghezza. La forza si trasmette attraverso il carrello di carico, che è fissato all'asse del pistone. La scanalatura dell'asse del pistone collega la sua parte interna con quella esterna.

Pertanto la trasmissione di potenza avviene in questo modo:

Aria compressa > Pistone > Asse del pistone (parte interna) > asse del pistone (parte esterna) > Carrello di carico > Carico.

La tenuta del cilindro è garantita da una fascia interna in acciaio smerigliato. Tale fascia è mantenuta in posizione grazie alle strisce magnetiche posizionate su entrambi i lati del corpo del cilindro. È presente, inoltre, una fascia esterna in acciaio il cui scopo è proteggere l'interno del cilindro dalla polvere.

Durante il movimento del pistone, entrambe le fasce d'acciaio vengono sollevate e guidate attraverso l'asse del pistone in un canale separato. Davanti e dietro l'asse del pistone, entrambe le fasce coprono nuovamente la scanalatura in modo permanente.

The entire tube is slotted throughout its full length. The force is transmitted through the load carrier, which is attached to the piston axle. The design of the piston axle is that way that the inner part of the piston axle is connected through the slot with the outer part of it.

Therefore the force transmission follows this order:

Air pressure > Piston area > piston axle (inner part) > piston axle (outer part) > load carrier > load.

The sealing of the cylinder slot is guaranteed by a most precisely grinded inner steel band. The inner band is kept in position due to magnet stripes which are placed on both sides of the slot. In addition there is an outer steel band covering the slot in order to keep dust out of inner space of the cylinder.

During the piston's movement as well as during stillstand of it both steelbands are lifted right after the piston seal and led through the piston axle by means of a separate own guiding channel. Before and behind the piston axle both bands are covering the slot permanently again.

BENEFICI | BENEFITS

- Forze uguali su entrambe le direzioni
- Trasmissione diretta di potenza, protetta contro la torsione
- Pistone con o senza magneti
- Risparmio di spazio del 50%
- Corse fino a 5700mm
- Tappi terminali con 3 prese d'aria e ammortizzo regolabile
- Accelerazione rapida ed elevata velocità del pistone
- Molto flessibile e di facile utilizzo
- Alimentazione ad aria non filtrata o filtrata e lubrificata **)
- Sistema di ammortizzo in 3 stadi per la protezione del sistema di ammortizzazione e di carico *)

*) Versione speciale su richiesta

**) Attenzione: prima di effettuare il passaggio dall'alimentazione ad aria filtrata a quella non filtrata, il cilindro deve essere smontato, pulito e nuovamente lubrificato prima di essere rimontato

- Equal forces on both ends of the piston
- Force connection direct, torque safe
- Piston with or without magnets
- 50% space-savings
- Long strokes up to 5700mm
- End caps with 3 air connections and adjustable cushioning
- Fast acceleration and high piston working velocity
- Very flexible in the user-friendly design
- Non/lubricated air supply **)
- 3 stage dampening system to protect the cushioning- and load-system *)

