



Linear Bearings

Including Anti-Cage Creep Solution ACC

PM - BEARINGS



Introduction

PrecisieMetaal - BEARINGS (PM) is specialized in designing and manufacturing linear bearings in top quality. PM is providing a complete range of linear bearings, frictionless slides, positioning tables and stages, which guarantees high levels of performances at competitive prices. Thanks to a long history of experience, new findings in research, combined with innovating linear technology, PM products meet the highest accuracy and quality demands of today's industry and are successful in use world-wide.

Since the foundation in 1966, PM has become an **innovator in linear technology** with the specialization in the production of high- and very high precision linear bearings and frictionless slides.

Starting with the specialization in precision linear bearings PM has expanded and developed the linear-program through the years. Today, PM offers the widest range models and sizes to provide the designer maximum flexibility to achieve the best operating results in linear motion.

One of the goals is **customer-satisfaction** with additional increase of productivity and reliability against lower production costs. The PM organization is **dedicated to quality** and is focused to give quick and accurate information on customers request.

The main PM-products are published in:

- Linear Bearings
- Precision Slides
- Positioning Tables and Stages
- Recirculating Bearings

Module Assembly

The upcoming market for "fully assembled modules" is supported at PM and is a main part in their Total Customer Care strategy. PM is offering not only extensive assembly-facilities, skilled workers and knowledge, but also a time- and cost saving solution with increased of flexibility in today's rapidly changing market.

Represented Worldwide

Made by PM means the same high quality, technical support and follow-ups whether in Asia, the U.S.A. or Europe. Representatives are selected to serve you with the best technical advice and service guaranteeing fast and reliable deliveries under local conditions. Please, contact PM for the authorized representative in your area.

The specifications and data in this catalogue are believed to be accurate and reliable. However, in the interest of technical progression, PM reserves the right to modify without prior notice.



PM - BEARINGS

Progressive by innovating linear technology



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Product Overview

PM linear guides are mechanical components, used all over the world in applications which require long term precision in linear motion, low friction, low noise and a long operational lifetime.

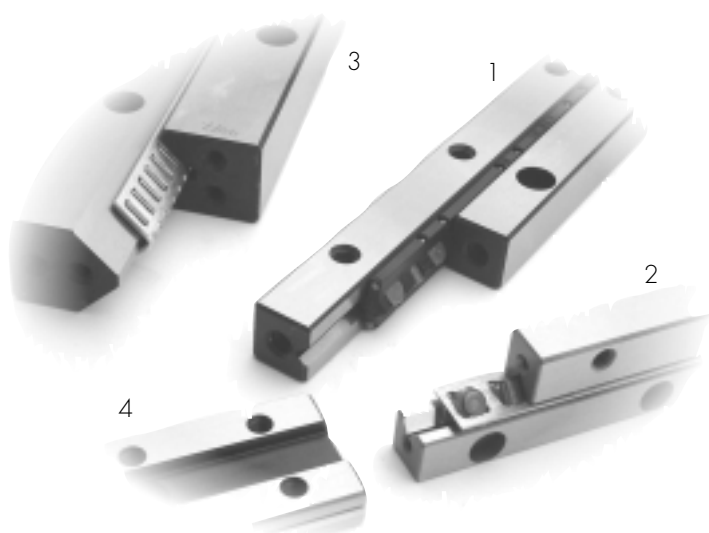
Our various models and sizes offer unique features in load capacity, travel length, accuracy and size.

With the possibility of ordering linear bearings as single components you have freedom to design according to your requirements. With linear bearings ordered as set (from page 53) you receive globally standardized sets with standard load- and stroke length specifications.

Top quality provided by PM linear bearings has been stamped by leading-edge linear technology and experience since 1966. New developments and innovations from engineering, manufacturing and research are continuously being applied into new and existing models.

In addition PM aims the highest levels of quality and performance in linear bearing and linear motion technology.

Special designs will be supplied according to your specifications.



1. Linear Bearings type RSD

- Limited stroke lengths Including: size 4 mm
- Fitted with balls or crossed rollers
- Size 1.5 – 24 mm
- Standard lengths 20 – 1400 mm
- Compact design

2. Linear Bearings type RSDE

- Limited stroke lengths
- Fitted with crossed rollers
- Size 3 - 9 mm
- Higher load capacity
- Standard lengths 50 – 1200 mm
- Optional ACC-solution (listed page 64)

3. Linear Bearings type N/O

- Limited stroke lengths New: size N/O 62015
- Fitted with needle rollers
- Heavy loadtype
- High stiffness
- Standard lengths 100 – 1200 mm

4. Centerrail type DST

- Space-saving design
- High accurate linear motion
- Size 1.5 - 15 mm
- Ease of supporting structure design
- Standard lengths 20 – 1000 mm



Technical Data

General

The Precisie/Metaal range of linear bearings and “almost frictionless” precision slides are available in various sections with matching ball- and roller diameter in a wide range of standard lengths.

The choice of sizes (cross-sections) and lengths caters to almost all load capacities, enabling the designer to solve most linear motion problems with virtually frictionfree movements, free from play, with adjustable pre-load. Due to these features PM linear bearings are almost free from wear, needing only minimum lubrication and maintenance, and are used successfully in a wide range of industries, e.g.:

- Packing machinery
- Machine tools + other metal working machinery
- Automation applications
- Special purpose machines + special purpose tooling

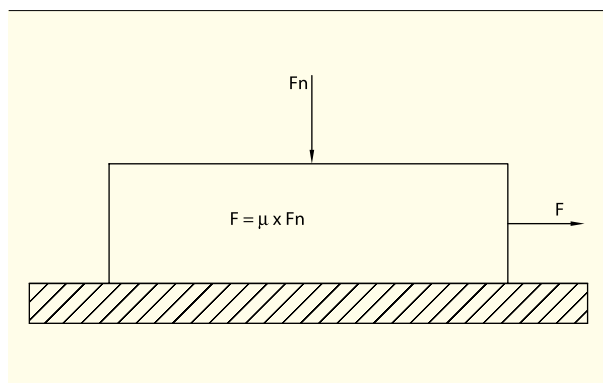
Due to the high linear accuracy, which PM linear bearings offer, they are also used widely for:

- Measuring instruments
- Tool setting equipments
- Robotic devices
- Space applications
- Research projects
- Semiconductor equipments

To sum up, PM linear bearings, have a compact size, offer flexibility of installation, high accuracy of running motion, long life with only minimal lubrication, low maintenance costs, and ease of replacement in the event of damage. Because the linear bearings and linear slides are vital components in the application they are manufactured with the greatest care to provide the maximum of linear accuracy and reliability.

Friction

Friction is the force necessary to move a body along a horizontal plane or track. A finely machined surface gives a positive effect on the friction. Therefore PM is using the highest quality of rollers in combination with precision ground anti-friction guideways type RSD which are manufactured by a team of specialists.



μ = Coefficient of friction

F_n = Normal force

F = Frictional resistance

Note: wipers and seals give a negative reaction on the friction.

Lubrication

PM precision guides are a main part in the construction of machines. The stand of high quality has to be maintained during the calculated lifetime. Dust and moisture are the main enemies of the precision bearings. Lubrication creates a film between the rolling surfaces and gives a sufficient protection against corrosion. Other benefits are for example:

- Friction reduction
- Reduction of wear
- Prolongation of lifetime
- Reduction of heat

We prefer lubrication by oil CLP like DIN 51519 and HLP like DIN 51524. During operation the temperature has to be between -30°C till $+120^{\circ}\text{C}$ while the viscosity is between ISO-VG15 and ISO-VG100. In case of grease, lubrication on lithium soap base is recommended. By the application of PM precision guides which are manufactured of not standardized materials or used in special operation environments the lubrication has to be taken into account. For further information, please contact PM - BEARINGS.



Effect of Elevated Temperatures

PM linear bearings can be used by temperatures between -40°C up to +80°C during operation. In case of doubt or questions by the use of motors, ball screws, measuring systems etc. please consult PM - BEARINGS.

When PM linear bearings are used at temperatures in excess of 150 °C, the track-rail hardness begins to fall off and the load ratings must be reduced in accordance with factor f_t , tabulated below. If different elements of a linear bearing assembly, which has been pre-loaded or adjusted for freedom of play, suffers differential temperatures, then this could have harmful effects. In the worst case, the pre-load can become excessive and causes Brinell-type indentations in the bearing ways. Accordingly, if high demands are placed on running accuracy, then such temperature differentials must be avoided.

Temperature in °C	Temperature factor f_t
125	1
150	1
175	0.95
200	0.90
225	0.82
250	0.76
275	0.68
300	0.61

Material and Hardness Linear Bearings

The guideways are manufactured of bearing steel 1.2842 or 1.3505 and are through-hardened to 58-62 Hrc. The cylindrical rollers and balls are made of bearing steel 1.3505 and have a hardness value of 58-66 Hrc, and they are used in the highest grade quality. Only in cases, where the hardness is less than 58 Hrc (as for rust-resisting steels) the rated loads have to be reduced in accordance with the hardness factor f_h , tabulated.

Hardness			Hardness factor f_h
Rockwell Hrc.	Vickers HV	Brinell HB	
60	697	-	1
59	674	-	1
58	653	-	1
57	633	-	0.96
56	613	-	0.89
55	595	-	0.81
54	577	-	0.75
53	560	-	0.71
52	544	500	0.67
51	528	487	0.63
50	513	475	0.60
40	392	371	0.3
30	302	286	0.2
20	238	226	0.1
10	196	187	0.07

Load ratings, which are quoted in this catalogue, actually refer to a Rockwell hardness of 58 Hrc.

Expected Life

To estimate the expected life for linear bearings the following calculation can be employed, providing that the recommended installation conditions, lubrication, and protection from dust and dirt are maintained.

$$L = (C/P)^e \times 1,15 \times f_t \times f_h \times 10^5 \text{ metres}$$

- L = expected life in metres.
- C = effective dynamic load rating in N.
- P = equivalent load in N.
- e = 10/3 for rollers and needle rollers, and 3 for balls.
- 1,15 = an empirical factor applicable to the materials employed.
- f_t = correction factor for temperature effects.
(see above)
- f_h = correction factor for guideway hardness grades.
(i.e.: below 58 Hrc)



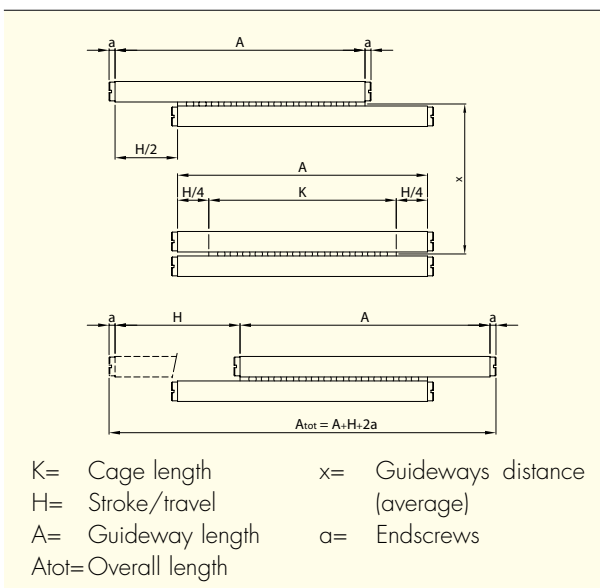
Calculation of Cage Length "K"

Cages travel at half the speed of moving linear bearing track and through half the distance...ie: the stroke of the cage equals half the stroke of the moving bearing member, or the slide top: $K=H/2$.

But with a normal "frictionless" sliding table, the upper member can move equal distances to either side of the centre.

$K=A \cdot H/2$ (ie: cage length= guideway length - half of the max. stroke)

The relationship between the cage length and the distance between the guideways (x); $K/x \geq 1$



Load Capacity "C" by using Rollers

Standard constructions with rollers: two roller cages, each interposed between a pair of linear bearing guideways of equal length, both longer than the cage. (ie: 4 bearing track-rails, in all).

$C_{total} = Z \times C_{roller} \times \frac{1}{2}$ (no. of load-bearing rolling elements) $\times$ (roller load rating) $\times \frac{1}{2}$.

Normally only half of the total number of rollers will be load bearing; the other half resists possible lift-off forces. (there is one exception: all rollers will be load bearing if a pair of rails is installed horizontal, but one above the other, with the V-guideway of the lower rail facing up and that of the upper rail facing down; ie: in the direction of the applied load, assumed here to be vertical).

Example: assuming a normal horizontal installation, with two roller cages R3x22AA; $Z=22$ and $C_{roller}=136$ N/roller. $C_{total} = (22 \times 2 \times 136) : 2 = 2992$ N.

Load Capacity "C" by using Balls

The normal linear bearing construction incorporates two pairs of guideways (of equal length) with two shorter ball cages, one between each pair of guideways.

Note: all the balls in the cages are load bearing.

$C_{total} = Z \times C_{ball} =$ (no. of balls) $\times$ (load rating per ball).

Example: cage K3 x 23JJ; $Z=23$; $C_{balls}=30$ N per ball.

$C_{total} = 23 \times 2 \times 30 = 1380$ N.

Calculation of Number of Rollers "Z"

$Z = K:t$... whereby :

K= cage length

t= pitch between rolling elements

Example

K= 200 mm (length of cage)

t= 5 mm (for 3mm dia-rollers or -balls)

$Z = 200:5 = 40$ rollers or balls.

Cage Designation: Examples

(assuming that the appropriate load calculations have been done)

R3 x 40AA; roller size=3 mm; 40 rollers; horizontal movement.

R6 x 18DD; roller size=6 mm; 18 rollers; vertical movement.

K3 x 20JJ; ball size= 3mm; 20 balls; vertical movement.

R1.5x 6KZR; roller size=1.5 mm; 6 rollers; vertical movement.

Note: for roller/ ball size ≥ 6 mm, please specify the roller/ball-pitch required.

Table Loadratings balls/rollers (mat. 100Cr6)

Size (mm)	Loadratings per ball/roller (N)			
	Balls		Rollers	
	Europe ¹	Japan ²	Europe ¹	Japan ²
1.5	10	21.6	52	118
2	21	39.2	86	206
3	30	87.3	136	461
4	48	155	265	911
6	78	353	540	2240
9	150	784	1350	4410
12	260	1420	2560	7450
15	420	2160	4500	12000

Note ¹: Based on European industrial standards

²: Based on Japanese industrial standards

Loadratings for crossed rollerways are listed in the tables for ready-to-install sets.

Design Information

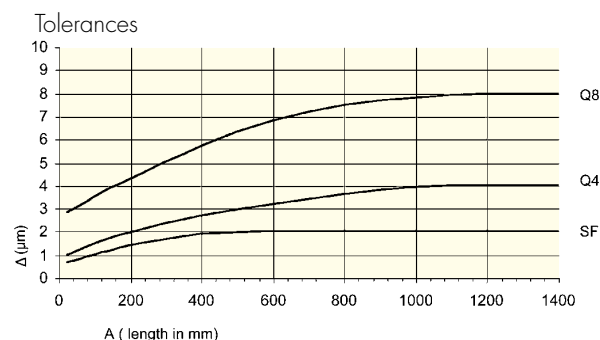
Accuracy Grades

PM linear bearings are manufactured in 3 superior quality grades. The parallelism of these grades is defined in diagram below.

Q8: standard precision grade, suitable for general machine requirements.

Q4: high precision grade, meeting the demands for high precision applications.

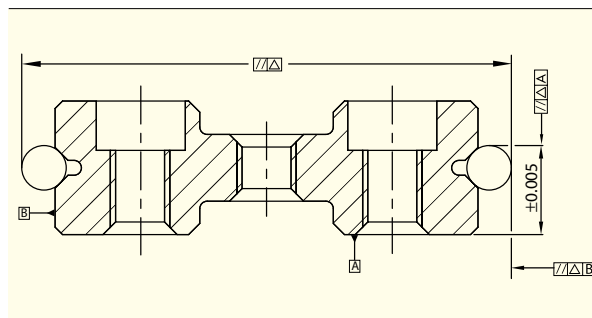
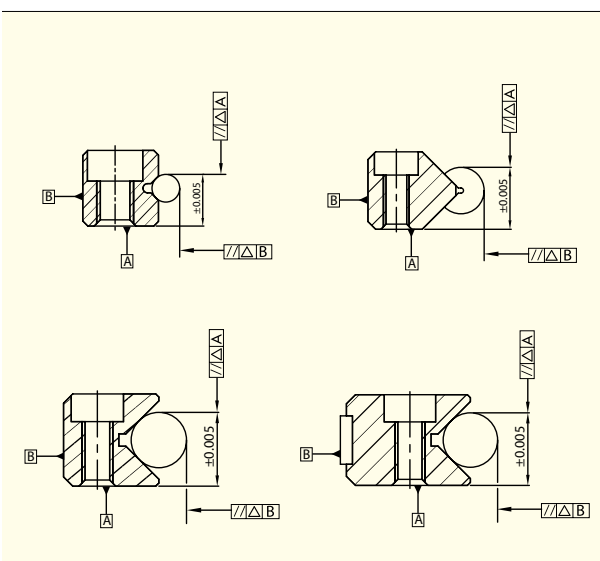
SF-grade: super finish grade, for ultra-fine precision tasks and outstanding performances.



If accuracy grade Q4 or SF is required, please indicate a suffix -Q4 or -SF behind the guideway type number. (example: RSD- 6300-Q4)

Higher accuracies can be supplied on request. In this case please consult PM-BEARINGS.

To reach a high running accuracy PM linear bearings are very close toleranced (± 0.005 mm). Through this, PM linear bearings can be used indifferently and identification marks are not necessary.



SF-Grade; Super Finish Grade

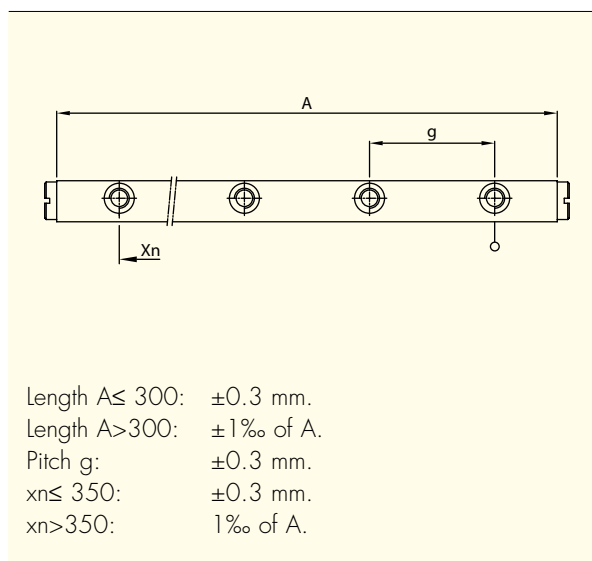
New technologies require tighter tolerances and higher speeds. Linear bearings finished in SF-Grade quality are meeting these requirements and provide outstanding performances for ultra-fine precision equipments.

Key features are:

- Extreme close tolerances, < 2 micron over the full guideway length.
- Reduction of surface roughness < 0.05Ra. Guideway V-groove surfaces are visual mirror-smooth.
- Vibrations in sub-micron area are significant reduced.
- Further reduction of friction, smooth running linear motion.

Ideal applications for linear bearings in SF-grade accuracy are, the semiconductor industry (wirebonder XY-table), measuring devices and material testing equipments. For lubrication considerations, please contact us.

