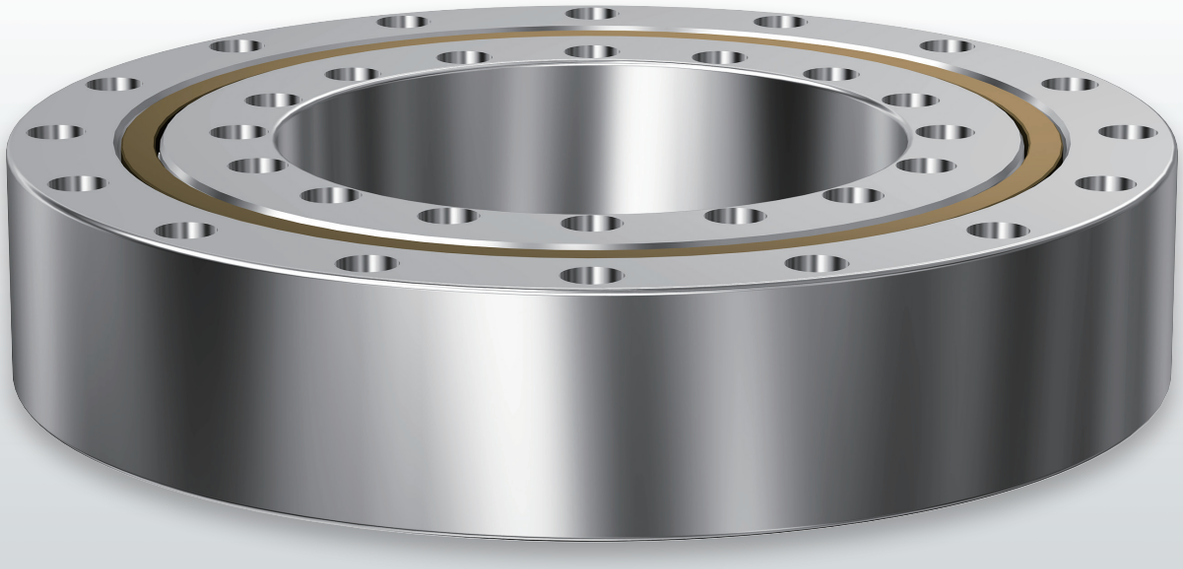
NEW

High-Speed, Double-Row Angular Contact Ring BWH



A bearing that combines high-speed performance with rigidity equal to that of cross-roller rings

Structure and Features

The Model BWH is a bearing based on a cross-roller ring that adopts balls as the rolling elements. By arranging the balls in two rows, this configuration provides rigidity while also being suited to high-speed applications.

Superior high-speed performance

The balls are spaced evenly apart within a cage, preventing metal-to-metal contact and reducing heat generation, which makes high-speed revolution possible.

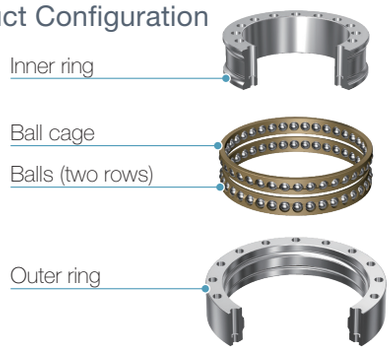
No preload adjustment required

Because both the inner and outer rings have an integrated structure and they are equipped with the appropriate preload, adjustments to preload are unnecessary during installation.

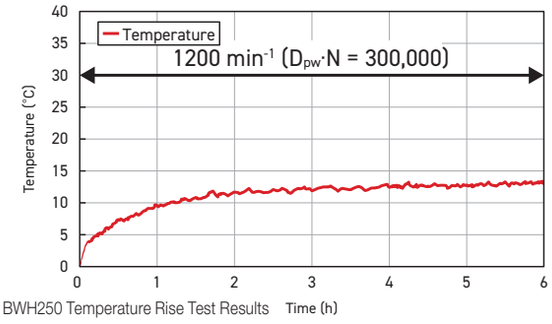
Simple installation

The inner and outer rings feature mounting holes that make it possible to secure the product directly onto the shaft or housing, which reduces the number of peripheral components required for installation.

Product Configuration



Temperature Rise Test Results



BWH250 Temperature Rise Test Results

Temperature rose less than 15°C when rotating continuously at a D_{pw}·N value of 300,000.

Note: This data was obtained using special grease on THK's testing apparatus. Results may vary based on the device structure or operating conditions.