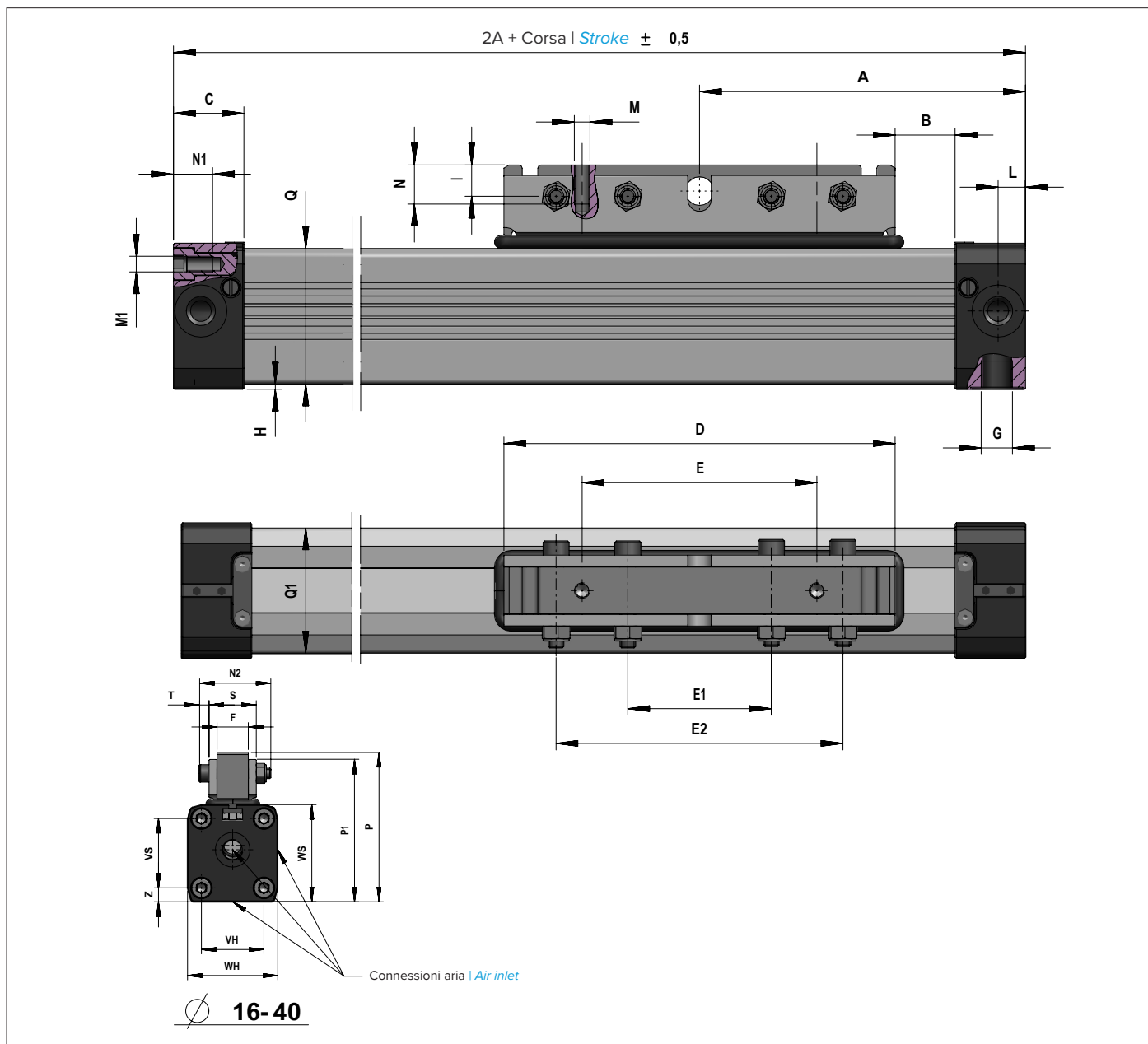
*) Special Version on request

**) Attention: before changing operation from lubricated to non-lubricated air the cylinder has to be disassembled, cleaned, newly greased and reassembled

CARATTERISTICHE TECNICHE | TECHNICAL DATA

| | | | |
|---------------------------|--|-------------------------|--|
| Design | Cilindro senza stelo, doppio effetto, trasmissione diretta | Design | Rodless cylinder, double acting, direct force transmission |
| Corse | | Strokes | |
| ø 16 mm | 100-4400mm con incrementi di 1mm | ø 16 mm | 100-4400mm, in increments of 1mm |
| ø 25-40 mm | 100-5700mm, con incrementi di 1mm (corse più lunghe disponibili su richiesta) | ø 25-40 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 |
| 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