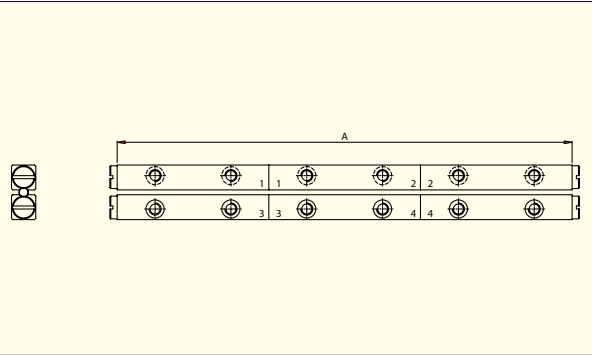
Tolerances on Length and Mounting Holes



- Length $A \leq 300$: ± 0.3 mm.
- Length $A > 300$: $\pm 1\%$ of A.
- Pitch g: ± 0.3 mm.
- $x_n \leq 350$: ± 0.3 mm.
- $x_n > 350$: 1% of A.



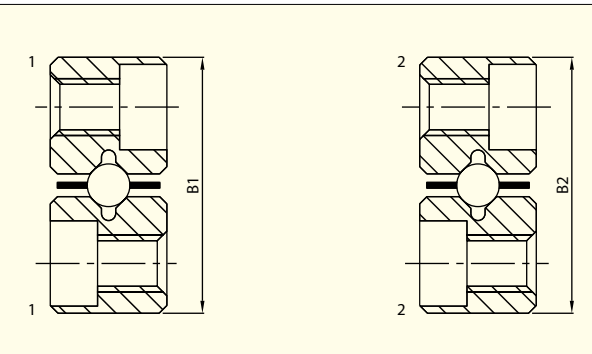
Linear bearings, larger than guideway maximum length 1400 mm, will be ground together and can be precision connected within 2 micron in accordance with the end-markings. Tolerance on length A is within ± 2 mm.



Matched Pairs

For gravity loaded guides which are matched, the tolerance ± 0.01 mm on height B for B1 to B2 is held and the pairs are marked. If several sets are ordered they will be marked accordingly.

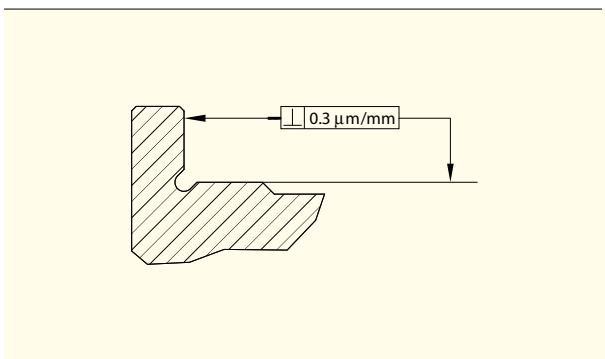
In case of recirculating elements UK/UR or ring guides type RPM, when 2 or more are arranged one behind another in the application, they also have to be ordered as matched pairs, doing by noting a suffix -MP.



Tolerances of Mounting Surfaces

To achieve the best performances, PM linear bearings have to be mounted on rigid and fine-machined, preferable by grinding, flat surfaces and supported over their entire length. The mounting and reference shoulder surfaces must be square to one another, with a maximum angular error of max. $0.3 \mu\text{m}/\text{mm}$. The ways must be parallel to one another to prevent local overloading of rollers, and dislocation of the roller cage.

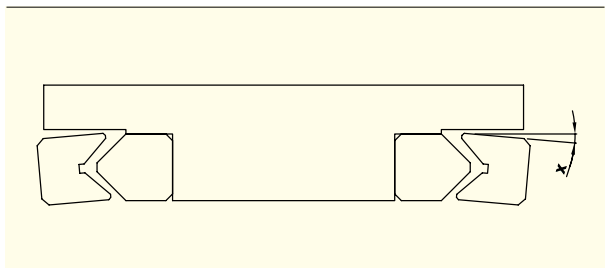
(For applications with high accelerations where cage creeping can occur, PM is able to supply anti-cage creeping solutions)



The tolerance of linear bearings in loaded or unloaded situations should not exceed the following:

Rollers (RSD/RSDE/DST) $0.3 \mu\text{m}/\text{mm}$

Needles (N/O) $0.1 \mu\text{m}/\text{mm}$





Recommended Stroke Length "H"

The cage length is related to the load capacity of the linear bearing. PM recommends a stroke length (H) of 70% of the (longest) guideway length (A). In cases where the guideway length is longer than 400 mm the stroke length can be increased to maximum of 100%.

$$H/A \leq 0.7 \text{ (for } H \leq 400 \text{ mm)}$$

$$H/A \leq 1 \text{ (for } H > 400 \text{ mm)}$$

Wipers and Seals

Whenever linear bearings are installed under unfavourable ambient conditions, it is advisable to protect them from the ingress of dust and dirt. For anti-friction guideways type RSD, RSDE, DST, N+O special endstops with felt-wipers can be supplied, optional to order. For other sealing arrangements, or wipers, please enquire PM - BEARINGS.

Maximum Velocity and Acceleration

RSD type series linear bearings:

Max. recommended speed $v = 50 \text{ m/min}$.

Max. acceleration $a = 8 \text{ m/sec}^2$.

RSDE type linear bearings:

Max. recommended speed $V = 50 \text{ m/min}$

Max. acceleration $a = 25 \text{ m/sec}^2$

RSDE with ACC-solution:

Max. recommended speed $V = 50 \text{ m/min}$

Max. acceleration $a = 150 \text{ m/sec}^2$ (15G)

N+O type linear bearings:

Max. recommended speed $v = 50 \text{ m/min}$.

Max. acceleration $a = 150 \text{ m/sec}^2$.

(depending on type of bearing-cage used)

To attain maximum acceleration and speed without skidding of balls or rollers (which can result in cage creeping) the bearings must be suitable pre-loaded (for details please enquire).

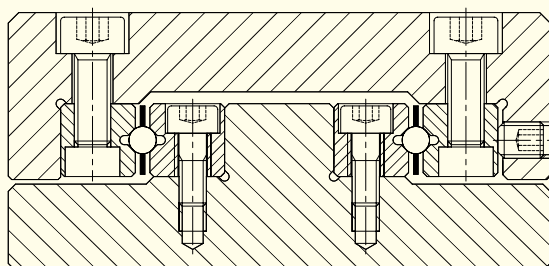
Installation of Linear Bearings

One set linear bearings consists of:
4 pcs. guideways (2 pairs), 2 pcs. cages and 8 pcs. end-screws or -pieces.

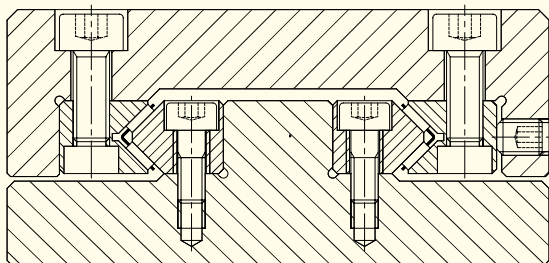
Standard Fitting Examples

The wide range of linear bearings can be used in every direction. The guideways can be attached to the slide-base construction in 2 ways: using the threaded holes or by using the through holes.

Use of RSD



Use of N+O
(matched on height)



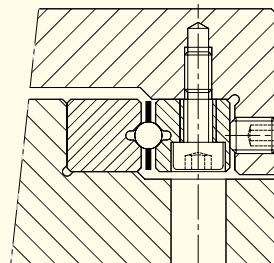
Note: mounting holes according ISO- and DIN-standards.

Pre-load Settings Linear Bearings

In order to assure a play-free movement and increase the stiffness and accuracy of the linear bearing, pre-load adjustment is necessary.

To adjust the pre-load uniformly, PM-BEARINGS supplies special designed attachment screws type GD. These screws are recommended if the through holes of the pre-load guideway and the threaded holes in the base construction are used. GD-screws allow increased clearance in the mounting holes.

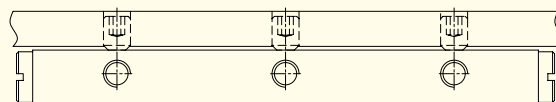
Example using attachment screw type GD



The smoothest running motion performance can be obtained by adjusting the pre-load setscrews (ISO 4026, DIN 913) opposite the rollers. By moving the slide each pre-load setscrew can be adjusted.

In applications where the cage is running out of the guideways the shorter guideway has to be pre-loaded.

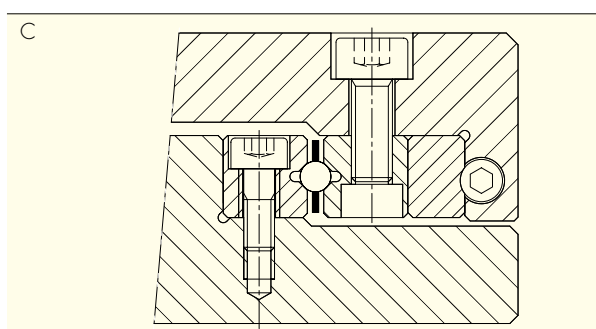
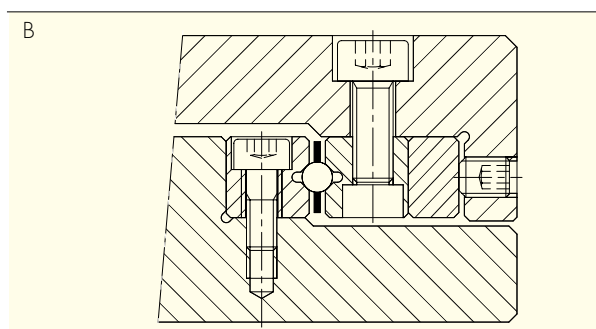
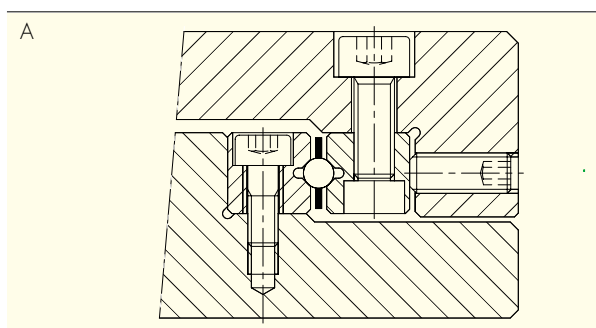
There should be one preload screw used for each mounting screw along the guideway length. The size of the pre-load setscrew depends on the size of the guideway. (table 1 page 16)



The amount of the pre-load depends on the size of the pre-load guideway and the rigidity of the base construction. Based on our experience we advise the amount of pre-load, under normal conditions, between 2%-20% of the permissible load C. For linear bearings type N+O we advise 2,5%C.

For application under normal conditions, the recommended pre-load settings can be selected in table 1, 2 and 3 on page 16.

The following shows typical methods for the pre-loading:



- A: setscrews
B: adjusting bar
C: double longitudinal wedge.

Recommended Stroke Limiting

The stroke has to be limited by the machine parts or by using limit switches. The cages can never be used for the stroke limit!

If the cages are used as stroke limit they can damage the running surface of the guideways. Therefore we advise the use of emergency hard stops. These emergency stops have to be mounted in line with the bearing axis, to prevent additional loads and moments on the linear bearing.

Difference between Guideway Lengths

In applications with different guideway lengths and by which the cage is running out of the pre-load, we recommend rounded inlets for the short guideway. Please note suffix -RI. (example: guideway type RSD- 6300-RI) when ordering.



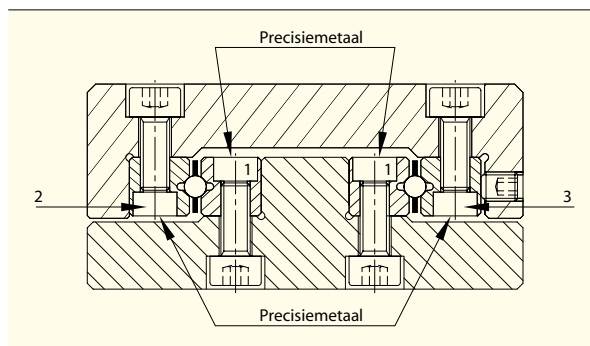
Assembly Procedure

Notes on Assembly

PM linear bearings are precision components; they have to be handled with meticulous care. To achieve a perfect linear bearing, please pay due attention to the following notes:

- Be careful in handling the components. Do not drop or hit it with anything like a hammer. Damages on the guideway surface will have its impact on the running performance and operation life.
- During assembly, all linear bearings components must have the same room temperature
- Keep out any foreign material when mounting the rails.
- For an uniform tightening of the bolts the use of a torque screw driver is recommended. Various models and bits are available. Please consult PM-BEARINGS.

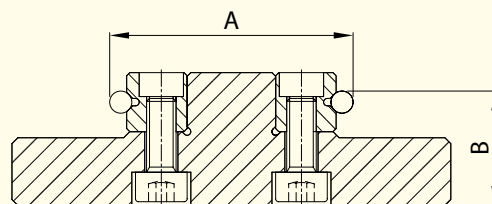
Assembly Linear Bearings



For a satisfactory installation of all types of linear bearings, the following should be observed:

1. Fixing holes in the support structure (slide-base) should be "spotted through" from the holes in the guideways. This is highly desirable as the original pitch of individual holes may have altered during hardening by as much as 0.4 mm.
To compensate this, in part at least, special attachment screws type GD can be supplied. The dimensions of these are listed in the tables under the relative linear bearings for sizes.
2. Carefully de-burr (by using an oilstone) and clean all constructional elements to ensure a flat surface and a perfect seating of the PM guideways.
3. The inner guideway-pair (1), mounted "shoulder-to-shoulder" should be bolted down first, as follows:
 - 3.1 The base and reference face¹ of the linear bearing rails should be lightly oiled before they are clamped against the mounting and reference shoulder.
They should then be bolted down by tightening up progressively, starting from one end and working to the other.
4. Parallelism of the guideways of the rails (ΔA and ΔB) should be checked. The tolerance must be within the tolerance of the linear bearings (page 9).
When this has been done, the slide element in question is now ready for assembly.

Parallelism of guideways V-tracks: ΔA and ΔB





4.1 The slide top can now be assembled.

The fixed bearing guideway (2) should be mounted as described at 3.1 above, but the adjustable guideway (3) should only be screwed down lightly, to leave a gap between Vtracks for the insertion of ball-, roller- or needle cages.

5 This point only in cases where endscrews have already been inserted in the guideway ends.

Remove the endscrews.

6 Carefully insert the cages. When the cages are exact in position, bolt down the adjustable guideway lightly, until the screws are fingertight.

7 Fit the endscrews and endpieces

8 The linear bearing set can now be playfree adjusted using the lateral pre-load setscrews (chapter Pre-load Settings Linear Bearings, page 12).

9 Secure the attachment screws on the adjusting guideway.

When assembly is finished, the linear bearings must be inspected for absence of play and for running accuracy.

¹ reference face: the surface opposite to the surface marked with "PrecisieMetaal".



Tables

Recommended Pre-load Settings for Linear Bearings

Table 1 Linear bearings fitted with crossed roller cages

Roller size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Pre-load (Ncm)
1.5	3	M 2.5	10	0.75
2	4	M3	15	1.50
3	5	M5	25	4.50
4	7	M5	40	11.50
6	9	M6	50	27.50
6	12	M6	100	18.50
9	14	M8	100	105.50
9	18	M8	100	90.50
12	18	M10	100	212.00
12	22	M10	100	176.50
15	20	M12	100	370.00
15	28	M12	100	295.50

* pitch between the pre-load setscrews

Table 2 Linear bearings fitted with ball cages

Ball size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Pre-load (Ncm)
1.5	3	M 2.5	10	0.20
2	4	M3	15	0.40
3	5	M5	25	1.10
4	7	M5	40	2.70
6	9	M6	50	4.00
6	12	M6	100	2.70
9	14	M8	100	11.70
9	18	M8	100	10.00
12	15.5	M10	100	25.00
12	22	M10	100	18.00
15	20	M12	100	34.50
15	28	M12	100	27.50

*pitch between the pre-load setscrews

Table 3 Linear bearings fitted with needle cages

Needle size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Pre-load (Nm)
2	4.5	M6	50	1.05
2	4.5	M8	100	1.30
2.5	5	M8	100	2.70
2.5	5.5	M8	100	2.90
3	6	M14	100	5.70
3.5	7	M12	100	7.70

*pitch between the pre-load setscrews

Recommended Tightening Torque for Attachment Screws

Table 4 Tightening torque

Strength grade: 12.9

Size	Tightening torque (Nm)	Attachment screws GD (Nm)
M2	0.60	0.48
M3	2.00	1.60
M4	4.90	3.92
M5	9.60	7.68
M6	17.00	13.60
M8	41.00	32.80
M10	79.00	63.20
M12	140.00	112.00
M14	220.00	176.00



Linear Bearings

RSD



Linear bearings type RSD are compact guides for precise linear motion providing high accuracy and an outstanding reliability. Depending on the load requirements they can be fitted with ball- or roller cages. With many years of experience RSD-bearings are the world-wide standard in high-tech applications requiring first class performances and quality with minimum cost.

Structure and Features

Depending on the construction, the linear bearing can be fitted with ball- or roller cages with alternately crossed rollers. The construction consists of two pairs linear bearings; one pair consists of two similar 90° V-groove guideways, through-hardened and precision ground, fitted with a cage in-between. Crossed roller cages are used in high-load and high precision applications (note: good dust protection is in this case required). Cages fitted with balls are used in applications which require less capacity, low friction resistance, or where dust and dirt are likely to penetrate into the guideways (balls are affected less by dust or dirt, due to a self-cleaning effect of the balls).

Guideways are equipped with countersunk-bored attachment holes, according to a standard configuration.

Threaded holes in ends for fixing endpieces and wipers.

For the attachment, special screws type GD can be ordered separately.

On request we supply linear bearings with roller size $\varnothing 18$ and $\varnothing 24$ mm

Notes by ordering

One set linear bearings consists of:

4 pcs. guideways (=2 pairs), 2 pcs. cages and 8 pcs. endscrews.

