



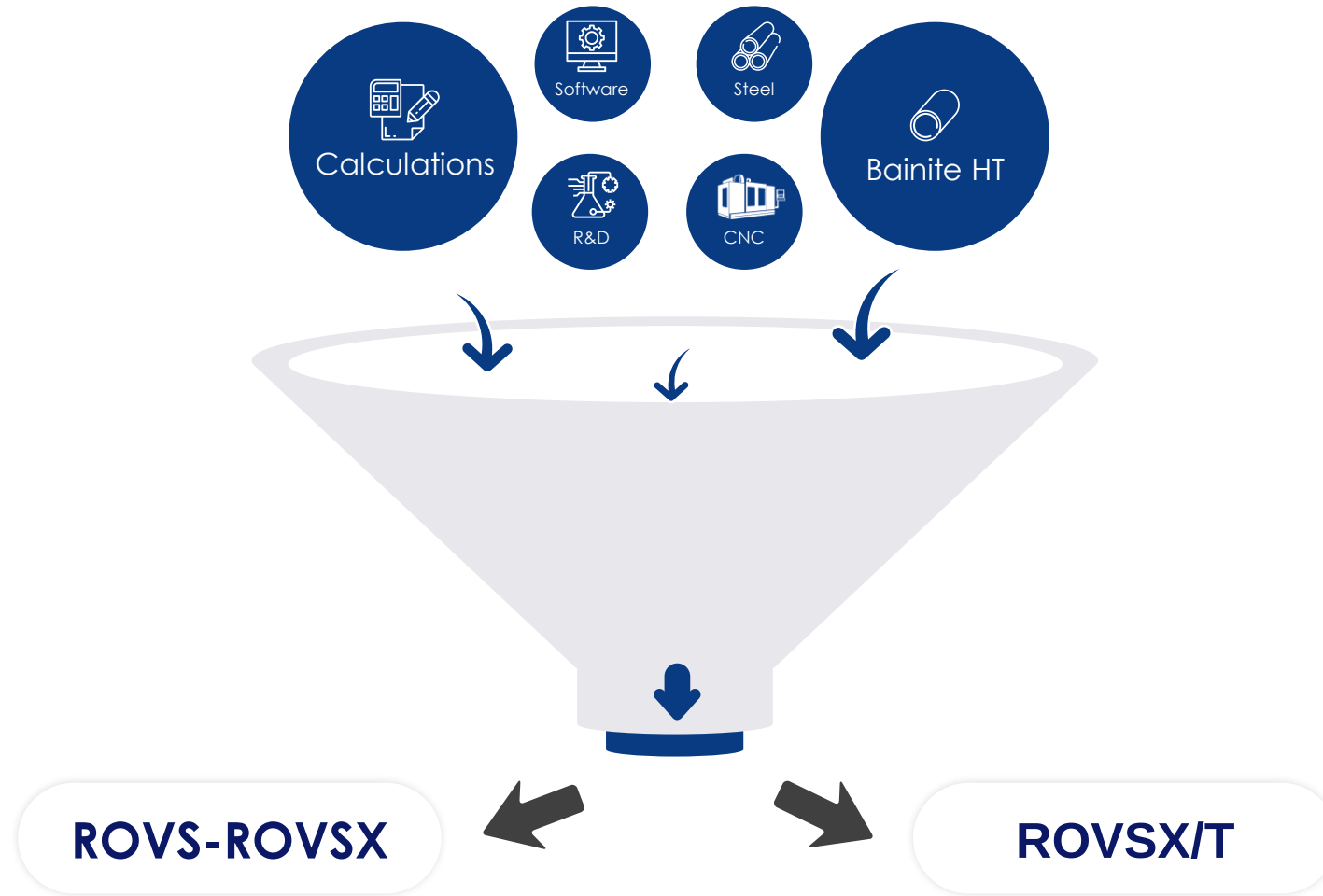
RKB SPHERICAL ROLLER BEARINGS:

ROVS-ROVSX & ROVSX/T CLASSES FOR VIBRATING MACHINERY

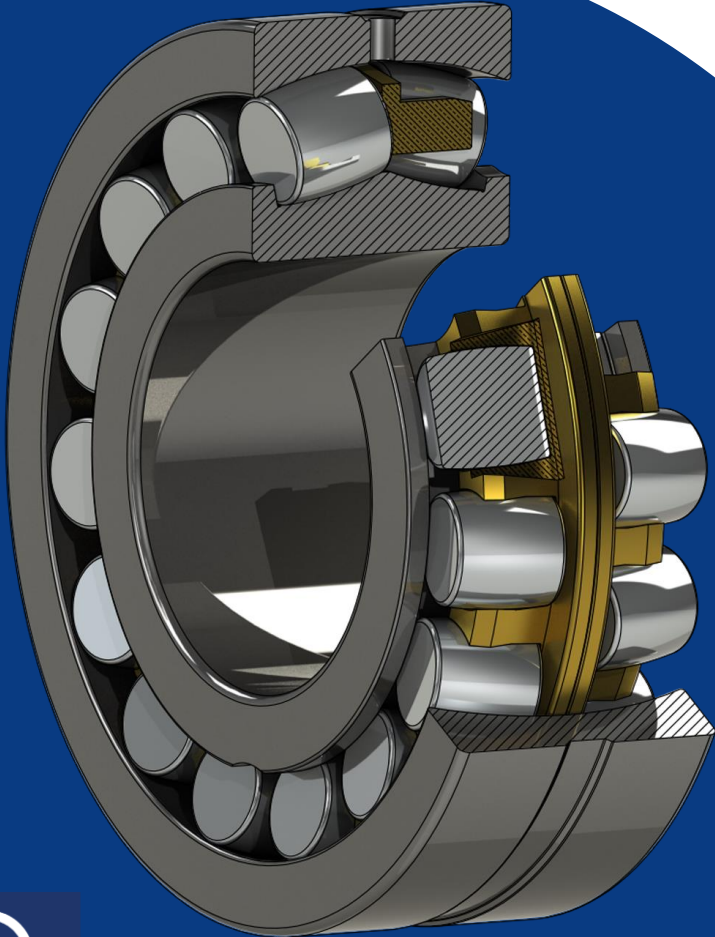


AB_Rev.02
Application Engineering
26/06/2019

RKB LATEST TECHNOLOGY



RKB ROVS-ROVSX - BEARING DESIGN



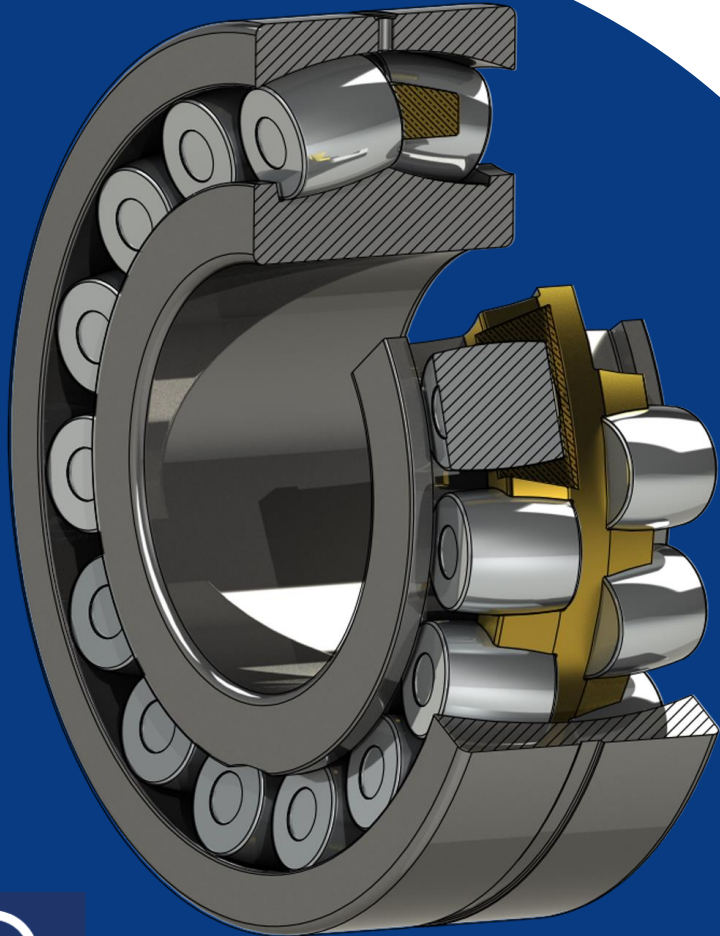
Bearing Design:

- One inner ring with retaining flanges
- One outer ring
- Two-piece machined brass cage guided on the outer ring
- Two rows of spherical rollers

RKB ROVS-ROVSX - BEARING ASSEMBLY



RKB ROVSX/T - BEARING DESIGN



Bearing Design:

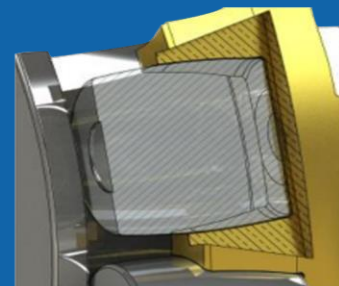
- One inner ring with retaining flanges
- One outer ring
- Machined brass one-piece cage guided on the inner ring (cage also available in **HBSC1**)
- Optimized cage pocket design
- Two rows of spherical rollers

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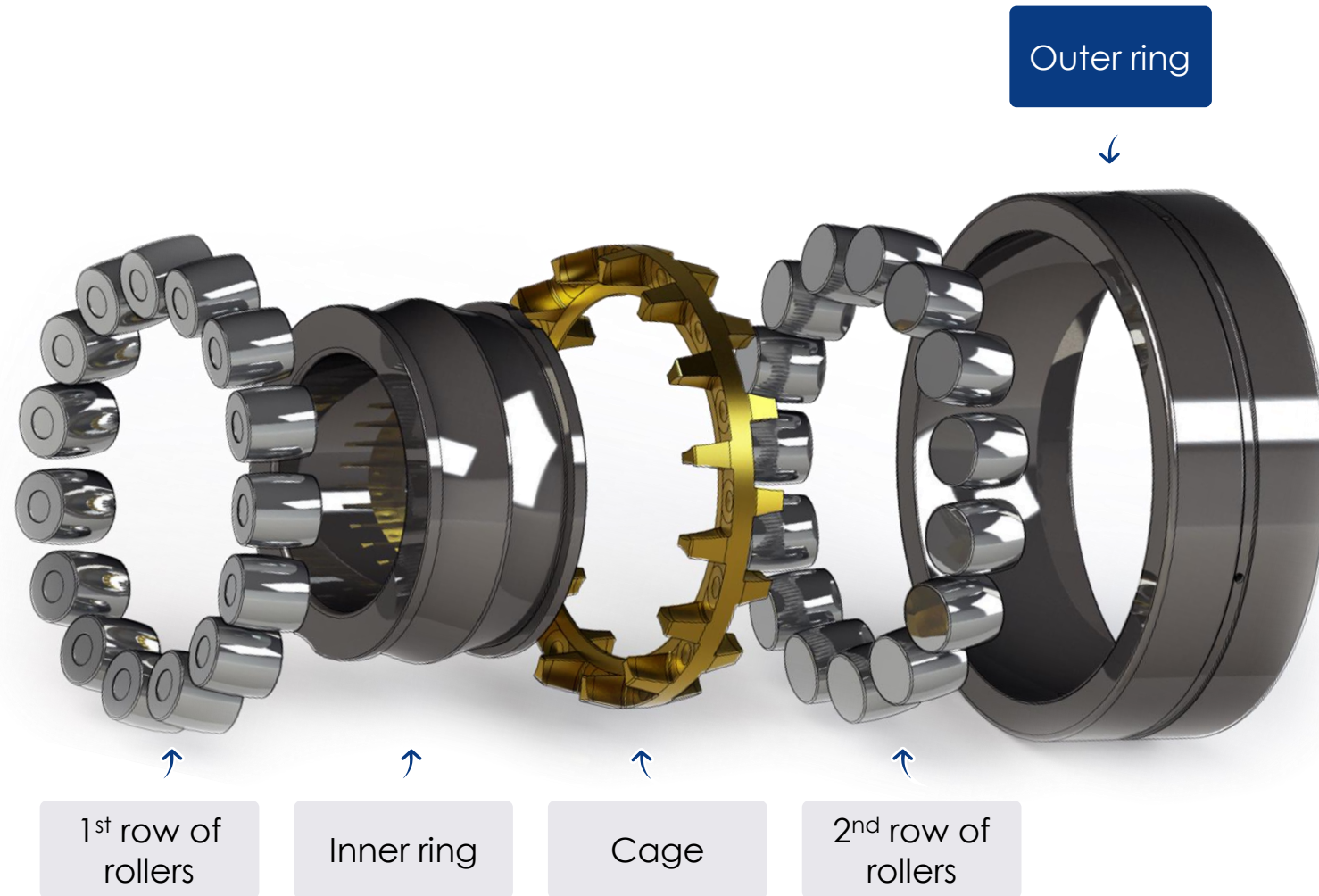
CALCULATIONS



