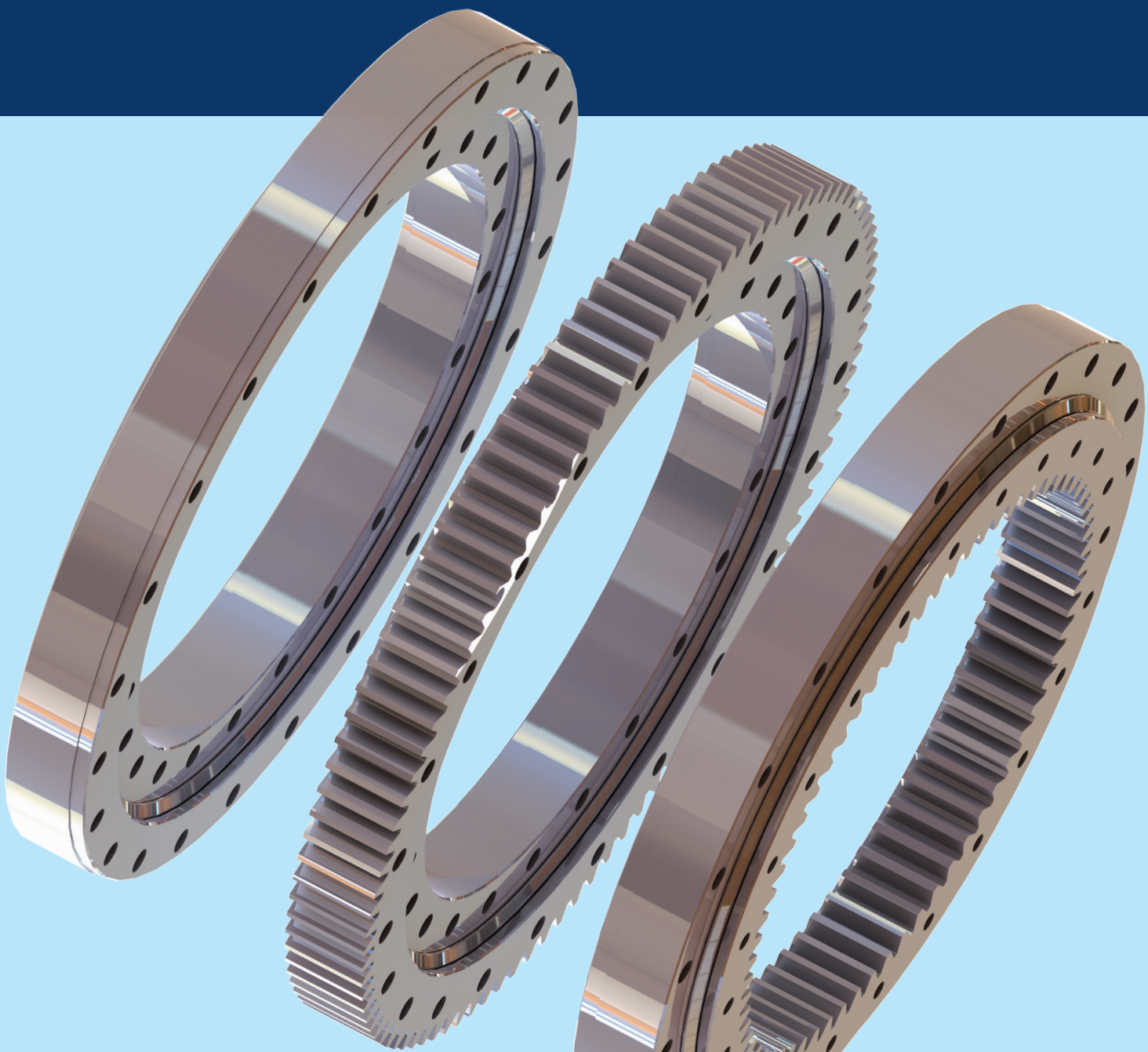
QCB Bearings

SLEWING RINGS & DRIVES

TRAILER RINGS
SLEWING RINGS
SLEWING DRIVES
PRECISION BEARINGS



QCB's core values…

Warranty

QCB Slewing rings are guaranteed for 12 months after delivery to be free from material defect and manufacturing or assembly error. Any perceived faults should be documented and reported to QCB.

Limitation of Liability

The information in this manual is distilled from best practices, national standards and our own extensive experience.

QCB assumes no liability for damages arising from

- Improper selection of product by the customer
- Failure to follow the instructions and information in this manual
- Improper use of the product
- The use of untrained personnel
- Any modifications to the product as delivered

Cat RS 2023-1E Revision 1

In the interests of continuous product improvement, QCB reserves the right to modify any product or specification. All weights and measures are approximate and for guidance only.

Detailed & up to date information is available from the QCB Technical Department or www.QCBSlewingrings.com

Index...

QCB Slewing Rings & Drives

QCB offers one of the widest ranges of slewing rings, slewing drives and ring gears available from any single supplier. QCB is renowned for Innovative Design, High Quality Manufacture and Customer Service.

QCB has become a trusted name in slewing ring bearings with a satisfied and international customer base in industries as diverse as mining machinery, materials handling, offshore oil and gas, access platforms, process treatment plants, wind power, special effects and art installations.

The range includes:-

- Single row ball bearings
- Double row ball bearings
- Crossed roller bearings
- Combination ball/roller bearings
- Tripe row roller bearings
- Ring gears and gear segments
- Pinions
- Helical gear slewing drives
- Worm gear slewing drives
- Rotation drives
- Spur gear slewing drives

All production sites have been audited by QCB's engineering staff and are ISO registered. Operating some of the most modern machinery and manufacturing processes in the world, they are comparable with more traditional sources. Some have passed additional and separate audits from OEMs who operate safety critical equipment in the global market place and require special certification from bodies such as DNV, LLoyds, Bureau Veritas etc..

- All QCB slewing rings are subject to rigorous quality checks and are marked with a serial number and factory/date code.

- Copies of material certificates and final inspection reports can be made available on request

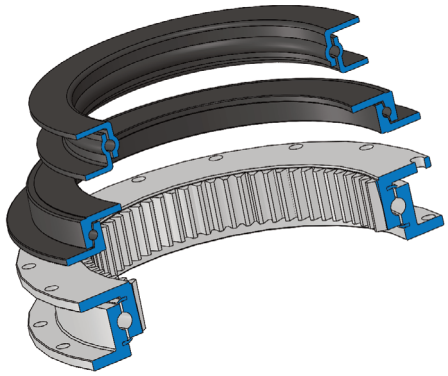
This catalogue illustrates the standard range of product: the full product range is far larger, and is backed by an interchange and database of over 5000 drawings, as well as the ability to design new, application specific units.

If the standard range of product does not satisfy your needs, a unique solution can be proposed in consultation with our experts.

QCB... TURNING YOUR WORLD

Trailer rings

Low precision, large diameter bearings intended primarily for low speed articulation of off-road trailer steering axles, and light industrial applications with intermittent movement. Trailer rings are usually manufactured in a low grade carbon steel and are undrilled and unsealed. As such trailer rings are not suited to applications with eccentric loads or continuous rotation



Slewing rings

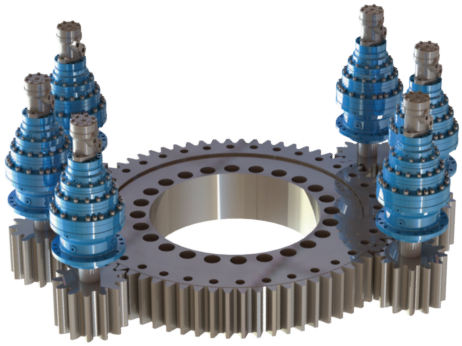
Large diameter precision ball and/or roller bearings that can accomodate high axial, radial and moment loads in combination while rotating or making oscillatory movements in any orientation.

Slewing rings consist of 2 or 3 rolled or forged rings between which either ball or cylindrical rolling elements are arranged, usually separated by spacers or a cage.

The rings incorporate drilled or tapped holes to facilitate fixation and handling. Gearing on either (or both) rings facilitates the transmission of power.

This catalogue illustrates the standard range, much of which is stocked at all times.

Many other QCB bearings are manufactured to special designs or derived from samples or drawings submitted by our international clients.



Most QCB slewing rings use standardised nitrile or VITON lip seals to prevent the ingress of contaminants, other sealing systems are available.

Spur, helical or worm gear profiles provide for the transfer of power if suitable gearing is included in their design.

Ring gears, gear segments and pinions

QCB can supply large diameter ring gears, gear segments and large pinions to order

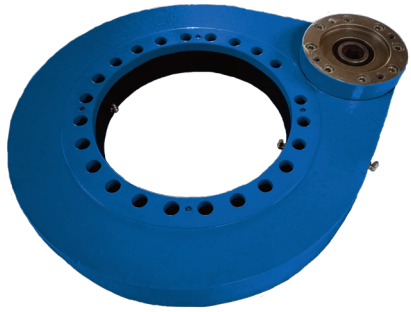
Worm gear slewing drives

Slewing drives consist of an externally geared slewing ring with associate worm shaft mounted on a common base plate in an open or enclosed style housing. Power is provided by hydraulic or electric geared motors. Load speed

is usually restricted to around 2.5 rpm.

Spur gear slewing drives

Spur gear slewing drives offer higher rotation speeds over their worm gear counterparts of up to 20 rpm.



QCB in action internationally...

WATER TREATMENT & PROCESS PLANT

TOWER, JIB & MOBILE CRANES

UMBILICALS , FPSO & FLUID HANDLING SYSTEMS

MARINE CRANES & WINCHES

SMALL & MEDIUM WIND TURBINES

MATERIALS HANDLING & MINING

QCB in action internationally...

MASS TRANSIT & LIGHT RAIL SYSTEMS

EXCAVATORS & ATTACHMENTS

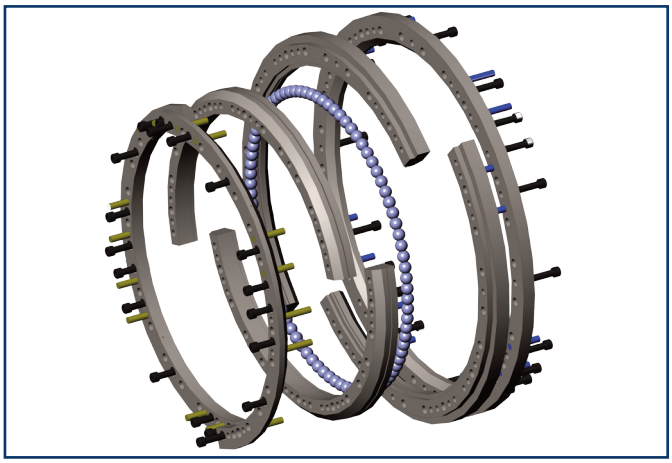
ACCESS PLATFORMS & MAN-LIFTS

PASSENGER ACCESS SYSTEMS

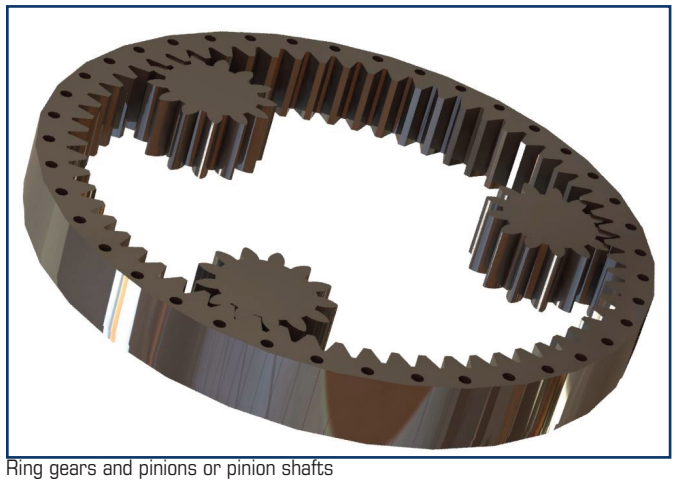
DEFENCE

AMUSEMENT RIDES, THEATRE & SPECIAL FX

Special products

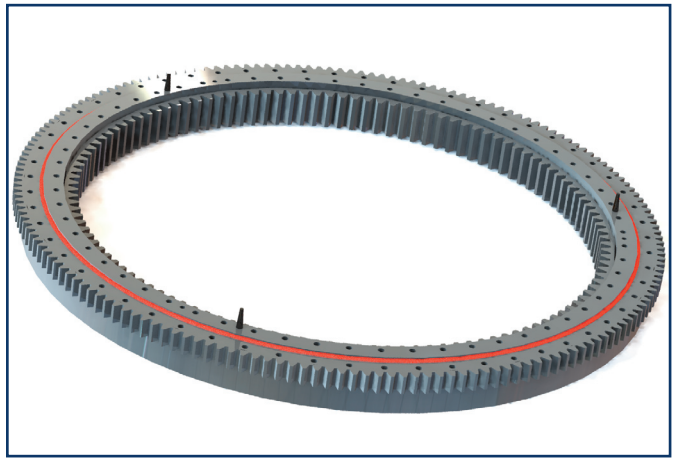


Split ring bearings

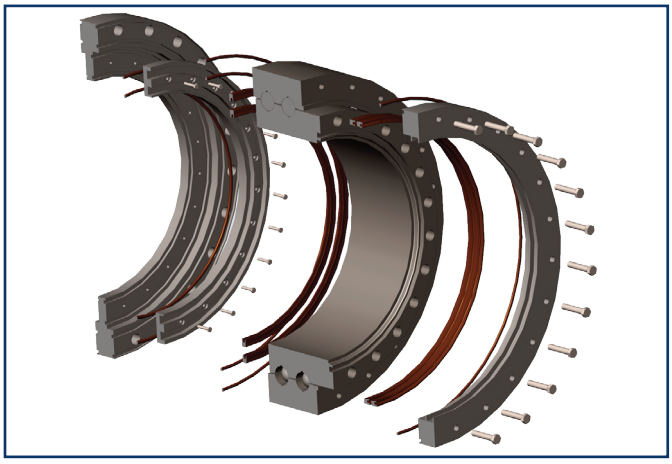


Ring gears and pinions or pinion shafts

Triple ring slewing ring bearings



Double geared units for amusement rides

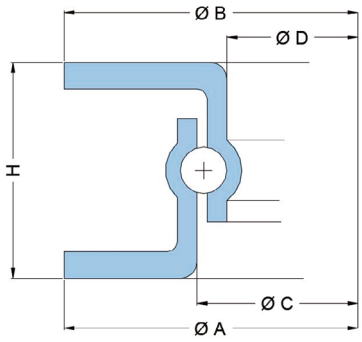


Special designs for subsea operation

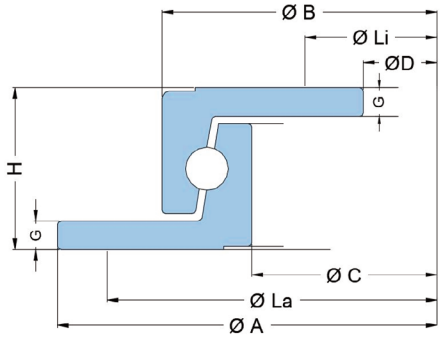
Thin section and harmonic reducer bearings for robotics & automation