By ordering please specify the following:

1. Quantity and type of guideways.
2. Quantity, type and length of cages or max. stroke/travel.
3. Direction of movement (eg: horizontal, vertical or in-between).
4. Quantity and type of endscrews or endpieces with or without wipers.
(in case of GC and GC-A, only 4 pcs are needed)

Example

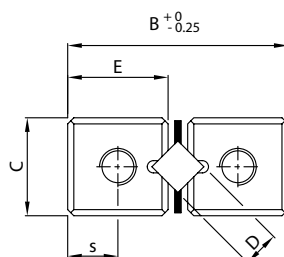
To order one linear bearing set of 300 mm length, size 6 mm for a 120 mm long horizontal stroke in standard quality please specify:

4 pcs. Guideways RSD-6300

2 pcs. Rollercages R6x20AA, pitch T=12 mm

8 pcs. Endscrews GA-6

RSD

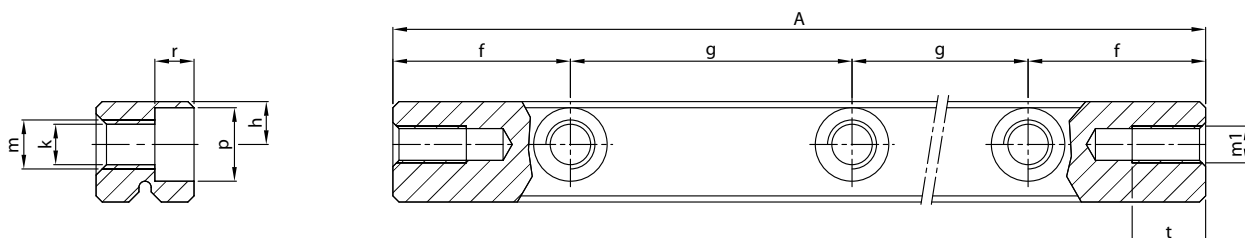


Guideways Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSD- 1520	RSD- 1520SS	20	8.5	4	3.9	1.5	1 x 10					
RSD- 1530	RSD- 1530SS	30					2 x 10					
RSD- 1540	RSD- 1540SS	40					3 x 10					
RSD- 1550	RSD- 1550SS	50					4 x 10					
RSD- 1560	RSD- 1560SS	60					5 x 10					
RSD- 1570	RSD- 1570SS	70					5	6 x 10	1.8 ^{±0.1}	1.6	M2	3
RSD- 1580	RSD- 1580SS	80					7 x 10					
RSD- 1590	RSD- 1590SS	90					8 x 10					
RSD-15100	RSD- 15100SS	100					9 x 10					
RSD-15120	RSD- 15120SS	120					11 x 10					
RSD-15140	RSD- 15140SS	140					13 x 10					
RSD- 2030	RSD- 2030SS	30	12	6	5.5	2	1 x 15					
RSD- 2045	RSD- 2045SS	45					2 x 15					
RSD- 2060	RSD- 2060SS	60					3 x 15					
RSD- 2075	RSD- 2075SS	75					4 x 15					
RSD- 2090	RSD- 2090SS	90					5 x 15					
RSD- 2105	RSD- 2105SS	105					7.5	6 x 15	2.5 ^{±0.1}	2.5	M3	4.3
RSD- 2120	RSD- 2120SS	120					7 x 15					
RSD- 2135	RSD- 2135SS	135					8 x 15					
RSD- 2150	RSD- 2150SS	150					9 x 15					
RSD- 2165	RSD- 2165SS	165					10 x 15					
RSD- 2180	RSD- 2180SS	180					11 x 15					

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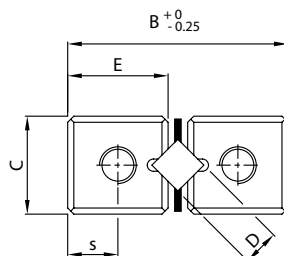
RSD



r	End holes m1 s t			Weight in g	Type	Accessories
1.4	M1.8	1.95	3.1	3	RSD- 1520	Cages: AA, CC, KZR, JJ, KCLK Endpieces: GA, GB Suitable Centerrails: DST
				4	RSD- 1530	
				5	RSD- 1540	
				6	RSD- 1550	
				7	RSD- 1560	
				8	RSD- 1570	
				9	RSD- 1580	
				10	RSD- 1590	
				12	RSD-15100	
				14	RSD-15120	
				16	RSD-15140	
2	M2.5	2.75	4.5	8	RSD- 2030	Cages: AA, CC, KZR, JJ, KCLK Endpieces: GA, GB Suitable Centerrails: DST
				11	RSD- 2045	
				14	RSD- 2060	
				17	RSD- 2075	
				20	RSD- 2090	
				23	RSD- 2105	
				26	RSD- 2120	
				30	RSD- 2135	
				34	RSD- 2150	
				37	RSD- 2165	
				40	RSD- 2180	

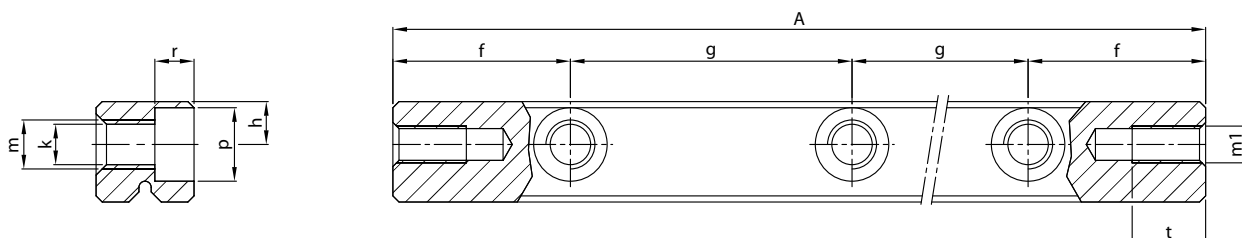
Units: mm

RSD



Guideway Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSD- 3050	RSD- 3050SS	50						1 x 25				
RSD- 3075	RSD- 3075SS	75						2 x 25				
RSD- 3100	RSD- 3100SS	100						3 x 25				
RSD- 3125	RSD- 3125SS	125						4 x 25				
RSD- 3150	RSD- 3150SS	150						5 x 25				
RSD- 3175	RSD- 3175SS	175	18	8	8.25	3	12.5	6 x 25	3.5 $\pm$ 0.2	3.2	M4	6
RSD- 3200	RSD- 3200SS	200						7 x 25				
RSD- 3225	RSD- 3225SS	225						8 x 25				
RSD- 3250	RSD- 3250SS	250						9 x 25				
RSD- 3275	RSD- 3275SS	275						10 x 25				
RSD- 3300	RSD- 3300SS	300						11 x 25				
RSD- 3350	RSD- 3350SS	350						13 x 25				
RSD- 4080	RSD- 4080SS	80						1 x 40				
RSD- 4120	RSD- 4120SS	120						2 x 40				
RSD- 4160	RSD- 4160SS	160						3 x 40				
RSD- 4200	RSD- 4200SS	200						4 x 40				
RSD- 4240	RSD- 4240SS	240						5 x 40				
RSD- 4280	RSD- 4280SS	280	22	11	10	4	20	6 x 40	4.5 $\pm$ 0.2	4.3	M5	7.5
RSD- 4320	RSD- 4320SS	320						7 x 40				
RSD- 4360	RSD- 4360SS	360						8 x 40				
RSD- 4400	RSD- 4400SS	400						9 x 40				
RSD- 4440	RSD- 4440SS	440						10 x 40				
RSD- 4480	RSD- 4480SS	480						11 x 40				

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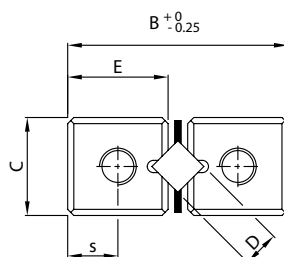


r	End holes			Weight	Type	Accessories
	m1	s	t	in g		
3.2	M3	4.1	5.5	22	RSD- 3050	Cages: AA, DD, AL, KZR, JJ, KKLK Endpieces: GA, GB, GC, GCA-wiper Attachment screw: GD Suitable Centerrails: DST
				33	RSD- 3075	
				44	RSD- 3100	
				55	RSD- 3125	
				66	RSD- 3150	
				77	RSD- 3175	
				88	RSD- 3200	
				99	RSD- 3225	
				110	RSD- 3250	
				121	RSD- 3275	
				132	RSD- 3300	
				155	RSD- 3350	
4.1	M3	5	7	64	RSD- 4080	Cages: AA, DD, AL, JJ Endpieces: GA, GB, GC, GCA-wiper Attachment screw: GD
				96	RSD- 4120	
				120	RSD- 4160	
				160	RSD- 4200	
				192	RSD- 4240	
				224	RSD- 4280	
				256	RSD- 4320	
				288	RSD- 4360	
				320	RSD- 4400	
				352	RSD- 4440	
				384	RSD- 4480	

Units: mm



RSD

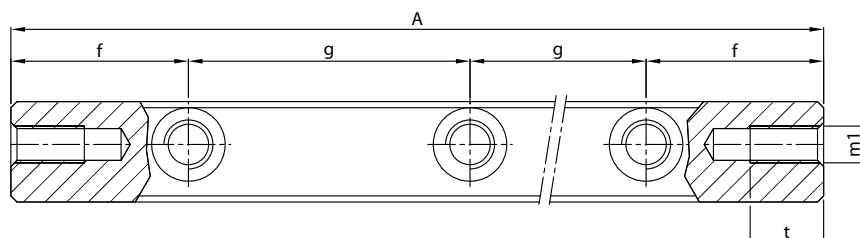
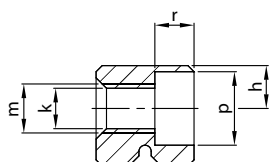


Guideway Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSD- 6100	RSD- 6100SS	100	31	15	14	6	25	8 x 50	6 ^{+0.2}	5.2	M6	9.5
RSD- 6150	RSD- 6150SS	150										
RSD- 6200	RSD- 6200SS	200										
RSD- 6250	RSD- 6250SS	250										
RSD- 6300	RSD- 6300SS	300										
RSD- 6350	RSD- 6350SS	350										
RSD- 6400	RSD- 6400SS	400										
RSD- 6450	RSD- 6450SS	450										
RSD- 6500	RSD- 6500SS	500										
RSD- 6600	RSD- 6600SS	600										
RSD- 6700	RSD- 6700SS	700										
RSD- 6800	RSD- 6800SS	800										
RSD- 6900	RSD- 6900SS	900										
RSD- 61000	RSD- 61000SS	1000										
RSD- 61100	RSD- 61100SS	1100										
RSD- 61200	RSD- 61200SS	1200										
RSD- 9100	RSD- 9100SS	100	44	22	19.8	9	50	5 x 100	9 ^{+0.2}	6.8	M8	11
RSD- 9200	RSD- 9200SS	200										
RSD- 9300	RSD- 9300SS	300										
RSD- 9400	RSD- 9400SS	400										
RSD- 9500	RSD- 9500SS	500										
RSD- 9600	RSD- 9600SS	600										
RSD- 9700	RSD- 9700SS	700										
RSD- 9800	RSD- 9800SS	800										
RSD- 9900	RSD- 9900SS	900										
RSD- 91000	RSD- 91000SS	1000										
RSD- 91100	RSD- 91100SS	1100										
RSD- 91200	RSD- 91200SS	1200										

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RSD

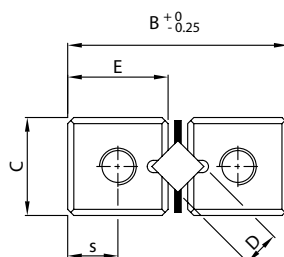


r	End holes m1	s	t	Weight in g	Type	Accessories
5.2	M5	7	8.5	142	RSD- 6100	Cages: AA, DD, AL, KZR, JJ, KCLK Endpieces: GA, GB, GC, GCA-wiper Attachment screw: GD Suitable Centerrails: DST
				213	RSD- 6150	
				288	RSD- 6200	
				360	RSD- 6250	
				432	RSD- 6300	
				504	RSD- 6350	
				576	RSD- 6400	
				648	RSD- 6450	
				720	RSD- 6500	
				864	RSD- 6600	
				1008	RSD- 6700	
				1152	RSD- 6800	
				1296	RSD- 6900	
				1440	RSD- 61000	
				1584	RSD- 61100	
				1728	RSD- 61200	
6.2	M6	9.9	10	306	RSD- 9100	Cages: AA, DD, AL, KZR, JJ, KCLK Endpieces: GA, GB, GC, GCA-wiper Attachment screw: GD Suitable Centerrails: DST
				616	RSD- 9200	
				926	RSD- 9300	
				1236	RSD- 9400	
				1546	RSD- 9500	
				1856	RSD- 9600	
				2166	RSD- 9700	
				2476	RSD- 9800	
				2786	RSD- 9900	
				3096	RSD- 91000	
				3406	RSD- 91100	
				3716	RSD- 91200	

Units: mm



RSD

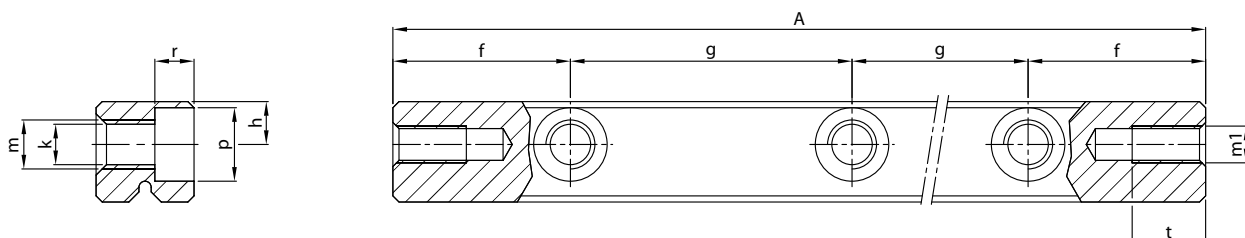


Guideways Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSD- 12200	on request	200						1 x 100				
RSD- 12300	-	300						2 x 100				
RSD- 12400	-	400						3 x 100				
RSD- 12500	-	500						4 x 100				
RSD- 12600	-	600						5 x 100				
RSD- 12700	-	700	58	28	25.9	12	50	6 x 100	12 $\pm$ 0.2	8.5	M10	13.5
RSD- 12800	-	800						7 x 100				
RSD- 12900	-	900						8 x 100				
RSD- 121000	-	1000						9 x 100				
RSD- 121100	-	1100						10 x 100				
RSD- 121200	-	1200						11 x 100				
RSD- 121400	-	1400						13 x 100				
RSD- 15300	on request	300						2 x 100				
RSD- 15400	-	400						3 x 100				
RSD- 15500	-	500						4 x 100				
RSD- 15600	-	600						5 x 100				
RSD- 15700	-	700						6 x 100				
RSD- 15800	-	800	71	36	31.9	15	50	7 x 100	14 $\pm$ 0.2	10.3	M12	16.5
RSD- 15900	-	900						8 x 100				
RSD- 151000	-	1000						9 x 100				
RSD- 151100	-	1100						10 x 100				
RSD- 151200	-	1200						11 x 100				
RSD- 151400	-	1400						13 x 100				

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RSD



r	End holes m l s t	Weight in g	Type	Accessories
8.3	M8 12.95 15	1011 1525 2039 2553 3067 3581 4095 4609 5123 5637 6151 7693	RSD- 12200 RSD- 12300 RSD- 12400 RSD- 12500 RSD- 12600 RSD- 12700 RSD- 12800 RSD- 12900 RSD- 121000 RSD- 121100 RSD- 121200 RSD- 121400	Cages: AA, DD, AL, JJ, KKLK Endpieces: GA, GB, GC, GCA-wiper Attachment screw: GD
10.3	M8 15.95 15	2426 3221 4027 4833 5639 6445 7251 8057 8863 9669 10.475	RSD- 15300 RSD- 15400 RSD- 15500 RSD- 15600 RSD- 15700 RSD- 15800 RSD- 15900 RSD- 151000 RSD- 151100 RSD- 151200 RSD- 151400	Cages: AA, DD, AL, JJ Endpieces: GA, GB, GC, GCA-wiper Attachment screw: GD

Units: mm

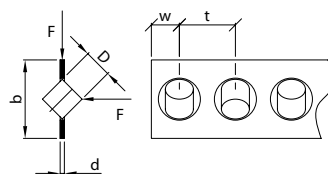


Accessories

for linear bearings type RSD, DST

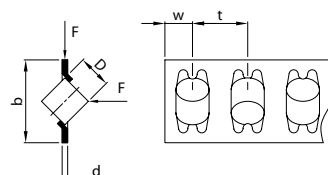
Roller cage CC, size 1.5- 2 mm

- rollers not retained
- for horizontal and vertical installation
- material brass



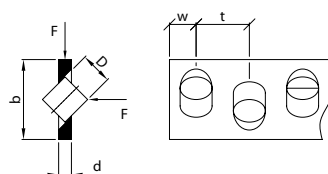
Roller cage AA, size 1.5- 15 mm

- rollers retained
- for horizontal installation
- material steel



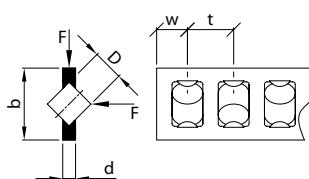
Roller cage DD, size 3- 15 mm

- rollers not retained
- for horizontal and vertical installation
- material brass



Roller cage AL, size 4- 15 mm

- rollers retained
- for horizontal and vertical installation
- material aluminium



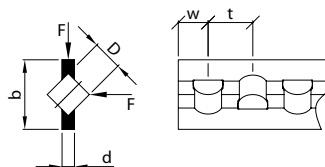
Cage type		Dimensions					Accessories	
Standard	Corrosion Resistant	D	b	d	t	w	Suitable for Guideway	Endstop
R 1.5 x AA	R 1.5 x AA-SS	1.5	3.8	0.2	2.5	2	RSD- 1.5 DST- 1.5	GA
R 1.5 x CC	R 1.5 x CC-SS		3.5	0.5	3	1.5		GA
R 1.5 x KZR	R 1.5 x KZR-SS		3.8	0.5	3	2		GB
K 1.5 x JJ	K 1.5 x JJ-SS		3.5	0.5	3	1.5		GB
K 1.5 x KKLK	K 1.5 x KKLK-SS		3.5	0.45	2.2	1.5		GB
R 2 x AA	R 2 x AA-SS	2	5.6	0.3	4	2	RSD- 2 DST- 2	GA
R 2 x CC	R 2 x CC-SS		5.5	0.8	4	2		GB
R 2 x KZR	R 2 x KZR-SS		5.5	0.7	4	2		GB
K 2 x JJ	K 2 x JJ-SS		5.5	0.8	4	2		GB
K 2 x KKLK	K 2 x KKLK-SS		5	0.75	3.9	3		GB
R 3 x AA	R 3 x AA-SS	3	7.5	0.5	5	2.5	RSD- 3 DST- 3	GA
R 3 x DD	R 3 x DD-SS		7.5	1.2	5	2.5		GB, GC
R 3 x KZR	R 3 x KZR-SS		7	1	5	2.5		GB, GC
K 3 x JJ	K 3 x JJ-SS		7.5	1.2	5	2.5		GB, GC
K 3 x KKLK	K 3 x KKLK-SS		7	1	4.2	2.7		GB, GC
R 4 x AA	R 4 x AA-SS	4	10	0.5	7	5	RSD- 4	GA
R 4 x DD	R 4 x DD-SS		10	1.2	7	5		GB, GC
K 4 x JJ	K 4 x JJ-SS		10	1.2	7	5		GB, GC
R 4 x AL	R 4 x AL-SS		10	1.2	7	5		GB, GC

Units: mm



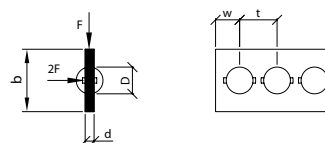
Roller cage KZR, size 1.5- 9 mm

- rollers retained
- for horizontal and vertical installation
- material plastic (reinforced cages available in size 6- 9 mm)



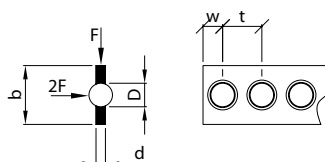
Ball cage KCLK, size 1.5- 12 mm

- balls retained
- for horizontal and vertical installation
- material plastic



Ball cage JJ, size 1.5- 15 mm

- balls retained (size 6- 15 mm)
- for horizontal and vertical installation
- material brass