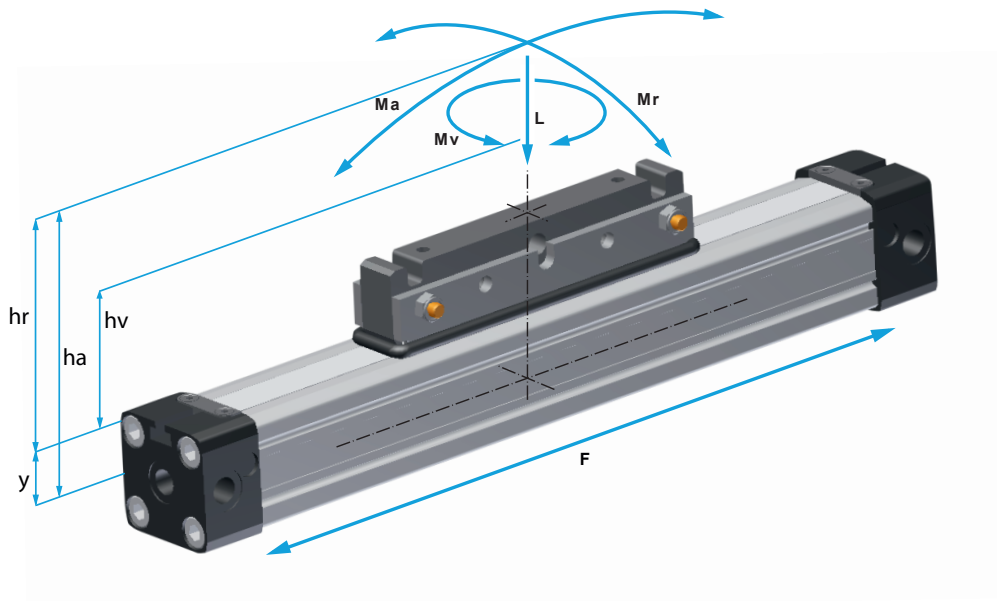
| Ø | A | B | C | D | E | E1 | F | G | I | L | M | M1 | N1 | N2 | P | P1 |
|-----|-----|----|----|-----|-----|-----|----|------|----|------|----|----|----|----|------|------|
| 16 | 65 | 12 | 15 | 76 | 48 | 32 | 10 | M5 | 6 | 5,5 | M4 | M3 | 7 | 27 | 43,5 | 42,3 |
| 16L | 90 | 37 | 15 | 76 | 48 | 32 | 10 | M5 | 6 | 5,5 | M4 | M3 | 7 | 27 | 43,5 | 42,3 |
| 25 | 100 | 17 | 23 | 120 | 80 | 50 | 15 | 1/8" | 13 | 8,5 | M5 | M5 | 10 | 35 | 66 | 58 |
| 25L | 150 | 67 | 23 | 120 | 80 | 50 | 15 | 1/8" | 13 | 8,5 | M5 | M5 | 10 | 35 | 66 | 58 |
| 32 | 125 | 23 | 27 | 150 | 90 | 55 | 18 | 1/4" | 12 | 10,5 | M6 | M6 | 14 | 41 | 86 | 82 |
| 32L | 200 | 23 | 27 | 300 | 180 | 120 | 18 | 1/4" | 12 | 10,5 | M6 | M6 | 14 | 41 | 86 | 82 |
| 40 | 150 | 45 | 30 | 150 | 90 | 55 | 18 | 1/4" | 12 | 15 | M6 | M6 | 17 | 41 | 97 | 93 |
| 40L | 250 | 70 | 30 | 300 | 180 | 120 | 18 | 1/4" | 12 | 15 | M6 | M6 | 17 | 41 | 97 | 93 |

| Ø | QxQ1 | E2 | H | S | T | VH | WH | VS | WS | Z |
|-----|---------|-----|-----|----|---|----|----|----|----|-----|
| 16 | 24,5x25 | 64 | 1,0 | 18 | 4 | 18 | 27 | 18 | 27 | 4,5 |
| 16L | 24,5x25 | 64 | 1,0 | 18 | 4 | 18 | 27 | 18 | 27 | 4,5 |
| 25 | 36x36 | 100 | 2 | 23 | 5 | 27 | 40 | 27 | 40 | 6,5 |
| 25L | 36x36 | 100 | 2 | 23 | 5 | 27 | 40 | 27 | 40 | 6,5 |
| 32 | 52x51 | 110 | 2 | 27 | 6 | 36 | 52 | 40 | 56 | 8 |
| 32L | 52x51 | 240 | 2 | 27 | 6 | 36 | 52 | 40 | 56 | 8 |
| 40 | 58,5x59 | 110 | 7 | 28 | 6 | 54 | 72 | 54 | 69 | 9 |
| 40L | 58,5x59 | 240 | 7 | 28 | 6 | 54 | 72 | 54 | 69 | 9 |

