

## Sfere portanti

### Ball transfer units



Le sfere portanti, come già le rotelle Omnidirezionali, consentono di muovere per spinta in qualsiasi direzione colli la cui superficie sia sufficientemente liscia, rigida e piana.

La vasta gamma presentata consente le più svariate applicazioni e possibilità di montaggio, con capacità di carico da 15 a 2000 daN cad. sfera.

Pertanto sono impiegate non solo per trasportatori ma anche per piani di lavoro e smontaggio su macchine e transfers nell'industria meccanica, siderurgica, ecc, nonché per attrezzature di carico-scarico di automezzi o in impianti aeroportuali.

Occorre considerare attentamente che la superficie dei colli a contatto con le sfere resista all'infossamento in rapporto al carico.

Il funzionamento risulta ottimale curando il montaggio e prevedendo un margine di sicurezza nel calcolo della quantità di sfere portanti e della portata richiesta per ognuna.

#### Serie SPL 500

La carcassa portante, realizzata in Poliammide di colore nero, presenta forme diverse per consentire vari modi di impiego e montaggio.

La sfera portante in acciaio da 1" ruota su una quantità di piccole sfere contenute a pieno riempimento in una calotta cementata e temperata. Il rotolamento è sempre garantito da una tenuta di feltro pur mantenendo la scorrevolezza, prerogativa peculiare di questa serie. Su richiesta possono essere fornite con sfera principale in nylon.

*The ball transfer units, like the Omnidirectional wheels, allow sufficiently smooth, rigid and flat surface packages to be moved in any direction.*

*The wide range produced allows the most various applications and installation possibilities with load capacities ranging from 15 to 2000 daN for each ball unit.*

*For this reason they are not only used for conveyors but also for machines and transfers working and assembly tables in the mechanical, metallurgy industry etc, for vehicle loading-unloading systems and in airport installations.*

*Special attention should be given to the fact that the balls should resist piercing or hollowing into the package surfaces. This is strictly related to the package weight and the system functionality*

*is safeguarded foreseeing a security margin in the calculation of the load capacity and number of transfer ball units to be installed.*

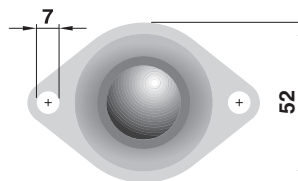
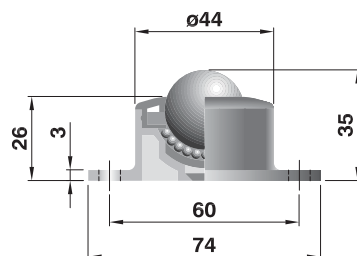
#### SPL 500 Series

*The black colour Polyamide bodies have various designs to allow different types of installations and applications. The 1" steel ball rolls on a hardened cap filled with small balls. The sliding effect is always guaranteed by a felt sealing which maintains the smooth running property of this series.*

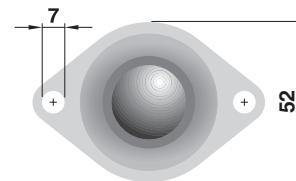
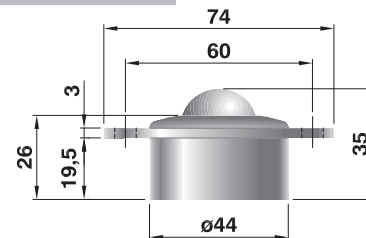
*On request they can be supplied with the main ball in nylon.*

| Tipo<br>Type | Portata<br>Load Capacity<br>daN | Peso<br>Weight<br>daN | Note  |
|--------------|---------------------------------|-----------------------|---|
| SPL 500      | 50                              | 0,110                 | Flangia inferiore con fori<br><i>flange at bottom with holes</i>                    |
| SPL 520      | 20                              | 0,052                 |   |
| SPL 501      | 50                              | 0,110                 | flangia superiore con fori<br><i>flange at top with holes</i>                       |
| SPL 521      | 20                              | 0,052                 |   |
| SPL 503      | 50                              | 0,108                 | flangia superiore<br><i>flange at top</i>   |
| SPL 522      | 20                              | 0,042                 |   |
| SPL 504      | 50                              | 0,120                 | flangia inferiore con perno filettato<br><i>flange at bottom with threaded stud</i> |
| SPL 512      | 20                              | 0,062                 |   |