TRAILER RINGS

Series U,L&N - Light duty trailer rings



Series U



Series L & N

SERIES U	Outline dimensions					Ball Ø	Grease ports	Bolt		Axial load		Weight
	H	A	B	C	D			No.	Size			
	mm	mm	mm	mm	mm					KN		kg
U01 L030	55	300	295	220	200	12	1	4	M12	5		5
U01 L040	55	400	400	320	300	12	1	4	M12	7.5		8
U01 L050	55	500	500	420	400	12	1	4	M12	10		10
U01 N060	665	600	600	516	490	14	2	6	M14	17		18
U01 N065	65	650	650	568	543	14	2	6	M14	22		20
U01 N070	65	700	700	620	594	14	2	6	M14	22		22
U01 N075	65	750	750	668	640	14	2	6	M14	22		24
U01 N080	65	800	800	718	690	14	2	6	M14	25		26
U01 N085	65	850	850	767	742	14	2	6	M14	30		28
U01 N090	65	900	900	820	793	14	2	6	M14	35		30
U01 N095	65	950	950	870	846	14	2	6	M14	35		31
U01 N100	65	1000	1000	970	895	14	2	6	M14	40		33
U01 N105	65	1050	1050	970	945	14	2	6	M14	45		35
U01 P090	80	890	895	795	766	16	2	6	M16	50		36
U01 P100	80	1010	1015	916	888	16	2	6	M16	60		42
U01 P110	80	1100	1105	1005	976	16	2	6	M16	65		45
U01 T100	90	1000	1008	889	856	20	2	8	M20	80		60
U01 T110	90	1100	1100	980	948	20	2	8	M20	100		65

SERIES L & N	Outline dimensions							Bolt PCD Ø		Axial load		Weight
	A	B	D	C	H			Li	La			
	mm	mm	mm	mm	mm					KN		kg
400 L	400	342	230	292	45			260	375	7.5		11
500 L	500	442	330	392	45			360	475	9		15
650 L	650	592	480	542	45			510	625	15		20
750 L	750	692	580	642	45			610	725	18		23
850 L	850	792	680	742	45			710	825	25		27
950 L	950	892	780	842	45			810	925	30		30
1050 L	1050	992	880	942	45			910	1025	35		34
500 N	500	437	315	384	52			340	475	18		19
650 N	650	587	465	534	52			490	625	25		25
750 N	750	687	565	634	52			590	725	30		30
850 N	850	787	665	734	52			690	825	35		35
950 N	950	887	765	834	52			790	925	40		40
1050 N	1050	987	865	934	52			890	1025	45		50

A range of heavier duty trailer rings is available. Please enquire for details.

Trailer ring technical

Trailer rings do not usually have hardened raceways and cannot be considered as a replacement for a slewing rings.

Trailer rings are not precision bearings and dimensions such as the overall height can vary by as much as 3mm, and diameters by as much as 5mm.

Series U

Suitable for light offroad trailers, irrigation systems or airport luggage trolleys at speeds < 25 km/h and simple industrial turntables

Series L

Suitable for light trailers at speeds < 30 km/h

Series N

Suitable for heavier farm vehicles, factory trailers and small road going trailers at speeds > 30 km/h.

Support structure

Trailer rings should be supported by a stiff frame over at least 50% of their surface area with the loading plug positioned away from the direction of any significant radial load, usually at 90 deg to the direction of travel.

Metal tags welded to the frame can be used to improve radial location and reduce bolt shear stress caused by acceleration and deceleration.

Bolt data

Series U, L and N are supplied undrilled. 6 to 8 Grade 8.8 bolts size M12 to M16 (depending on diameter) should be added to each flange. Typical bolt patterns are illustrated in Figure 1.

Bolt torques should be tightened appropriately and checked during a monthly maintenance cycle. Recommended bolt torques are tabulated in Table 1

Bolt size	Recommended torque (Nm)
M12	78
M14	126
M16	193

Table 1: Recommended trailer ring bolt torques

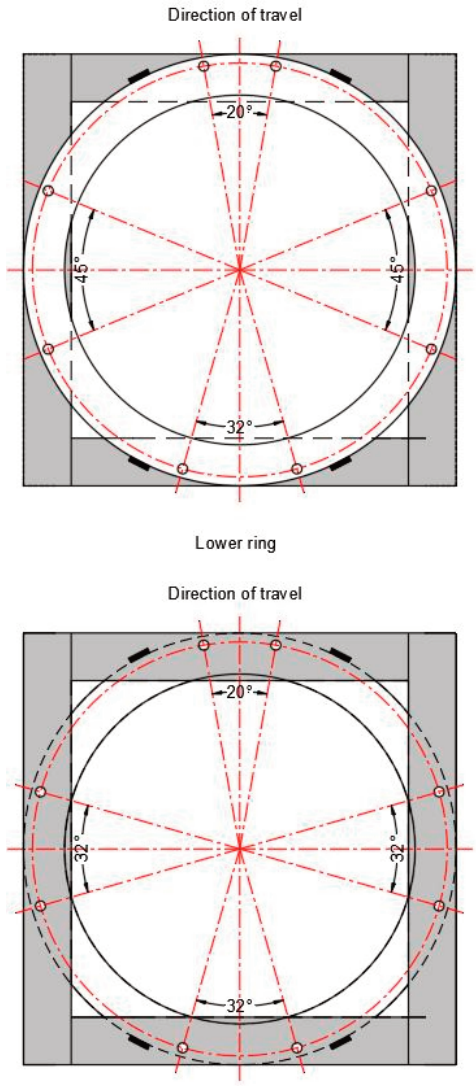


Figure 1: Trailer ring bolt patterns

Lubrication

Unsealed trailer rings must be fully greased on installation and throughout their service life. A good quality multipurpose EP2 grease will be adequate in most applications.

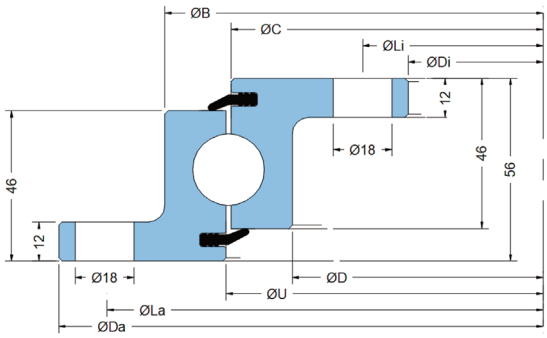
Grease intervals are difficult to define and will depend on operating conditions. In dirty or wet environments continuous lubrication is preferable.

Always rotate the ring during lubrication to distribute the grease throughout the raceway.

UNGEARED SLEWING RINGS

FUN 20 Series

Flanged light series; 20mm ball, Ungeared, Standard drilling

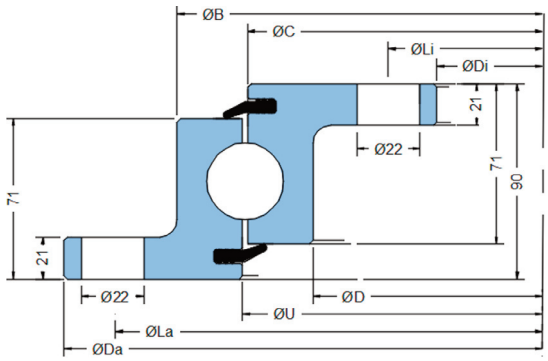


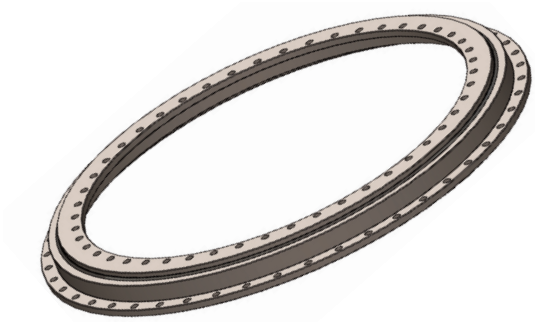
QCB reference	Outline dimensions						Outer holes		Inner holes			Weight
	Da	Di	U	C	D	B	La	na	Li	ni		
	mm	mm	mm	mm	mm	mm	mm		mm			kg
FUN 318 20 00 CC LM	318	105	216	213	175	253	290	8	132	8		12
FUN 418 20 00 CC LM	418	204	316	313	275	353	390	8	232	12		19
FUN 505 20 00 CC LM	518	304	416	413	375	453	490	8	332	12		24
FUN 650 20 00 CC LM	648	434	546	543	505	583	620	10	462	14		31
FUN 750 20 00 CC LM	748	534	646	643	605	683	720	12	562	16		36.5
FUN 850 20 00 CC LM	848	634	746	743	705	783	820	12	662	16		43
FUN 950 20 00 CC LM	948	734	846	843	805	883	920	14	762	18		48
FUN 1050 20 00 AA LM	1048	834	946	943	905	983	1020	16	862	20		53
FUN 1200 20 00 AA LM	1198	984	1096	1093	1055	1133	1170	16	1012	20		62

- Options include: Up to 1600mm diameter, undrilled, double drilled and higher precision bearings. Ask for details

FUN 32 Series

Flanged medium series; 32mm ball, Ungeared, Standard drilling



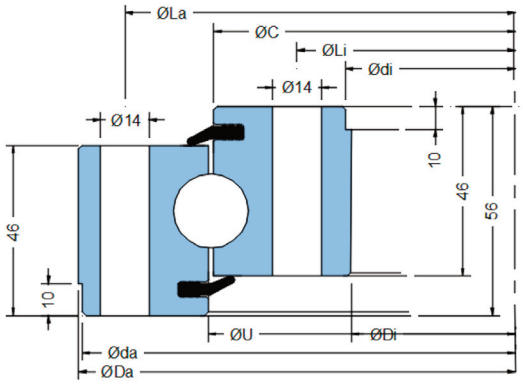


QCB reference	Outline dimensions						Outer holes		Inner holes			Weight
	Da	Di	U/C	D	B		La	na	Li	ni		
	mm	mm	mm	mm	mm		mm		mm			kg
FUN 1100 32 00 AA LM	1100	805	955	893	1017		1060	30	845	30		131
FUN 1200 32 00 AA LM	1200	905	1055	993	1117		1160	30	945	30		145
FUN 1300 32 00 AA LM	1300	1005	1155	1093	1217		1260	36	1045	36		159
FUN 1400 32 00 AA LM	1400	1105	1255	1193	1317		1360	42	1145	42		172
FUN 1500 32 00 AA LM	1500	1205	1355	1293	1417		1460	42	1245	42		186
FUN 1600 32 00 AA LM	1600	1305	1455	1393	1517		1560	48	1345	48		200

- Options include: Up to 2200mm diameter, undrilled, double drilled and higher precision bearings. Ask for details

SUN 20 Series

Solid light series; 20mm ball, Ungeared, Standard drilling

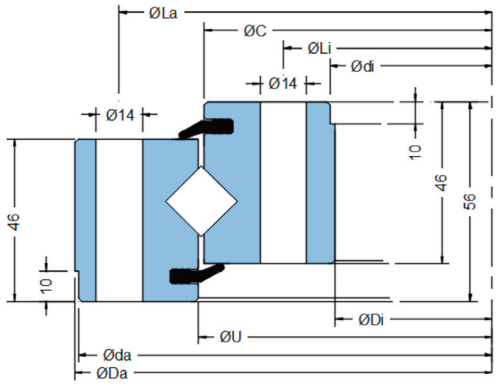


QCB reference	Outline dimensions						Outer holes		Inner holes			Weight
	Da	Di	U	C	da f9	di H9	La	na	Li	ni		
	mm	mm	mm	mm	mm	mm	mm		mm			kg
SUN 386 20 01 CC LM	386	242	316	313	384	244	360	20	268	20		21
SUN 486 20 01 CC LM	486	342	416	413	484	344	460	24	368	24		29
SUN 616 20 01 CC LM	616	472	546	543	614	474	590	32	498	32		37
SUN 716 20 01 CC LM	716	572	646	643	714	574	690	36	598	36		44
SUN 816 20 01 CC LM	816	672	746	743	814	674	790	40	698	40		52
SUN 916 20 01 CC LM	916	772	846	843	914	774	890	40	798	40		60
SUN 1016 20 01 AA LM	1016	872	946	943	1914	874	990	44	898	44		67
SUN 1166 20 01 AA LM	1166	1022	1096	1093	1164	1024	1140	48	1948	48		77