■ 16L – 40L: Cilindro con pistone lungo adatto a carichi pesanti e momenti torcenti

■ 16L – 40L: Cylinder with longpiston for heavy bending and torque moments

FORZE E MOMENTI | FORCES AND MOMENTS



FORMULE FORMULAS

$$M_a = F \cdot h_a$$

$$M_r = F \cdot h_r$$

$$M_v = F \cdot h_v$$

| Cilindro | | Forza (N) | Ammortizzo | Massimo carico consentito (N) | Flessione massima consentita (Nm) | | Torsione massima consentita (Nm) |
|----------|----|-----------|------------|-------------------------------|-----------------------------------|------------|----------------------------------|
| Ø | Y | a 6 bar | (mm) | R1A | R1A | | R1A |
| | | F | S | L | Ma assiale | Mr radiale | Mv torcente |
| 16 | 9 | 110 | 15 | 120 | 4 | 0,3 | 0,5 |
| 25 | 14 | 250 | 21 | 300 | 15 | 1,0 | 3,0 |
| 32 | 18 | 420 | 26 | 450 | 30 | 2,0 | 4,5 |
| 40 | 22 | 640 | 32 | 750 | 60 | 4,0 | 8,0 |

| Cylinder | | Effect Force (N) | Cushioning | Max. allowed load (N) | Max. allowed bending flexibility | | Max. allowed torque (Nm) |
|----------|----|------------------|------------|-----------------------|----------------------------------|-----------|--------------------------|
| Ø | Y | at 6 bar | (mm) | R1A | R1A | | R1A |
| | | F | S | L | Ma axial | Mr radial | Mv central |
| 16 | 9 | 110 | 15 | 120 | 4 | 0,3 | 0,3 |
| 25 | 14 | 250 | 21 | 300 | 15 | 1,0 | 3,0 |
| 32 | 18 | 420 | 26 | 450 | 30 | 2,0 | 4,5 |
| 40 | 22 | 640 | 32 | 750 | 60 | 4,0 | 8,0 |

Le cifre indicate si riferiscono a valori massimi basati su urti leggeri e velocità di $v \leq 0,2\text{m/sec}$ [serie R1A] - $v \leq 0,45\text{m/sec}$ [serie R1B].
Pressione massima consentita: 6 bar.
Si consiglia di evitare qualsiasi superamento, anche minimo e per brevi istanti, dei valori indicati.

Attenzione: Le forze risultanti potrebbero superare i valori indicati. In caso di dubbio o situazioni difficilmente definibili, i valori massimi devono essere ridotti del 10-20%.

Non esitate a contattare il nostro Servizio Commerciale

*The figures above are max. values based on light shock free duty and speed of $v \leq 0,2\text{m/sec}$ [R1A-series] - $v \leq 0,45\text{m/sec}$ [R1B-series]. Max. pressure 6 bar.
An exceeding of the values in dynamic operations, even for short periods of time, has to be avoided.*

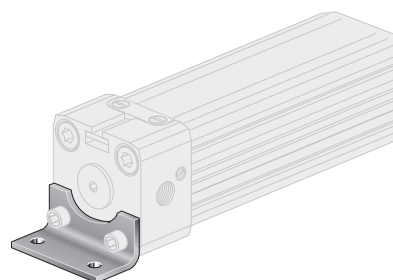
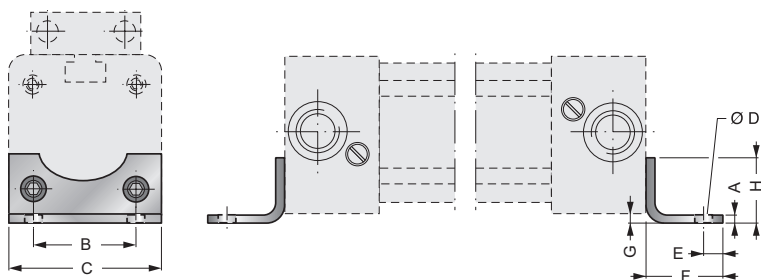
Attention: Resulting forces could lead to extreme exceedings of the reported values. In case of undefinable situations the above max. values have to be reduced by 10-20%.