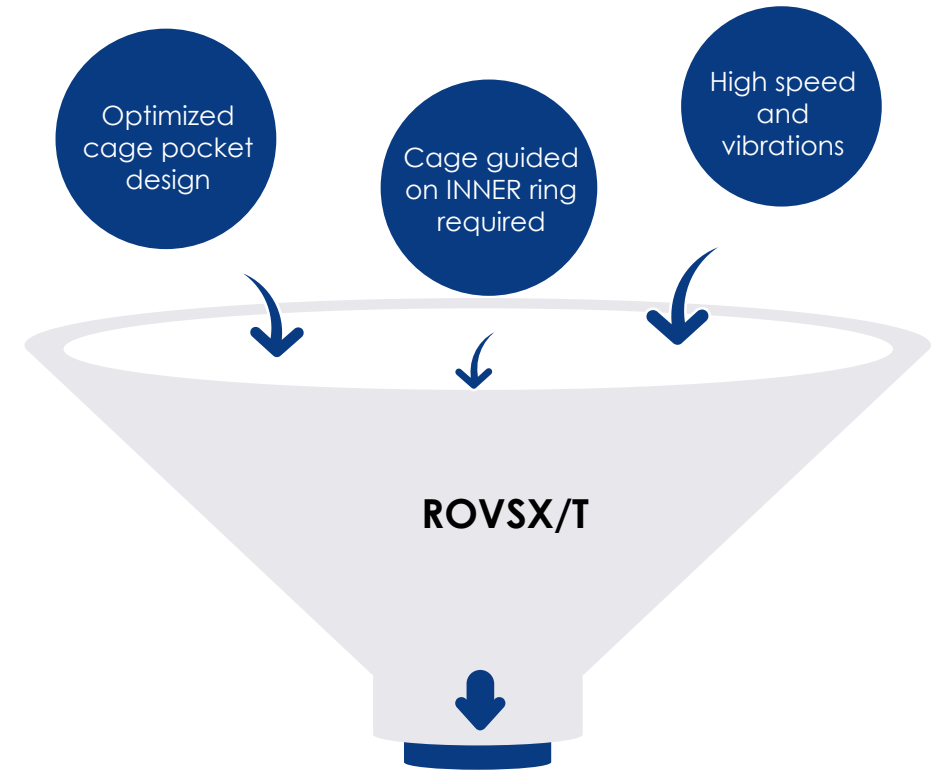
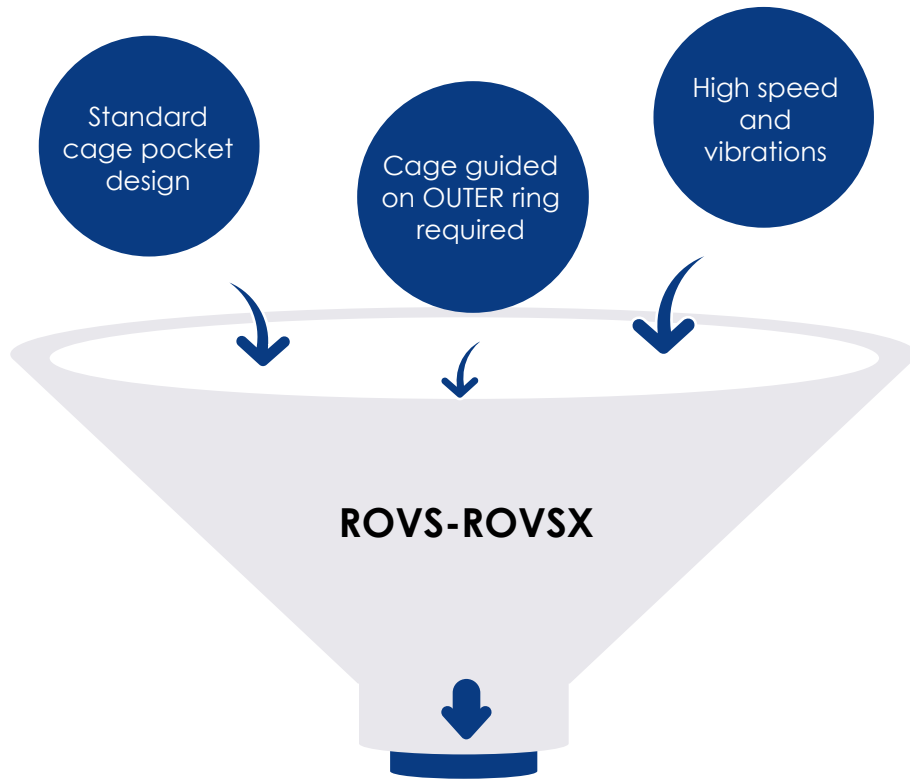
R&D