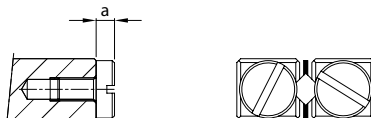
Cage type		Dimensions					Accessoires	
Standard	Corrosion Resistant	D	b	d	t	w	Suitable for Guideway	Endstop
R 6 x AA	R 6 x AA-SS	6	14	0.75	9+12	6	RSD- 6 DST- 6	GA
R 6 x DD	R 6 x DD-SS		14	2.5	9+12	6		GB, GC
R 6 x AL	R 6 x AL-SS		14	2.5	9+12	6		GB, GC
R 6 x KZR	R 6 x KZR-SS		14	2.5	8.5	6		GB, GC
K 6 x JJ	K 6 x JJ-SS		14	2.5	9+12	6		GB, GC
K 6 x KCLK	K 6 x KCLK-SS		14	2.5	9	6		GB, GC
R 9 x AA	R 9 x AA-SS	9	20	1	14+18	9	RSD- 9 DST- 9	GA
R 9 x DD	R 9 x DD-SS		20	4	14+18	9		GB, GC
R 9 x AL	R 9 x AL-SS		20	4	14+18	9		GB, GC
R 9 x KZR	R 9 x KZR-SS		20	3	14	9		GB, GC
K 9 x JJ	K 9 x JJ-SS		20	4	14+18	9		GB, GC
K 9 x KCLK	K 9 x KCLK-SS		20	3.5	14	9		GB, GC
R 12 x AA	on request	12	26	1.2	18+22	11	RSD-12	GA
R 12 x DD	-		25	5	18+22	11		GB, GC
R 12 x AL	-		25	5	18+22	11		GB, GC
K 12 x JJ	-		25	5	18+22	11		GB, GC
K 12 x KCLK	-		20	4	15.5	11		GB, GC
R 15 x AA	on request	15	35	1.2	20+28	12	RSD-15	GA
R 15 x DD	-		35	5	20+28	12		GB, GC
R 15 x AL	-		35	5	20+28	12		GB, GC
K 15 x JJ	-		35	5	20+28	12		GB, GC

Units: mm



Endscrews **GA**, size 1.5- 15 mm

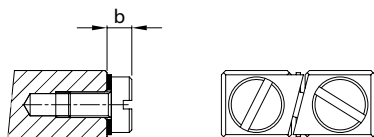
- for cage AA, RE
- for guideways RSD, RSDE, DST



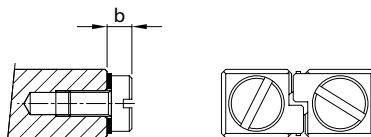
Endpieces **GB**, size 1.5- 15 mm

- for horizontal and vertical installation
- for cage CC, DD, AL, KZR, JJ, KKLK

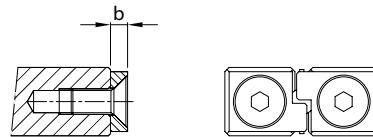
size 1.5 mm



size 2 mm

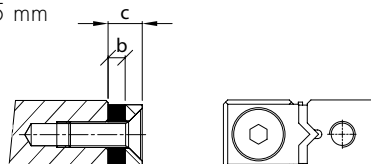


size 3-15 mm



Endpieces **GC+wipers GCA**, size 3- 15 mm

- for horizontal and vertical installation
- for cage CC, DD, AL, KZR, JJ, KKLK



Dimensions	Size 1.5	2	3	4	6	9	12	15
a	1.5	2	2.4	2.7	3.7	4.2	5.3	5.3
b	1.7	2.3	2	2.7	3.2	4.2	5.2	6.3
c	-	-	5	2.7	6.2	7.2	8.2	9.3

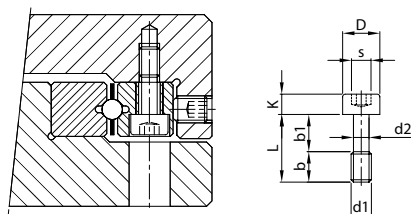
Units: mm

Ordering example: 8 pcs. Endscrews GA- 6
Corrosion resistant: 8 pcs. Endscrews GA- 6-SS



Attachment screws GD, size 3-15 mm

- for compensation of pitch distances between mounting holes.
- recommended for the installation of the pre-load guideway.
- for guideways RSD, RSDE, DST.



Type	Dimensions							
	L	b	b1	D	d1	d2	K	s
GD- 3	12	5	7	5	M3	2.3	3	2.5
GD- 4	16	7	9	6.5	M4	3	4	3
GD- 6	20	8	12	8	M5	3.9	5	4
GD- 9	30	12	18	8.5	M6	4.6	6	5
GD- 12	40	17	23	11.3	M8	6.2	8	6
GD- 15	45	16	29	13.9	M10	7.9	10	8

Units: mm

Ordering example: 8 pcs. Attachment screws GD- 6

Innovation





Linear Bearings

RSDE



PM linear bearings RSDE are based on the conventional crossed roller linear bearings. Thanks to the deeper ground V-groove in combination with special designed cylindrical rollers, they offer higher load ratings and stiffness without changing the envelop dimensions of the linear bearings.

RSDE linear bearings are used mostly in highly-dynamic applications requiring high speed, high running accuracy and outstanding quality.

Structure and Features

The construction exists of two pairs linear bearings; one pair consists of two similar 90° V-groove guideways RSDE, through-hardened and precision ground, fitted with a crossed roller cage in-between (RE cage: rollers retained). Guideways are equipped with countersunk-bored attachment holes, according to a standard configuration.

Key-features are:

- Load capacity is approx. 3 x higher.
- Stiffness is doubled, due to the enlarged contact area of the running surface (approx. 80% with RSDE, conventional types 35%).
- The compact design prevents that dust and dirt enter the inside of the rollerways. The space between the rollerways is reduced to a minimum.
- Accept higher speeds and accelerations.

Threaded holes in ends for fixing endscrews GA.

For the attachment, special screws type GD can be ordered separately.

Notes by ordering

One set linear bearings RSDE consists normally of:
4 pcs. guideways (=2 pairs) RSDE, 2 pcs. roller cages RE and 8 pcs. endscrews GA.

By ordering please specify the following:

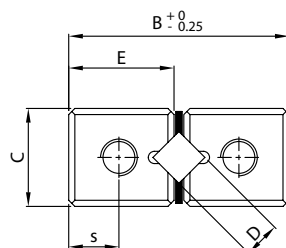
1. Quantity and type of guideways.
2. Quantity and length of cages or max. stroke/travel.
3. Quantity of endscrews.

Example

To order one linear bearing set of 125 mm length, size 3 mm for a 75 mm long stroke in standard quality please specify:

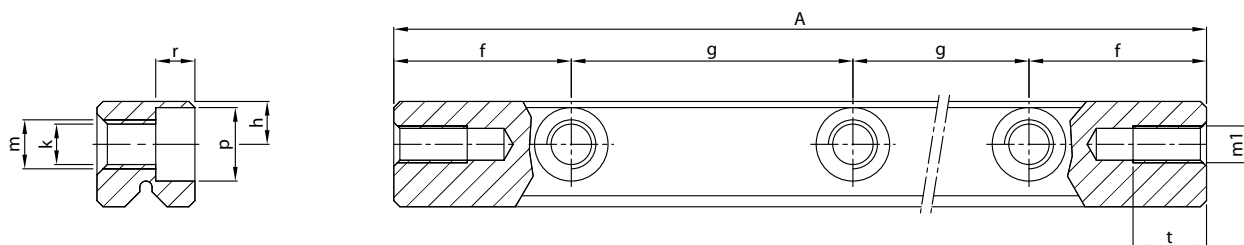
*4 pcs. Guideways RSDE-3125
2 pcs. Rollercages RE3x17 rollers
8 pcs. Endscrews GA-3*

RSDE



Guideways Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSDE- 3050	RSDE- 3050SS	50					1 x 25					
RSDE- 3075	RSDE- 3075SS	75					2 x 25					
RSDE- 3100	RSDE- 3100SS	100					3 x 25					
RSDE- 3125	RSDE- 3125SS	125					4 x 25					
RSDE- 3150	RSDE- 3150SS	150					5 x 25					
RSDE- 3175	RSDE- 3175SS	175	18	8	8.6	3	12.5 6 x 25	3.5 ^{+0.2}	3.2	M4	6	
RSDE- 3200	RSDE- 3200SS	200					7 x 25					
RSDE- 3225	RSDE- 3225SS	225					8 x 25					
RSDE- 3250	RSDE- 3250SS	250					9 x 25					
RSDE- 3275	RSDE- 3275SS	275					10 x 25					
RSDE- 3300	RSDE- 3300SS	300					11 x 25					
RSDE- 3350	RSDE- 3350SS	350					13 x 25					
RSDE- 4080	RSDE- 4080SS	80					1 x 40					
RSDE- 4120	RSDE- 4120SS	120					2 x 40					
RSDE- 4160	RSDE- 4160SS	160					3 x 40					
RSDE- 4200	RSDE- 4200SS	200					4 x 40					
RSDE- 4240	RSDE- 4240SS	240					5 x 40					
RSDE- 4280	RSDE- 4280SS	280	22	11	10.6	4	20 6 x 40	4.5 ^{+0.2}	4.2	M5	7.5	
RSDE- 4320	RSDE- 4320SS	320					7 x 40					
RSDE- 4360	RSDE- 4360SS	360					8 x 40					
RSDE- 4400	RSDE- 4400SS	400					9 x 40					
RSDE- 4440	RSDE- 4440SS	440					10 x 40					
RSDE- 4480	RSDE- 4480SS	480					11 x 40					

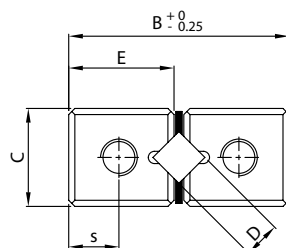
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r	End holes m l s t			Weight in g	Type	Accessories
3.2	M3	4.1	5.5	22	RSDE- 3050	Cages: RE Endscrews: GA Attachment screw: GD
				34	RSDE- 3075	
				46	RSDE- 3100	
				58	RSDE- 3125	
				70	RSDE- 3150	
				82	RSDE- 3175	
				94	RSDE- 3200	
				106	RSDE- 3225	
				118	RSDE- 3250	
				130	RSDE- 3275	
				142	RSDE- 3300	
				166	RSDE- 3350	
4.1	M3	5	7	65	RSDE- 4080	Cages: RE Endscrews: GA Attachment screw: GD
				98	RSDE- 4120	
				131	RSDE- 4160	
				164	RSDE- 4200	
				197	RSDE- 4240	
				230	RSDE- 4280	
				263	RSDE- 4320	
				296	RSDE- 4360	
				329	RSDE- 4400	
				362	RSDE- 4440	
				395	RSDE- 4480	
				Units: mm		



RSDE

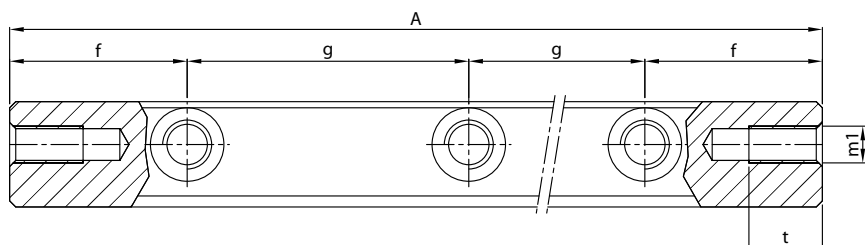
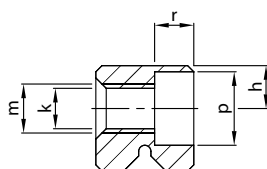


Guideways Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSDE- 6100	RSDE- 6100SS	100	31	15	14.9	6	25	8 x 50	6 $\pm$ 0.2	5.2	M6	9.5
RSDE- 6150	RSDE- 6150SS	150										
RSDE- 6200	RSDE- 6200SS	200										
RSDE- 6250	RSDE- 6250SS	250										
RSDE- 6300	RSDE- 6300SS	300										
RSDE- 6350	RSDE- 6350SS	350										
RSDE- 6400	RSDE- 6400SS	400										
RSDE- 6450	RSDE- 6450SS	450										
RSDE- 6500	RSDE- 6500SS	500										
RSDE- 6600	RSDE- 6600SS	600										
RSDE- 6700	RSDE- 6700SS	700										
RSDE- 6800	RSDE- 6800SS	800										
RSDE- 6900	RSDE- 6900SS	900										
RSDE- 61000	RSDE- 61000SS	1000										
RSDE- 61100	RSDE- 61100SS	1100										
RSDE- 61200	RSDE- 61200SS	1200										
RSDE- 9100	RSDE- 9100SS	100	44	22	21.3	9	25	1 x 50	9 $\pm$ 0.2	6.8	M8	11
RSDE- 9200	RSDE- 9200SS	200						1 x 100				
RSDE- 9300	RSDE- 9300SS	300						2 x 100				
RSDE- 9400	RSDE- 9400SS	400						3 x 100				
RSDE- 9500	RSDE- 9500SS	500					50	4 x 100				
RSDE- 9600	RSDE- 9600SS	600						5 x 100				
RSDE- 9700	RSDE- 9700SS	700						6 x 100				
RSDE- 9800	RSDE- 9800SS	800						7 x 100				
RSDE- 9900	RSDE- 9900SS	900						8 x 100				
RSDE- 91000	RSDE- 91000SS	1000						9 x 100				
RSDE- 91100	RSDE- 91100SS	1100						10 x 100				
RSDE- 91200	RSDE- 91200SS	1200						11 x 100				

For 2D & 3D drawings → e-mail to info@pmbearings.nl



RSDE



r	End holes m l s t	Weight in g	Type	Accessories
5.2	M5 7 8.5	147	RSDE- 6100	Cages: RE Endscrews: GA Attachment screw: GD
		219	RSDE- 6150	
		293	RSDE- 6200	
		365	RSDE- 6250	
		439	RSDE- 6300	
		512	RSDE- 6350	
		585	RSDE- 6400	
		661	RSDE- 6450	
		731	RSDE- 6500	
		876	RSDE- 6600	
		1021	RSDE- 6700	
		1165	RSDE- 6800	
		1312	RSDE- 6900	
		1457	RSDE-61000	
		1604	RSDE-61100	
		1752	RSDE-61200	
6.2	M6 9.9 10	315	RSDE- 9100	Cages: RE Endscrews: GA Attachment screw: GD
		630	RSDE- 9200	
		945	RSDE- 9300	
		1260	RSDE- 9400	
		1575	RSDE- 9500	
		1890	RSDE- 9600	
		2205	RSDE- 9700	
		2520	RSDE- 9800	
		2835	RSDE- 9900	
		3150	RSDE- 91000	
		3466	RSDE-91100	
		3780	RSDE-91200	

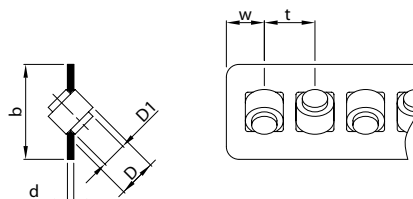
Units: mm



Accessories

Roller cage RE, size 3- 9 mm

- rollers retained
- for horizontal and vertical installation
- material brass



Cage Type		Dimensions						Accessories	
Standard	Corrosion Resistant	D	D1	b	d	t	w	Suitable for Guideway	Endstop
RE 3 x ...	RE 3 x ...SS	3	2	7	0.5	5	2.5	RSDE- 3	GA
RE 4 x ...	RE 4 x ...SS	4	3	9	0.5	7	5	RSDE- 4	GA
RE 6 x ...	RE 6 x ...SS	6	4.4	13.5	0.8	9	6	RSDE- 6	GA
RE 9 x ...	RE 9 x ...SS	9	7	19	1	14	9	RSDE- 9	GA

Units: mm

Ordering example: 2 pcs. Roller cages RE4 x 8
Roller size 4mm, fitted with 8 rollers

Endscrews GA, page 28

Attachment screws GD, page 29



Anti-Cage Creep railsets **RSDE-ACC**, page 64...



Linear Bearings

DST



Linear bearings equipped with precision ground center guideway type DST are designed for applications with a special attention to a compact design and the high accurate linear motion. In combination with linear bearings type RSD, fitted with ball- or roller cages, a linear bearing design can be achieved easily.

Structure and Features

Center guideways type DST are executed with two parallel precision ground V-grooves. Main advantage is the reduction of positioning errors during assembly. Also the supporting structure can easily be designed and machined.

In the construction they are mostly combined with linear bearing type RSD fitted with ball- or roller cages. For long stroke applications recirculating units UK- and UR-type are recommended. (listed in catalog Recirculating Bearings)

The through-hardened guideways are equipped with countersunk-bored attachment holes, according to a standard configuration.

The threaded holes in the centerline can be used for attaching emergency hard stops.

Threaded holes in ends for attaching endpieces and wipers.

To ease installation, special mounting screws type GD can be ordered separately.

Notes by ordering

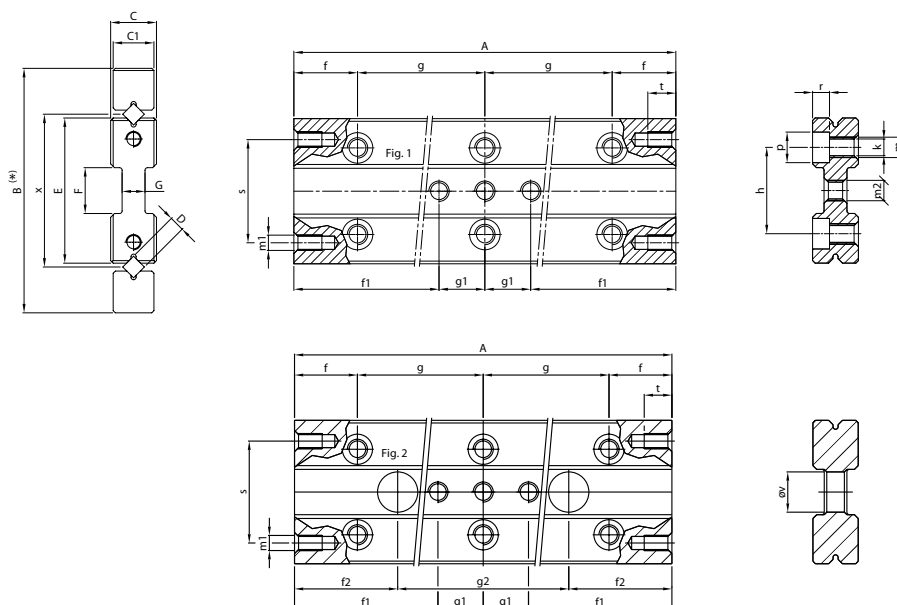
By ordering please specify the following:

1. Quantity and type of guideways.

Example

*To order a guideway for linear bearings size 3 mm with length 100 mm please specify:
1 pce. Linear bearing DST-3100*