Please do not hesitate to contact our Sales Representative for further information

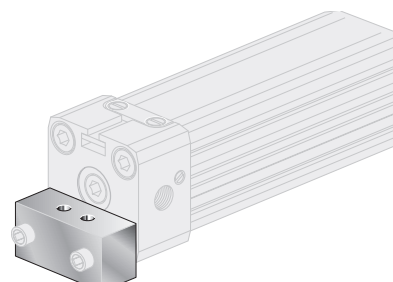
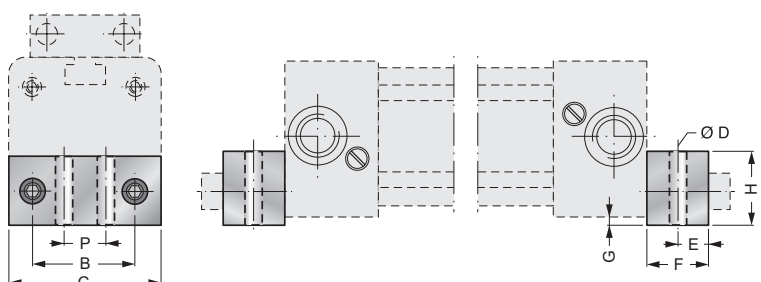
ACCESSORI | MOUNTINGS

PIEDINO | END COVER BRACKET (FOOT)

RPA16S - RPA25S*

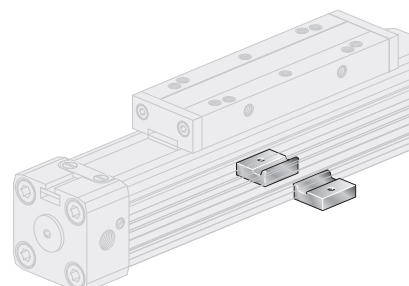
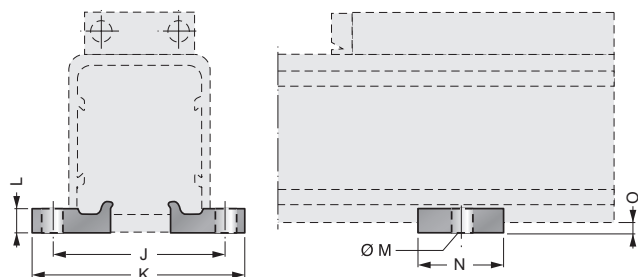


RPA32A - RPA40A*

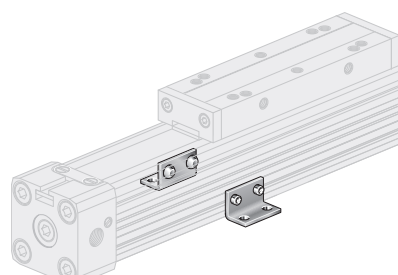
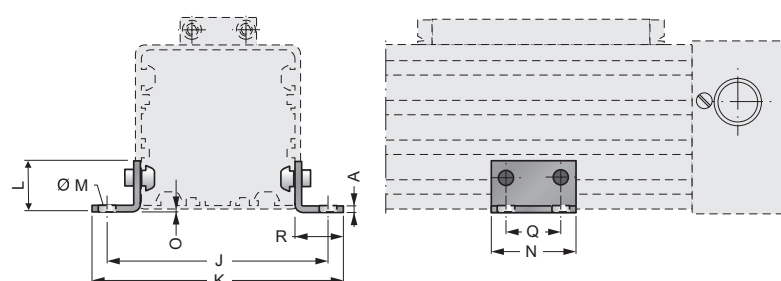