RKB ROVSX/T - BEARING ASSEMBLY



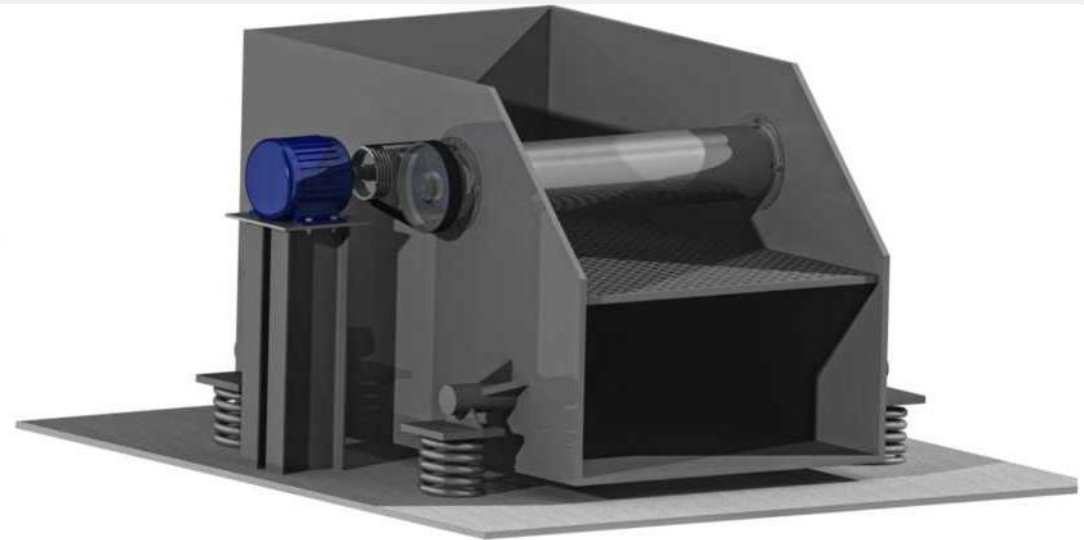
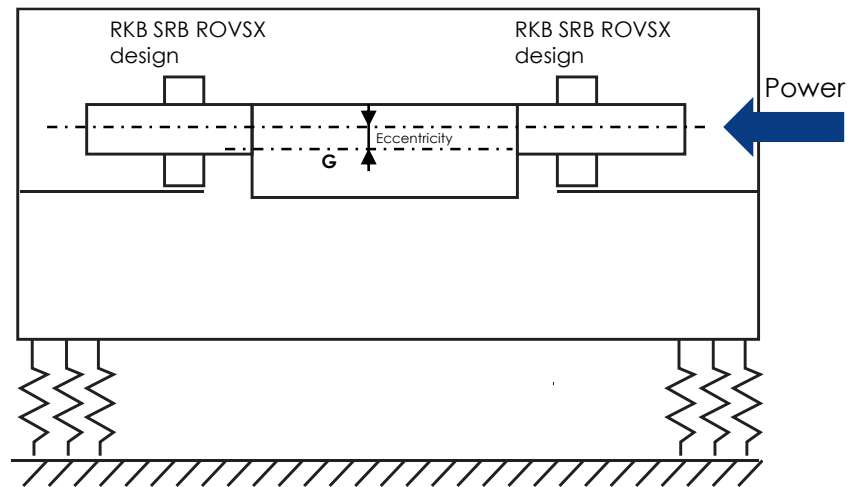
RKB APPLICATION GUIDELINES



