



High Precision Thin Section Bearings



HQW Precision GmbH
HQW Aerospace (UK) Ltd

Partners in Precision

Precision Engineered Bearing Solutions

The HQW Precision Story

HQW Precision GmbH is a leading manufacturer of high-quality bearings for a wide range of industrial applications. With a strong focus on precision and performance, we specialize in producing miniature, deep groove, and angular contact ball bearings to ABEC 7/9 tolerances, as well as customized bearing units and bespoke designs.

Our products are engineered using high-performance and specialist materials, making them suitable for extreme environment applications.

Since our establishment in 2010, we have built a solid reputation for delivering exceptional products that offer unparalleled quality, reliability, and accuracy. Our state-of-the-art production facility in Kürnach, Germany ensures that our bearings are manufactured to the highest standards.

With our extensive range of products, including custom-made options and a large onsite stock, we provide solutions for even the most challenging and complex industrial applications.

As 'Partners in Precision,' we work alongside sister company HQW Aerospace in the UK, further expanding our capabilities.

Thin Section Bearings

Engineered with utmost precision and crafted with meticulous attention to detail, our bearings are designed to meet the exacting requirements of various industries and applications.

For high performance applications where space and weight are at a premium, thin section bearings allow for smooth rotation, reduced friction and high positional accuracy in a much smaller design envelope than conventional ball bearings.

Available in a wide range of sizes, materials and configurations, precision thin section bearings from HQW increase design flexibility, enabling more efficient equipment design and consequently reductions in overall system costs.

This bearing type also offers:

- Flexible installation
- Excellent running accuracy
- High load carrying capacity
- Low profile design
- Reliable operation
- Quiet running



Typical Applications

Robotics

Thin section bearings are commonly used in robotic systems, particularly in robot arms and joints. Their compact size and high precision enable smooth and accurate motion control.

Space

These bearings are utilized in space applications such as satellite systems, where weight and size reduction are crucial. They help minimize the overall system weight without compromising performance.

Medical Devices

Thin section bearings play a vital role in medical equipment like surgical robots, CT scanners, and prosthetics. They enable precise movement and positioning of components, ensuring accuracy during medical procedures.

Automation and Machinery

Used in various automated systems, including assembly machines, conveyors, and packaging equipment, their compact design allows for efficient use of space, and their precision ensures reliable and smooth operation.

Semiconductor Industry

Thin section bearings are utilized in wafer handling systems, lithography machines, and robotic arms, providing the required accuracy for manufacturing delicate electronic components.

Optical Equipment

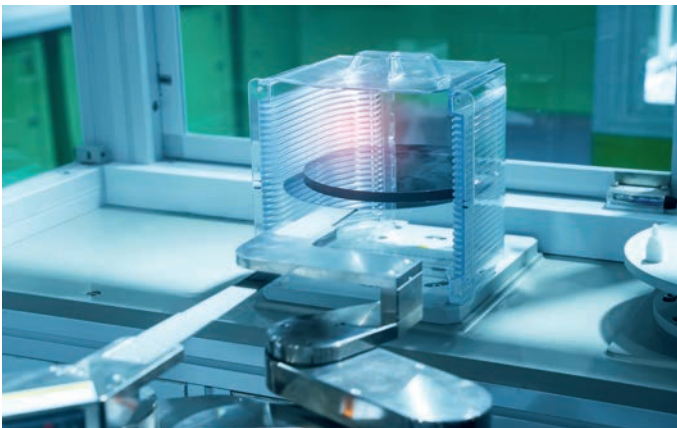
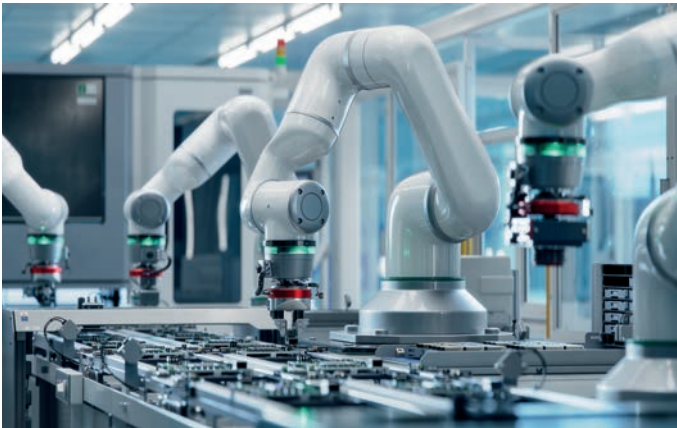
These bearings are commonly found in precision optical instruments like cameras, lenses, and telescopes. They aid in precise positioning, alignment, and smooth movement of optical components.