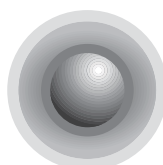
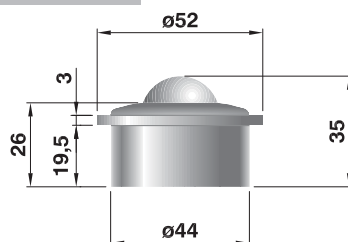
SPL 500-520



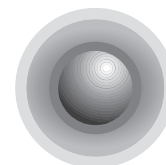
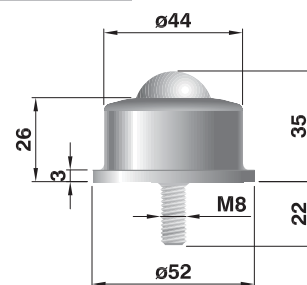
SPL 501 - 521



SPL 503 - 522



SPL 504 - 512



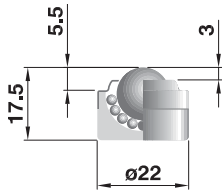
#### Serie SPR

Sono completamente in acciaio, zincate, più robuste rispetto alle precedenti con carcasse tornite o in lamiera stampata per la versione "L".

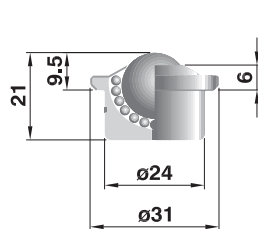
#### SPR series

All steel body with external zinc-plated parts. This series is much stronger than the previous one and its body can be machined or deep drawn for "L" version.