- Options include: Double drilled and higher precision bearings. Ask for details

SUN X14 Series

Solid light series; 14mm crossed roller, Ungeared, Preloaded, Standard drilling

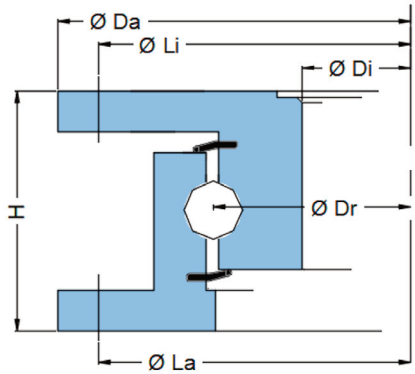


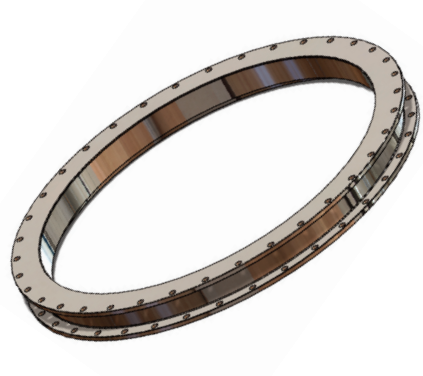
QCB reference	Outline dimensions						Outer holes		Inner holes			Weight
	Da	Di	U	C	da f9	di H9	La	na	Li	ni		
	mm	mm	mm	mm	mm	mm	mm		mm			kg
SUN 486 X14 01 CC LM	486	342	416	413	484	344	460	24	368	24		30
SUN 616 X14 01 CC LM	616	472	546	543	614	474	590	32	498	32		40
SUN 716 X14 01 CC LM	716	572	646	643	714	574	690	36	598	36		47
SUN 816 X14 01 CC LM	816	672	746	743	814	674	790	40	698	40		55
SUN 916 X14 01 CC LM	916	772	846	843	914	774	890	40	798	40		63
SUN 1016 X14 01 AA LM	1016	872	946	943	1014	874	990	44	898	44		70
SUN 1166 X14 01 AA LM	1166	1022	1096	1093	1164	1024	1140	48	1948	48		82

- Options include: Double drilled and higher precision bearings. Ask for details

UHU Series

Double flanged light series, Ungeared, Standard drilling

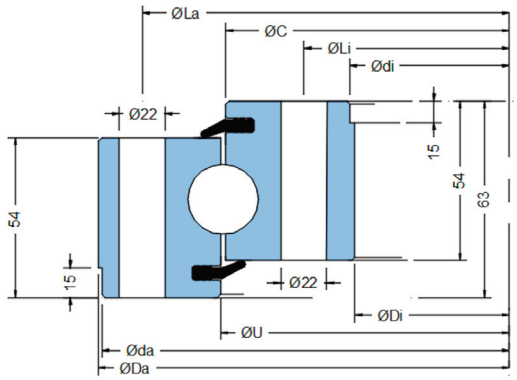




QCB reference	Outline dimensions					Outer holes		Inner holes		Hole ø		Weight
	Da	Di	H	Dr		La	na	Li	ni			
	mm	mm	mm	mm		mm		mm		mm		kg
FUN 400 20 01 CC LM	400	280	69	310		376	24	376	24	Ø13		22
FUN 498 20 01 CC LM	498	331	82	392		470	16	470	16	Ø17		40
FUN 700 20 01 CC LM	700	530	82	593		670	24	670	24	Ø17		63
FUN 804 20 01 CC LM	804	636	82	700		774	30	774	30	Ø17		73
FUN 880 20 01 CC LM	880	708	82	774		850	36	850	36	Ø17		82
FUN 1000 20 01 CC LM	1000	830	82	895		970	36	970	36	Ø17		94
FUN 1095 20 01 CC LM	1095	924	82	979		1065	36	1065	36	Ø17		98

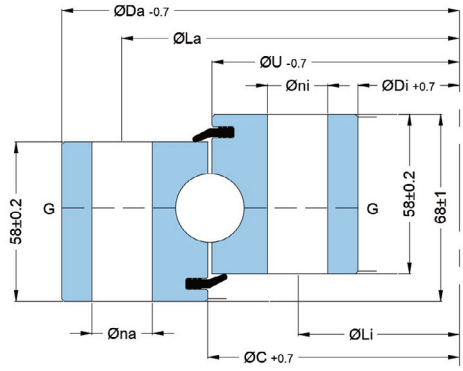
SUN 25 Series

Solid medium series; 25mm ball, Ungeared, Standard drilling; INA VSU 25 Series dimension plan



QCB reference	Outline dimensions						Outer holes		Inner holes		INA Interchange	Weight
	Da	Di	U	C	da f9	di H9	La	na	Li	ni		
	mm	mm	mm	mm	mm	mm	mm		mm			kg
SUN 555 25 01 AA LM	555	355	457	453	553	357	515	18	395	18		53
SUN 655 25 01 AA LM	655	455	557	553	653	457	615	20	495	20		65
SUN 755 25 01 AA LM	755	555	657	653	753	557	715	24	595	24		76
SUN 855 25 01 AA LM	855	655	757	753	853	657	815	24	695	24	VSU 25 0755 NZT	90
SUN 955 25 01 AA LM	955	755	857	853	953	757	915	28	795	28	VSU 25 0855 NZT	101
SUN 1055 25 01 AA LM	1055	855	957	953	1053	857	1015	30	895	30	VSU 25 0955 NZT	115
SUN 1155 25 01 AA LM	1155	955	1057	1053	1153	957	1115	30	995	30	VSU 25 1055 NZT	128
SUN 1255 25 01 AA LM	1255	1055	1157	1153	1253	1057	1215	36	1095	36		139
SUN 1355 25 01 AA LM	1355	1155	1257	1253	1353	1157	1315	42	1195	42		148
SUN 1455 25 01 AA LM	1455	1255	1357	1353	1453	1257	1415	42	1295	42		161
SUN 1555 25 01 AA LM	1555	1355	1457	1453	1553	1357	1515	48	1395	48		171

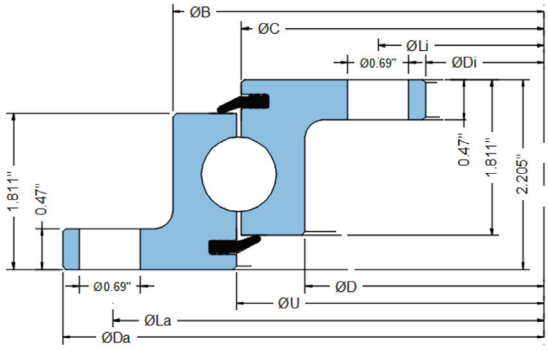
Solid medium series; 25mm ball, Ungeared, RKS 060 Series dimension plan



QCB reference	Outline dimensions				Outer holes			Inner holes			RKS Interchange	Weight
	Da	Di	U	C	La	na	Øa	Li	ni	Øi		
	mm	mm	mm	mm	mm			mm				kg
SUN 1289 25 01 AA LM	1289	1119	1206	1202	1257	45	16	1151	45	16	RKS 060 25 1204	121
SUN 1399 25 01 AA LM	1399	1229	1316	1312	1367	50	16	1261	50	16	RKS 060 25 1314	132
SUN 1509 25 01 AA LM	1509	1339	1426	1422	1477	54	16	1371	54	16	RKS 060 25 1424	143
SUN 1619 25 01 AA LM	1619	1449	1536	1532	1587	60	16	1481	60	16	RKS 060 25 1534	154
SUN 1752 25 01 AA LM	1752	1536	1646	1642	1708	54	22	1580	54	22	RKS 060 25 1644	209
SUN 1862 25 01 AA LM	1862	1646	1756	1752	1818	60	22	1690	60	22	RKS 060 25 1754	222
SUN 2012 30 01 AA LM	2012	1796	1906	1902	1968	64	22	1840	64	22	RKS 060 30 1904	241

FUN 20i Series

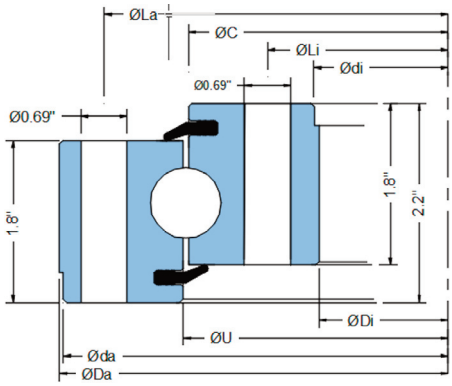
Flanged light series, Ungeared, 20mm ball, KAYDON RK6-P Series dimensions



QCB reference	Outline dimensions						Outer holes		Inner holes		KAYDON Interchange	Weight
	Da	Di	U	C	D	B	La	na	Li	ni		
	in	in	in	in	in	in	in		in			lbs
FUN 518 20 61 CC LM	20.39	11.97	16.22	16.14	14.49	17.87	19.25	8	13.13	12	RK6 16 P1Z	58
FUN 648 20 61 CC LM	25.51	17.09	21.34	21.26	19.61	22.99	24.38	12	18.13	15	RK6 22 P1Z	76
FUN 748 20 61 CC LM	29.45	21.03	25.28	25.20	23.55	26.93	28.38	12	22.13	18	RK6 25 P1Z	89
FUN 848 20 61 CC LM	33.39	24.97	29.22	29.14	27.49	30.87	32.25	15	26.13	18	RK6 29 P1Z	104
FUN 948 20 61 CC LM	37.32	28.90	33.15	33.07	31.42	34.80	36.25	18	30.00	18	RK6 33 P1Z	118
FUN 1048 20 61 CC LM	41.26	32.84	37.09	37.01	35.36	38.74	40.13	18	34.00	20	RK6 37 P1Z	132
FUN 1198 20 61 CC LM	47.17	38.75	43.00	42.92	41.27	44.65	46.00	18	39.88	24	RK6 43 P1Z	153

SUN 20i Series

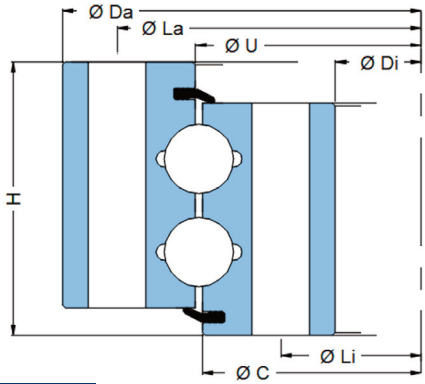
Solid light series; 20mm ball, Ungeared, KAYDON HS6-P Series dimensions

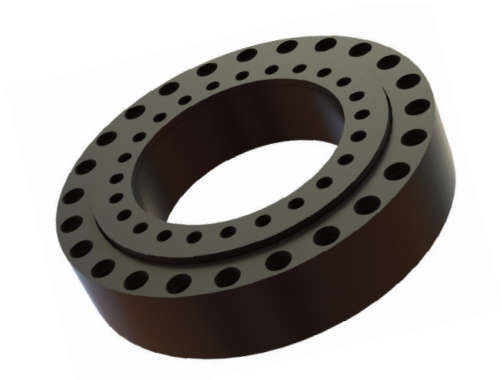


QCB reference	Outline dimensions				Outer holes		Inner holes		KAYDON Interchange	Weight
	Da	Di	H		La	na	Li	ni		
	in	in	in		in		in			lbs
SUN 518 20 61 CC LM	20.40	12.00	2.20		19.00	8	13.50	12	HS6 16 P1Z	103
SUN 648 20 61 CC LM	25.50	17.00	2.20		24.00	12	18.50	15	HS6 22 P1Z	137
SUN 748 20 61 CC LM	29.50	21.00	2.20		28.00	15	22.50	18	HS6 25 P1Z	162
SUN 848 20 61 CC LM	33.40	25.00	2.20		32.00	15	26.50	18	HS6 29 P1Z	186
SUN 950 20 61 CC LM	37.40	28.83	2.20		35.75	18	30.50	20	HS6 33 P1Z	216
SUN 1048 20 61 AA LM	41.25	32.83	2.20		39.75	18	34.38	20	HS6 37 P1Z	233
SUN 1198 20 61 AA LM	47.18	38.75	2.20		45.62	20	40.25	24	HS6 43 P1Z	269

SUN 2-Ball Series

Double row ball series, Ungeared



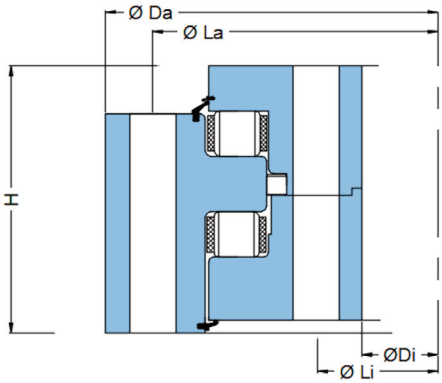


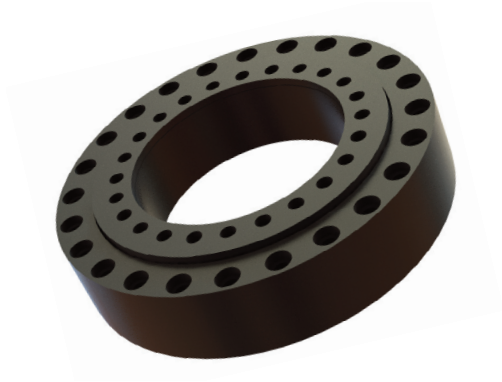
QCB reference	Outline dimensions						Outer holes		Inner holes			Weight
	Da	Di	H				La	na	Li	ni		
	mm	mm	mm				mm		mm			kg
SUN 504 2 25 01 AA LM	504	300	92				436	24	330	24		74
SUN 520 2 25 01 AA LM	520	292	119				476	24	339	24		110
SUN 577 2 20 01 AA LM	577	370	127				540	40-2	410	40		125
SUN 683 2 25 01 AA LM	683	490	92				651	48-2	537	48		110
SUN 692 2 25 01 AA LM	692	461	115				660	40-2	492	40		150
SUN 863 2 25 01 AA LM	863	642	104				819	48	691	48		181
SUN 979 2 25 01 AA LM	979	718	102				893	36	753	36		208
SUN 1200 2 25 01 AA LM	1200	976	98				1135	36	1012	36		240

- Many variations of the same basic bearing exist in terms of bolt hole quantity and style, grease points and location
- Ungeared versions of any of the geared bearings can be supplied to order