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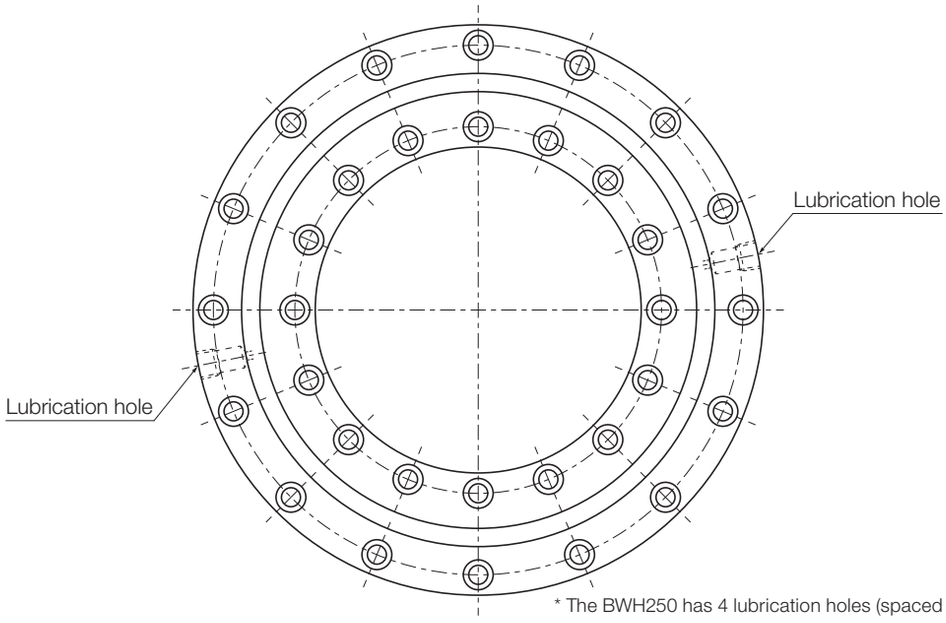
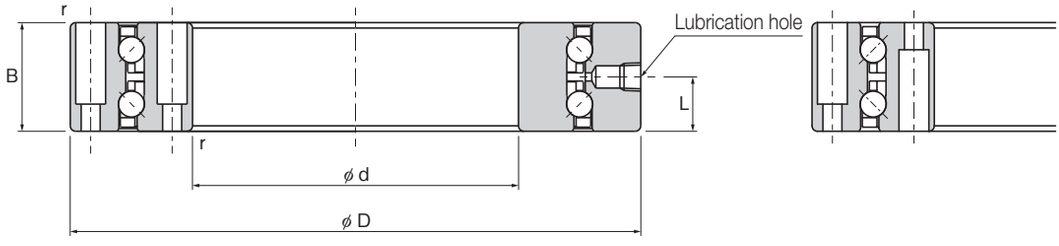
BWH High-Speed, Double-Row Angular Contact Ring

Dimensional Table



* The BWH250 has 4 lubrication holes (spaced every 90°).



Standard mounting hole

G type mounting hole

Model No.	Main dimensions											
	Inner diameter		Outer diameter		Ball pitch circle diameter	Width		Lubrication hole			r_{min}	
	d	Tolerance*	D	Tolerance*	dp	B	Tolerance	Hole diameter	Quantity	L		
BWH141	100	0 -0.020	185	0 -0.030	141	38	0 -0.075	Rc1/8	2	19	0.6	
BWH165	120	0 -0.020	210	0 -0.030	165	40	0 -0.075	Rc1/8	2	20	1.5	
BWH250	200	0 -0.030	300	0 -0.035	250	45	0 -0.100	Rc1/8	4	22.5	1.5	

* The tolerance of the bearing inner diameter and outer diameter is the arithmetic average of the maximum and minimum diameters obtained by measuring the bearing inner and outer diameters at two points.

Model Number Coding

Select an option Fixed symbol

BWH165 CC0 P2 B G -N

Model No.

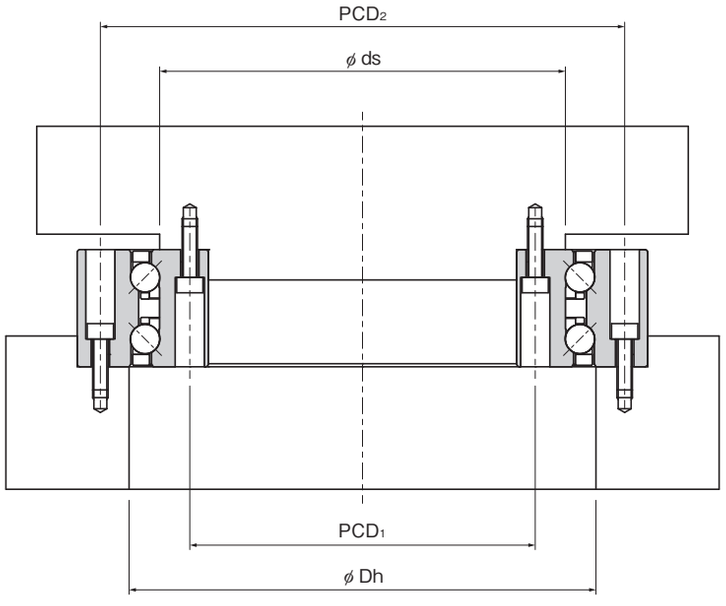
Radial clearance symbol
CC0: Negative clearance (preload)