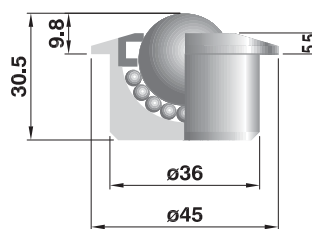
SPR 12



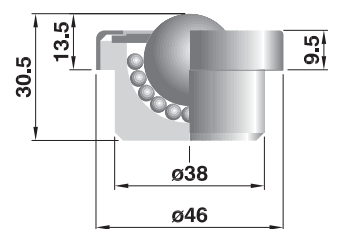
SPR 15



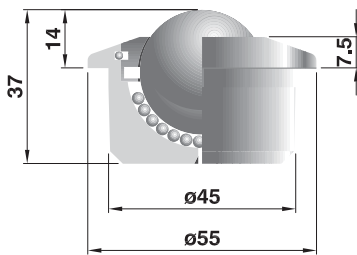
SPR 22



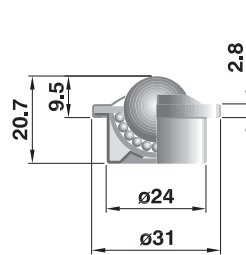
SPR 25



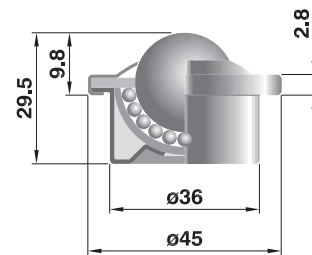
SPR 30



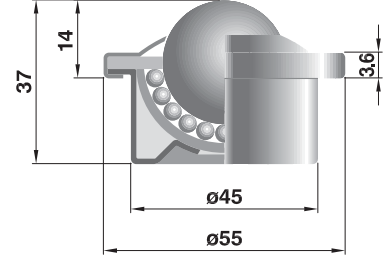
SPR 15L



SPR 22L



SPR 30L



| Tipo<br>Type   | Diametro sfera<br>ball diameter |        | Portata - Load capacity daN<br>esec. - exec. |     |    | Peso - Weight daN<br>esec. - exec. |       |       |
|----------------|---------------------------------|--------|--|-----|----|------------------------------------|-------|-------|
|                | mm                              | in.    | B  | C   | BD | B                                  | C     | BD    |
| SPR 12 B-C-BD  | 12,7                            | 1/2    | 20   | 15  | 5  | 0,035                              | 0,035 | 0,015 |
| SPR 15 B-C-BD  | 15,87                           | 5/8    | 50   | 40  | 13 | 0,060                              | 0,060 | 0,046 |
| SPR 22 B-C-BD  | 22,22                           | 7/8    | 180  | 130 | 22 | 0,190                              | 0,190 | 0,152 |
| SPR 25 B-C-BD  | 25,4                            | 1      | 180  | 130 | 22 | 0,220                              | 0,220 | 0,162 |
| SPR 30 B-C-BD  | 30,16                           | 1 3/16 | 350  | 210 | 25 | 0,360                              | 0,360 | 0,270 |
| SPR 15L B-C-BD | 15,87                           | 5/8    | 45   | 35  | 13 | 0,038                              | 0,038 | 0,024 |
| SPR 22L B-C-BD | 22,22                           | 7/8    | 120  | 90  | 22 | 0,125                              | 0,125 | 0,088 |
| SPR 30L B-C-BD | 30,16                           | 1 3/16 | 200  | 140 | 25 | 0,250                              | 0,250 | 0,153 |

#### NOTA

esec. B = Standard con parti zincate e sfere in acciaio  
esec. C = con parti zincate e tutte le sfere inox AISI 420  
esec. BD = con parti zincate e sfera principale in delrin (POM)

#### NOTE

esec. B = Standard with zinc-plated parts and steel balls  
esec. C = with zinc-plated parts and all balls in stainless steel AISI 420  
esec. BD = with zinc-plated parts and large ball in delrin (POM)

### Serie SPS

Le sfere portanti di questa serie sono completamente in acciaio, costruite con degli standards di precisione e progettate per impieghi particolarmente impegnativi e specifici su transfers e piani di lavoro di macchine utensili, nei trasporti pesanti, nelle industrie metallurgiche ecc.

La loro costruzione consente l'impiego sia con "sfera in alto" che con "sfera in basso". Sono previste esecuzioni a molla per applicazioni speciali, per compensare o evitare sovraccarichi e urti o dove è necessario che la sfera portante rientri a scomparsa. Le sfere principali e le sfere di supporto sono di prima qualità, le calotte sono in acciaio cementato e temperato, le sedi di contenimento sono brinite e le tenute sono in feltro. Inoltre sono imposti rigorosi test di controllo qualità. Su richiesta possono essere fornite con materiali e finiture diverse.

Tutte le dimensioni indicate in questo catalogo sono soggette a tolleranze di lavorazione e, benché i disegni siano fedeli, non sono tuttavia impegnativi.

Rulli Rulmecca si riserva il diritto di modificare i prodotti senza alcun preavviso.

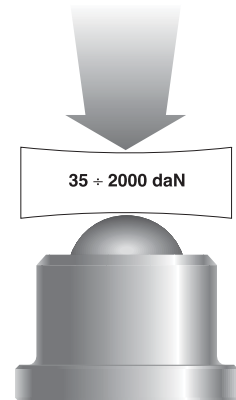
### SPS series

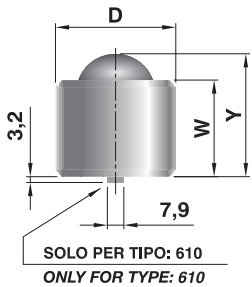
The ball units of this series are completely in steel, manufactured to precision standards and designed for particularly severe and specific applications such as transfers and working tables for machine tools, heavy conveyors, metallurgic industry etc.

Their construction allows them to work in either "up" or "down" applications.