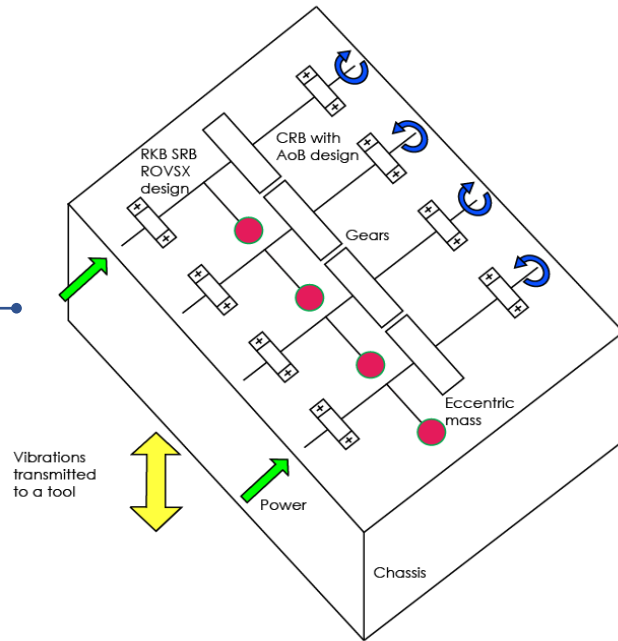
The RKB R&D developed two different bearing designs to meet all customers' needs

Vibrating screen

The RKB ROVS-ROVSX and ROVSX/T spherical roller bearings are used in vibrating screens with excellent results. The vibrations produced by the shaft, due to the eccentricity between the axis of revolution and the center of mass or due to unbalanced masses, are transmitted from the shaft to the machine through the bearings (a system of springs separates the machine from the ground).



Vibrating hammer



Key

- SRB: spherical roller bearing
- CRB with AOB design: cylindrical roller bearing with Application Optimized Design

The RKB ROVS-ROVSX and ROVSX/T spherical roller bearings perfectly fit vibrating hammer applications. The power is generated by two different sources and transmitted to all the shafts by couples of gears; the vibrations are generated by eccentric masses rotating with the shafts. In many designs, every shaft is supported by a special cylindrical roller bearing (CRB) and an ROVS-ROVSX and ROVSX/T spherical roller bearing. The vibrations are finally transmitted from the chassis to a tool.



ISO SERIES 23

ISO designation	RKB designs		Main dimension			Clearance
	Straight bore	Tapered bore 1:12	d	D	B	
			(mm)			
22308	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	40	90	33	C4 (standard), C3, C4R and C4S
22309	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	45	100	36	C4 (standard), C3, C4R and C4S
22310	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	50	110	40	C4 (standard), C3, C4R and C4S
22311	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	55	120	43	C4 (standard), C3, C4R and C4S
22312	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	60	130	46	C4 (standard), C3, C4R and C4S
22313	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	65	140	48	C4 (standard), C3, C4R and C4S
22314	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	70	150	51	C4 (standard), C3, C4R and C4S
22315	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	75	160	55	C4 (standard), C3, C4R and C4S
22316	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	80	170	58	C4 (standard), C3, C4R and C4S
22317	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	85	180	60	C4 (standard), C3, C4R and C4S
22318	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	90	190	64	C4 (standard), C3, C4R and C4S
22319	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	95	200	67	C4 (standard), C3, C4R and C4S
22320	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	100	215	73	C4 (standard), C3, C4R and C4S
22322	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	110	240	80	C4 (standard), C3, C4R and C4S
22324	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	120	260	86	C4 (standard), C3, C4R and C4S
22326	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	130	280	93	C4 (standard), C3, C4R and C4S
22328	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	140	300	102	C4 (standard), C3, C4R and C4S
22330	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	150	320	108	C4 (standard), C3, C4R and C4S
22332	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	160	340	114	C4 (standard), C3, C4R and C4S
22334	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	170	360	120	C4 (standard), C3, C4R and C4S
22336	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	180	380	126	C4 (standard), C3, C4R and C4S
22338	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	190	400	132	C4 (standard), C3, C4R and C4S
22340	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	200	420	138	C4 (standard), C3, C4R and C4S
22344	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	220	460	145	C4 (standard), C3, C4R and C4S