3 Row Roller Series Ungeared

Triple row roller series, Ungeared



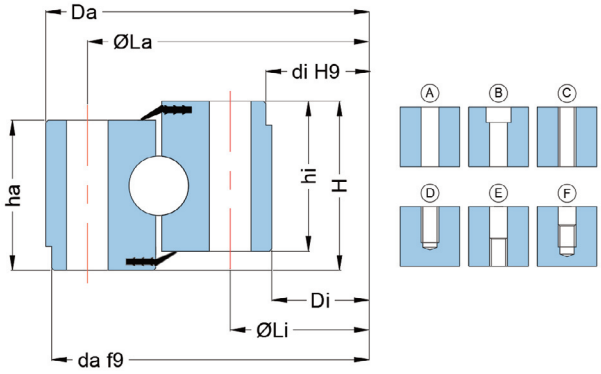


QCB reference	Outline dimensions						Outer holes		Inner holes			Weight
	Da	Di	H				La	na	Li	ni		
	mm	mm	mm				mm		mm			kg
SUN 634 3 25 01 AA LM	634	366	148				598	24	402	24		~224
SUN 694 3 25 01 AA LM	694	426	148				658	24	462	24		~240
SUN 764 3 25 01 AA LM	764	496	148				728	28	532	28		~270
SUN 844 3 25 01 AA LM	844	576	148				808	28	612	28		~300
SUN 964 3 32 01 AA LM	964	636	182				920	36	680	36		~500
SUN 1064 3 32 01 AA LM	1064	736	182				1020	36	780	36		~600
SUN 1164 3 32 01 AA LM	1164	836	182				1120	40	880	40		~680
SUN 1284 3 32 01 AA LM	1284	956	182				1240	40	1000	40		~820
SUN 1445 3 40 01 AA LM	1445	1055	220				1393	45	1107	48		~1000
SUN 1595 3 40 01 AA LM	1595	1205	220				1543	45	1257	48		~1150

- Many variations of the same basic bearing exist in terms of bolt hole quantity and style, grease points and location
- Bearings up to 8 000mm can be manufactured

Metric Interchange Series 1 - Ungeared

Other metric ungeared ball bearings interchangeable with other brands

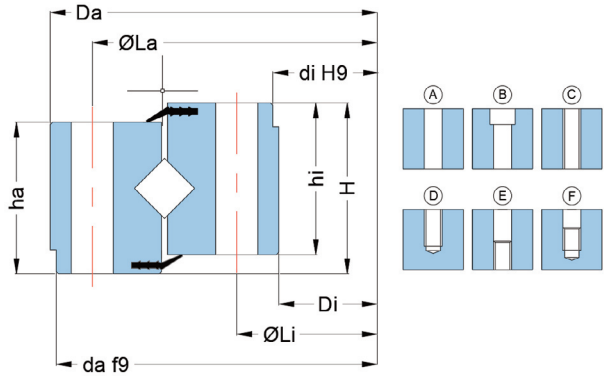


QCB reference	Outline dimensions					Outer holes			Inner holes			ROLLIX or INA interchange	Weight
	Da	Di	H	da f9	di H9	La	na	Style	Li	ni	Style		
	mm	mm	mm	mm	mm	mm			mm				kg
SUN 192 15 01 CC LM	192	89	35	-	-	173	#16 Ø9	B	107	#16 Ø9	A		4.7
SUN 234 14 00 CC LM	234	125	35	-	-	214	#24 Ø11	A	144.5	#20 Ø11	A		7
SUN 234 14 01 CC LM	234	125	35	232	126.5	214	#12 Ø11	A	144.5	#12 Ø11	A	VU 14 0179 N	6.5
SUN 234 14 04 CC LM	234	125	25	-	-	214	#24 Ø11	A	145	#20-1 Ø11	A	03 0181 07 ZZ 00	5
SUN 300 12 01 CC LM	300	140	36	-	-	270	#12 M16	C	170	#12 Ø18	A		11
SUN 329 20 01 AA LM	329	190	45	328	192	305	#16 Ø14	A	215	#16 Ø14	A	03 0260 00 ZZ 00	18
SUN 329 20 02 AA LM	329	190	45	327	193	305	#20 Ø14	A	215	#20 Ø14	A	VU 20 0260 N	16
SUN 380 14 01 CC LM	380	270	35	378	272	360	#24 Ø11	A	290	#24 Ø11	A	VU 14 0325 N	12
SUN 400 16 51 CC LM	400	230	55	-	-	345	#9 Ø12.5	B	259	#8 Ø12.5	B		24
SUN 403 22 03 CC LM	403.5	234	55	-	235	358	#24 Ø13	B	259	#28-1 Ø13	A	03 0307 00 ZZ 00	24
SUN 440 20 01 CC LM	440	265	50	438	267	390	#16 Ø18	A	295	#16 Ø18	A	03 0342 05 ZZ 00	58
SUN 455 25 01 CC LM	455	265	71	450	270	420	#24 Ø18	A	300	#24-1 Ø18	A	03 0360 00 ZZ 00	58
SUN 475 20 01 AA LM	475	335	45	474	336	450	#24 Ø14	A	360	#24 Ø14	A		27
SUN 475 20 02 AA LM	475	335	45	474	336	450	#24 Ø15	A	360	#24 Ø15	A	03 0402 00 ZZ 00	27
SUN 522 25 01 AA LM	522	344	55	520	346	490	#20 Ø18	A	376	#20 Ø18	A	VU 25 0433 N	41
SUN 577 32 01 CC LM	577	382	88	-	-	540	#24 Ø18	A	410	#24-1 Ø18	A		78
SUN 616 20 56 AA LM	616	472	56	-	474	590	#32 M12	E	498	#32 M12	E		40
SUN 665 25 03 CC LM	665	475	77	-	-	635	#18 Ø22	A	508	#18 Ø22	A		81
SUN 848 30 01 CC LM	848	634	66	-	-	820	#12 Ø18	A	662	#16 Ø18	A		82
SUN 900 40 01 AA LM	900	670	86	898	672	860	#36 Ø22	A	710	#36-1 Ø22	A	03 0785 00 ZZ 00	150
SUN 1130 40 02 AA LM	1130	845	100	1130	845	1070	#36 Ø26	A	890	#36-1 Ø26	A	03 0980 02 ZZ 00	58

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.

Metric Interchange Series 2 - Ungeared

Other metric ungeared x-roller bearings interchangeable with other brands

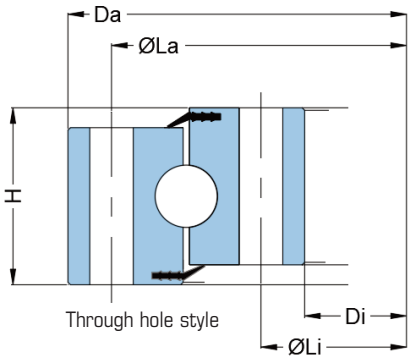


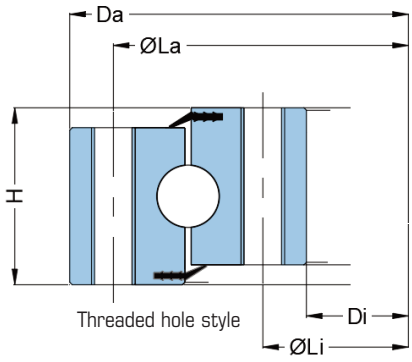
QCB reference	Outline dimensions					Outer holes			Inner holes			ROLLIX or INA interchange	Weight
	Da	Di	H	da f9	di H9	La	na	Style	Li	ni	Style		
	mm	mm	mm	mm	mm	mm			mm				kg
SUN 300 X12 01 CC LM	300	140	36	-	-	270	#12 M16	C	170	#12 Ø18	A	XU 12 0222	11
SUN 300 X14 02 CC LM	300	142	52	298	142	270	#12 Ø18	A	170	#12 Ø18	A	08 0220 05 ZZ 00	16
SUN 350 X14 01 CC LM	350	190	52	348	192	320	#16 Ø18	A	220	#16 Ø18	A	08 0270 04 ZZ 00	20
SUN 380 X18 01 CC LM	380	233	55	-	235	358	#24 Ø13	A	259	#28-1 Ø13	A		21
SUN 403 X20 01 AA LM	403.5	235	55	-	235	358	#24 Ø13	A	259	#28-1 Ø13	A	08 0307 00 ZZ 00	24
SUN 500 X25 01 CC LM	500	305	75	495	306	466	#30 Ø18	A	336	#30 Ø18	A	08 0400 00 ZZ 00	51
SUN 589 X18 01 AA LM	590	383	75	-	384	540	#36 Ø16	A	410	#36-1 Ø16	A	08 0475 08 ZZ 00	58
SUN 695 X20 04 AA LM	700	479	77	-	480	640	#36 Ø18	A	508	#36 Ø18	A	08 0574 08 ZZ 00	90
SUN 816 X25 01 CC LM	816	573	90	-	574	753	#18 Ø22	A	604	#18 Ø22	A	08 0675 00 ZZ 00	135
SUN 816 X25 02 CC LM	816	573	90	-	574	753	#36 Ø22	A	604	#36 Ø22	A		125
SUN 979 X25 01 AA LM	979	717	100	-	718	893	#36 Ø22	A	753	#36-1 Ø22	A	08 0823 08 ZZ 00	270
SUN 979 X25 02 AA LM	979	717	100	-	718	893	#28 Ø22	A	753	#28-1 Ø22	A	22302 5707 XX	270
SUN 1144 X32 01 AA LM	1144	869	100	-	870	1050	#36 Ø22	A	910	#36 Ø22	A	08 0980 06 ZZ 00	248
SUN 1289 X16 01 AA LM	1289	1119	68	-	-	1257	#45 Ø16	A	1151	#45 Ø16	A	160 16 1204	124
SUN 1399 X16 01 AA LM	1399	1229	68	-	-	1367	#50 Ø16	A	1261	#50 Ø16	A	160 16 1314	135
SUN 1509 X16 01 AA LM	1509	1339	68	-	-	1477	#54 Ø16	A	1371	#54 Ø16	A	160 16 1424	146
SUN 1619 X16 01 AA LM	1619	1449	68	-	-	1587	#60 Ø16	A	1481	#60 Ø16	A	160 16 1534	158
SUN 1752 X16 01 AA LM	1752	1536	68		-	1708	#54 Ø16	A	1580	#54 Ø16	A	160 16 1644	215
SUN 1862 X16 01 AA LM	1862	1646	68	-	-	1818	#60 Ø16	A	1690	#60 Ø16	A	160 16 1754	228
SUN 2012 X20 01 AA LM	2012	1796	68	-	-	1968	#64 Ø16	A	1840	#64 Ø16	A	160 20 1904	248

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Main interchanges listed. Others may exist.

MTO Series - Ungeared

Inch size ungeared bearings interchangeable with Kaydon MTO/ Silverthin STO Series





QCB reference	Outline dimensions				Outer holes		Inner holes		KAYDON interchange	Weight
	Da	Di	H		La	na	Li	ni		
	in	in	in		in		in			lbs
SUN 110 08 01 CC LM	4.331	1.968	0.787		3.818	8 Ø0.26	2.480	8 Ø0.26	MTO 050	2
SUN 110 08 02 CC LM	4.331	1.968	0.787		3.818	8 M6	2.480	8 M6	MTO 050 T	2
SUN 135 08 01 CC LM	5.315	2.559	0.866		4.724	8 Ø0.354	3.149	8 Ø0.354	MTO 065	4
SUN 135 08 02 CC LM	5.315	2.559	0.866		4.724	8 M8	3.149	8 M8	MTO 065 T	4
SUN 226 13 01 CC LM	8.898	4.803	1.339		8.189	12 Ø0.354	5.512	12 Ø0.354	MTO 122	13
SUN 226 13 02 CC LM	8.898	4.803	1.339		8.189	12 M8	5.512	12 M8	MTO 122 T	13
SUN 249 14 01 CC LM	9.803	5.630	1.339		8.937	12 Ø0.433	6.496	12 Ø0.433	MTO 143	15
SUN 249 14 02 CC LM	9.803	5.630	1.339		8.937	12 M10	6.496	12 M10	MTO 143 T	15
SUN 300 22 02 CC LM	11.811	5.709	1.968		10.630	16 Ø0.562	6.890	16 Ø0.562	MTO 145	37
SUN 300 22 03 CC LM	11.811	5.709	1.968		10.630	16 Ø5/8-11	6.890	16 Ø5/8-11	MTO 145 T	37
SUN 312 25 01 CC LM	12.286	5.709	1.968		10.630	16 Ø0.594	6.890	16 Ø0.594	MTO 145 X	41
SUN 310 16 01 CC LM	12.205	6.693	1.811		11.024	12 Ø0.592	7.874	12 Ø0.512	MTO 170	33
SUN 310 16 02 CC LM	12.205	6.693	1.811		110.24	12 M12	7.874	12 M12	MTO 170 T	33
SUN 365 16 01 CC LM	14.370	8.268	1.575		13.190	16 Ø0.562	9.449	20 Ø0.562	MTO 210	38
SUN 365 16 01 CC LM	14.370	8.268	1.575		13.190	16 Ø5/8-11	9.449	20 Ø5/8-11	MTO 210 T	38
SUN 373 20 01 CC LM	14.686	8.268	1.968		13.190	16 Ø0.594	9.449	20 Ø0.594	MTO 210 X	48
SUN 420 20 01 CC LM	16.535	10.433	1.968		15.354	18 Ø0.562	11.614	24 Ø0.562	MTO 265	54
SUN 420 20 02 CC LM	16.535	10.433	1.968		15.354	18 Ø5/8-11	11.614	24 Ø5/8-11	MTO 265 T	54
SUN 433 25 01 CC LM	17.086	10.433	1.968		15.354	18 Ø0.594	11.614	24 Ø0.594	MTO 265 X	61
SUN 520 25 02 CC LM	20.486	12.750	2.062		18.875	20 Ø5/8-11	14.375	20 Ø5/8-11	MTO 324 T	105
SUN 520 25 03 CC LM	20.486	12.770	2.375		18.875	20 Ø0.688	14.375	20 Ø0.668	MTO 324 X	105

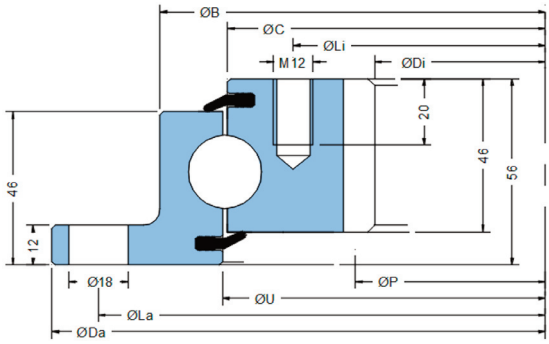
The smallest stock unit is the SUN 110 08 which is about the same size as a pocket calculator

The largest delivered so far was was 5.95m diameter and weighed in at just under 5 tons.