DST



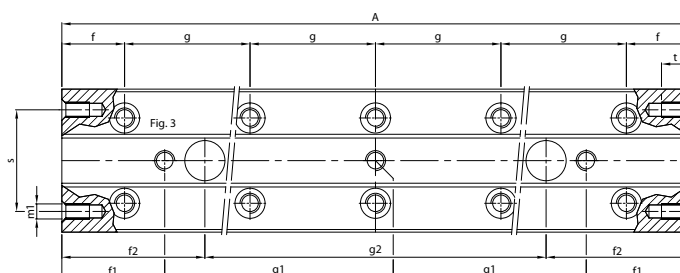
*With linear bearings type RSD

Guideway Type Standard Corrosion Resistant		Main dimensions							D	Mounting holes						
		A	B	C	C1	E	F	G		f	f1	f2	g	g1	g2	
DST- 1520	DST- 1520SS	20							1.5		10	-	1 x 10	-	-	
DST- 1530	DST- 1530SS	30									12.5	-	2 x 10	2.5	-	
DST- 1540	DST- 1540SS	40									15	-	3 x 10	5	-	
DST- 1550	DST- 1550SS	50									17.5	12.5	4 x 10	7.5	25	
DST- 1560	DST- 1560SS	60	22	4.5	4	12.8	5.5	3.15			5	20	15	5 x 10	10	30
DST- 1570	DST- 1570SS	70									22.5	17.5	6 x 10	12.5	35	
DST- 1580	DST- 1580SS	80									25	20	7 x 10	15	40	
DST- 1590	DST- 1590SS	90									27.5	22.5	8 x 10	17.5	45	
DST-15100	DST-15100SS	100								30	25	9 x 10	20	50		
DST- 2030	DST- 2030SS	30							2		15	-	1 x 7.5	-	-	
DST- 2045	DST- 2045SS	45									18.5	-	2 x 15	4	-	
DST- 2060	DST- 2060SS	60									22.5	-	3 x 15	7.5	-	
DST- 2075	DST- 2075SS	75									26	-	4 x 15	11.5	-	
DST- 2090	DST- 2090SS	90									30	22.5	5 x 15	15	45	
DST- 2105	DST- 2105SS	105	30	6,5	6	17	5.5	4.1			7.5	33.5	27.5	6 x 15	19	50
DST- 2120	DST- 2120SS	120									37.5	45	7 x 15	22.5	30	
DST- 2135	DST- 2135SS	135									41	47.5	8 x 15	26.5	40	
DST- 2150	DST- 2150SS	150							3		45	55	9 x 15	30	40	
DST- 2165	DST- 2165SS	165									51	-	10 x 15	31.5	-	
DST- 2180	DST- 2180SS	180									52.5	-	11 x 15	37.5	-	
DST- 3050	DST- 3050SS	50									25	-	2 x 12.5	-	-	
DST- 3075	DST- 3075SS	75									28.5	-	2 x 25	9	-	
DST- 3100	DST- 3100SS	100									35	-	3 x 25	15	-	
DST- 3125	DST- 3125SS	125									41	-	4 x 25	11.5	-	
DST- 3150	DST- 3150SS	150	48	9	8	28.4	9	4.5			12.5	47.5	37.5	5 x 25	27.5	75
DST- 3175	DST- 3175SS	175							3		53.5	44.5	6 x 25	34	86	
DST- 3200	DST- 3200SS	200									60	72.5	7 x 25	40	55	
DST- 3250	DST- 3250SS	250									72.5	97.5	9 x 25	52.5	55	
DST- 3300	DST- 3300SS	300									85	117.5	11 x 25	65	65	
DST- 3350	DST- 3350SS	350									97.5	137.5	13 x 25	77.5	75	

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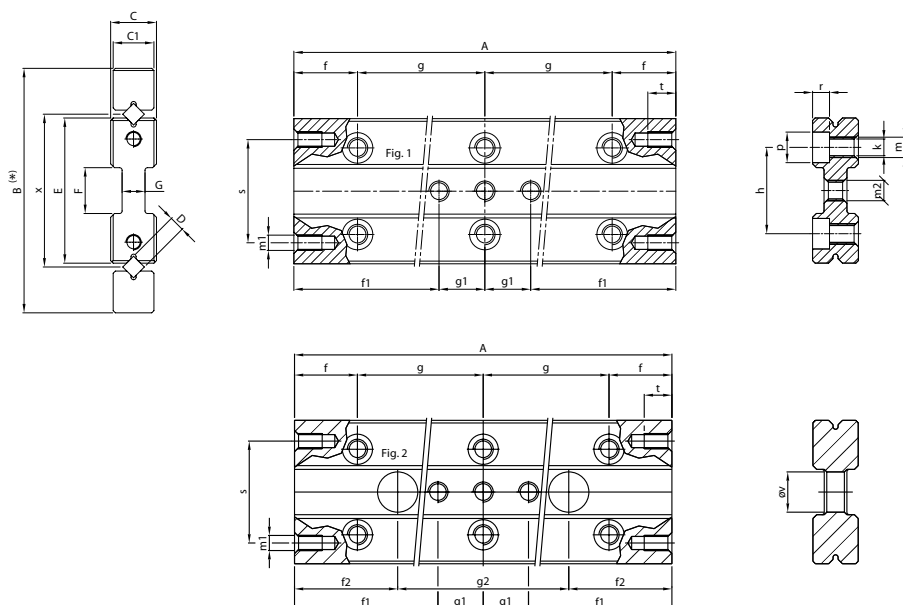
DST



h	k	m	m2	p	r	v	x	End holes m1 s t	Fig.	Weight in g	Type	Accessories
8.6	1.6	M2	M2	3	1.4	5	13.5	M1.8 8.9 3.5	1 1 1 2 2 2 2 2 2	6 9 12 15 19 22 25 29 33	DST- 1520 DST- 1530 DST- 1540 DST- 1550 DST- 1560 DST- 1570 DST- 1580 DST- 1590 DST- 15100	Guideways: RSD Cages: CC, KZR, JJ, KCLK Endpieces: GA, GB
11	2.5	M3	M34.3	2	6.3	18		M2.5 11.55 4.5	1 1 1 1 2 2 2 2 2 2 1 1	18 29 40 50 60 70 81 91 102 111 121	DST- 2030 DST- 2045 DST- 2060 DST- 2075 DST- 2090 DST- 2105 DST- 2120 DST- 2135 DST- 2150 DST- 2165 DST- 2180	Guideways: RSD Cages: AA, CC, KZR, JJ, KCLK Endpieces: GA, GB
17	3.2	M4	M4	6	3.2	8	30	M3 20.25 6	1 1 1 1 2 2 3 3 3 3	72 111 149 188 222 261 300 377 455 532	DST- 3050 DST- 3075 DST- 3100 DST- 3125 DST- 3150 DST- 3175 DST- 3200 DST- 3250 DST- 3300 DST- 3350	Guideways: RSD Cages: AA, DD, AL, KZR, JJ, KCLK Endpieces: GA, GB, GC Attachment screw: GD

Units: mm

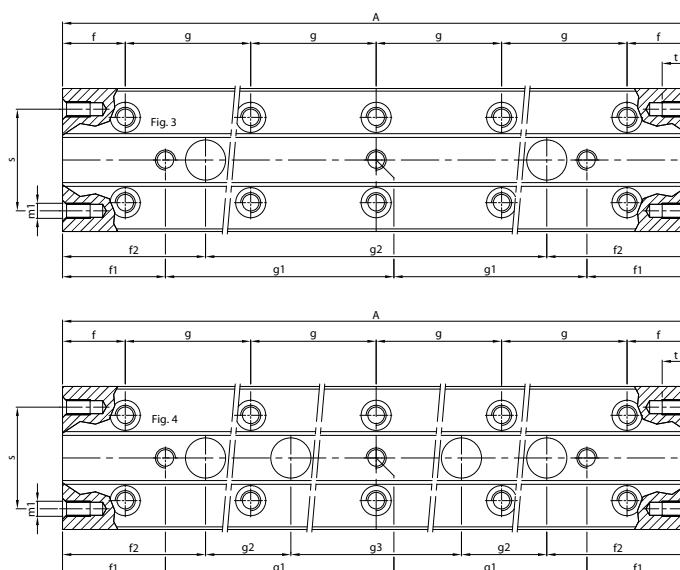
DST



*With linear bearings type RSD

Guideway Type		Main dimensions								D	Mounting holes								
		A	B	C	C1	E	F	G	f		f1	f2	g	g1	g2	g3			
Standard	Corrosion Resistant	DST- 6100	DST- 6100SS	100								20	40	-	2 x 30	10	-	-	
DST- 6150	DST- 6150SS	150											52.5	-	2 x 50	22.5	-	-	
DST- 6200	DST- 6200SS	200											65	50	3 x 50	35	100		
DST- 6250	DST- 6250SS	250											77.5	65	4 x 50	47.5	120	-	
DST- 6300	DST- 6300SS	300											90	75	5 x 50	60	150	-	
DST- 6350	DST- 6350SS	350	77	16	15	43	11	8.1	6	25	102.5	135	6 x 50	72.5	80			-	
DST- 6400	DST- 6400SS	400								115	155	7 x 50	85	90				-	
DST- 6450	DST- 6450SS	450								127.5	175	8 x 50	97.5	100				-	
DST- 6500	DST- 6500SS	500								140	195	9 x 50	110	110				-	
DST- 6600	DST- 6600SS	600								165	195	11 x 50	135	70	70				
DST- 6700	DST- 6700SS	700									190	225	13 x 50	160	80	90			
DST- 9100	DST- 9100SS	100							9	25	50	-	2 x 25	-	-	-			
DST- 9200	DST- 9200SS	200								25	75	-	2 x 75	25	-	-	-		
DST- 9300	DST- 9300SS	300									100	-	2 x 100	50	-	-	-		
DST- 9400	DST- 9400SS	400									125	110	3 x 100	75	180			-	
DST- 9500	DST- 9500SS	500	122	24	22	73.6	15	13.9		50	150	130	4 x 100	100	240			-	
DST- 9600	DST- 9600SS	600									175	240	5 x 100	125	120			-	
DST- 9700	DST- 9700SS	700									200	280	6 x 100	150	140			-	
DST- 9800	DST- 9800SS	800									225	260	7 x 100	175	90	100			
DST- 9900	DST- 9900SS	900									250	290	8 x 100	200	100	120			
DST-91000	DST-91000SS	1000									275	320	9 x 100	225	120	120			

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h	k	m	m2	p	r	v	x	End holes m l s t	Fig.	Weight in g	Type	Accessories
26	5.2	M6	M6	9.5	5.2	11	46	M5 29 10	1	415	DST- 6100	Guideways: RSD Cages: AA, AL, DD, KZR, JJ, KKLK Endpieces: GA, GB, GC Attachment screw: GD
									1	640	DST- 6150	
									2	865	DST- 6200	
									2	1091	DST- 6250	
									2	1316	DST- 6300	
									3	1541	DST- 6350	
									3	1767	DST- 6400	
									3	1992	DST- 6450	
									3	2217	DST- 6500	
									4	2668	DST- 6600	
									4	3118	DST- 6700	
52	6.8	M8	M8	11	6.2	14	78	M6 53.8 10	1	1040	DST- 9100	Guideways: RSD Cages: AA, AL, DD, KZR, JJ, KKLK Endpieces: GA, GB, GC Attachment screw: GD
									1	2130	DST- 9200	
									1	3221	DST- 9300	
									2	4312	DST- 9400	
									2	5403	DST- 9500	
									3	6493	DST- 9600	
									2	7584	DST- 9700	
									4	8675	DST- 9800	
									4	9766	DST- 9900	
									4	10.856	DST- 91000	

Units: mm



Accessories

Cages, page 26, 27

Endscrews GA, page 28

Endpieces GB and GC, page 28

Attachment screws GD, page 29

For excellent running performances



PM – BEARINGS

Progressive by innovating linear technology



Linear Bearings

N/O



Linear bearings type N/O are suitable to support and guide high loads and moments very accurate. Due to the close arranged needle rollers they provide extremely high rigidity, high linear motion accuracy and a compact size.

Structure and Features

A typical installation consists of 2 pairs of linear bearings; each pair is made up of (2) guideways, 1, N-type (female) and 1, O-type (male), through-hardened and precision ground, with one needle roller cage in-between. The guideways are made to very high tolerances and matched together as a set. Mixing components from different sets may affect the accuracy.

Guideways are equipped with countersunk-bored attachment holes, according to a standard configuration.

Threaded holes in ends for fixing endstops and wipers.

For the attachment, special screws type GD can be ordered separately.

Notes by ordering

Normally one set linear bearings consists of:
4 pcs. guideways (=2 pairs), 2 pcs. cages and 8 pcs. endstops. (4xN-type+4xO-type)

By ordering please specify the following data:

1. Quantity and type of guideways.
2. Quantity and type of cages or max. stroke/travel.
3. Quantity and type of endstop screws or endstop pieces with or without wipers.

In case of endstop GH with GH-A wipers, and endstop GW with GW-A wipers only 4 pcs are needed.

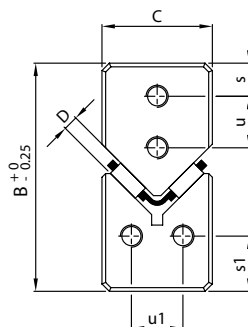
Example

To order one linear bearing set of 600 mm length, size 2025 for a 350 mm stroke in standard quality please specify:

- 2 pcs. Guideways N 2025 600
- 2 pcs. Guideways O 2025 600
- 2 pcs. Needle cages HW-15x425 mm
- 4 pcs. Endpieces GFN-2025
- 4 pcs. Endpieces GFO-2025

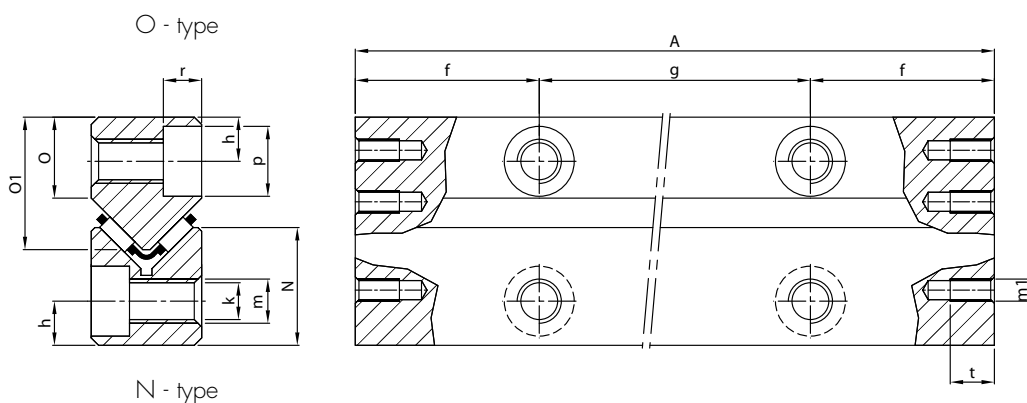


N/O



Guideway Type				Main dimensions							D	Mounting holes				
				A	B	C	N	O	O1	f		g	h	k	m	
N-type		O-type														
N 62015	100	O 62015	100	100								1 x 50				
N 62015	150	O 62015	150	150								2 x 50				
N 62015	200	O 62015	200	200								3 x 50				
N 62015	250	O 62015	250	250								4 x 50				
N 62015	300	O 62015	300	300								5 x 50				
N 62015	350	O 62015	350	350								6 x 50				
N 62015	400	O 62015	400	400	31	15	16	11	18	2	25	7 x 50	6	5.2	M6	
N 62015	450	O 62015	450	450								8 x 50				
N 62015	500	O 62015	500	500								9 x 50				
N 62015	600	O 62015	600	600								11 x 50				
N 62015	700	O 62015	700	700								13 x 50				
N 62015	800	O 62015	800	800								15 x 50				
N 62015	900	O 62015	900	900								17 x 50				
N 62015	1000	O 62015	1000	1000								19 x 50				
N 92025	200	O 92025	200	200								1 x 100				
N 92025	300	O 92025	300	300								2 x 100				
N 92025	400	O 92025	400	400								3 x 100				
N 92025	500	O 92025	500	500								4 x 100				
N 92025	600	O 92025	600	600								5 x 100				
N 92025	700	O 92025	700	700	44	22	24	15	24.5	2	50	6 x 100	9	6.8	M8	
N 92025	800	O 92025	800	800								7 x 100				
N 92025	900	O 92025	900	900								8 x 100				
N 92025	1000	O 92025	1000	1000								9 x 100				
N 92025	1100	O 92025	1100	1100								10 x 100				
N 92025	1200	O 92025	1200	1200								11 x 100				

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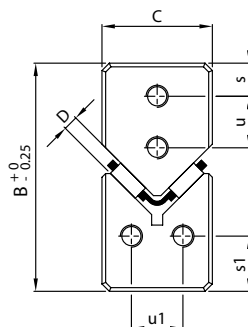


p	r	Endholes						Weight in g		Type N/O	Accessories
		m1	s	s1	t	u	u1	Type N	Type O		
9.5	5.2	M3	4.5	7.5	7	7	7	143	163	62015 100	Cages: HW-10 Endpieces: GF, GH, GW Attachment screw: GD-6
								214	245	62015 150	
								285	326	62015 200	
								357	408	62015 250	
								438	489	62015 300	
								510	571	62015 350	
								581	652	62015 400	
								652	734	62015 450	
								724	815	62015 500	
								866	979	62015 600	
								1019	1142	62015 700	
								1162	1305	62015 800	
								1305	1468	62015 900	
								1448	1631	62015 1000	
10.5	6.2	M4	6	11	8	10	10	683	693	92025 200	Cages: HW-15, FF-2025-ZW Endpieces: GF, GH, GW Attachment screw: GD-9
								1019	1030	92025 300	
								1346	1356	92025 400	
								1692	1702	92025 500	
								2018	2029	92025 600	
								2365	2375	92025 700	
								2691	2701	92025 800	
								3028	3038	92025 900	
								3364	3374	92025 1000	
								3700	3710	92025 1100	
								4027	4037	92025 1200	

Units: mm



N/O

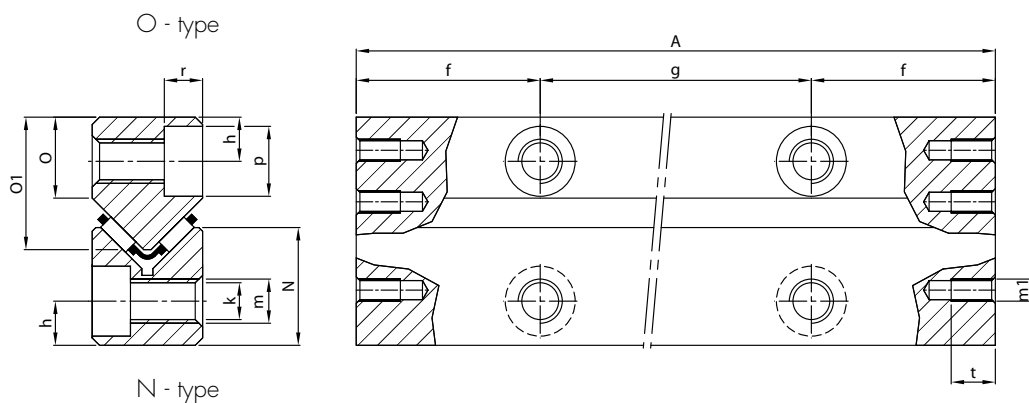


Guideway Type N-type O-type				Main dimensions							D	Mounting holes				
				A	B	C	N	O	O1	f		g	h	k	m	
N 2025 200	O 2025 200	200									1 x 100					
N 2025 300	O 2025 300	300									2 x 100					
N 2025 400	O 2025 400	400									3 x 100					
N 2025 500	O 2025 500	500									4 x 100					
N 2025 600	O 2025 600	600									5 x 100					
N 2025 700	O 2025 700	700	52	25	28	18	29	2	50	6 x 100	10	8.5	M10			
N 2025 800	O 2025 800	800								7 x 100						
N 2025 900	O 2025 900	900								8 x 100						
N 2025 1000	O 2025 1000	1000								9 x 100						
N 2025 1100	O 2025 1100	1100								10 x 100						
N 2025 1200	O 2025 1200	1200								11 x 100						
N 2535 300	O 2535 300	300								2 x 100						
N 2535 400	O 2535 400	400								3 x 100						
N 2535 500	O 2535 500	500								4 x 100						
N 2535 600	O 2535 600	600								5 x 100						
N 2535 700	O 2535 700	700	62	30	34	22	35	2.5	50	6 x 100	12	10.3	M12			
N 2535 800	O 2535 800	800								7 x 100						
N 2535 900	O 2535 900	900								8 x 100						
N 2535 1000	O 2535 1000	1000								9 x 100						
N 2535 1100	O 2535 1100	1100								10 x 100						
N 2535 1200	O 2535 1200	1200								11 x 100						