ISO SERIES 33

ISO designation	RKB designs		Main dimension			Clearance
	Straight bore	Tapered bore 1:12	d	D	B	
			(mm)			
23318	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	90	190	73	C4 (standard), C3, C4R and C4S
23322	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	110	240	92,1	C4 (standard), C3, C4R and C4S
23324	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	120	260	106	C4 (standard), C3, C4R and C4S
23326	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	130	280	112	C4 (standard), C3, C4R and C4S
23328	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	140	300	118	C4 (standard), C3, C4R and C4S
23330	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	150	320	128	C4 (standard), C3, C4R and C4S
23332	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	160	340	136	C4 (standard), C3, C4R and C4S
23340	ROVS-ROVSX, ROVSX/T	KROVS-KROVSX, KROVSX/T	200	420	165	C4 (standard), C3, C4R and C4S

On MTO (Made To Order) basis, other series and/or sizes are available upon request.

For further information please contact us at:

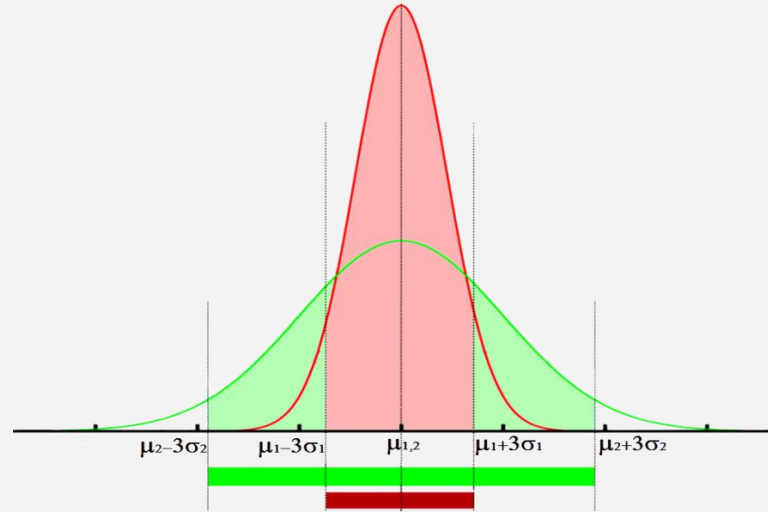
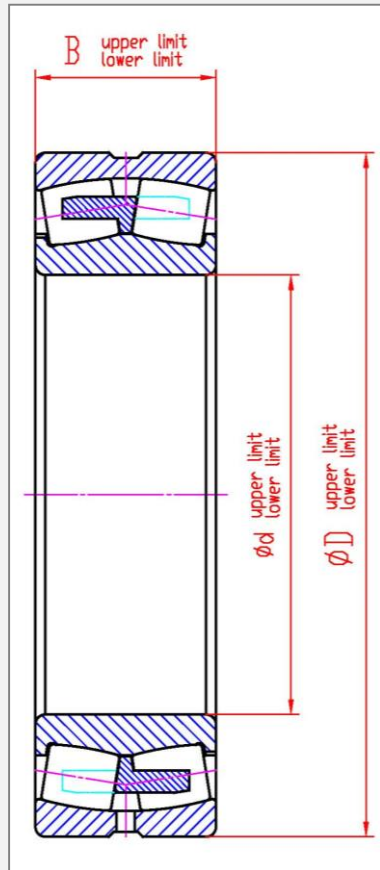


info@rkbeurope.com

RKB HIGHER PRECISION



The RKB bearings in ROVS-ROVSX & ROVSX/T classes are produced with **tolerances tighter than normal**



These special tolerances are applied to the following dimensions:

- **d**, bore diameter
- **D**, outer diameter
- **B**, bearing width



HIGHER PRECISION!