Aerospace & Defence

Thin section bearings are used in systems such as drones, missile guidance systems, and surveillance equipment.

Precision Instruments

Instruments that require high precision and compact size, such as measuring devices, coordinate measuring machines (CMM), and scanning electron microscopes (SEM), often incorporate thin section precision bearings.



Bearing Types

Thin section bearings from HQW are available in three basic types: deep groove, angular contact and 4-point contact. Each type is designed to cater for specific application demands and has distinct features and capabilities.

Deep Groove Ball Bearings

- Can take axial forces in both directions, providing excellent versatility.
- Low friction ensures smooth and efficient operation.
- Higher axial play compared to 4-point bearings allows for more flexibility in application.
- Robust design for easy handling and installation.

Angular Contact Ball Bearings

- Assembly with more balls than deep groove bearings, ensuring higher load ratings.
- Higher load ratings than deep groove bearings make them ideal for heavy-duty applications.
- High axial stiffness ensures stability under demanding conditions.
- Can take forces in only one direction, unless used as a preloaded pair for bidirectional force support.

4-Point Contact Bearings

- Higher axial and radial load capacity for handling heavy loads with ease.
- Can take forces in both directions due to the innovative gothic arc raceway design.
- High axial stiffness ensures excellent performance under demanding loads.
- Low axial play ensures precise and accurate operation.
- Good high moment loading capability for applications requiring rotational force support.
- Robust design for easy handling and installation.
- Suitable for lower and medium speeds, making them versatile in various applications.

Our team of bearing design engineers can assist in finding the right design for any application. Custom features and special designs can be supplied if required.



Comparison shown for 127mm bore diameter deep groove thin section bearings.

Design Features

Ring Materials

Standard materials include chrome steel (100Cr6) and stainless steel (X65Cr13), which have a proven record for reliability and strength across various applications.

For applications in extreme environments where corrosion resistance is crucial, we offer high nitrogen steel X30CrMoN15-1. This material is specifically designed to excel in challenging conditions, offering exceptional corrosion resistance and durability.

Lubrication

Thin section bearings are available with oil or grease lubrication, ensuring smooth operation based on customer preferences. If dry operation is necessary HQW can supply bearings without lubrication.

Choosing the right lubricant is essential, considering the operating conditions and customer specifications. HQW offers a wide range of options, with over 300 different lubricant and coating choices available and ensuring use of the ideal lubricant to optimize the performance and longevity of the bearings.

Ball Quality

For optimal rolling performance, thin section bearings will typically use Grade 5 or higher quality balls. These high-grade balls contribute to a smoother rolling experience, enhancing overall functionality.

In particularly demanding applications that require exceptional wear resistance, ceramic balls made of silicon nitride can be specified. These ceramic balls offer superior durability and longevity, ensuring reliable performance even in challenging conditions.

Optional Closures

Thin section bearings offer a range of sealing options to prevent contamination and lubrication loss. These seals maintain bearing integrity and performance in a range of environments.

We also offer the flexibility to accommodate special seal requirements tailored to our customer's unique application needs.



Double row thin section bearing incorporating toroids.

Cages

Thin section bearings are commonly supplied with cages manufactured from pressed steel, machined bronze, or fabric-reinforced phenolic material, providing reliable support and stability to the bearings.

For applications demanding exceptional performance, alternative materials including high-performance plastics such as PEEK or Polyamideimide (such as Torlon®) can be utilized. These advanced materials offer enhanced strength, durability, and temperature resistance.

In addition to the traditional cage designs, thin section bearings can also be provided with full ball complements upon request. This configuration allows for increased load capacity and improved overall performance.