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N/O

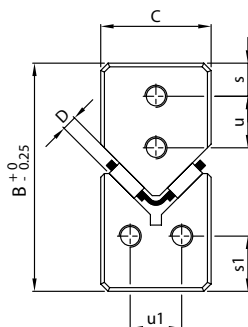


p	r	Endholes						Weight in g		Type N/O		Accessories
		m1	s	s1	t	u	u1	Type N	Type O			
13.5	8.2	M6	7	12	12	11	14	897	897	2025	200	Cages: HW-15, FF-2025-ZW Endpieces: GF, GH, GW Attachment screw: GD-2025
								1366	1346	2025	300	
								1835	1804	2025	400	
								2304	2253	2025	500	
								2762	2701	2025	600	
								3231	3150	2025	700	
								3690	3598	2025	800	
								4159	4047	2025	900	
								4618	4506	2025	1000	
								5056	4954	2025	1100	
								5556	5403	2025	1200	
16.5	10.2	M6	8	15	12	12	18	1906	1967	2535	300	Cages: HW-20, FF-2535-ZW Endpieces: GF, GH, GW Attachment screw: GD-2535
								2548	2620	2535	400	
								3180	3282	2535	500	
								3812	3935	2535	600	
								4455	4587	2535	700	
								5076	5240	2535	800	
								5719	5902	2535	900	
								6351	6646	2535	1000	
								6993	7207	2535	1100	
								7625	7859	2535	1200	

Units: mm



N/O

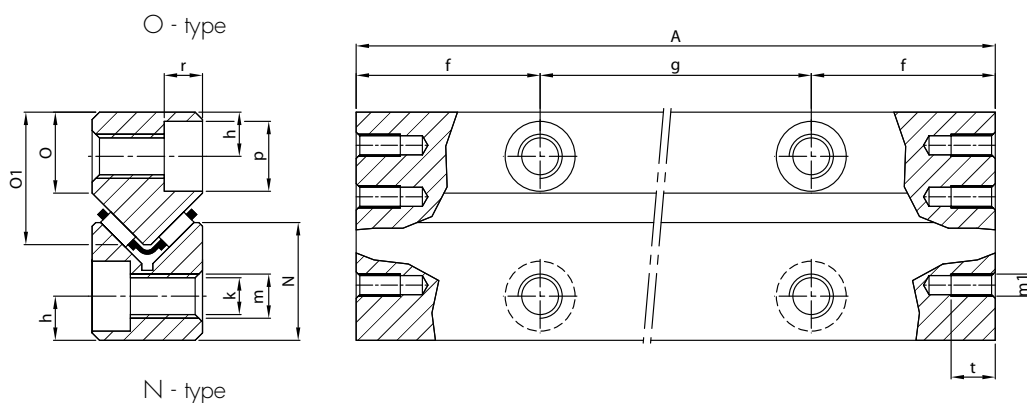


Guideway Type				Main dimensions						D	Mounting holes						
				A	B	C	N	O	O1		f	g	h	k	m		
N-type	O-type																
N 3045 400	○ 3045 400	400											3	3 x 100			
N 3045 500	○ 3045 500	500												4 x 100			
N 3045 600	○ 3045 600	600												5 x 100			
N 3045 700	○ 3045 700	700												6 x 100			
N 3045 800	○ 3045 800	800	74	35	42.5	25	40	50	7 x 100	14	12.5	M14					
N 3045 900	○ 3045 900	900												8 x 100			
N 3045 1000	○ 3045 1000	1000												9 x 100			
N 3045 1100	○ 3045 1100	1100												10 x 100			
N 3045 1200	○ 3045 1200	1200												11 x 100			
N 3555 500	○ 3555 500	500												3.5	4 x 100		
N 3555 600	○ 3555 600	600											5 x 100				
N 3555 700	○ 3555 700	700											6 x 100				
N 3555 800	○ 3555 800	800	78	45	45	25	45	50	7 x 100	14	12.5	M14					
N 3555 900	○ 3555 900	900											8 x 100				
N 3555 1000	○ 3555 1000	1000											9 x 100				
N 3555 1100	○ 3555 1100	1100											10 x 100				
N 3555 1200	○ 3555 1200	1200											11 x 100				

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N/O



p	r	Endholes						Weight in g		Type N/O		Accessories
		m	s	s	t	u	u	Type N	Type O			
18.5	12.2	M6	10	18	12	16	19	3660	3466	3045	400	Cages: HW-25, FF-3045-ZW Endpieces: GF, GH, GW Attachment screw: GD-3045
								4567	4322	3045	500	
								5494	5138	3045	600	
								6402	6055	3045	700	
								7319	6922	3045	800	
								8236	7778	3045	900	
								9154	8654	3045	1000	
								10.061	9511	3045	1100	
								10.979	10.377	3045	1200	
18.5	12.2	M6	12	18	12	20	29	6177	6106	3555	500	Cages: HW-30, FF-3555-ZW Endpieces: GF, GH, GW Attachment screw: GD-3555
								7370	7329	3555	600	
								8654	8542	3555	700	
								9888	9766	3555	800	
								11.131	10.989	3555	900	
								12.375	12.202	3555	1000	
								13.619	13.425	3555	1100	
								14.852	14.648	3555	1200	

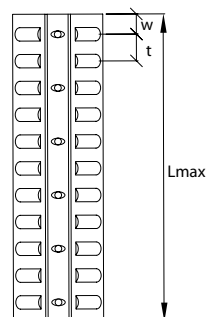
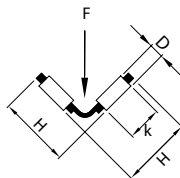
Units: mm



Accessories

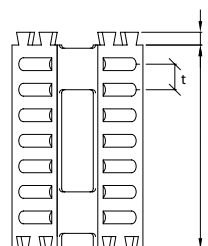
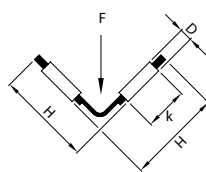
Needle cages type HW, size 10 - 30

- for horizontal and vertical installation
- needles are retained
- material: light-alloy



Needle cages type FF-ZW, size 2025 - 3555

- for horizontal and vertical installation
- needles are retained
- material: plastic



Cage Type		Dimensions							Lmax	Needles/cage (mm)	Loadrating Cdyn ¹ (N)
FF..ZW	HW	D	H	a	k	L	t	w			
FF-2025-ZW	HW-10	2	10	-	4.8	-	4	3	1000	-	2740
		2	15	2	6.8	32	4	-		7 x 2	4000
	HW-15	2	15	-	6.8	-	4.5	3.5	1000	-	4000
FF-2535-ZW		2.5	20.5	2.4	9.8	45	5	-		8 x 2	7300
	HW-20	2.5	20	-	9.8	-	5.5	3.5	1000	-	7300
FF-3045-ZW		3	26	3	13.8	60	6	-		9 x 2	12500
	HW-25	3	25	-	13.8	-	6	4.5	1000	-	12500
FF-3555-ZW		3.5	31.5	3.2	17.8	75	7	-		10 x 2	18700
	HW-30	3.5	30	-	17.8	-	7	5	1000	-	18700

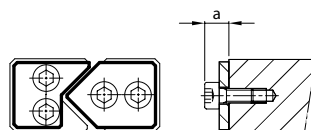
Units: mm

¹⁾ Loadrating based on two needle rollers



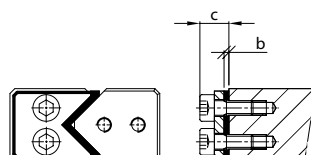
Endpieces type GFN and GFO, size 62015 – 3555

- for horizontal and vertical installation



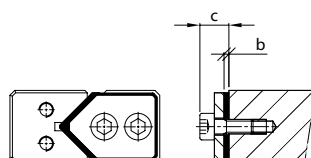
Endpieces type GH, size 62015 – 3555

- for horizontal and vertical installation
- optional with felt-wipers type GH-A
- for protruding cages



Endpieces type GW, size 62015 – 3555

- for horizontal and vertical installation
- optional with felt-wipers type GW-A
- for protruding cages



Dimensions	Linear Bearings N/O					
	62015	92025	2025	2535	3045	3555
a	6.2	7.2	10.2	10.2	10.2	11.2
b	3	3	3	3	3	3
c	9.2	10.2	13.2	13.2	13.2	14.2

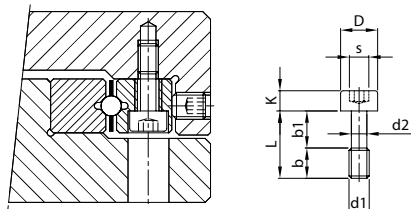
Units: mm

Ordering example: 4 Endpieces GFN-2025 + 4 Endpieces GFO-2025



Attachment screws **GD**, size 6- 3555

- for compensation of pitch distances between mounting holes.
- also recommended for the installation of the preload guideway.



Type	Dimensions								Suitable for Guideways
	L	b	b1	D	d1	d2	K	s	
GD-6	20	8	12	8	M5	3.9	5	4	N/O 62015
GD-9	30	12	18	8.5	M6	4.6	6	5	N/O 92025
GD-2025	35	16	19	11.3	M8	6.2	8	6	N/O 2025
GD-2535	40	18	22	13.9	M10	7.9	10	8	N/O 2535
GD-3045	50	25	25	15.8	M12	9.6	12	10	N/O 3045
GD-3555	60	25	35	15.8	M12	9.6	12	12	N/O 3555

Units: mm

Ordering example: 8 pcs. Attachment screws GD-2025



Linear Bearings

Ready-to-Install

Crossed Roller Way Sets type RSD, page 54

Widely used in general applications for precise linear motion, providing high accuracy and an outstanding reliability.

Standard bearing sets are composed of:

- 4 guideways type RSD
 - 2 roller cages type AA
 - 8 endscrews type GA inserted in the guideway ends.
- Packed and delivered as set.

Example: RSD-3100 x 14AA

One set consists of:

- 4 pcs. guideways RSD-3100 + endscrews GA-3
- 2 pcs. roller cages R3 x 14AA



Crossed Roller Way Sets type RSDE, page 60

Mostly used in highly dynamic applications where higher loads, stiffness and speed in minimum space are required.

Standard bearing sets are composed of:

- 4 guideways type RSDE
 - 2 roller cages type RE
 - 8 endscrews type GA inserted in the guideway ends.
- Packed and delivered as set.

Example: RSDE-4120 x 11AA

One set consists of:

- 4 pcs. guideways RSDE-4120 + endscrews GA-4
- 2 pcs. roller cages R4 x 11 AA



Set Number Structure

If changes are required please check the type number structure.

Type + size	Way length	Stainless steel suffix SS	No. of rollers	Cage* suffix AA or JJ	Special grade suffix Q4 or SF
RSD- 3	100		x10	AA	

Ordering example: standard: 1 set RSD- 3100 x 10 AA
corrosion resistant: 1 set RSD- 3100SS x 10 AA

*Cage specifications linear bearing RSD: suffix AA:

roller cage steel type AA
(type KZR for 1.5 mm, endpieces GB installed)

suffix JJ:

ball cage type JJ for size 6 and 9 mm
(type KKLK for size 1.5, 2 and 3 mm)
endpieces GB installed

Other cages for RSD- series, page 26

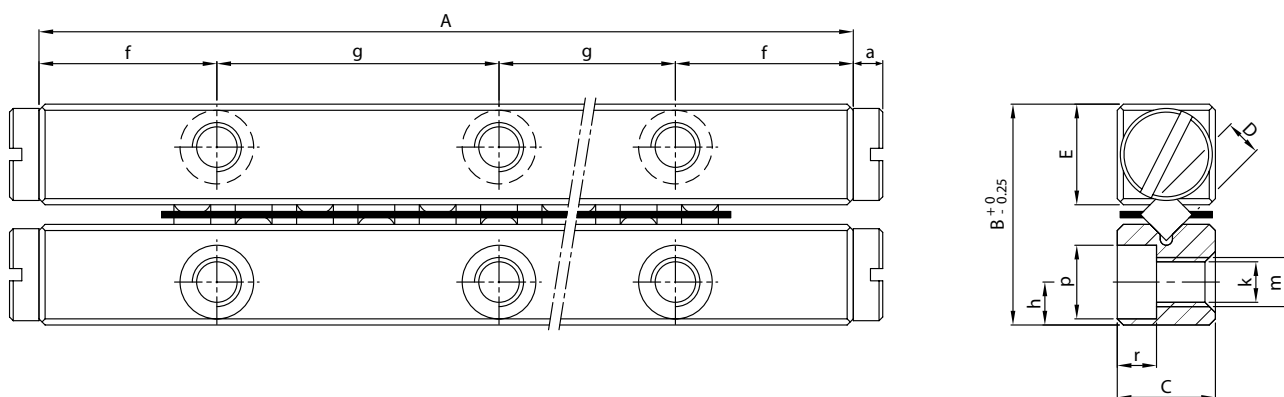
Crossed roller way sets type RSDE-ACC, page 65

- with anti-cage creep solution





Sets RSD



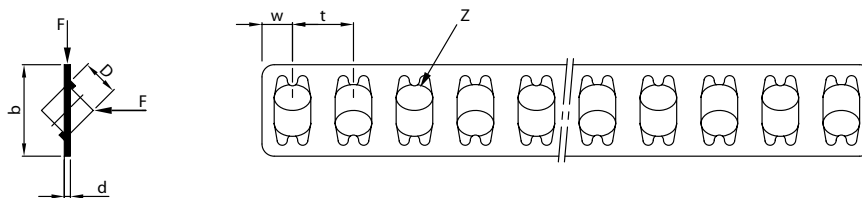
(One set consists: 4 guideways + 2 roller cages AA + 8 endscrews)

RSD Set type		Main dimensions				D	Mounting holes						
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p	
RSD-1520 x 4KZR	RSD- 1520SS x 4KZR	20	8.5	4	3.9	1.5	1 x 10	5	4 x 10	1.8±0.1	1.6	M2	3
RSD-1530 x 6KZR	RSD- 1530SS x 6KZR	30					2 x 10						
RSD-1540 x 8KZR	RSD- 1540SS x 8KZR	40					3 x 10						
RSD-1550 x 10KZR	RSD- 1550SS x10KZR	50					4 x 10						
RSD-1560 x 13KZR	RSD- 1560SS x13KZR	60					5 x 10						
RSD-1570 x 15KZR	RSD- 1570SS x15KZR	70					6 x 10						
RSD-1580 x 17KZR	RSD- 1580SS x17KZR	80					7 x 10						
RSD- 2030 x 5AA	RSD- 2030SS x 5AA	30	12	6	5.5	2	1 x 15	7.5	6 x 15	2.5±0.1	2.5	M3	4.3
RSD- 2045 x 8AA	RSD- 2045SS x 8AA	45					2 x 15						
RSD- 2060 x 11AA	RSD- 2060SS x 11AA	60					3 x 15						
RSD- 2075 x 13AA	RSD- 2075SS x 13AA	75					4 x 15						
RSD- 2090 x 16AA	RSD- 2090SS x 16AA	90					5 x 15						
RSD- 2105 x 18AA	RSD- 2105SS x 18AA	105					6 x 15						
RSD- 2120 x 21AA	RSD- 2120SS x 21AA	120					7 x 15						
RSD- 2135 x 23AA	RSD- 2135SS x 23AA	135					8 x 15						
RSD- 2150 x 26AA	RSD- 2150SS x 26AA	150					9 x 15						
RSD- 2165 x 29AA	RSD- 2165SS x 29AA	165					10 x 15						
RSD- 2180 x 32AA	RSD- 2180SS x 32AA	180					11 x 15						
RSD- 3050 x 7AA	RSD- 3050SS x 7AA	50	18	8	8.2	3	1 x 25	12.5	6 x 25	3.5±0.2	3.2	M4	6
RSD- 3075 x 10AA	RSD- 3075SS x 10AA	75					2 x 25						
RSD- 3100 x 14AA	RSD- 3100SS x 14AA	100					3 x 25						
RSD- 3125 x 17AA	RSD- 3125SS x 17AA	125					4 x 25						
RSD- 3150 x 21AA	RSD- 3150SS x 21AA	150					5 x 25						
RSD- 3175 x 24AA	RSD- 3175SS x 24AA	175					6 x 25						
RSD- 3200 x 28AA	RSD- 3200SS x 28AA	200					7 x 25						
RSD- 3225 x 31AA	RSD- 3225SS x 31AA	225					8 x 25						
RSD- 3250 x 35AA	RSD- 3250SS x 35AA	250					9 x 25						
RSD- 3275 x 38AA	RSD- 3275SS x 38AA	275					10 x 25						
RSD- 3300 x 42AA	RSD- 3300SS x 42AA	300					11 x 25						

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Sets RSD



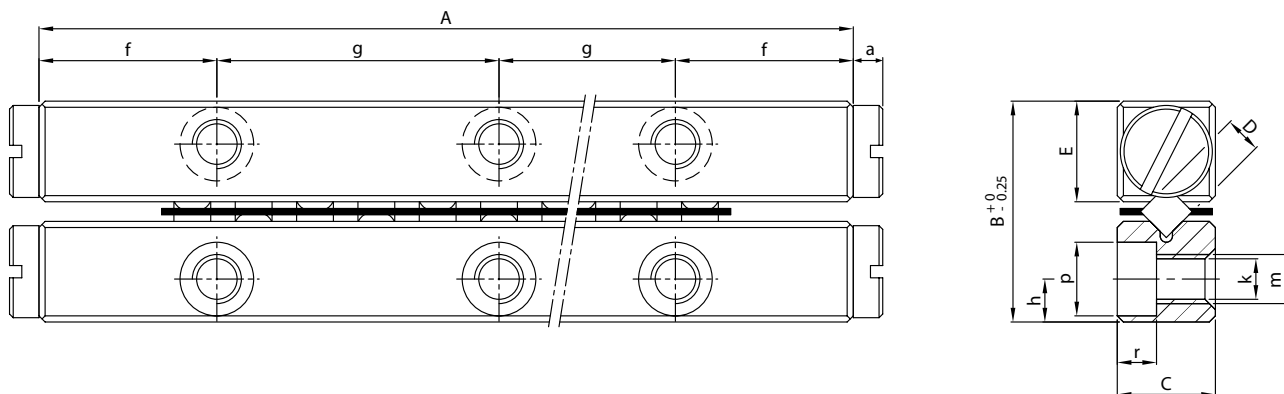
Note ¹ This value is load per one roller, according to European standards
² This value is load per one roller, according to Japanese standards

r	Endstop a	Weight in g	Dynamic load ratings		Roller cage					Stroke	Type
			¹ in N	² in N	b	d	t	w	Z (no. of rollers)		
1.4	1.5	10	52	118	3.8	0.5	3	2.25	4	10	RSD- 1520 x 4KZR
		14							6	18	RSD- 1530 x 6KZR
		18							8	27	RSD- 1540 x 8KZR
		22							10	30	RSD- 1550 x 10KZR
		27							13	35	RSD- 1560 x 13KZR
		31							15	40	RSD- 1570 x 15KZR
		34							17	50	RSD- 1580 x 17KZR
2	2	28	102	206	5.6	0.3	4	2.8	5	18	RSD- 2030 x 5AA
		42							8	24	RSD- 2045 x 8AA
		55							11	30	RSD- 2060 x 11AA
		69							13	44	RSD- 2075 x 13AA
		83							16	50	RSD- 2090 x 16AA
		96							18	64	RSD- 2105 x 18AA
		110							21	70	RSD- 2120 x 21AA
		123							23	84	RSD- 2135 x 23AA
		137							26	90	RSD- 2150 x 26AA
		151							29	95	RSD- 2165 x 29AA
		165							32	100	RSD- 2180 x 32AA
3.2	2.4	94	136	461	7.5	0.5	5	3.5	7	28	RSD- 3050 x 7AA
		135							10	48	RSD- 3075 x 10AA
		187							14	58	RSD- 3100 x 14AA
		234							17	78	RSD- 3125 x 17AA
		281							21	88	RSD- 3150 x 21AA
		327							24	105	RSD- 3175 x 24AA
		374							28	115	RSD- 3200 x 28AA
		421							31	135	RSD- 3225 x 31AA
		468							35	145	RSD- 3250 x 35AA
		514							38	165	RSD- 3275 x 38AA
		561							42	175	RSD- 3300 x 42AA