Internally Geared Slewing Rings

FIG 20 Series

Flanged light series; 20mm ball, Internally geared, Standard drilling

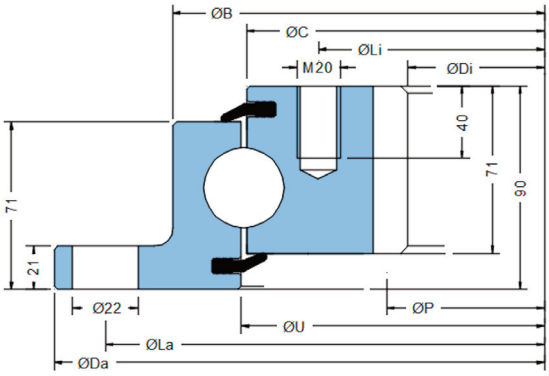


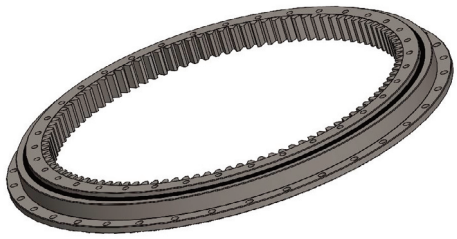
QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	B		La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm		mm		mm		mm			KN	kg
FIG 418 20 00 AA LM	418	226.5	315.5	312.5	353		390	8	275	12	235	5	47	34	21
FIG 505 20 00 AA LM	518	326.5	415.5	412.5	453		490	8	375	12	335	5	67	34	27
FIG 650 20 00 AA LM	648	445.2	545.5	542.5	583		620	10	505	16	456	6	76	41	38
FIG 750 20 00 AA LM	748	547	646	643	683		720	12	605	18	558	6	93	41	45
FIG 850 20 00 AA LM	848	649	746	743	783		820	12	705	20	660	6	110	41	51
FIG 950 20 00 AA LM	948	783	846	843	883		920	14	805	20	752	8	94	55	61
FIG 1050 20 00 AA LM	1048	842	946	943	983		1020	16	905	22	856	8	107	55	65
FIG 1200 20 00 AA LM	1198	986	1096	1093	1133		1170	16	1055	24	1000	8	125	55	80

- Options include: Up to 1600mm diameter, undrilled, double drilled and higher precision bearings. Ask for details

FIG 32 Series

Flanged medium series; 32mm ball, Internally geared, Standard drilling



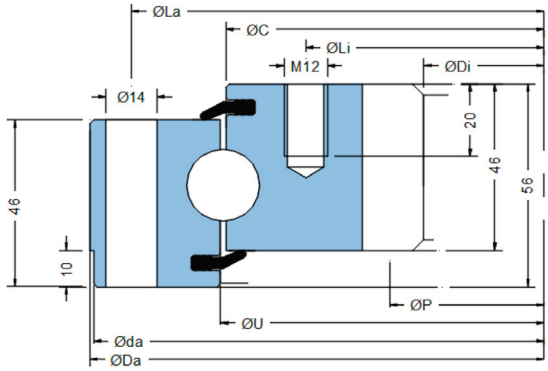


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U/C	B			La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm			mm		mm		mm			KN	kg
FIG 1100 32 00 AA LM	1100	812	955	1017			1060	30	894	30	830	10	83	105	159
FIG 1200 32 00 AA LM	1200	912	1055	1117			1160	30	994	30	930	10	93	105	176
FIG 1300 32 00 AA LM	1300	1012	1155	1217			1260	36	1094	36	1030	10	103	105	192
FIG 1400 32 00 AA LM	1400	1112	1255	1317			1360	42	1194	42	1130	10	113	105	208
FIG 1500 32 00 AA LM	1500	1212	1355	1417			1460	42	1294	42	1230	10	123	105	225
FIG 1600 32 00 AA LM	1600	1312	1455	1517			1560	48	1394	48	1330	10	133	105	243

- Options include: Up to 2200mm diameter, undrilled, double drilled and higher precision bearings. Ask for details

SIG 20 Series

Solid light series; 20mm ball, Internally geared, Standard drilling

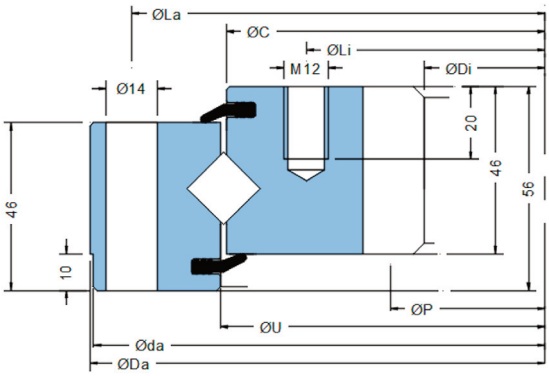


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	da f9		La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm		mm		mm		mm			KN	kg
SIG 386 20 01 AA LM	386	224	315.5	312.5	384		390	24	275	24	235	5	47	34	22
SIG 486 20 01 AA LM	486	324	415.5	412.5	484		460	24	375	24	335	5	67	34	31
SIG 616 20 01 AA LM	616	444	545.5	542.5	614		590	32	505	32	456	6	76	41	42
SIG 716 20 01 AA LM	716	546	646	643	714		690	36	605	36	558	6	93	41	50
SIG 816 20 01 AA LM	816	648	746	743	814		790	40	705	40	660	6	110	41	58
SIG 916 20 01 AA LM	916	736	846	843	914		2.3	40	805	40	752	8	94	55	69
SIG 1016 20 01 AA LM	1016	840	946	943	1014		990	44	905	44	856	8	107	55	76
SIG 1166 20 01 AA LM	1166	984	1096	1093	1164		1140	48	1055	48	1000	8	125	55	91

- Options include: Double drilled and higher precision bearings. Ask for details

SIG X14 Series

Solid light series; 14mm crossed roller, Internally geared, Preloaded, Standard drilling

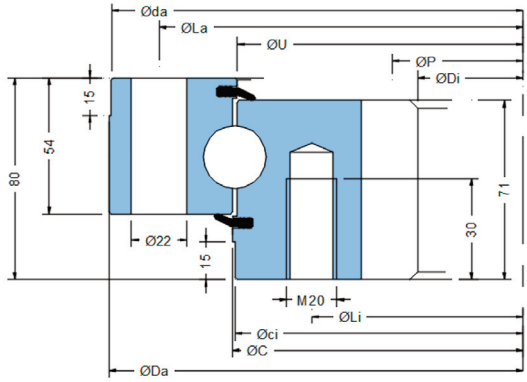


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	da f9		La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm		mm		mm		mm			KN	kg
SIG 386 X14 01 AA LM	386	224	315.5	312.5	384		390	24	275	24	235	5	47	34	22
SIG 486 X14 01 AA LM	486	324	415.5	412.5	484		460	24	375	24	335	5	67	34	31
SIG 616 X14 01 AA LM	616	444	545.5	542.5	614		590	32	505	32	456	6	76	41	42
SIG 716 X14 01 AA LM	716	546	646	643	714		690	36	605	36	558	6	93	41	50
SIG 816 X14 01 AA LM	816	648	746	743	814		790	40	705	40	660	6	110	41	58
SIG 916 X14 01 AA LM	916	736	846	843	914		890	40	805	40	752	8	94	55	69
SIG 1016 X14 01 AA LM	1016	840	946	943	1014		990	44	905	44	856	8	107	55	76
SIG 1166 X14 01 AA LM	1166	984	1096	1093	1164		1140	48	1055	48	1000	8	125	55	91

- Options include: Double drilled and higher precision bearings. Ask for details

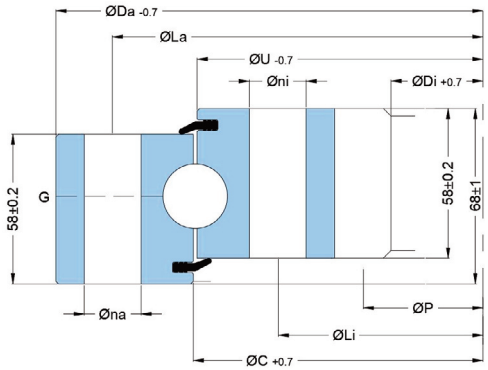
SIG 25 Series

Solid medium series; 25mm ball, Internally geared, Standard drilling; INA VSI 25 Series dimension plan



QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	da f9	ci H9	La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm	mm	mm		mm		mm			KN	kg
SIG 555 25 01 AA LM	555	304	457	453	553	455	515	18	394	18	320	8	40	85	64
SIG 655 25 01 AA LM	655	416	557	553	653	555	615	20	494	20	432	8	54	85	76
SIG 755 25 01 AA LM	755	512	657	653	753	655	715	24	594	24	528	8	66	85	102
SIG 855 25 01 AA LM	855	610	757	753	853	755	815	24	694	24	630	10	63	105	119
SIG 955 25 01 AA LM	955	710	857	853	953	855	915	28	794	28	730	10	73	105	137
SIG 1055 25 01 AA LM	1055	810	957	953	1053	955	1015	30	894	30	830	10	83	105	149
SIG 1155 25 01 AA LM	1155	910	1057	1053	1153	1055	1115	30	994	30	930	10	93	105	165
SIG 1255 25 01 AA LM	1255	1010	1157	1153	1253	1155	1215	36	1094	36	1030	10	103	105	180
SIG 1355 25 01 AA LM	1355	1110	1257	1253	1353	1255	1315	42	1194	42	1130	10	113	105	195
SIG 1455 25 01 AA LM	1455	1210	1357	1353	1453	1355	1415	42	1294	42	1230	10	123	105	212
SIG 1555 25 01 AA LM	1555	1310	1457	1453	1553	1455	1515	48	1394	48	1330	10	133	105	227

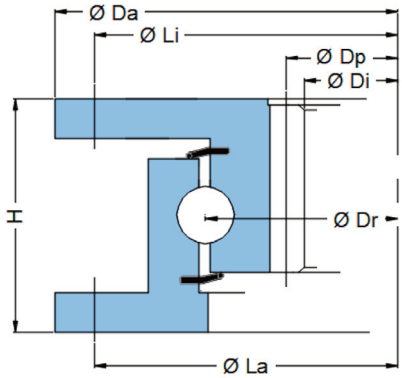
Solid medium series; 25mm ball, Internally geared, RKS 062 Series dimension plan

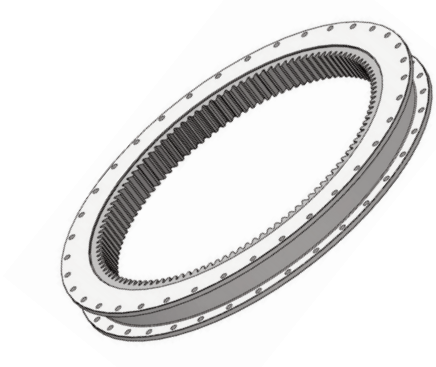


QCB reference	Outline dimensions				Outer holes			Inner holes			20° metric stub gear				Weight
	Da	Di	U	C	La	na	Øa	Li	ni	Øi	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm			mm			mm			KN	kg
SIG 1289 25 01 AA LM	1289	1072	1206	1202	1257	45	16	1151	45	16	1080	10	108	100	145
SIG 1399 25 01 AA LM	1399	1182	1316	1312	1367	50	16	1261	50	16	1190	10	119	100	159
SIG 1509 25 01 AA LM	1509	1292	1426	1422	1477	54	16	1371	54	16	1300	10	130	100	172
SIG 1619 25 01 AA LM	1619	1402	1536	1532	1587	60	16	1481	60	16	1410	10	141	100	186
SIG 1752 25 01 AA LM	1752	1495	1646	1642	1708	54	22	1580	54	22	1500	10	150	100	236
SIG 1862 25 01 AA LM	1862	1605	1756	1752	1818	60	22	1690	60	22	1610	10	161	100	252
SIG 2012 30 01 AA LM	2012	1729	1906	1902	1968	64	22	1840	64	22	1736	14	124	140	299

UHI Series

Double flanged light series; Internally geared, Standard drilling

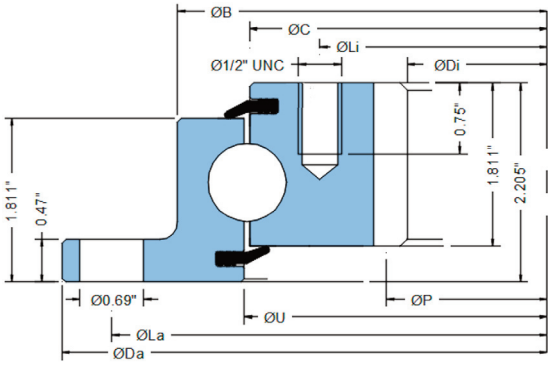




QCB reference	Outline dimensions					Outer holes		Inner holes		Hole Ø	20° metric stub gear				Weight
	Da	Di	H	Dr		La	na	Li	ni		P	Mod	Z	FzMax	
	mm	mm	mm	mm		mm		mm		mm	mm			KN	kg
FIG 498 20 01 CC LM	498	331	82	392		470	16	470	16	Ø17	340	5	68	23	38
FIG 700 20 01 CC LM	700	530	82	593		670	24	670	24	Ø17	540	5	108	23	59
FIG 804 20 01 CC LM	804	636	82	700		774	30	774	30	Ø17	648	6	108	33	67
FIG 880 20 01 CC LM	880	708	82	774		850	36	850	36	Ø17	720	6	120	33	75
FIG 1000 20 01 CC LM	1000	830	82	895		970	36	970	36	Ø17	840	6	140	33	86