SUPPORTO CENTRALE | MID SECTION SUPPORT

RFC16A - RFC25A*



RFC32A - RFC40A*



| 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 |

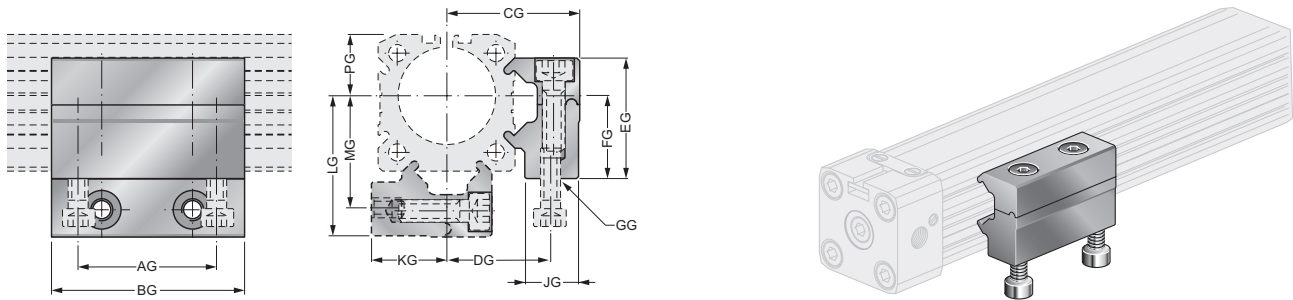
*)Applicazione | Application No.

| | |
|--------------|--------------|
| RPA16S = Ø16 | RFC16A = Ø16 |
| RPA25S = Ø25 | RFC32A = Ø32 |
| RPA32A = Ø32 | RFC25A = Ø25 |
| RPA40A = Ø40 | RFC40A = Ø40 |

ACCESSORI | MOUNTINGS

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

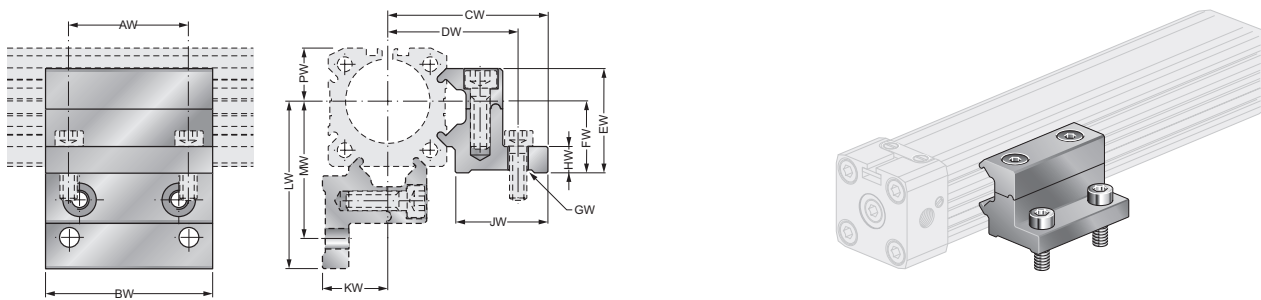
RFG16A - RFG25A



| 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 |

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

RFW16A - RFW25A

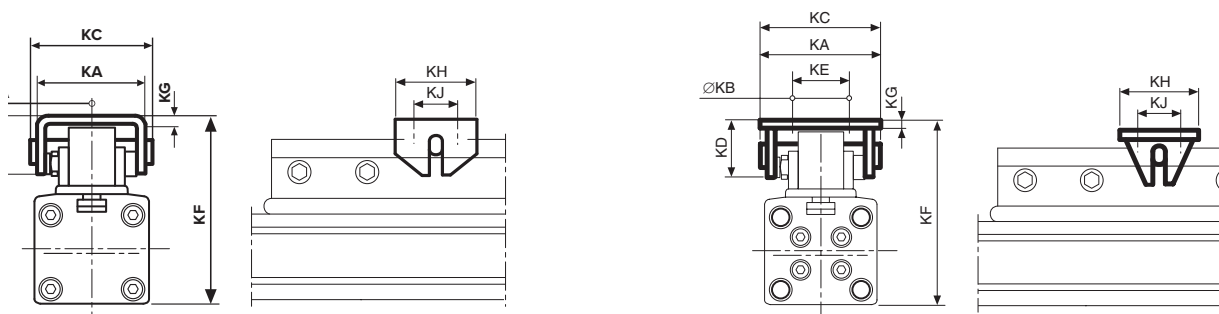


| Ø | AW | BW | CW | DW | EW | FW | GW | HW | JW | KW | LW | MW | PW |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 16 | 18,0 | 30,0 | 37,0 | 32,5 | 21,0 | 15,0 | ø4,5 | 6,0 | 22,4 | 13,9 | 38,0 | 32,9 | 10,8 |
| 25 | 36,0 | 50,0 | 47,5 | 40,0 |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