Units: mm



Sets RSD



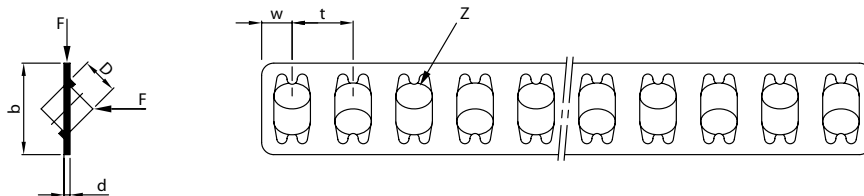
(One set consists: 4 guideways + 2 roller cages AA + 8 endscrews)

RSD Set type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSD- 4080 x 7AA	RSD- 408OSS x 7AA	80	22	11	10	4	20	1 x 40	4.5 $\pm$ 0.2	4.3	M5	7.5
RSD- 4120 x 11AA	RSD- 412OSS x 11AA	120						2 x 40				
RSD- 4160 x 15AA	RSD- 416OSS x 15AA	160						3 x 40				
RSD- 4200 x 19AA	RSD- 420OSS x 19AA	200						4 x 40				
RSD- 4240 x 23AA	RSD- 424OSS x 23AA	240						5 x 40				
RSD- 4280 x 27AA	RSD- 428OSS x 27AA	280						6 x 40				
RSD- 4320 x 31AA	RSD- 432OSS x 31AA	320						7 x 40				
RSD- 4360 x 35AA	RSD- 436OSS x 35AA	360						8 x 40				
RSD- 4400 x 39AA	RSD- 440OSS x 39AA	400						9 x 40				
RSD- 4440 x 43AA	RSD- 444OSS x 43AA	440						10 x 40				
RSD- 4480 x 47AA	RSD- 448OSS x 47AA	480						11 x 40				
RSD- 6100 x 8AA	RSD- 610OSS x 8AA	100	31	15	14	6	25	1 x 50	6 $\pm$ 0.2	5.2	M6	9.5
RSD- 6150 x 12AA	RSD- 615OSS x 12AA	150						2 x 50				
RSD- 6200 x 15AA	RSD- 620OSS x 15AA	200						3 x 50				
RSD- 6250 x 19AA	RSD- 625OSS x 19AA	250						4 x 50				
RSD- 6300 x 23AA	RSD- 630OSS x 23AA	300						5 x 50				
RSD- 6350 x 27AA	RSD- 635OSS x 27AA	350						6 x 50				
RSD- 6400 x 30AA	RSD- 640OSS x 30AA	400						7 x 50				
RSD- 6450 x 34AA	RSD- 645OSS x 34AA	450						8 x 50				
RSD- 6500 x 38AA	RSD- 650OSS x 38AA	500						9 x 50				
RSD- 6600 x 46AA	RSD- 660OSS x 46AA	600						11 x 50				

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Sets RSD



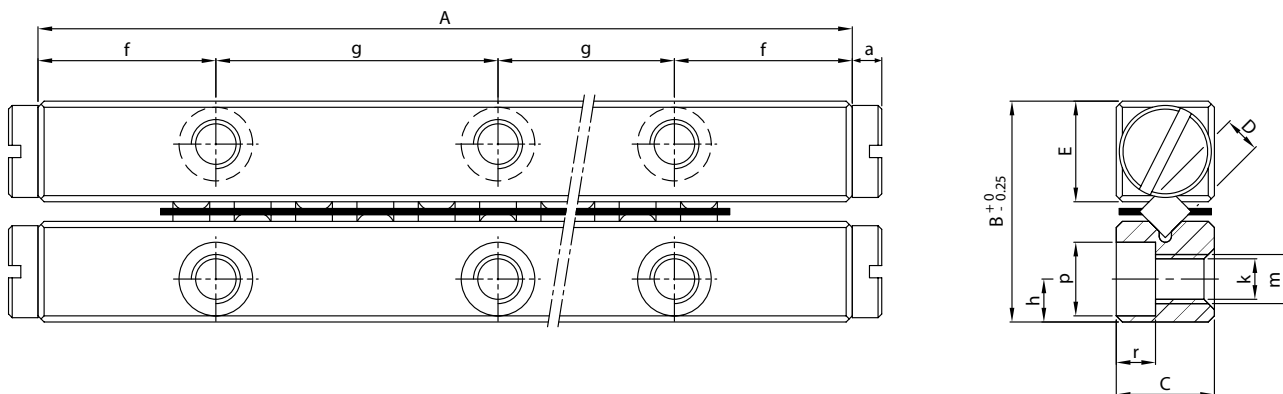
Note ¹ This value is load per one roller, according to European standards
² This value is load per one roller, according to Japanese standards

r	Endstop a	Weight in g	Dynamic load ratings		Roller cage				Stroke	Type
			¹ in N	² in N	b	d	t	w		
4.1	2.7	282	265	911	10	0.5	7	5	58	RSD- 4080 x 7AA
		420							82	RSD- 4120 x 11AA
		561							105	RSD- 4160 x 15AA
		702							130	RSD- 4200 x 19AA
		843							150	RSD- 4240 x 23AA
		985							175	RSD- 4280 x 27AA
		1121							200	RSD- 4320 x 31AA
		1263							225	RSD- 4360 x 35AA
		1405							250	RSD- 4400 x 39AA
		1545							270	RSD- 4440 x 43AA
		1687							295	RSD- 4480 x 47AA
5.2	3.7	627	540	2240	14	0.75	9	6	55	RSD- 6100 x 8AA
		942							84	RSD- 6150 x 12AA
		1260							120	RSD- 6200 x 15AA
		1570							150	RSD- 6250 x 19AA
		1880							185	RSD- 6300 x 23AA
		2200							214	RSD- 6350 x 27AA
		2510							245	RSD- 6400 x 30AA
		2830							280	RSD- 6450 x 34AA
		3140							310	RSD- 6500 x 38AA
		3770							360	RSD- 6600 x 46AA

Units: mm



Sets RSD



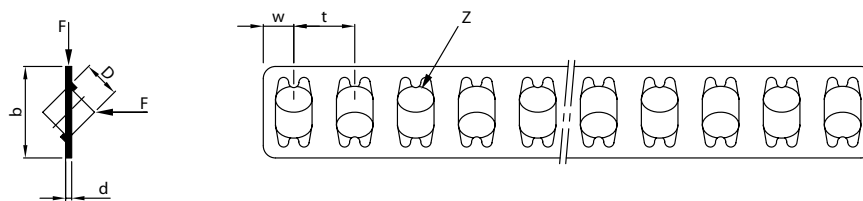
(One set consists: 4 guideways + 2 roller cages AA + 8 endscrews)

RSD Set Type		Main dimensions				D	Mounting holes					
Standard	Corrosion Resistant	A	B	C	E		f	g	h	k	m	p
RSD- 9200 x 10AA	RSD- 9200SS x 10AA	200						1 x 100				
RSD- 9300 x 15AA	RSD- 9300SS x 15AA	300						2 x 100				
RSD- 9400 x 20AA	RSD- 9400SS x 20AA	400						3 x 100				
RSD- 9500 x 25AA	RSD- 9500SS x 25AA	500						4 x 100				
RSD- 9600 x 30AA	RSD- 9600SS x 30AA	600						5 x 100				
RSD- 9700 x 35AA	RSD- 9700SS x 35AA	700	44	22	19.8	9	50	6 x 100	9 ± 0.2	6.8	M8	11
RSD- 9800 x 40AA	RSD- 9800SS x 40AA	800						7 x 100				
RSD- 9900 x 45AA	RSD- 9900SS x 45AA	900						8 x 100				
RSD- 91000 x 50AA	RSD-91000SS x 50AA	1000						9 x 100				
RSD- 91100 x 55AA	RSD-91100SS x 55AA	1100						10 x 100				
RSD- 91200 x 60AA	RSD-91200SS x 60AA	1200						11 x 100				
RSD- 12200 x 7AA	on request	200						1 x 100				
RSD- 12300 x 11AA	-	300						2 x 100				
RSD- 12400 x 15AA	-	400						3 x 100				
RSD- 12500 x 18AA	-	500						4 x 100				
RSD- 12600 x 23AA	-	600						5 x 100				
RSD- 12700 x 26AA	-	700	58	28	25.9	12	50	6 x 100	12 ± 0.2	8.5	M10	13.5
RSD- 12800 x 31AA	-	800						7 x 100				
RSD- 12900 x 34AA	-	900						8 x 100				
RSD- 121000 x 37AA	-	1000						9 x 100				
RSD- 121100 x 42AA	-	1100						10 x 100				
RSD- 121200 x 46AA	-	1200						11 x 100				

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Sets RSD



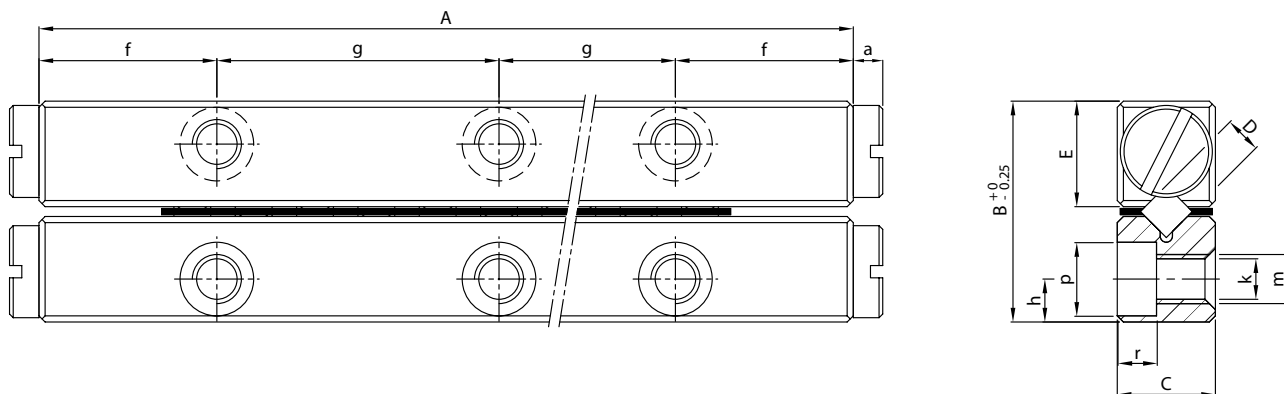
Note ¹ This value is load per one roller, according to European standards
² This value is load per one roller, according to Japanese standards

r	Endstop a	Weight in g	Dynamic load ratings		Roller cage					Stroke	Type
			¹ in N	² in N	b	d	t	w	Z no of rollers		
6.2	4.2	2720	1350	4410	20	1	14	9.5	10	115	RSD- 9200 x 10AA
		4030							15	175	RSD- 9300 x 15AA
		5380							20	235	RSD- 9400 x 20AA
		6700							25	295	RSD- 9500 x 25AA
		8050							30	355	RSD- 9600 x 30AA
		9230							35	415	RSD- 9700 x 35AA
		10.501							40	475	RSD- 9800 x 40AA
		11.900							45	535	RSD- 9900 x 45AA
		13.000							50	595	RSD- 91000 x 50AA
		14.099							55	655	RSD- 91100 x 55AA
		15.200							60	715	RSD- 91200 x 60AA
8.3	5.3	4670	2560	7450	26	1.2	18	12	7	120	RSD- 12200 x 7AA
		6880							11	200	RSD- 12300 x 11AA
		9090							15	240	RSD- 12400 x 15AA
		11.400							18	320	RSD- 12500 x 18AA
		13.700							23	360	RSD- 12600 x 23AA
		15.800							26	440	RSD- 12700 x 26AA
		18.200							31	480	RSD- 12800 x 31AA
		20.500							34	560	RSD- 12900 x 34AA
		22.800							37	640	RSD- 121000 x 37AA
		25.000							42	680	RSD- 121100 x 42AA
		27.300							46	720	RSD- 121200 x 46AA

Units: mm



Sets RSDE



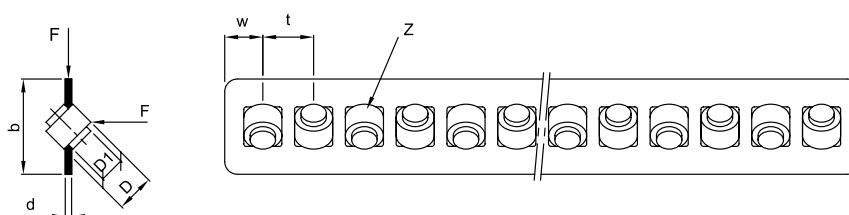
(One set consists: 4 guideways + 2 roller cages RE + 8 endscrews)

RSDE Set Type		Main dimensions					Mounting holes					
Standard	Corrosion Resistant	A	B	C	E	D	f	g	h	k	m	p
RSDE- 3050 x 7RE	RSDE- 3050SS x 7RE	50					1 x 25					
RSDE- 3075 x 10RE	RSDE- 3075SS x 10RE	75					2 x 25					
RSDE- 3100 x 14RE	RSDE- 3100SS x 14RE	100					3 x 25					
RSDE- 3125 x 17RE	RSDE- 3125SS x 17RE	125					4 x 25					
RSDE- 3150 x 21RE	RSDE- 3150SS x 21RE	150					5 x 25					
RSDE- 3175 x 24RE	RSDE- 3175SS x 24RE	175	18	8	8.6	3	12.5	6 x 25	3.5 $\pm$ 0.2	3.2	M4	6
RSDE- 3200 x 28RE	RSDE- 3200SS x 28RE	200					7 x 25					
RSDE- 3225 x 31RE	RSDE- 3225SS x 31RE	225					8 x 25					
RSDE- 3250 x 35RE	RSDE- 3250SS x 35RE	250					9 x 25					
RSDE- 3275 x 38RE	RSDE- 3275SS x 38RE	275					10 x 25					
RSDE- 3300 x 42RE	RSDE- 3300SS x 42RE	300					11 x 25					
RSDE- 4080 x 7RE	RSDE- 4080SS x 7RE	80					1 x 40					
RSDE- 4120 x 11RE	RSDE- 4120SS x 11RE	120					2 x 40					
RSDE- 4160 x 15RE	RSDE- 4160SS x 15RE	160					3 x 40					
RSDE- 4200 x 19RE	RSDE- 4200SS x 19RE	200					4 x 40					
RSDE- 4240 x 23RE	RSDE- 4240SS x 23RE	240					5 x 40					
RSDE- 4280 x 27RE	RSDE- 4280SS x 27RE	280	22	11	10.6	4	20	6 x 40	4.5 $\pm$ 0.2	4.2	M5	7.5
RSDE- 4320 x 31RE	RSDE- 4320SS x 31RE	320					7 x 40					
RSDE- 4360 x 35RE	RSDE- 4360SS x 35RE	360					8 x 40					
RSDE- 4400 x 39RE	RSDE- 4400SS x 39RE	400					9 x 40					
RSDE- 4440 x 43RE	RSDE- 4440SS x 43RE	440					10 x 40					
RSDE- 4480 x 47RE	RSDE- 4480SS x 47RE	480					11 x 40					

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Sets RSDE



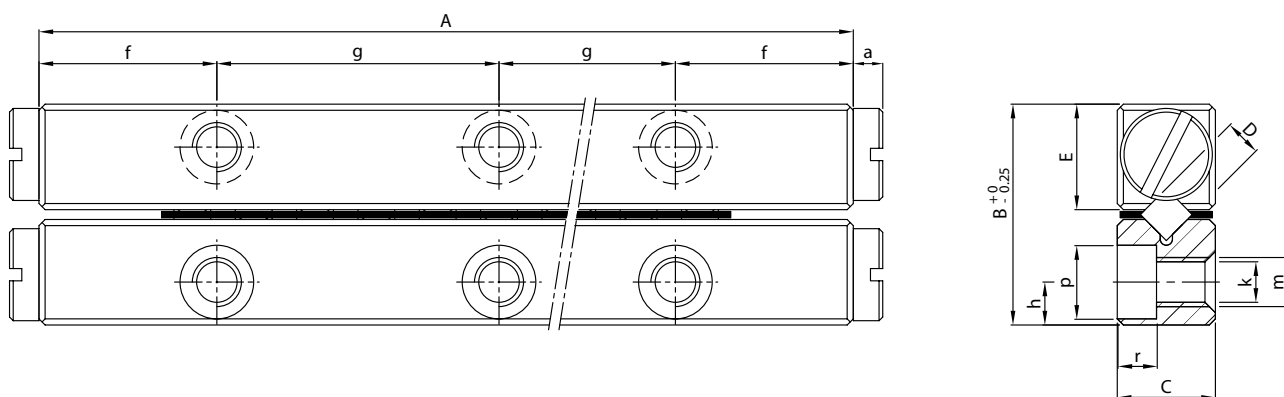
Note ¹ This value is load per one roller, according to European standards

r	Endstop a	Weight in g	Dynamic load ratings ¹ in N	Roller cage					Z no. of rollers	Stroke	Type
3.2	2.4	112	392	7	0.5	2	5	2.5	7	28	RSDE- 3050 x 7RE
		161							10	48	RSDE- 3075 x 10RE
		206							14	58	RSDE- 3100 x 14RE
		256							17	78	RSDE- 3125 x 17RE
		310							21	88	RSDE- 3150 x 21RE
		360							24	105	RSDE- 3175 x 24RE
		404							28	115	RSDE- 3200 x 28RE
		454							31	135	RSDE- 3225 x 31RE
		505							35	145	RSDE- 3250 x 35RE
		551							38	165	RSDE- 3275 x 38RE
		601							42	175	RSDE- 3300 x 42RE
4.1	2.7	314	785	9	0.5	3	7	5	7	58	RSDE- 4080 x 7RE
		471							11	82	RSDE- 4120 x 11RE
		628							15	105	RSDE- 4160 x 15RE
		785							19	130	RSDE- 4200 x 19RE
		942							23	150	RSDE- 4240 x 23RE
		1099							27	175	RSDE- 4280 x 27RE
		1256							31	200	RSDE- 4320 x 31RE
		1413							35	225	RSDE- 4360 x 35RE
		1570							39	250	RSDE- 4400 x 39RE
		1727							43	270	RSDE- 4440 x 43RE
		1884							47	295	RSDE- 4480 x 47RE

Units: mm



Sets RSDE



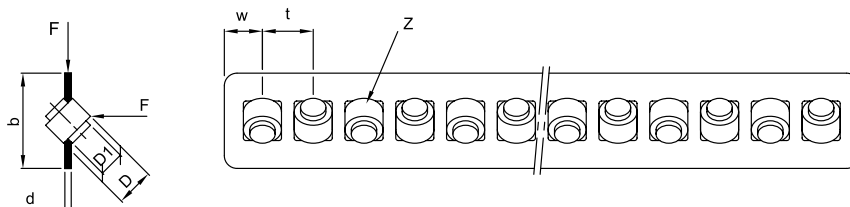
(One set consists: 4 guideways + 2 roller cages RE + 8 endscrews)