RKB ENHANCED STEEL



In order to improve bearing life in harsh working conditions, RKB typically applies the bainite treatment to its ROVS-ROVSX and ROVSX/T spherical roller bearings



Better resistance to impacts, wear and fatigue



Furnaces for bainite treatment in RKB T3 Plant

For further information, please watch our educational video
[RKB special heat treatments for heavy duty applications](#)

RKB ON-FIELD EXPERIENCE



MINES AND MINERALS



MINES AND MINERALS



RKB ROVS-ROVSX – TECHNICAL FICHE

RKB Bearings Technical Fiche

Spherical roller bearings

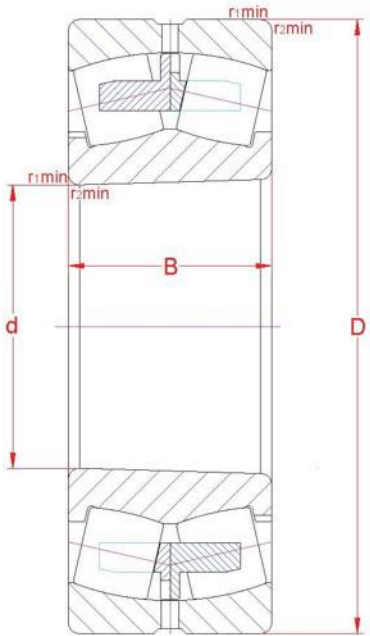
22334 KROVSXW33/1/A5

Main boundary dimensions (mm)	
d	170
D	360
B	120

Technical data			
Basic load ratings (kN)	Dyn.	C _r	1894
	Stat.	C _{0r}	2130
Mass (kg)		59,1	
Cage material		Brass	
Radius min (mm)	r ₁	4,0	
	r ₂	4,0	
	r ₃	-	
	r ₄	-	
Precision class		Special	
e		0,33	
Bearing clearance (mm)		C4	

Technical notes

- Reference speed 1300 rpm
- Limiting speed 1600 rpm
- Bearing for vibratory equipment
- Tapered bore, taper 1:12
- Annular groove and lubrication holes in outer ring
- Bainite hardened outer and inner ring
- Bearing rings heat stabilized for operating temperatures up to 200 °C



The sketch is for reference only and may not be representative or indicative of the actual product. Sketch scale is free.

Also refer to RKB Affidavit of Conformance for related compliance to International Standards.

Every care has been taken to ensure the accuracy of the information in the present drawing, but no liability can be accepted for any errors or omissions contained herein, or in case losses and/or damages (direct, indirect, consequential) should occur.

RKB Bearing Industries reserves the right of any amendment without notice.

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RKB-BT-VL-2-H

RKB
BEARING INDUSTRIES



RKB ROVSX/T - TECHNICAL FICHE

Spherical roller bearings

23332 ROVXC4SW33/1T/A5

Main boundary dimensions (mm)	
d	160
D	340
B	136

Technical data			
Basic load ratings (kN)	Dyn.	C _r	1627
	Stat.	C _{0r}	2336
Mass (kg)	60,6		
Cage material	HBSC1		
Radius min (mm)	r ₁	4,0	
	r ₂	4,0	
	r ₃	-	
	r ₄	-	
Precision class	Special		
e	0,43		
Bearing clearance (mm)	C4S (0,200/0,250)		

Technical notes

- Reference speed 1300 rpm
- Limiting speed 1700 rpm
- Bearing for vibratory equipment
- Annular groove and lubrication holes in outer ring
- Bainite hardened outer and inner ring
- Bearing rings heat stabilized for operating temperatures up to 200 °C

RKB Bearings Technical Fiche

The drawing shows a cross-section of the bearing. The outer diameter is labeled D, the inner diameter is d, and the width is B. The fillet radii at the top and bottom of the outer ring are labeled r1min and r2min.

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RKB-BT-VL-21-H

INTERCHANGEABILITY TABLE



Main manufacturers' designs	RKB designs	
	ROVS-ROVSX	ROVSX/T
FAG, E1/E1-JPA. (T41 A, T41D)	✗	✓
FAG, E1A-MA, E1A-MA1, AS-MA/A-MA. (T41A, T41D)	✓	✗
TIMKEN, W800	✗	✓
SKF, VA 405 & VA 406	✓	✓
NSK, CA-VS	✓	✓



For further information
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