ACCESSORI | MOUNTINGS

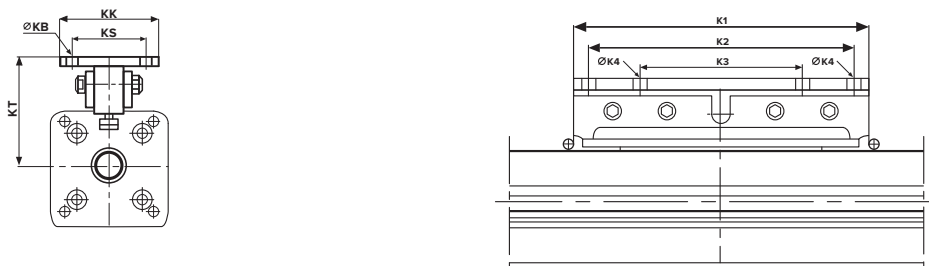
SUPPORTO ARTICOLATO | ARTICULATED CARRIER

RAM16A - RAM25A - RAM32A - RAM40A



ACCOPPIAMENTO A T | T-LOAD

RTC32A - RTC40A (versione corta | short version) RTL32A - RTL40A (versione lunga | long version)



| Ø | KA | KB | KC | KD | KE | KF* | KG | KH | KJ | KK | KS | KT | K1 | K2 | K3 | K4 |
|-----|----|-----|----|----|----|---------|----|----|----|----|----|------|-----|-----|----|----|
| 16 | 25 | 4,5 | 28 | 12 | - | 47-50 | 2 | 20 | 10 | - | - | - | - | - | - | - |
| 25 | 37 | 5,5 | 42 | 20 | - | 72-75 | 3 | 30 | 16 | - | - | - | - | - | - | - |
| 32 | 70 | 7,0 | 70 | 38 | 55 | 91-100 | 5 | 90 | 75 | 60 | 45 | 58,5 | 150 | - | 80 | 7 |
| 32L | - | 7,0 | - | - | - | - | - | - | - | 60 | 45 | 58,5 | 300 | 160 | 80 | 7 |
| 40 | 70 | 7,0 | 70 | 38 | 55 | 111-120 | 5 | 90 | 75 | 60 | 45 | 63 | 150 | - | 80 | 7 |
| 40L | - | 7,0 | - | - | - | - | - | - | - | 60 | 45 | 63 | 300 | 160 | 80 | 7 |

■ * Le dimensioni KF sono variabili in relazione alla lunghezza della scanalatura del carrello di carico.

■ * KF-Dimensions are variable according to the the length of the slot of the load carrier.

CILINDRO | *CYLINDER*

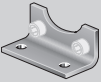
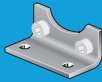


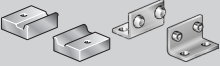
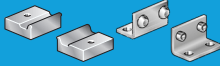
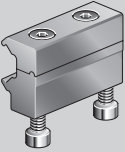
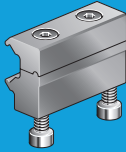
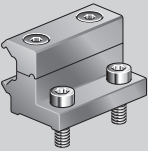
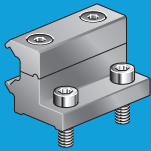
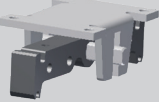
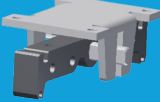
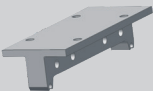

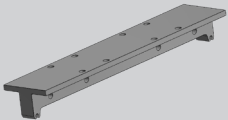
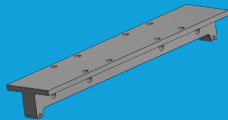
••••• Dettagli per la definizione della corsa (0100-5700mm)