RSDE Set Type		Main dimensions					Mounting holes					
Standard	Corrosion Resistant	A	B	C	E	D	f	g	h	k	m	p
RSDE- 6100 x 8RE	RSDE- 6100SS x 8RE	100					1 x 50					
RSDE- 6150 x 12RE	RSDE- 6150SS x 12RE	150					2 x 50					
RSDE- 6200 x 15RE	RSDE- 6200SS x 15RE	200					3 x 50					
RSDE- 6250 x 19RE	RSDE- 6250SS x 19RE	250					4 x 50					
RSDE- 6300 x 23RE	RSDE- 6300SS x 23RE	300					5 x 50					
RSDE- 6350 x 27RE	RSDE- 6350SS x 27RE	350	31	15	14.9	6	25	6 x 50	6 ^{+0.2}	5.2	M6	9.5
RSDE- 6400 x 30RE	RSDE- 6400SS x 30RE	400					7 x 50					
RSDE- 6450 x 34RE	RSDE- 6450SS x 34RE	450					8 x 50					
RSDE- 6500 x 38RE	RSDE- 6500SS x 38RE	500					9 x 50					
RSDE- 6600 x 46RE	RSDE- 6600SS x 46RE	600					11 x 50					
RSDE- 9200 x 10RE	RSDE- 9200SS x 10RE	200					1 x 100					
RSDE- 9300 x 15RE	RSDE- 9300SS x 15RE	300					2 x 100					
RSDE- 9400 x 20RE	RSDE- 9400SS x 20RE	400					3 x 100					
RSDE- 9500 x 25RE	RSDE- 9500SS x 25RE	500					4 x 100					
RSDE- 9600 x 30RE	RSDE- 9600SS x 30RE	600					5 x 100					
RSDE- 9700 x 35RE	RSDE- 9700SS x 35RE	700	44	22	21.3	9	50	6 x 100	9 ^{+0.2}	6.8	M8	11
RSDE- 9800 x 40RE	RSDE- 9800SS x 40RE	800					7 x 100					
RSDE- 9900 x 45RE	RSDE- 9900SS x 45RE	900					8 x 100					
RSDE- 91000 x 50RE	RSDE- 91000SS x 50RE	1000					9 x 100					
RSDE- 91100 x 55RE	RSDE- 91100SS x 55RE	1100					10 x 100					
RSDE- 91200 x 60RE	RSDE- 91200SS x 60RE	1200					11 x 100					

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Sets RSDE



Note ¹ This value is load per one roller, according to European standards

r	Endstop a	Weight in g	Dynamic load ratings ¹ in N	Roller cage					Z no. of rollers	Stroke	Type
5.2	3.7	646	1765	13.5	0.8	4.4	9	6	8	55	RSDE- 6100 x 8RE
		964							12	84	RSDE- 6150 x 12RE
		1287							15	120	RSDE- 6200 x 15RE
		1606							19	150	RSDE- 6250 x 19RE
		1933							23	185	RSDE- 6300 x 23RE
		2252							27	214	RSDE- 6350 x 27RE
		2575							30	245	RSDE- 6400 x 30RE
		2906							34	280	RSDE- 6450 x 34RE
		3216							38	310	RSDE- 6500 x 38RE
		3853							46	360	RSDE- 6600 x 46RE
6.2	4.2	2772	4315	19	1	7	14	9	10	115	RSDE- 9200 x 10RE
		4158							15	175	RSDE- 9300 x 15RE
		5543							20	235	RSDE- 9400 x 20RE
		6930							25	295	RSDE- 9500 x 25RE
		8316							30	355	RSDE- 9600 x 30RE
		9701							35	415	RSDE- 9700 x 35RE
		11.090							40	475	RSDE- 9800 x 40RE
		12.470							45	535	RSDE- 9900 x 45RE
		13.860							50	595	RSDE- 91000 x 50RE
		15.250							55	655	RSDE- 91100 x 55RE
		16.631							60	715	RSDE- 91200 x 60RE

Units: mm



Zero Cage Creep

High Acceleration 15G

Compact & Cost Saving Design

**Integrated in Crossed Roller
Bearing Design**

All metal design



The Problem

Creeping of the Cage

Shorter production times constantly push machine designers to reach higher speeds, decrease the size and weight of their designs, while increasing machine travel and positioning accuracy to its limits.

Cage creep can occur in non-recirculating linear bearing applications where vibrations, improper mounting, very high-acceleration and de-acceleration, inadequate tolerances on the mounting surfaces, uneven preloading or moment loading is present.

As the cage creeps out from original position there is an increase of friction, reduction of travel length and premature wear of the linear bearings. This shortens the lifetime and can lead to premature failures.

Our Solution

= the ACC-Solution

Our engineers refreshed a superior solution for use in high-tech and extreme dynamic applications. The ACC solution has proven its ability for decades to prevent cage creep in the most demanding applications and under the most severe environment conditions. The ACC system is integrated in the design of the linear bearing without influencing the external boundary or mounting dimensions. This allows you to replace the bearings in existing problem applications with the ACC solution.

The test results prove:

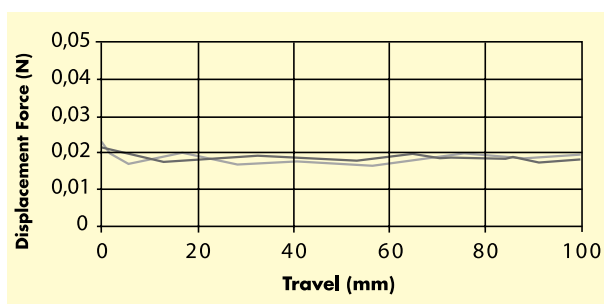
- No increase of friction
- No reduction of accuracy
- No influence of lubrication
- Increase operational life to its limits
- Zero cage creeping
- For all mounting orientations
- Easy to assemble



The **ACC** system is the best and most effective solution available. Precision rails with **ACC** option are currently available with the RSDE-series in all accuracy grades.

Friction Force

The **ACC** solution is designed and manufactured with the greatest care. Therefore, as you can see on the graph below, the force that must be applied to overcome friction is essentially unchanged.



Applications

The **ACC** solution is well suited for the high speed, high precision demands of the electronics and semiconductor industry for applications like wire bonding stages and pick-and-place units



Operating Temperature

Linear bearings with **ACC** solution can operate under temperatures of -40°C up to +80°C. This is a significant advantage over similar systems using plastic components.

Acceleration

Max. acceleration = 150 m/s² (15G)



Standard linear bearing railset with ACC solution consists of:

4 pcs. Guideways type **RSDE** with **ACC**

2 pcs. Roller cages type **RE** with **ACC** (rollers retained)

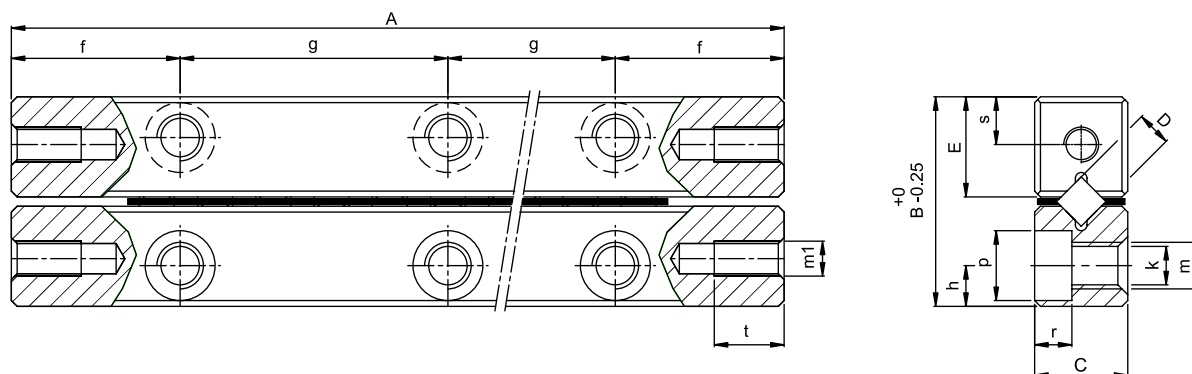
End screws not necessary

Optional:

End screws GA (catalog linear bearings, RSDE type)

Attachment screws GD

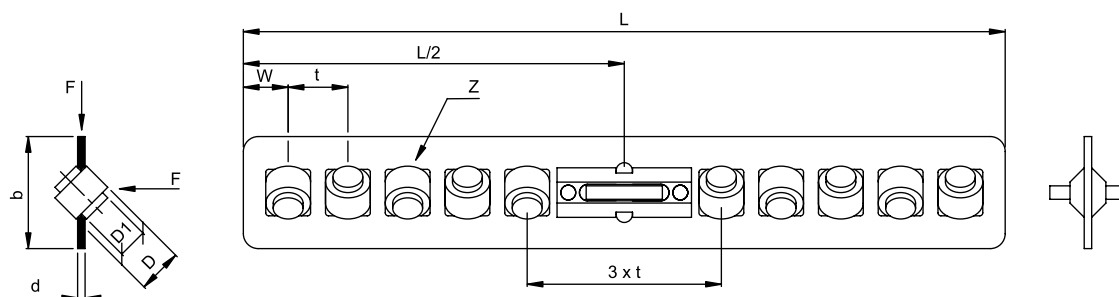
World leading manufacturers have selected the **ACC**-system as the best anti cage creep solution available in the market. Our all metal design provides dependable service in the most demanding applications where other designs that contain plastic components may fail.



(one set consists of: 4 guideways + 2 roller cages, both with ACC option)

RSDE-ACC set type	Main dimensions					D	Mounting holes								Endholes		
	A	B	C	E	f		g	h	k	m	p	r	m	l	s	t	
RSDE- 3050 x 6RE – ACC	50	18	8	8.6	3	1 x 25								M3	4.1	5.5	
RSDE- 3075 x 8RE – ACC	75					2 x 25											
RSDE- 3100 x 12RE – ACC	100					3 x 25											
RSDE- 3125 x 14RE – ACC	125					4 x 25											
RSDE- 3150 x 18RE – ACC	150					5 x 25											
RSDE- 3175 x 22RE – ACC	175					12.5	6 x 25	3.5 ^{±0.2}	3.2	M4	6	3.2					
RSDE- 3200 x 26RE – ACC	200					7 x 25											
RSDE- 3225 x 30RE – ACC	225					8 x 25											
RSDE- 3250 x 34RE – ACC	250					9 x 25											
RSDE- 3275 x 36RE – ACC	275					10 x 25											
RSDE- 3300 x 40RE – ACC	300					11 x 25											
RSDE- 4080 x 6RE – ACC	80	22	11	10.6	4	1 x 40								M3	5	7	
RSDE- 4120 x 10RE – ACC	120					2 x 40											
RSDE- 4160 x 14RE – ACC	160					3 x 40											
RSDE- 4200 x 18RE – ACC	200					4 x 40											
RSDE- 4240 x 22RE – ACC	240					20	5 x 40	4.5 ^{±0.2}	4.2	M5	7.5	4.1					
RSDE- 4280 x 26RE – ACC	280					6 x 40											
RSDE- 4320 x 30RE – ACC	320					7 x 40											
RSDE- 4360 x 34RE – ACC	360					8 x 40											
RSDE- 4400 x 38RE – ACC	400					9 x 40											

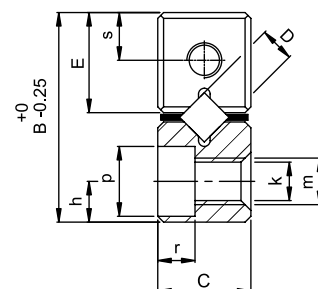
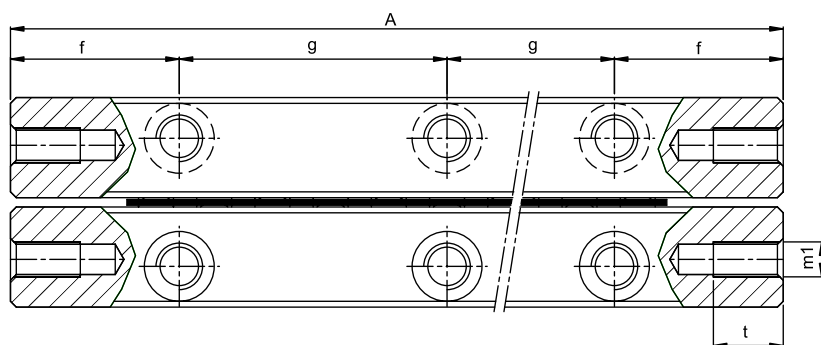
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Weight in g	Dyn. load rating in N	Roller cage						Z no. of rollers	L	Stroke	Type
		b	d	D1	t	w					
116	4704	7	0.5	2	5	2.5	6	40	20	RSDE- 3050 x 6RE – ACC	
161	6272						8	50	50	RSDE- 3075 x 8RE – ACC	
210	9408						12	70	60	RSDE- 3100 x 12RE – ACC	
259	10976						14	80	90	RSDE- 3125 x 14RE – ACC	
310	14112						18	100	100	RSDE- 3150 x 18RE – ACC	
365	17248						22	120	110	RSDE- 3175 x 22RE – ACC	
405	20384						26	140	120	RSDE- 3200 x 26RE – ACC	
457	23520						30	160	130	RSDE- 3225 x 30RE – ACC	
507	26656						34	180	140	RSDE- 3250 x 34RE – ACC	
555	28224						36	190	170	RSDE- 3275 x 36RE – ACC	
605	31360						40	210	180	RSDE- 3300 x 40RE – ACC	
317	9420	9	0.5	3	7	4	6	57	48	RSDE- 4080 x 6RE – ACC	
475	15700						10	85	72	RSDE- 4120 x 10RE – ACC	
630	21980						14	113	96	RSDE- 4160 x 14RE – ACC	
788	28260						18	141	120	RSDE- 4200 x 18RE – ACC	
945	34540						22	169	144	RSDE- 4240 x 22RE – ACC	
1112	40820						26	197	168	RSDE- 4280 x 26RE – ACC	
1259	47100						30	225	192	RSDE- 4320 x 30RE – ACC	
1416	53380						34	253	216	RSDE- 4360 x 34RE – ACC	
1573	59660						38	281	240	RSDE- 4400 x 38RE – ACC	

Units: mm

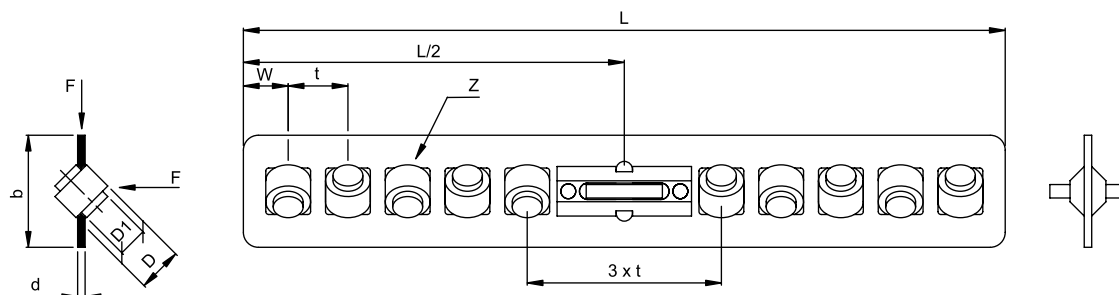
Units: mm



(one set consists of: 4 guideways + 2 roller cages, both with ACC option)

RSDE-ACC set type	Main dimensions					Mounting holes										Endholes		
	A	B	C	E	D	f	g	h	k	m	p	r	m1	s	t			
RSDE-6100 x 6RE-ACC	100					1 x 50												
RSDE-6150 x 10RE-ACC	150					2 x 50												
RSDE-6200 x 12RE-ACC	200					3 x 50												
RSDE-6250 x 16RE-ACC	250					4 x 50												
RSDE-6300 x 20RE-ACC	300	31	15	14.9	6	25	5 x 50	6 ± 0.2	5.2	M6	9.5	5.2	M5	7	8.5			
RSDE-6350 x 24RE-ACC	350						6 x 50											
RSDE-6400 x 28RE-ACC	400						7 x 50											
RSDE-6450 x 32RE-ACC	450						8 x 50											
RSDE-6500 x 36RE-ACC	500						9 x 50											
RSDE-9200 x 8RE-ACC	200					1 x 100												
RSDE-9300 x 12RE-ACC	300					2 x 100												
RSDE-9400 x 16RE-ACC	400	44	22	21.3	9	50	3 x 100	9 ± 0.2	6.8	M8	11	6.2	M6	9.9	10			
RSDE-9500 x 22RE-ACC	500						4 x 100											
RSDE-9600 x 26RE-ACC	600						5 x 100											

For 2D & 3D drawings → e-mail to info@pmbearings.nl



Weight in g	Dyn. load rating in N	Roller cages							Stroke	Type
		b	d	D1	t	w	Z no. of rollers	L		
650	21180						6	75	56	RSDE- 6100 x 6RE-ACC
968	35300						10	111	84	RSDE- 6150 x 10RE-ACC
1291	42360						12	129	148	RSDE- 6200 x 12RE-ACC
1610	56480						16	165	176	RSDE- 6250 x 16RE-ACC
1936	70600	3.5	0.8	4.4	9	6	20	201	204	RSDE- 6300 x 20RE-ACC
2254	84720						24	237	232	RSDE- 6350 x 24RE-ACC
2578	98840						28	273	260	RSDE- 6400 x 28RE-ACC
2910	112960						32	309	288	RSDE- 6450 x 32RE-ACC
3218	127080						36	345	316	RSDE- 6500 x 36RE-ACC
2774	69040						8	144	120	RSDE- 9200 x 8RE-ACC
4162	103560						12	200	208	RSDE- 9300 x 12RE-ACC
5547	138080	19	1	7	14	9	16	256	296	RSDE- 9400 x 16RE-ACC
6933	189860						22	340	328	RSDE- 9500 x 22RE-ACC
8319	224380						26	396	416	RSDE- 9600 x 26RE-ACC

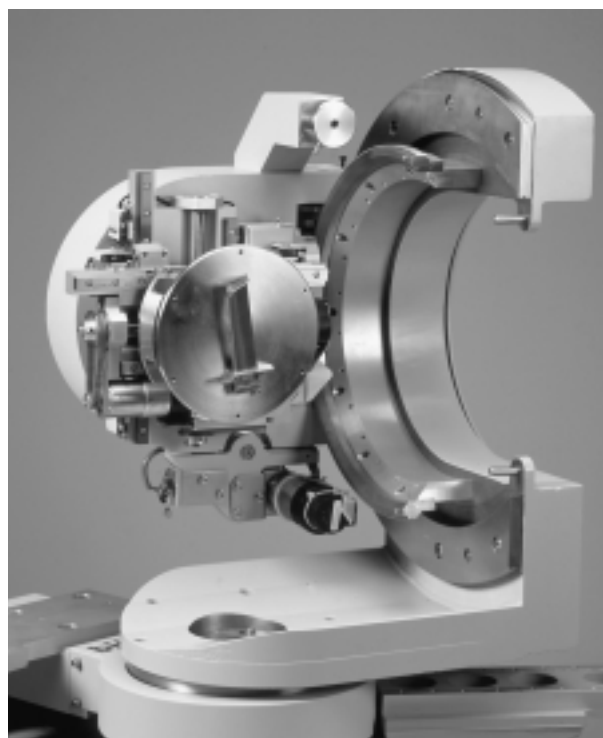
Units: mm



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Cat. Nr. LB05.1-E