Designation

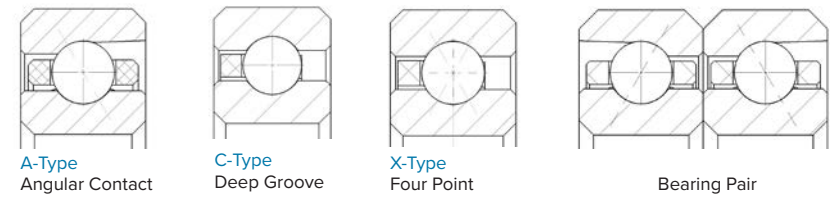
Quality	Ball Material	Ring Material	Bearing Type	Series & Size	Closure					
ABEC1F / PC1 To ANSI / ABMA 26.2 ABEC3F / PC3 ABEC5F / PC4 ABEC7F / PC6	-	- X65Cr13, 440C, 100Cr6	-	Standard deep groove ball bearing	Dimensions according to ISO 15	-	Without seal or shield			
		S X65Cr13, 440C								
	P0-P2 ISO 492, DIN 620-2 A1-A9	C	Si ₃ N ₄	30X	X30CrMoN15-1	QJ	Four-point-contact ball bearing, contact angle 30°	TI	T=thin section. I=inch dimension. section height x width. ball diameter	Seal and shield variants on request
							TIA	4.763x4.763mm - Ø2.381mm		
						...A30	Angular contact (example TIA017A30)	TIAE	4.763x6.35mm - Ø2.381mm	
								TIB	6.35x6.35mm - Ø3.175mm	
								TIC	7.938x7.938mm - Ø3.969mm	
								TID	9.525x9.525mm - Ø4.763mm	
								TIDE	9.525x12.7mm - Ø4.763mm	
								TIE	12.7x12.7mm - Ø6.35mm	
								TIF	15.875x15.875mm - Ø7.938mm	
								TIG	19.05x19.05mm - Ø9.525mm	
								TIH	25.4x25.4mm - Ø12.7mm	
								TM	T=thin section. M=metric dimension. Cross section height x width. ball diameter	
								TMA	3x2.5mm - Ø1.588mm	
								TMB	8x8mm - Ø3.969mm	
								TMC	13x13mm - Ø6.35mm	
								TMD	20x20mm - Ø9.525	
								TI*	Bore diameter in inch for TI types. TIA010 = 4.763x4.763 with bore diameter 1.0inch	
								TM*	Bore diameter in mm for TM types. TMA50 = 4.763x4.763 with bore diameter 50mm	

Special designs, such as other materials, shield and seal combinations, cages or coatings, or other tolerance classes are available on request.

Cage		Special Features		Clearance		Preload		Duplexing		Lubrication			
T*H	snap retainer for deep groove and four point bearings. * material index	A30	Contact angle 30°	A	0/12 μm	K	0/12 μm	D	Universal du-plex pair <<>>	L39-15	High-performance lubricant		
				B	0/25 μm	L	0/25 μm						
T*A	window type for angular contact bearings. * material index	d	Deviating inner diameter	C	12/25 μm	M	12/25 μm	DB	Back-to-back arrangement <>	15-20%	Lubricant proportion of the existing free volume		
				D	12/38 μm	N	12/38 μm						
		D	Deviating outer diameter	E	25/50 μm	P	25/50 μm	DF	Face-to-face arrangement ><				
F	38/63 μm			Q	25/38 μm								
*	* Material index (brass, phenolic resin or high-performance plastics e.g. Torlon, PEEK)	YQ***	Drawing number for special de-signs	G	50/76 μm	R	38/63 μm	DT	Tandem arrangement << oder >>	CT*	Coating variants on request		
				H	76/101 μm	S	50/76 μm						
Wf	No cage, full complement					I	101/127 μm	Z*/*	*/* A special radial clearance or preload must be specified in a drawing.	/L	Preload Light		
										J	127/152 μm		
								/H	Preload Heavy				
								/A-Z	Preload-Class: Clearance or Preload - see above				



Thin Section Bearings



Angular Contact (Pair)