FIG 20i Series

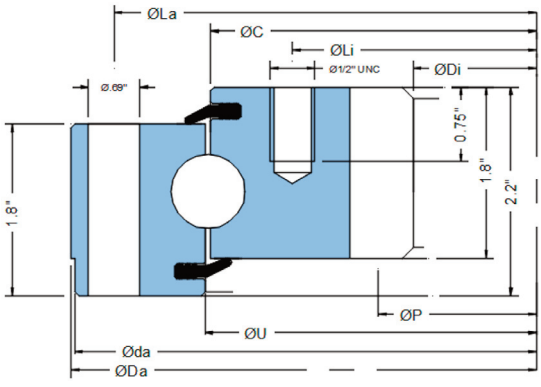
Flanged light series; 20mm ball, Internally geared, KAYDON RK6-N Series dimensions



QCB reference	Outline dimensions					Outer holes		Inner holes		20° stub gear				Weight	KAYDON Interchange
	Da	Di	U	B	C	La	na	Li	ni	P	DP	Z	FzMax		
	in	in	in	in	in	in		in		in			lb.f	lbs	
FIG 518 20 61 AA LM	20.39	12.85	16.22	17.87	16.14	19.25	8	14.88	12	13.25	4	53	7883	65	RK6 16 N1Z
FIG 648 20 61 AA LM	25.51	17.60	21.34	22.99	21.26	24.38	10	19.63	15	18.00	4	72	7883	90	RK6 22 N1Z
FIG 748 20 61 AA LM	29.45	21.60	25.28	26.93	25.20	28.38	12	23.63	18	22.00	4	88	7883	106	RK6 25 N1Z
FIG 848 20 61 AA LM	33.39	25.60	29.22	30.87	29.14	32.25	15	27.63	18	26.00	4	104	7883	121	RK6 29 N1Z
FIG 948 20 61 AA LM	37.32	29.13	33.15	34.80	33.07	36.25	18	31.50	18	29.67	3	89	10500	148	RK6 33 N1Z
FIG 1048 20 61 AA LM	41.26	33.13	37.09	38.74	37.01	40.13	18	35.50	20	33.67	3	101	10500	165	RK6 37 N1Z
FIG 1198 20 61 AA LM	47.17	39.13	43.00	44.65	42.92	46.00	18	41.50	24	39.67	3	119	10500	188	RK6 43 N1Z

SIG 20i Series

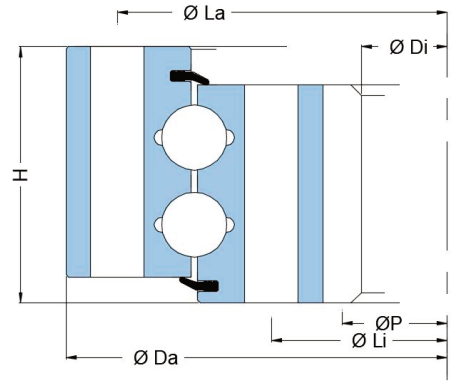
Solid light series; 20mm ball, Internally geared, KAYDON HS6-N Series dimensions



QCB reference	Outline dimensions			Outer holes		Inner holes		20° stub gear				Weight	KAYDON Interchange
	Da	Di	Height	La	na	Li	ni	P	DP	Z	FzMax		
	in	in	in	in		in		in			lb.f	lbs	
SIG 518 20 61 AA LM	20.39	12.85	2.2	19.00	8	14.88	16	13.25	4	53	7883	92	HS6 16 N1Z
SIG 648 20 61 AA LM	25.51	17.60	2.2	24.00	12	19.63	20	18.00	4	72	7883	117	HS6 22 N1Z
SIG 748 20 61 AA LM	29.45	21.60	2.2	28.00	15	23.63	24	22.00	4	88	7883	148	HS6 25 N1Z
SIG 848 20 61 AA LM	33.39	25.60	2.2	32.00	15	27.63	28	26.00	4	104	7883	171	HS6 29 N1Z
SIG 950 20 61 AA LM	37.32	29.13	2.2	35.75	18	31.50	30	29.67	3	89	10500	205	HS6 33 N1Z
SIG 1048 20 61 AA LM	41.26	33.13	2.2	39.75	18	35.50	32	33.67	3	101	10500	226	HS6 37 N1Z
SIG 1198 20 61 AA LM	47.17	39.13	2.2	45.62	20	41.50	36	39.67	3	119	10500	253	HS6 43 N1Z

SIG 2-Ball Series

Double row ball series, Internally geared

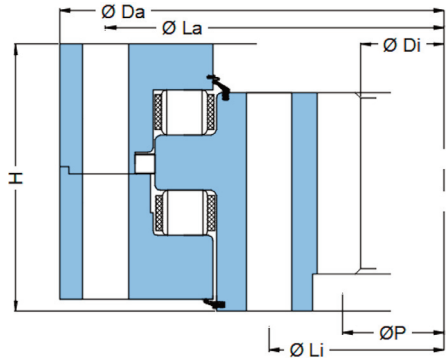


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	H				La		Li		P	Mod	Z	FzMax	
	mm	mm	mm				mm	na	mm	ni	mm			KN	kg
SIG 570 2 20 01 AA LM	570	368	84				540	18	436	18	384	8	48	84	77
SIG 700 2 25 01 AA LM	700	485	100				660	28	540	30	485	5	97	45	110
SIG 705 2 20 01 AA LM	705	504	92				675	32	575	32	520	8	65	88	103
SIG 712 2 25 03 AA LM	712	456	98				ϱϟϱ	32	640	32	472	8	59	92	140
SIG 850 2 20 02 AA LM	850	641	92				820	36	705	36	648	8	81	95	127
SIG 976 2 20 01 AA LM	976	786	97				944	36	850	36	800	8	100	95	152
SIG 982 2 25 01 AA LM	982	754	97				944	36	826	36	760	8	95	95	170
SIG 1072 2 25 01 AA LM	1072	831	97				1035	36	922	36	840	12	70	145	218
SIG 1074 2 25 01 AA LM	1074	820	114				1035	40	910	40	840	10	84	144	234
SIG 1200 2 25 01 AA LM	1200	964	110				1160	48	1040	48	980	10	98	132	232
SIG 1200 2 25 02 AA LM	1200	964	110				1160	36	1040	36	980	10	98	132	239
SIG 1250 2 30 01 AA LM	1250	998	110				1208	36	1080	36	1000	10	100	148	280
SIG 1345 2 30 01 AA LM	1345	1062	108				1290	40	1150	40	1080	10	108	145	331
SIG 1345 2 30 02 AA LM	1345	1062	108				1290	48	1150	48	1080	10	108	145	326
SIG 1470 2 30 01 AA LM	1470	1182	108				1425	48	1270	48	1200	12	100	170	365
SIG 1470 2 30 02 AA LM	1470	1182	108				1425	48	1270	48	1200	10	120	148	394
SIG 1530 2 40 01 AA LM	1530	1186	144				1480	48	1290	48	1200	10	120	190	612
SIG 1530 2 40 02 AA LM	1530	1186	144				1480	48	1290	48	1200	12	100	214	627
SIG 1750 2 30 01 AA LM	1750	1419	120				1705	40	1525	40	1440	12	120	175	572
SIG 1750 2 30 02 AA LM	1750	1419	120				1705	48	1525	48	1440	12	120	175	564
SIG 1780 2 45 02 AA LM	1780	1375	124				1710	48	1500	48	1400	14	100	260	840
SIG 1780 2 45 03 AA LM	1780	1375	124				1710	48	1500	48	1404	12	117	223	832
SIG 2090 2 45 01 AA LM	2090	1778	130				2035	72	1890	72	1800	12	150	198	744
SIG 2100 2 35 01 AA LM	2100	1719	144				2035	72	1835	72	1740	12	145	216	965
SIG 2178 2 35 01 AA LM	2178	1835	144				2108	72	1898	72	1800	12	150	419	1062
SIG 2300 2 45 01 AA LM	2300	1877	144				2240	80	2030	80	1910	18	105	361	1200
SIG 2928 2 40 01 AA LM	2928	2544	152				2866	60	2694	60	2560	16	160	361	1574

- Overall dimensions only.
- Variations on each basic design may exist - (bolt patterns, gear size, hardened gears)
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

SIG 3-Row Series

Triple row roller series, Internally geared

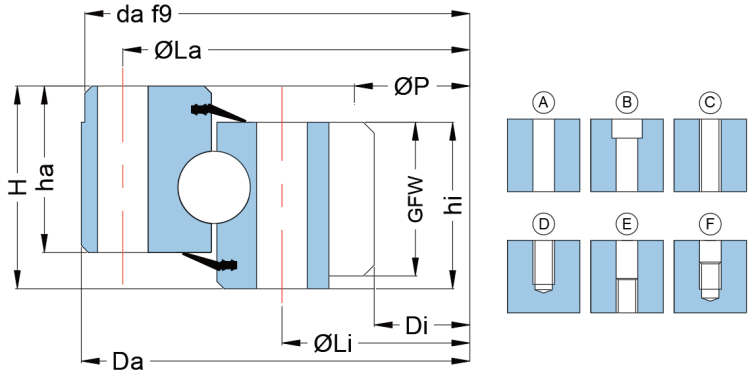


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	H				La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm				mm		mm		mm			KN	kg
SIG 634 3 25 01 AA LM	634	338	148				598	24	402	24	342	6	57	72	224
SIG 694 3 35 01 AA LM	694	398	148				658	24	462	24	402	6	67	72	240
SIG 764 3 25 01 AA LM	764	459	148				728	28	532	28	464	8	58	96	270
SIG 844 3 25 01 AA LM	844	539	148				808	28	612	28	544	8	68	96	300
SIG 964 3 32 01 AA LM	964	594	182				920	36	680	36	600	10	60	120	500
SIG 1064 3 32 01 AA LM	1064	694	182				1020	36	780	36	700	10	70	120	600
SIG 1164 3 32 01 AA LM	1164	785	182				1120	40	880	40	792	12	66	144	680
SIG 1284 3 32 01 AA LM	1284	905	182				1240	40	1000	40	912	12	76	144	820
SIG 1445 3 40 01 AA LM	1445	986	210				1393	45	1107	45	994	14	71	168	1020
SIG 1595 3 40 01 AA LM	1595	1140	210				1543	45	1257	45	1148	14	82	168	1300

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

Metric Interchange Series 1 - Internal

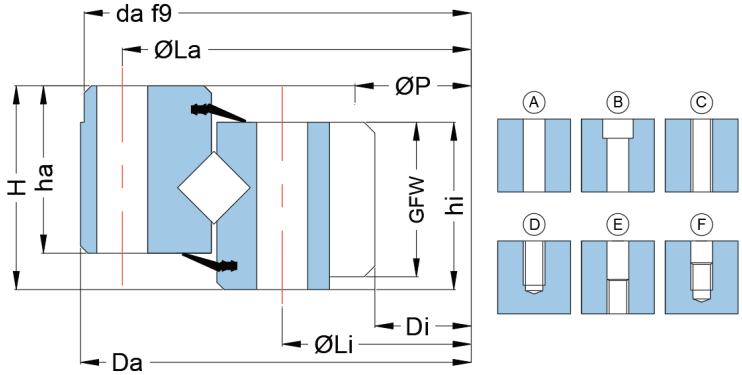
Other metric internally geared ball bearings interchangeable with other brands



QCB reference	Outline dimensions				Outer holes			Inner holes			20° metric stub gear				Weight
	Da	Di	H	da f9	La	na	Style	Li	ni	Style	P	Mod	Z	Fz max	
	mm	mm	mm	mm	mm			mm			mm			KN	kg
SIG 300 14 01 AA LM	300	174.5	40	298	280	#20 Ø11	A	210	#20 Ø11	A	180	3	60	14	10
SIG 340 16 00 AA LM	340	216	39		324	#20 Ø9	A	252	#20 Ø9	A	224	4	56	20	12
SIG 386 20 02 AA LM	386	217	55	380	358	#24 Ø14	A	259	#24 Ø14	A	224	4	56	24	24
SIG 403 20 01 AA LM	403	216	55		358	#24 Ø13	A	259	#28-1 Ø13	A	224	4	56	25	26
SIG 486 16 00 CC LM	486	332	39		462	#14 Ø14	A	378	#14 Ø14	A	340	4	85	14	24
SIG 515 30 01 AA LM	515	316	54	512	476	#20 Ø18	A	368	#20 Ø18	A	320	5	64	40	44
SIGH 521 25 01 AA LM	521	324	60		479	#30 M16	E	373	#30 M16	E	333	4.5	74	40	42
SIGH 535 22 03 AA LM	535	380	50		510	#16 Ø13	A	420	#16 M12	D	384	4	96	29	35
SIG 562 25 01 AA LM	562	385	60		538	#30 Ø13	A	420	#30 Ø13	A	396	6	66	40	46
SIG 610 25 01 AA LM	610	403	68	608	574	#24 Ø18	A	466	#24 Ø18	A	408	6	68	60	63
SIGH 640 22 03 AA LM	640	472	55		615	#16 M14	E	520	#16 M14	E	480	5	96	43	45
SIG 740 32 01 AA LM	740	493	76	735	692	#24 Ø22	A	560	#24 Ø22	A	498	6	83	50	105
SIG 750 25 01 AA LM	750	546	70		720	#20 Ø18	A	605	#20 Ø18	A	558	6	93	49	76
SIG 835 25 01 AA LM	835	578	82	830	786	#30 Ø22	A	654	#30 Ø22	A	584	8	73	100	130
SIG 935 32 01 AA LM	935	674	82	930	886	#32 Ø22	A	754	#32 Ø22	A	800	8	100	100	168
SIG 1050 30 04 AA LM	1050	794	82	1045	1000	#36 Ø22	A	870	#36 Ø22	A	680	8	85	100	150
SIG 1170 40 01 AA LM	1170	882	98	1165	1125	#40 Ø22	A	975	#40 Ø22	A	890	10	89	150	258
SIGH 1175 28 01 AA LM	1175	961	90	1165	1134	#36 M16	E	1040	#36 M16	D	980	10	98	120	181
SIGH 1251 32 01 AA LM	1251	979	91	1250	1212	#40 Ø22	A	1068	#40 Ø22	A	990	10	99	122	289
SIG 1360 35 01 AA LM	1360	1052	98	1355	1303	#40 Ø26	A	1147	#40 Ø26	A	1060	10	106	150	321
SIG 1390 25 01 AA LM	1390	1162	63	1385	1354	#24 Ø18	A	1236	#24 Ø18	A	1168	8	146	75	171
SIG 1560 45 01 AA LM	1560	1215	110	1555	1500	#48 Ø26	A	1330	#48 Ø26	A	1224	12	102	200	471
SIG 1676 40 01 AA LM	1676	1422	78	1674	1636	#36 Ø18	A	1506	#36 Ø18	A	1440	10	144	110	278
SIG 1870 40 01 AA LM	1870	1501	110	1865	1804	#48 Ø30	A	1626	#48 Ø30	A	1512	14	108	220	607
SIG 1916 30 01 AA LM	1916	1662	78	1915	1876	#24 Ø18	A	1746	#24 Ø18	A	1680	10	168	110	324
SIGH 1939 30 01 AA LM	1939	1600	101	1939	1887	#72 Ø26	A	1616	#72 Ø26	A	1616	16	101	235	451
SIG 2195 40 01 AA LM	2195	1780	130	2190	2123	#48 Ø33	A	1921	#48 Ø33	A	1792	16	112	300	979