Accuracy symbol
No symbol: Rotational accuracy grade 5 (P5)
P4: Rotational accuracy grade 4
P2: Rotational accuracy grade 2
USP: Rotational accuracy grade USP

Component symbol for accuracy
No symbol: Accuracy applies to inner ring
R: Accuracy applies to outer ring
B: Accuracy applies to inner and outer rings

Mounting hole/assembly orientation symbol
No symbol: Counterbores in inner and outer rings are in the same direction
G: Counterbores in inner and outer rings are in opposite directions

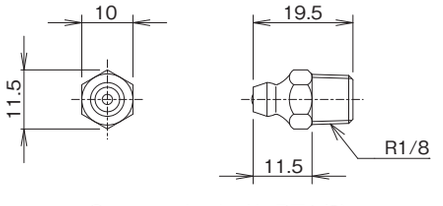
Grease nipple symbol
No symbol: No grease nipples included
-N: Grease nipple attached (A-PT1/8)
BWH141 and BWH165 come with 2, BWH250 comes with 4.
(For the nipple shape, see the diagram to the right.)



Unit: mm

Shoulder height		Basic load rating (radial)		Mass	Mounting hole dimensions			
					Inner ring		Outer ring	
ds	Dh	C	C0		PCD1	Mounting hole	PCD2	Mounting hole
(max.)	(min.)	(kN)	(kN)	(kg)				
131	151	49.8	76.3	4.7	112	16-ϕ6 through, ϕ9.5 counterbore, depth 29	170	16-ϕ6 through, ϕ9.5 counterbore, depth 29
155	175	53.3	89.5	5.9	135	16-ϕ7 through, ϕ11 counterbore, depth 30	195	16-ϕ7 through, ϕ11 counterbore, depth 30
237	263	94.8	182	11.4	215	24-ϕ7 through, ϕ11 counterbore, depth 33	285	24-ϕ7 through, ϕ11 counterbore, depth 33

Options



Grease nipple (A-PT1/8)

* Lubrication accessories (piping joints and grease nipples) other than the standard options are also available. Please contact THK if required. (For details about other lubrication accessories, please see the “Accessories for Lubrication” section of the general catalog.)

Radial Clearance

The Model BWH is manufactured with a radial clearance in accordance with the following table.

Unit: μm

Model No.	CC0	
	Min.	Max.
BWH141	-7	-11
BWH165	-7	-11
BWH250	-9	-14

Lubrication

Grease is the standard lubrication for the Model BWH, and special grease is applied to the product.

* It is possible to use other types of grease or oil lubrication.
  Contact THK for details.

Accuracy Standards

The Model BWH is manufactured with accuracies in accordance with the following table.

Inner Ring Rotational Accuracy

Unit: μm

Model No.	Radial runout tolerance of the inner ring				Axial runout tolerance of the inner ring			
	P5 grade	P4 grade	P2 grade	USP grade	P5 grade	P4 grade	P2 grade	USP grade
BWH141	6	5	2.5	2	6	5	2.5	2
BWH165	6	5	2.5	2	6	5	2.5	2
BWH250	10	8	5	3	10	8	5	3

Outer Ring Rotational Accuracy

Unit: μm

Model No.	Radial runout tolerance of the outer ring				Axial runout tolerance of the outer ring			
	P5 grade	P4 grade	P2 grade	USP grade	P5 grade	P4 grade	P2 grade	USP grade
BWH141	15	10	7	4	15	10	7	4
BWH165	15	10	7	4	15	10	7	4
BWH250	18	11	7	4	18	11	7	4

Note: The Model BWH has a standard rotational accuracy grade of P5. (This is not shown in the Model No.)

Production by Special Order

The following dimensions are also available from THK. Contact THK for details.

Dimensions Available for Production by Special Order

Unit: mm

Inner diameter	Outer diameter
150	240
180	280
260	385
325	450
395	525
460	600

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CATALOG No.L-91E **©THK CO., LTD. 202212**