Designation	d [mm]	D [mm]	B [mm]	Cross section L x W	Bearing Type	Dynamic Load Rating [N]	Static Load Rating [N]
19.05x25.4x3.962	19.05	25.4	3.962	3.175 x 3.962	Angular contact ball bearings / pair	2090	2211
25x35x9	25	35	9	5 x 9	Angular contact ball bearings / pair	4380	4800
TIB025A30	63.5	76.2	6.35	6.35 x 6.35	Angular contact ball bearings / pair	7490	11720
TIB030A30	76.2	88.9	6.35	6.35 x 6.35	Angular contact ball bearings / pair	7960	13970
TIC035A15	88.9	104.775	7.938	7.938 x 7.938	Angular contact ball bearings / pair	15350	29200
TIF035A30	88.9	120.65	15.875	15.875 x 15.875	Angular contact ball bearings / pair	29740	37950
TID050A30	127	146.05	9.525	9.525 x 9.525	Angular contact ball bearings / pair	19590	29840
TIB050A30	127	139.7	6.35	6.35 x 6.35	Angular contact ball bearings / pair	6010	11480
TIB065A30	165.1	177.8	6.35	6.35 x 6.35	Angular contact ball bearings / pair	10400	29700
TID070A30	177.8	196.85	9.525	9.525 x 9.525	Angular contact ball bearings / pair	16240	37460
TMB360A30	360	376	8	8 x 8	Angular contact ball bearings / pair	20760	91730

A Type - Angular Contact

Designation	d [mm]	D [mm]	B [mm]	Cross section L x W	Bearing Type	Dynamic Load Rating [N]	Static Load Rating [N]
TIA015A30	38.1	47.625	4.763	4.763 x 4.763	Angular contact bearing	2770	3030
TIA017A30	44.45	53.975	4.763	4.763 x 4.763	Angular contact bearing	2840	3360
TIB020A30	50.8	63.5	6.35	6.35 x 6.35	Angular contact bearing	4270	4730
TIB040A30	101.6	114.3	6.35	6.35 x 6.35	Angular contact bearing	5430	9230
TIB047A30	120.65	133.35	6.35	6.35 x 6.35	Angular contact bearing	5760	10900
TIB055A30	139.7	152.4	6.35	6.35 x 6.35	Angular contact bearing	6770	14950
190x216x16	190	208 / Flange 216	16	7.6x9	Angular contact bearing	4200	8010

C Type - Deep Groove

Designation	d [mm]	D [mm]	B [mm]	Cross section L x W	Bearing Type	Dynamic Load Rating [N]	Static Load Rating [N]
25x35x4.7	25	35	4.7	5 x 4.7	Deep groove ball bearing	2440	1960
TIA010	25.4	34.925	4.763	4.763 x 4.763	Deep groove ball bearing	2440	1960
50x64x6.35	50	64	6.35	7 x 6.35	Deep groove ball bearing	4520	4810
TIC020	50.8	66.675	7.938	7.938 x 7.938	Deep groove ball bearing	5560	5030
TIF020	50.8	82.55	15.875	15.875 x 15.875	Deep groove ball bearing	16150	11800
TIB020	50.8	63.5	6.35	6.35 x 6.35	Deep groove ball bearing	4520	4810
77.7875x98.425x9.525/7.9375	77.788	98.425	9.525/7.938	10.32 x 9.525/7.9375	Deep groove ball bearing	10690	12790
TIB035	88.9	101.6	6.35	6.35 x 6.35	Deep groove ball bearing	4930	6980
TIDE040	101.6	120.65	12.7	9.525 x 12.7	Deep groove ball bearing	12700	19400
TMC120	120	146	13	13 x 13	Deep groove ball bearing	16500	22300
127x140x12.7	127	140	12.7	6.5 x 12.7	Deep groove ball bearing	6240	11740
TIB050	127	139.7	6.35	6.35 x 6.35	Deep groove ball bearing	6240	11740
TIDE075	190.5	209.55	12.7	9.525 x 12.7	Deep groove ball bearing	12700	25600