Metric Interchange Series 2 - Internal

Other metric internally geared crossed roller bearings interchangeable with other brands



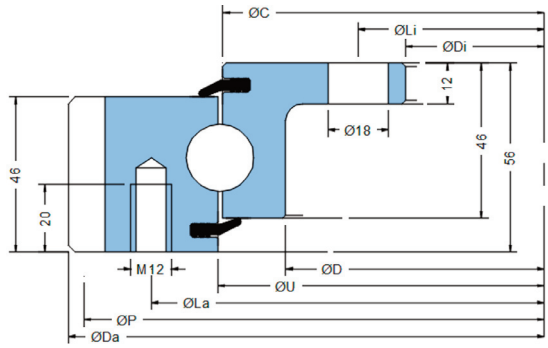
QCB reference	Outline dimensions				Outer holes			Inner holes			20° metric stub gear				Weight
	Da	Di	H	da f9	La	na	Style	Li	ni	Style	P	Mod	Z	Fz max	
	mm	mm	mm	mm	mm			mm			mm			KN	kg
SIG 451 X14 01 AA LM	451	291	55	450	425	#24 Ø14	A	335	#24 Ø14	A	300	5	60	30	28
SIG 562 X20 01 AA LM	562	385	60	560	538	#30 Ø13.5	A	440	#30 Ø13.5	A	396	6	66	38	43
SIG 620 X25 01 AA LM	620	386	85	618	580	#24 Ø21	A	448	#24 Ø21	A	396	6	66	47	85
SIG 665 X18 01 AA LM	665	457	60	660	630	#28 Ø18	A	517	#28 Ø18	A	462	6	77	46	61
SIG 695 X25 01 AA LM	695	446	85	693	640	#30 Ø21	A	508	#30 Ø21	A	608	8	76	47	100
SIG 771 X35 01 AA LM	771	541	70	770	736	#32 Ø18	A	610	#32 Ø18	A	541	6	91	57	96
SIG 871 X20 01 AA LM	871	634	70	870	833	#36 Ø18	A	707	#36 Ø18	A	640	8	80	66	113
SIG 871 X20 02 AA LM	871	634	70	870	833	#36 M20	C	707	#36 M20	C	640	8	80	66	113
SIG 960 X25 01 AA LM	960	706	75	958	914	#30 Ø22	A	784	#30 Ø22	A	712	8	89	83	144
SIG 975 X20 01 AA LM	975	784	82	970	944	#36 Ø17	A	850	#36 M16	D	800	8	100	74	123
SIG 975 X20 02 AA LM	975	784	82	970	944	#36 M16	D	850	#36 M16	D	800	8	100	74	123
SIG 1175 X25 01 AA LM	1175	961	90	1165	1134	#36 M16	E	1040	#36 M16	D	980	10	98	93	181
SIG 1251 X32 01 AA LM	1251	979	91	1250	1212	#40 Ø22	A	1068	#40 Ø22	A	990	10	99	104	238
SIG 1289 X16 01 AA LM	1289	1072	68		1257	#45 Ø16	A	1151	#45 Ø16	A	1080	10	108	89	148
SIG 1399 X16 01 AA LM	1399	1182	68		1367	#50 Ø16	A	1261	#50 Ø16	A	1190	10	119	89	160
SIG 1431 X35 02 AA LM	1431	1143	97	1430	1380	#48 Ø22	A	1228	#48 Ø22	A	1150	10	115	117	323
SIG 1509 X16 01 AA LM	1509	1292	68		1477	#54 Ø16	A	1371	#54 Ø16	A	1300	10	130	89	175
SIG 1530 X40 03 AA LM	1530	1178	130		1480	#36 Ø26	A	1290	#36 Ø26	A	1200	10	120	192	541
SIG 1619 X16 01 AA LM	1619	1402	68		1587	#60 Ø16	A	1481	#60 Ø16	A	1410	10	141	89	190
SIG 1752 X16 01 AA LM	1752	1495	68		1708	#54 Ø22	A	1580	#54 Ø22	A	1500	10	150	89	240
SIG 1770 X40 01 AA LM	1770	1375	150	1760	1710	#48 Ø30	A	1500	#48 Ø30	A	1400	10	140	210	802
SIG 1862 X16 01 AA LM	1862	1605	68		1818	#60 Ø22	A	1690	#60 Ø22	A	1610	10	161	89	255
SIG 2002 X45 02 AA LM	2002	1595	150	2000	1940	#54 Ø30	A	1720	#54 Ø30	A	1610	14	115	280	951
SIG 2012 X20 01 AA LM	2012	1729	68		1968	#64 Ø22	A	1840	#64 Ø22	A	1736	14	124	121	305
SIG 2190 X50 01 AA LM	2190	1731	144	2188	2130	#72 Ø30	A	1880	#72 Ø30	A	1744	16	109	369	1199
SIG 2590 X50 01 AA LM	2590	2110	160	2586	2520	#80 Ø30	A	2280	#80 Ø30	A	2124	18	118	453	1639
SIG 3020 X50 01 AA LM	3020	2495	158		2950	#72 Ø36	A	2670	#72 Ø36	A	2520	20	126	486	2154

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

Externally Geared Slewing Rings

FEG 20 Series

Flanged light series; 20mm ball, Externally geared, Standard drilling

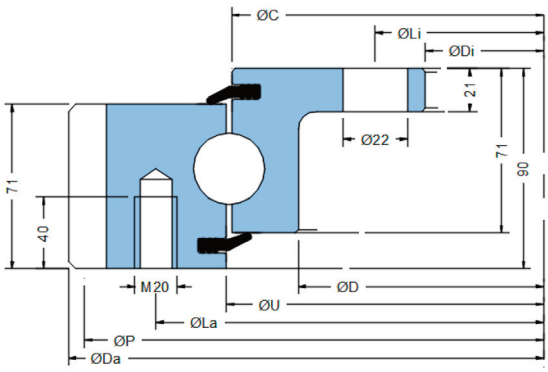


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	D		La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm		mm		mm		mm			KN	kg
FEG 404 20 00 AA LM	404	204	315.5	312.5	275		355	10	232	12	395	5	79	33	23
FEG 505 20 00 AA LM	504	304	415.5	412.5	375		455	10	332	12	495	5	99	33	29
FEG 650 20 00 AA LM	641	434	545.5	542.5	505		585	14	462	14	630	6	105	39	40
FEG 750 20 00 AA LM	743	534	646	643	605		685	16	562	16	732	6	122	39	47
FEG 850 20 00 AA LM	839	634	746	743	705		785	18	662	16	828	6	138	39	53
FEG 950 20 00 AA LM	950	734	846	843	805		885	18	762	18	936	8	117	52	64
FEG 1050 20 00 AA LM	1046	834	946	943	905		985	20	862	20	1032	8	129	52	69
FEG 1200 20 00 AA LM	1198	984	1096	1093	1055		1135	22	1012	20	1184	8	148	52	82

- Options include: Up to 1600mm diameter, undrilled, double drilled and higher precision bearings. Ask for details

FEG 32 Series

Flanged medium series; 32mm ball, Externally geared, Standard drilling

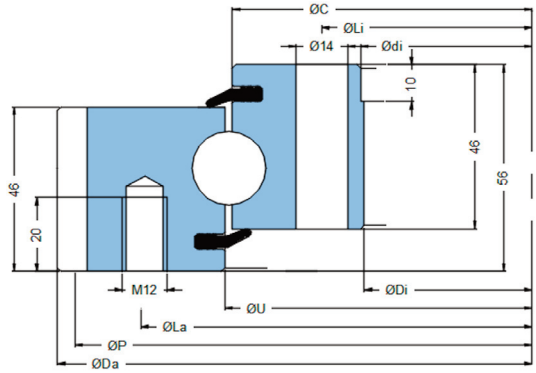


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U/C	D			La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm			mm		mm		mm			KN	kg
FEG 1100 32 00 AA LM	1098	805	955	893			1016	30	845	30	1080	9	120	92	165
FEG 1200 32 00 AA LM	1200	905	1055	993			1116	30	945	30	1180	10	118	102	183
FEG 1300 32 00 AA LM	1300	1005	1155	1096			1216	36	1045	36	1280	10	128	102	200
FEG 1400 32 00 AA LM	1400	1105	1255	1193			1316	42	1145	42	1380	10	138	102	216
FEG 1500 32 00 AA LM	1500	1205	1355	1293			1416	42	1245	42	1480	10	148	102	234
FEG 1600 32 00 AA LM	1600	1305	1455	1393			1516	48	1345	48	1580	10	158	102	250

- Options include: Up to 2200mm diameter, undrilled, double drilled and higher precision bearings. Ask for details

SEG 20 Series

Solid light series; 20mm ball, Externally geared, Standard drilling

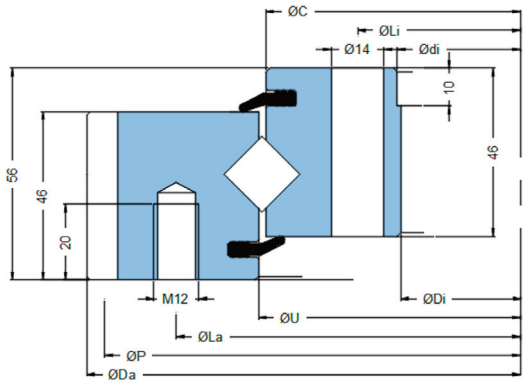


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	di H9		La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm		mm		mm		mm			KN	kg
SEG 404 20 01 AA LM	404	242	315.5	312.5	244		355	20	268	20	395	5	79	33	23
SEG 505 20 01 AA LM	503.3	342	415.5	412.5	344		455	20	368	24	495	5	99	33	31
SEG 650 20 01 AA LM	640.6	472	545.5	542.5	474		585	28	498	32	630	6	105	39	43
SEG 750 20 01 AA LM	742	572	646	643	574		685	32	598	36	732	6	122	39	52
SEG 850 20 01 AA LM	838	672	746	743	674		785	36	698	40	828	6	138	39	59
SEG 950 20 01 AA LM	950	77	846	843	774		885	36	798	40	936	8	117	52	71
SEG 1050 20 01 AA LM	1046	872	946	943	874		985	40	898	44	1032	8	129	52	77
SEG 1200 20 01 AA LM	1198	1022	1046	1093	1024		1135	44	1048	48	1184	8	148	52	91

- Options include: Double drilled and higher precision bearings. Ask for details

SEG X14 Series

Solid light series; 14mm crossed roller, Externally geared, Preloaded, Standard drilling

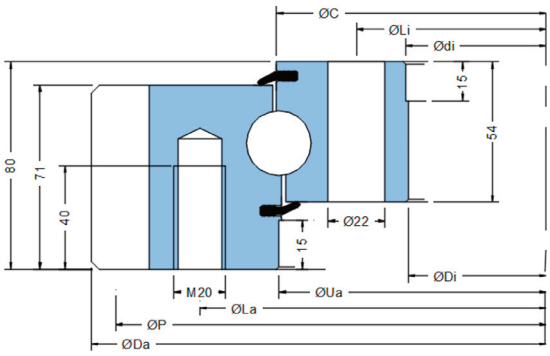


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	di H9		La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm		mm		mm		mm			KN	kg
SEG 404 X14 01 AA LM	404	242	315.5	312.5	244		355	22	268	20	395	5	79	33	23
SEG 505 X14 01 AA LM	503.3	342	415.5	412.5	344		455	20	368	24	495	5	99	33	31
SEG 650 X14 01 AA LM	640.6	472	545.5	542.5	474		585	28	498	32	630	6	105	39	43
SEG 750 X14 01 AA LM	742	572	646	643	574		685	32	598	36	732	6	122	39	52
SEG 850 X14 01 AA LM	838	672	746	743	674		785	36	698	40	828	6	138	39	59
SEG 950 X14 01 AA LM	950	772	846	843	774		885	36	798	40	936	8	117	52	71
SEG 1050 X14 01 AA LM	1046	872	946	943	874		985	40	898	44	1032	8	129	52	77
SEG 1200 X14 01 AA LM	1198	1022	1046	1093	1024		1135	44	1048	48	1184	8	148	52	91