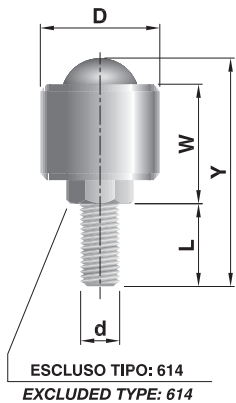
Spring executions for special applications are foreseen. These allow to compensate or avoid overloading and shock and the ball to shrink completely into the cap. The main balls and the small support balls are of first quality, the caps are case hardened, the support body is burnished and sealings are of felt. Severe quality control tests are carried out for this series. On request they can be supplied with different materials and designs.

All dimensions indicated in this catalogue are subjected to machining tolerances and, although drawings are exact, they place the manufacturer under no obligation whatsoever. Rulli Rulmecca reserves the right to modify the products at any time without any notice.

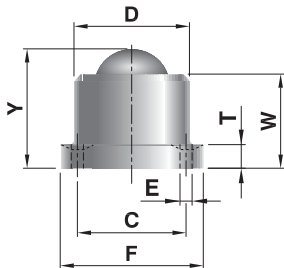




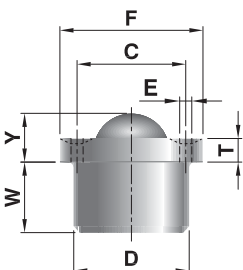
| Codice di ordinazione<br>Ordering code<br>Tipo / Type | Diametro sfera<br>Ball Diameter |     | Y    | W    | D    | L | d | Portata<br>Load Capacity<br>daN | Peso<br>Weight<br>daN |
|---|---------------------------------|-----|------|------|------|---|---|---------------------------------|-----------------------|
|   | mm                              | in. |      |      |      |   |   |                                 |                       |
| SPS 610   | 12,7                            | ½   | 19,1 | 15,3 | 20,6 |   |   | 46                              | 0,036                 |
| SPS 611   | 25,4                            | 1   | 41,3 | 35,7 | 44,5 |   |   | 225                             | 0,383                 |
| SPS 612   | 25,4                            | 1   | 44,5 | 38,1 | 50,8 |   |   | 375                             | 0,525                 |
| SPS 613   | 38,1                            | 1½  | 61,6 | 47,6 | 60,3 |   |   | 1100                            | 1,078                 |



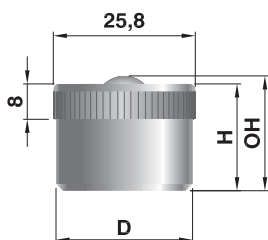
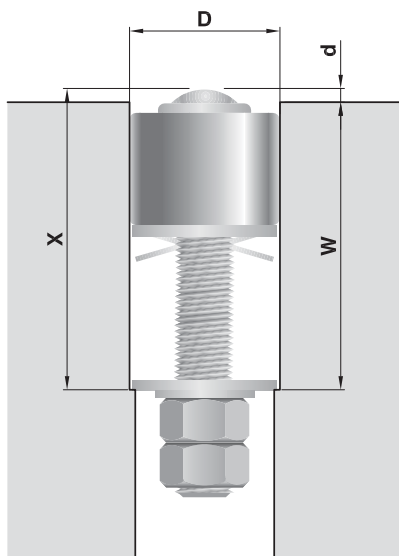
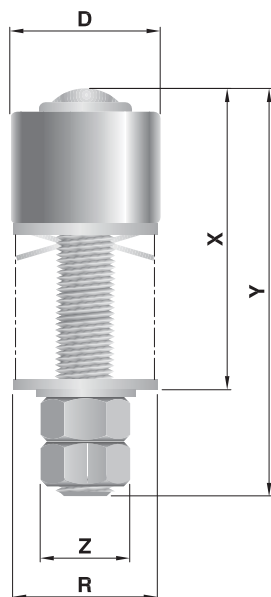
|         |      |    |       |      |       |      |     |      |       |
|---------|------|----|-------|------|-------|------|-----|------|-------|
| SPS 614 | 12,7 | ½  | 35,2  | 16,5 | 20,6  | 16,1 | M8  | 46   | 0,043 |
| SPS 615 | 25,4 | 1  | 72,7  | 41,7 | 44,0  | 25,4 | M12 | 225  | 0,467 |
| SPS 616 | 25,4 | 1  | 75,9  | 44,1 | 50,0  | 25,4 | M12 | 375  | 0,567 |
| SPS 617 | 38,1 | 1½ | 111,5 | 58,8 | 60,0  | 40,0 | M20 | 1100 | 1,162 |
| SPS 618 | 50,8 | 2  | 159,8 | 94,7 | 100,0 | 50,8 | M24 | 2200 | 5,500 |