X Type - Four Point

Designation	d [mm]	D [mm]	B [mm]	Cross section L x W	Bearing Type	Dynamic Load Rating [N]	Static Load Rating [N]
QJTIA010	25.4	34.925	4.762	4.763 x 4.763	Four point bearing	2880	2580
QJTIAE017	44.45	53.975	6.35	4.763 x 6.35	Four point bearing	3400	4210
QJTIB020	50.8	63.5	6.35	6.35 x 6.35	Four point bearing	5260	6210
QJ55x64x4.5	55	62.5	4.5	3.75 x 4.5	Four point bearing	4790	7400
QJTIB025	63.5	76.2	6.35	6.35 x 6.35	Four point bearing	5680	7680
QJTIC025	63.5	79.375	7.938	7.938 x 7.938	Four point bearing	8390	10730
QJ65x74x4.5	65	74	4.5	4.5 x 4.5	Four point bearing	3450	6110
QJTMA080	80	86	2.5	3 x 2.5	Four point bearing	1080	1685
QJTIB035	88.9	101.6	6.35	6.35 x 6.35	Four point bearing	6390	10630
QJTIB040	101.6	114.3	6.35	6.35 x 6.35	Four point bearing	6800	12600
QJTIB045	114.3	127	6.35	6.35 x 6.35	Four point bearing	6970	15050
QJTMA120	120	126	2.5	3 x 2.5	Four point bearing	1990	2480
QJTIB050	127	139.7	6.35	6.35 x 6.35	Four point bearing	7240	15050
QJTIE050	127	152.4	12.7	12.7 x 12.7	Four point bearing	21060	33910
QJTIB055	139.7	152.4	6.35	6.35 x 6.35	Four point bearing	7480	16500
QJTMA140	140	146	2.5	3 x 2.5	Four point bearing	1690	3240
QJTIB060	152.4	165.1	6.35	6.35 x 6.35	Four point bearing	7720	18000
QJTIE065	165.1	190.5	12.7	12.7 x 12.7	Four point bearing	23060	43670
QJTIG080	203.2	241.3	19.05	19.05 x 19.05	Four point bearing	46460	86350
QJTIG100	254	292.1	19.05	19.05 x 19.05	Four point bearing	50190	107120
QJTIH100	254	304.8	25.4	25.4 x 25.4	Four point bearing	77890	149160
QJTMB360	360	376	8	8 x 8	Four point bearing	14900	55300

Please note current product range is subject to an ongoing expansion. Additional products to be added when available. Contact your Regional Sales Manager for further information.



Tolerance Tables - Inner Ring

		Description				ABEC1F / PC1				ABEC3F / PC3		ABEC5F / PC4		ABEC7F / PC6	
		ANSI/ABMA 26.2				Type C		Type A, X		Type C, A, X		Type C, A, X		Type C, A, X	
		d [inch]		d [mm]		[μm]									
		>	≤	>	≤	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
single plane average bore diameter deviation	Δ _{gap}	-	1	-	25.4	0	-10	0	-10	0	-5	0	-5	0	-4
		1	1.5	25.4	38.1	0	-13	0	-13	0	-8	0	-5	0	-5
		1.5	2.5	38.1	63.5	0	-15	0	-15	0	-10	0	-8	0	-5
		2.5	3	63.5	76.2	0	-15	0	-15	0	-10	0	-8	0	-5
		3	4	76.2	101.6	0	-20	0	-20	0	-13	0	-8	0	-6
		4	4.5	101.6	114.3	0	-20	0	-20	0	-13	0	-8	0	-6
		4.5	5	114.3	127.0	0	-25	0	-25	0	-15	0	-10	0	-8
		5	6.5	127.0	165.1	0	-25	0	-25	0	-15	0	-10	0	-8
		6.5	7	165.1	177.8	0	-25	0	-25	0	-15	0	-10	0	-8
		7	9	177.8	228.6	0	-30	0	-30	0	-18	0	-13	0	-10
		9	11	228.6	279.4	0	-36	0	-36	0	-20	0	-13	0	-13
		11	12	279.4	304.8	0	-36	0	-36	0	-20	0	-13	0	-13
		12	14	304.8	355.6	0	-41	0	-36	0	-20	0	-15	0	-13
		14	16	355.6	406.4	0	-46	0	-41	0	-23	0	-15		
		16	18	406.4	457.2	0	-46	0	-41	0	-23	0	-15		
		18	20	457.2	508.0	0	-51		-46	0	-25	0	-18		
		20	30	508.0	762.0	0	-76		-46						
30	40	762.0	1016.0	0	-102		-51								
Runout of the inner ring on the assembled bearing (radial runout)	Ki	-	1	-	25.4	13		8		8		5		4	
		1	1.5	25.4	38.1	15		10		10		5		4	
		1.5	2.5	38.1	63.5	20		13		10		5		4	
		2.5	3	63.5	76.2	20		15		10		5		4	
		3	4.5	76.2	114.3	25		15		13		8		5	
		4.5	5	114.3	127.0	30		20		15		8		8	
		5	7	127.0	177.8	30		25		15		8		8	
		7	9	177.8	228.6	41		30		20		10		8	
		9	12	228.6	304.8	46		36		25		13		10	
		12	14	304.8	355.6	46		36		30		13		10	
		14	16	355.6	406.4	46		41		36		18			
		16	18	406.4	457.2	51		41		36		18			
		18	20	457.2	508.0	51		46		41		20			
		20	30	508.0	762.0	51		46							
		30	40	762.0	1016.0	51		51							