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

Ø 16-40MM

| Tipo | Ø [mm] | Varianti | Types | Ø [mm] | Variants | | |
|-----------|--|---|---|---|--|---|---|
| R1AØ/•••• | 16 | ST v=1m/s Connessioni di carico rigide Guarnizioni in NBR Viti 10.9 zincate 3 prese d'aria | R1AØ/•••• | 16 | ST v=1 m/s <i>Regid load connection</i> <i>NBR-seals</i> <i>Zinc-plated 10.9 screws</i> <i>3 air inlets</i> | | |
| | 25 | | | 25 | | | |
| | 32 | | | 32 | | | |
| | 40 | | | 40 | | | |
| | | TI come ST, con Viti in acciaio inox | | | TI as ST, but <i>Stainless-steel screws</i> | | |
| | | | | VT come ST, con v=1m/s Guarnizioni in Viton | | | VT as ST, but v=1 m/s <i>Viton-seals</i> |
| | | | | | | TIVT come ST, con v=1m/s Guarnizioni in Viton Viti in acciaio inox | |
| | | CC come ST, con Trasmissione corta del carico a T, con 2 fori di collegamento Disponibile solo per Ø32 e Ø40 | | | CC as ST, but <i>T-load connection short,</i> <i>with 2 connection bores</i> <i>Only available for Ø32</i> <i>and Ø40</i> | | |
| | | | | CL come ST ,con Trasmissione lunga del carico a T, con 4 fori di collegamento Disponibile solo per Ø32 e Ø40 | | CL as ST, but <i>T-load connection long,</i> <i>with 4 connection bores</i> <i>Only available for Ø32</i> <i>and Ø40</i> | |
| | PL pistone lungo consigliato per movimento verticale | PL long piston <i>Recommended for vertical</i> <i>movement</i> | | | | | |
| | CF v=1m/s Collegamento flessibile del carico Guarnizioni in NBR Viti 10.9 zincate 3 prese d'aria | | CF v=1 m/s <i>flexible load connection</i> <i>NBR-seals</i> <i>Zinc-plated 10.9 screws</i> <i>3 air inlets</i> | | | | |
| | | CFVT come CF, con v=1m/s Guarnizioni in Viton | | CFVT as CF, but v=1 m/s <i>Viton-seals</i> | | | |

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 | Set di montaggio RPAØA: 2 staffe 4 viti 10.9 zincate placcate acc. DIN 912 | RPAØA  | 32 40 | Connection set RPAØA: 2 brackets 4 zinc-plated 10.9 screws acc. DIN 912 |
| Supporto centrale | | | Mid-section support | | |
| RFCØA  | 16 25 32 40 | Set di montaggio RFCØA: Staffe del corpo Alluminio anodizzato | RFCØA  | 16 25 32 40 | Connection Set RFCØA: body brackets anodised aluminium |
| Supporto centrale tipo G | | | Mobile mid-section support G type | | |
| RFGØA  | 16 25 | Colore: naturale Materiale: AL | RFGØA  | 16 25 | Colour: natur Material: AL |
| Supporto centrale tipo W | | | Mobile mid-section support W type | | |
| RFWØA  | 16 25 | Colore: naturale Materiale: AL | RFWØA  | 16 25 | Colour: natur Material: AL |
| Accessori di carico | | | Load mounting | | |
| Supporto articolato | | | Articulated carrier | | |
| RAMØA  | 16 25 32 40 | Set di montaggio RAMØA: 1 carrello di carico con boccola 1 linguetta di fissaggio 1 bullone | RAMØA  | 16 25 32 40 | Connection Set RAMØA: 1 Load carrier with liner 1 articulated carrier 1 bolt |
| Accoppiamento a T | | | T load | | |
| RTCØA  | 32 40 | Set di collegamento RTCØA: 1 attacco a T CORTO | RTCØA  | 32 40 | Connection Set RTCØA: 1 T-mounting SHORT |
| RTLØA  | 32 40 | Set di connessione RTLØA: 1 montaggio a T LUNGO | RTLØA  | 32 40 | Connection Set RTLØA: 1 T-mounting LONG |