| Codice di ordinazione<br>Ordering code<br>Tipo / Type | Diametro sfera<br>Ball Diameter |     | Y    | W    | D     | F      | C       | T    | E ø      | Portata<br>Load Capacity<br>daN | Peso<br>Weight<br>daN |
|---|---------------------------------|-----|------|------|-------|--------|---------|------|----------|---------------------------------|-----------------------|
|   | mm                              | in. |      |      |       |        |         |      |          |                                 |                       |
| SPS 619   | 12,7                            | ½   | 22,2 | 18,4 | 23,8  | Ø 44,5 | Ø 34,9  | 3,2  | 2 x 3,6  | 46                              | 0,078                 |
| SPS 620   | 25,4                            | 1   | 41,3 | 35,7 | 44,0  | Ø 57,2 | Ø 44,5  | 4,8  | 4 x 6,1  | 225                             | 0,467                 |
| SPS 621   | 25,4                            | 1   | 44,5 | 38,1 | 50,0  | Ø 76,2 | Ø 57,9  | 6,4  | 4 x 8,1  | 375                             | 0,766                 |
| SPS 622   | 38,1                            | 1½  | 61,5 | 48,8 | 60,0  | Ø 76,2 | Ø 57,9  | 12,7 | 4 x 8,1  | 1100                            | 1,248                 |
| SPS 623   | 50,8                            | 2   | 98,4 | 84,1 | 100,0 | Ø 127  | Ø 101,6 | 9,5  | 4 x 11,1 | 2200                            | 5,556                 |



|         |      |    |      |      |       |        |         |      |          |      |       |
|---------|------|----|------|------|-------|--------|---------|------|----------|------|-------|
| SPS 624 | 12,7 | ½  | 11,2 | 11,0 | 23,8  | Ø 44,5 | Ø 34,9  | 3,2  | 2 x 3,6  | 46   | 0,078 |
| SPS 625 | 25,4 | 1  | 10,3 | 31,0 | 44,0  | Ø 57,2 | Ø 44,5  | 4,8  | 4 x 6,1  | 225  | 0,418 |
| SPS 626 | 25,4 | 1  | 12,7 | 31,8 | 50,0  | Ø 76,2 | Ø 57,9  | 6,4  | 4 x 8,1  | 375  | 0,766 |
| SPS 627 | 38,1 | 1½ | 25,4 | 34,6 | 60,0  | Ø 76,2 | Ø 57,9  | 12,7 | 4 x 8,1  | 1100 | 1,248 |
| SPS 628 | 50,8 | 2  | 33,3 | 61,7 | 100,0 | Ø 127  | Ø 101,6 | 19,1 | 4 x 11,1 | 2200 | 5,784 |