		Description				ABEC1F / PC1				ABEC3F / PC3		ABEC5F / PC4		ABEC7F / PC6	
		ANSI/ABMA 26.2				Type C		Type A, X		Type C, A, X		Type C, A, X		Type C, A, X	
		d [inch]		d [mm]		[μm]									
		>	≤	>	≤	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
Axial runout of the face in relation to the course of the inner ring on the assembled bearing (axial stroke)	Si	-	1	-	25.4	13		8		8		8		4	
		1	1.5	25.4	38.1	15		10		10		8		4	
		1.5	2.5	38.1	63.5	20		13		10		8		4	
		2.5	3	63.5	76.2	20		15		10		8		4	
		3	4.5	76.2	114.3	25		15		13		10		5	
		4.5	5	114.3	127.0	30		20		15		10		8	
		5	7	127.0	177.8	30		25		15		10		8	
		7	9	177.8	228.6	41		30		20		13		8	
		9	12	228.6	304.8	46		36		25		15		10	
		12	14	304.8	355.6	46		36		30		18		10	
		14	16	355.6	406.4	46		41		36		20			
		16	18	406.4	457.2	51		41		36		20			
		18	20	457.2	508.0	51		46		41		23			
		20	30	508.0	762.0	51		46							
		30	40	762.0	1016.0	51		51							
Deviation of a single inner ring width	Δ _{Bs} normal	-	12	-	304.8	0	-127	0	-127	0	-127	0	-127	0	-127
		12	14	304.8	355.6	0	-254	0	-254	0	-254	0	-254	0	-254
		14	20	355.6	508.0	0	-254	0	-254	0	-254	0	-254		
		20	40	508.0	1016.0	0	-254	0	-254						
Deviation of single inner ring or outer ring width for paired layers	Δ _{Bs} modified ^a	-	2	-	50.8			0	-508	0	-508	0	-508	0	-508
		2	5	50.8	127.0			0	-762	0	-762	0	-762	0	-762
		5	14	127.0	355.6			0	-1016	0	-1016	0	-1016	0	-1016
		14	40	355.6	1016.0			0	-1270	0	-1270	0	-1270	0	-1270

Type C = Deep groove ball bearing
Type A = Angular contact ball bearing
Type X = Four-point contact bearing



Tolerance Tables - Outer Ring

		Description				ABEC1F / PC1				ABEC3F / PC3		ABEC5F / PC4		ABEC7F / PC6	
		ANSI/ABMA 26.2				Type C		Type A, X		Type C, A, X		Type C, A, X		Type C, A, X	
		d [inch]		d [mm]		[μm]									
		>	≤	>	≤	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
Deviation of the outer diameter	ΔDap	-	1.5	-	38.1	0	-13	0	-13	0	-8	0	-5	0	-5
		1.5	2.5	38.1	63.5	0	-13	0	-13	0	-10	0	-8	0	-5
		2.5	4	63.5	101.6	0	-15	0	-15	0	-10	0	-8	0	-8
		4	5	101.6	127.0	0	-20	0	-20	0	-13	0	-10	0	-10
		5	6.5	127.0	165.1	0	-25	0	-25	0	-15	0	-13	0	-10
		6.5	7	165.1	177.8	0	-25	0	-30	0	-18	0	-13	0	-10
		7	9	177.8	228.6	0	-30	0	-30	0	-18	0	-13	0	-10
		9	11	228.6	279.4	0	-36	0	-36	0	-20	0	-13	0	-13
		11	12	279.4	304.8	0	-36	0	-36	0	-23	0	-15	0	-13
		12	14	304.8	355.6	0	-41	0	-36	0	-23	0	-15	0	-15
		14	18	355.6	457.2	0	-46	0	-41	0	-25	0	-18		
		18	20	457.2	508.0	0	-51	0	-46	0	-30	0	-20		
		20	30	508.0	762.0	0	-76	0	-46						
		30	40	762.0	1016.0	0	-102	0	-51						
Runout of the outer ring on the assembled bearing (radial runout)	K _e	-	1.5	-	38.1	20		10		10		5		5	
		1.5	2.5	38.1	63.5	25		13		13		8		5	
		2.5	3	63.5	76.2	25		15		15		10		5	
		3	4	76.2	101.6	30		15		15		10		5	
		4	5	101.6	127.0	36		20		20		10		8	
		5	6.5	127.0	165.1	41		25		23		13		8	
		6.5	7	165.1	177.8	41		25		25		13		10	
		7	9	177.8	228.6	46		30		25		13		10	
		9	11	228.6	279.4	51		36		30		15		10	
		11	14	279.4	355.6	51		36		36		18		13	
		14	18	355.6	457.2	51		41		41		20			
		18	20	457.2	508.0	51		46		46		23			
		20	30	508.0	762.0	51		46							
		30	40	762.0	1016.0	51		51							

		Description				ABEC1F / PC1				ABEC3F / PC3		ABEC5F / PC4		ABEC7F / PC6	
		ANSI/ABMA 26.2				Type C		Type A, X		Type C, A, X		Type C, A, X		Type C, A, X	
		d [inch]		d [mm]		[μm]									
		>	≤	>	≤	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
Axial runout of the face in relation to the course of the outer ring on the assembled bearing (axial stroke)	S _e	-	1.5	-	38.1	20		10		10		8		5	
		1.5	2.5	38.1	63.5	25		13		13		10		5	
		2.5	3	63.5	76.2	25		15		15		13		5	
		3	4	76.2	101.6	30		15		15		13		5	
		4	5	101.6	127.0	36		20		20		13		8	
		5	6.5	127.0	165.1	41		25		23		15		8	
		6.5	7	165.1	177.8	41		25		25		15		10	
		7	9	177.8	228.6	46		30		25		15		10	
		9	11	228.6	279.4	51		36		30		18		10	
		11	14	279.4	355.6	51		36		36		20		13	
		14	18	355.6	457.2	51		41		41		23			
		18	20	457.2	508.0	51		46		46		25			
		20	30	508.0	762.0	51		46							
		30	40	762.0	1016.0	51		51							
Deviation of a single inner ring width	Δ _{cs} normal	Identical with ΔBs for inner ring of the same bearing													

Type C = Deep groove ball bearing
Type A = Angular contact ball bearing
Type X = Four-point contact bearing



Bearing Interchange

The following tables provide a simplified breakdown of interchangeable bearing types. Use the information below to identify compatible HQW bearings for your application.

Precision Class

HQW	Kaydon	Silverthin
PC1	0 = Kaydon Precision class1 = ABEC1F	0 = Class 1
PC3	3 = Kaydon Precision class3 = ABEC3F	3 = Class 3
PC4	4 = Kaydon Precision class4 = ABEC5F	5 = Class 5
PC6	6 = Kaydon Precision class6 = ABEC7F	7 = Class 7

Inch Bearings, Open

HQW Series	Series A	Series B	Series C	Series D	Series E	Series F	Series G	Series H
Kaydon Series	Series AA	Series A	Series B	Series C	Series D	Series E	Series F	Series G
Silverthin Series	Series AA	Series A	Series B	Series C	Series D	Series E	Series F	Series G

HQW type	Kaydon type	Silverthin type
TIA	KAA	SAA
TIB	KA	SA
TIC	KB	SB
TID	KC	SC
TIE	KD	SD
TIF	KE	SE
TIG	KF	SF
TIH	KG	SG

*Material - Rings & Balls AISI 52100 Steel

Metric Bearings, Open

HWQ type	Kaydon type	Silverthin type
TMA	K-Metric/K0..03	SM03
TMB	K-Metric/K0..08	SM08
TMC	K-Metric/K0..13	SM13
TMD	K-Metric/K0..20	SM20

*Material - Rings & Balls AISI 52100 Steel

For additional information regarding suitability of HQW thin section bearings please contact our expert engineering team.

Notes

[illegible]



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