con molla esterna - external spring

| Codice di ordinazione<br>Ordering code<br>Tipo - Type | Diametro sfera<br>Ball Diameter |     | Portata<br>Load Capacity<br>daN | Carico massimo compressione<br>Load max. compression daN | d*   | X      | Y      | Z     | D     | R     |
|---|---------------------------------|-----|---------------------------------|--|------|--------|--------|-------|-------|-------|
|   | mm                              | in. |                                 |  |      |        |        |       |       |       |
| SPS 684   | 12,7                            | ½   | 7                               | 32   | 2,0  | 32,20  | 46,20  | 17,46 | 20,60 | 20,00 |
| SPS 685   | 12,7                            | ½   | 14                              | 38   | 2,0  | 31,80  | 46,20  | 17,46 | 20,60 | 20,00 |
| SPS 686   | 12,7                            | ½   | 23                              | 38   | 2,0  | 32,20  | 46,20  | 17,46 | 20,60 | 20,00 |
| SPS 687   | 25,4                            | 1   | 7                               | 136  | 5,4  | 61,90  | 77,00  | 22,22 | 44,50 | 31,80 |
| SPS 688   | 25,4                            | 1   | 23                              | 136  | 5,0  | 61,50  | 77,00  | 22,22 | 44,50 | 31,80 |
| SPS 689   | 25,4                            | 1   | 45                              | 136  | 4,4  | 60,90  | 77,00  | 22,22 | 44,50 | 31,80 |
| SPS 690   | 25,4                            | 1   | 68                              | 136  | 5,3  | 61,80  | 77,00  | 22,22 | 44,50 | 31,80 |
| SPS 691   | 25,4                            | 1   | 91                              | 331  | 7,7  | 80,80  | 95,30  | 22,22 | 50,80 | 38,10 |
| SPS 692   | 25,4                            | 1   | 136                             | 331  | 6,5  | 79,60  | 95,30  | 22,22 | 50,80 | 38,10 |
| SPS 693   | 25,4                            | 1   | 181                             | 331  | 5,8  | 80,50  | 95,30  | 22,22 | 50,80 | 38,10 |
| SPS 694   | 25,4                            | 1   | 227                             | 331  | 4,6  | 80,95  | 95,30  | 22,22 | 50,80 | 38,10 |
| SPS 695   | 38,1                            | 1½  | 227                             | 960  | 10,5 | 115,40 | 162,10 | 35,56 | 60,33 | 59,44 |
| SPS 696   | 38,1                            | 1½  | 318                             | 960  | 11,1 | 121,00 | 162,10 | 35,56 | 60,33 | 59,44 |
| SPS 697   | 38,1                            | 1½  | 454                             | 960  | 11,1 | 129,20 | 162,10 | 35,56 | 60,33 | 59,44 |
| SPS 698   | 38,1                            | 1½  | 567                             | 960  | 8,8  | 127,00 | 162,10 | 35,56 | 60,33 | 59,44 |
| SPS 699   | 38,1                            | 1½  | 680                             | 960  | 9,2  | 146,30 | 189,70 | 35,56 | 60,33 | 59,44 |
| SPS 710   | 38,1                            | 1½  | 748                             | 960  | 8,2  | 156,20 | 189,70 | 57,15 | 60,33 | 59,44 |
| SPS 780   | 50,8                            | 2   | 764                             | 1400   | 5,3  | 175,10 | 200,90 | 57,15 | 101,6 | 101,6 |
| SPS 781   | 50,8                            | 2   | 1018                            | 1400   | 6,0  | 177,40 | 200,90 | 57,15 | 101,6 | 101,6 |
| SPS 782   | 50,8                            | 2   | 1273                            | 1800   | 5,9  | 174,60 | 200,90 | 57,15 | 101,6 | 101,6 |
| SPS 783   | 50,8                            | 2   | 1527                            | 2030   | 5,7  | 171,50 | 200,90 | 57,15 | 101,6 | 101,6 |

d\* massima corsa di compressione. - maximum compression stroke.

con molla interna - internal spring

| Codice di ordinazione<br>Ordering code<br>Tipo / Type | Diametro sfera<br>Ball Diameter |     | Portata<br>Load Capacity<br>daN | Carico massimo compressione<br>Load max. compression daN | d*  | OH   | H    | D    |
|---|---------------------------------|-----|---------------------------------|--|-----|------|------|------|
|   | mm                              | in. |                                 |  |     |      |      |      |
| SPS 629   | 12,7                            | ½   | 23                              | 40   | 2,0 | 27,4 | 25,4 | 25,4 |

d\* massima corsa di compressione. - maximum compression stroke.