- Options include: Double drilled and higher precision bearings. Ask for details

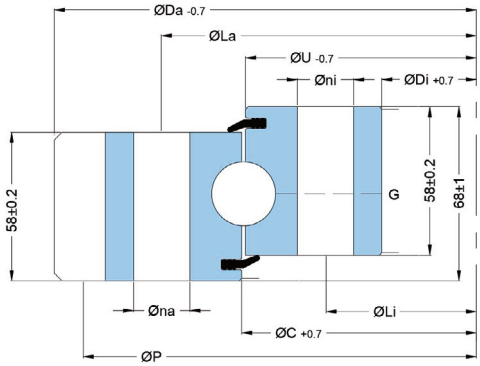
SEG 25 Series

Solid medium series; 25mm ball, Externally geared, Standard drilling; INA VSA 25 Dimension series plan



QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	U	C	Ua f9	di H9	La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm	mm	mm		mm		mm			KN	kg
SEG 600 25 01 AA LM	590.4	355	457	453	455	357	516	18	395	18	576	8	72	81	74
SEG 700 25 01 AA LM	694.4	455	557	553	555	457	616	20	495	20	680	8	85	81	93
SEG 800 25 01 AA LM	798.4	555	657	653	655	557	716	24	595	24	784	8	98	81	111
SEG 900 25 01 AA LM	898	655	757	753	755	657	816	24	695	24	882	9	98	92	125
SEG 1000 25 01 AA LM	997	755	857	853	855	757	916	28	795	28	981	9	109	92	145
SEG 1100 25 01.AA LM	1096	855	957	953	955	857	1016	30	895	30	1080	9	120	92	155
SEG 1200 25 01 AA LM	1198	955	1057	1053	1055	957	1116	30	995	30	1180	10	118	105	171
SEG 1300 25 01 AA LM	1298	1055	1157	1153	1155	1057	1216	36	1095	36	1280	10	128	105	186
SEG 1400 25 01 AA LM	1398	1155	1257	1253	1255	1157	1316	42	1195	42	1380	10	138	105	201
SEG 1500 25 01 AA LM	1498	1255	1357	1353	1355	1257	1416	42	1295	42	1480	10	148	105	218
SEG 1600 25 01 AA LM	1598	1355	1457	1453	1455	1357	1516	48	1395	48	1580	10	158	105	233

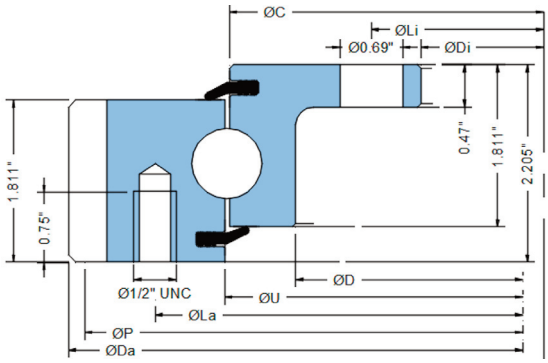
Solid medium series; 25mm ball, Externally geared, RKS 061 Series dimension plan



QCB reference	Outline dimensions				Outer holes			Inner holes			20° metric stub gear				Weight
	Da	Di	U	C	La	na	Øa	Li	ni	Øi	P	Mod	Z	FzMax	
	mm	mm	mm	mm	mm			mm			mm			KN	kg
SEG 1338 25 01 AA LM	1338	1202	1206	1202	1257	45	16	1151	45	16	1310	10	131	100	1335
SEG 1448 25 01 AA LM	1448	1316	1316	1312	1367	50	16	1261	50	16	1420	10	142	100	147
SEG 1558 25 01 AA LM	1558	1426	1426	1422	1477	54	16	1371	54	16	1530	10	153	100	159
SEG 1668 25 01 AA LM	1668	1536	1536	1532	1587	60	16	1481	60	16	1640	10	164	100	171
SEG 1791 25 01 AA LM	1791	1646	1646	1642	1708	54	22	1580	54	22	1760	10	176	100	211
SEG 1901 25 01 AA LM	1901	1756	1756	1752	1818	60	22	1690	60	22	1870	10	187	100	225
SEG 2073 30 01 AA LM	2073	1906	1906	1902	1968	64	22	1840	64	22	2030	14	145	140	270

FEG 20i Series

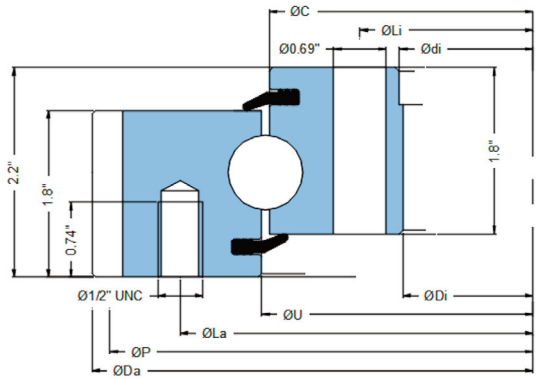
Flanged light series; 20mm ball, Externally geared, US dimensions



QCB reference	Outline dimensions						Outer holes		Inner holes		20° stub gear				Weight
	Da	Di	U	C	D		La	na	Li	ni	P	DP	Z	FzMax	
	in	in	in	in	in		in		in		in			lb.f	lbs
FEG 506 20 61 AA LM	19.90	11.97	16.22	16.14	14.49		18.00	8	13.13	12	19.50	4	78	7095	72
FEG 639 20 61 AA LM	25.15	17.09	21.34	21.26	19.61		23.25	12	18.13	15	24.75	4	99	7095	96
FEG 740 20 61 AA LM	29.15	21.03	25.28	25.20	23.55		27.25	15	22.13	18	28.75	4	115	7095	115
FEG 836 20 61 AA LM	32.90	24.97	29.22	29.14	27.49		31.00	18	26.13	18	32.50	4	130	7095	128
FEG 945 20 61 AA LM	37.20	28.90	33.15	33.07	31.42		35.00	18	30.00	18	36.67	3	110	9450	152
FEG 1047 20 61 AA LM	41.20	32.84	37.09	37.01	35.36		38.88	18	34.00	20	40.67	3	122	9450	172
FEG 1190 20 61 AA LM	46.87	38.75	43.00	42.92	41.27		44.63	20	39.88	24	46.33	3	139	9450	189

SEG 20i Series

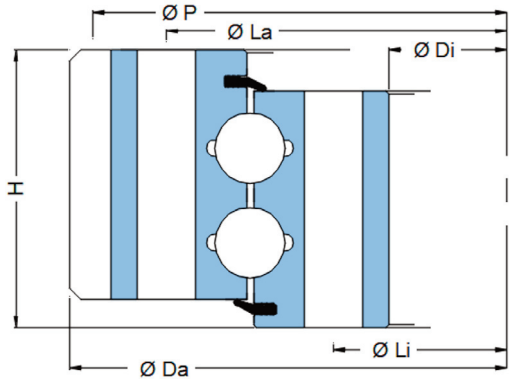
Solid light series; 20mm ball, Externally geared, US dimensions



QCB reference	Outline dimensions						Outer holes		Inner holes		20° stub gear				Weight
	Da	Di	Height				La	na	Li	ni	P	DP	Z	FzMax	
	in	in	in				in		in		in			lb.f	lbs
SEG 506 20 61 AA LM	19.90	11.97	2.2				18.00	14	13.50	12	19.50	4	78	7095	85
SEG 639 20 61 AA LM	25.15	17.09	2.2				23.25	18	18.50	15	24.75	4	99	7095	108
SEG 740 20 61 AA LM	29.15	21.03	2.2				27.25	20	22.50	18	28.75	4	115	7095	137
SEG 836 20 61 AA LM	32.90	24.97	2.2				31.00	24	26.50	18	32.50	4	130	7095	158
SEG 945 20 61 AA LM	37.20	28.90	2.2				35.00	28	30.50	20	36.67	3	110	9460	188
SEG 1047 20 61 AA LM	41.20	32.84	2.2				38.88	28	34.38	20	40.67	3	122	9460	207
SEG 1191 20 61 AA LM	46.87	38.75	2.2				44.63	32	40.25	24	46.33	3	139	9460	237

SEG 2-Ball Series

Double row ball series, Externally geared

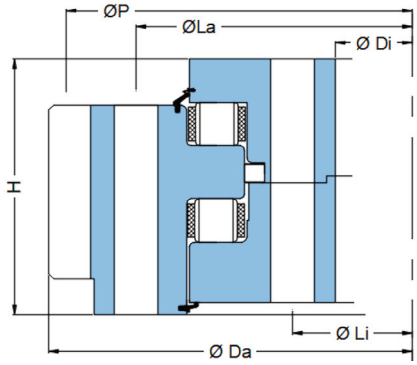


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	H				La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm				mm		mm		mm			KN	kg
SEG 432 2 20 01 AA LM	432	224	92				360	16	254	16	420	6	70	40	51
SEG 504 2 25 01 AA LM	504	299	92				436	16	330	16	488	8	61	86	64
SEG 595 2 25 01 AA LM	595	382	98				540	24	410	24	585	5	117	36	85
SEG 610 2 20 01 AA LM	610	390	90				540	18	436	18	600	6	100	65	98
SEG 614 2 25 01 AA LM	614	378	98				540	24	410	24	592	8	74	90	113
SEG 712 2 25 01 AA LM	712	470	98				640	24	508	24	696	8	87	86	123
SEG 712 2 25 03 AA LM	712	470	98				640	36	508	36	696	8	87	86	123
SEG 816 2 25 01 AA LM	816	572	113				753	36	604	36	792	6	132	55	165
SEG 864 2 20 02 AA LM	864	678	92				800	36	706	36	852	6	142	65	114
SEG 979 2 25 01 AA LM	979	716	102				893	36	753	36	940	10	94	115	208
SEG 1080 2 20 02 AA LM	1080	893	92				1015	30	922	30	1064	8	133	86	148
SEG 1200 2 25 01 AA LM	1200	976	98				1135	36	1012	36	1180	8	148	86	210
SEG 1289 2 30 01 AA LM	1289	985	110				1198	40	1035	40	1250	10	125	120	340
SEG 1380 2 25 01 AA LM	1380	1095	108				1290	36	1135	36	1360	10	136	125	325
SEG 1380 2 25 03 AA LM	1380	1095	108				1290	48	1135	48	1360	10	136	125	334
SEG 1472 2 35 01 AA LM	1472	1085	144				1350	36	1150	36	1428	14	102	290	640
SEG 1474 2 40 01 AA LM	1474	1085	144				1350	36	1150	36	1440	12	120	205	750
SEG 1603 2 30 01 AA LM	1603	1208	120				1500	40	1280	40	1570	10	157	200	636
SEG 1604 2 35 01 AA LM	1604	1208	144				1500	48	1280	48	1570	10	157	290	710
SEG 1634 2 35 01 AA LM	1634	1208	148				1500	48	1280	48	1582	14	113	350	800
SEG 1805 2 35 01 AA LM	1805	1433	156				1671	60	1485	60	1744	16	109	411	810
SEG 1808 2 30 01 AA LM	1808	1404	120				1680	40	1476	40	1780	10	178	200	754
SEG 2094 2 40 01 AA LM	2094	1595	224				1974	96	1684	96	2064	16	128	546	1945
SEG 2265 2 40 01 AA LM	2265	1815	180				2124	60	1880	60	2240	14	159	414	1561
SEG 3144 2 45 53 AA LM	3144	2683	206				2960	60	2750	60	3080	22	140	940	2900
SEG 3584 2 45 01 AA LM	3584	3090	200				3405	60	3165	60	3520	22	160	688	3550

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

SEG 3-Row Series

Triple row roller series, Externally geared

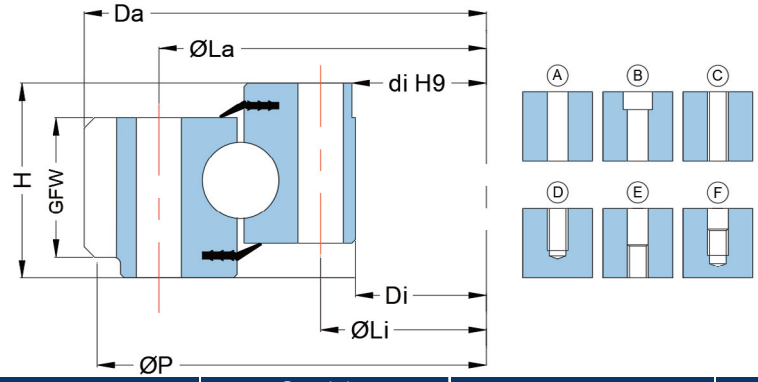


QCB reference	Outline dimensions						Outer holes		Inner holes		20° metric stub gear				Weight
	Da	Di	H				La	na	Li	ni	P	Mod	Z	FzMax	
	mm	mm	mm				mm		mm		mm			KN	kg
SEG 665 3 25 01 AA LM	665	366	148				598	24	402	24	648	6	108	69	224
SEG 725 3 25 01 AA LM	725	426	148				658	24	462	24	708	6	118	9	240
SEG 806 3 25 01 AA LM	806	496	148				728	28	532	28	784	8	98	92	270
SEG 886 3 25 01 AA LM	886	576	148				808	28	612	28	864	8	108	92	300
SEG 1008 3 32 01 AA LM	1008	636	182				920	36	680	36	980	10	98	115	500
SEG 1108 3 32 01 AA LM	1108	736	182				1020	36	780	36	1080	10	108	115	600
SEG 1222 3 32 01 AA LM	1222	836	182				1120	40	880	40	1188	12	99	138	680
SEG 1342 3 32 01 AA LM	1342	956	182				1240	40	1000	40	1308	12	109	138	820
SEG 1509 3 40 01 AA LM	1509	1055	220				1393	45	1107	45	1470	14	105	160	1020
SEG 1663 3 40 01 AA LM	1663	1205	220				1543	45	1257	45	1624	14	116	160	1300

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

Metric Interchange Series 1 - External

Other metric externally geared ball bearings interchangeable with other brands

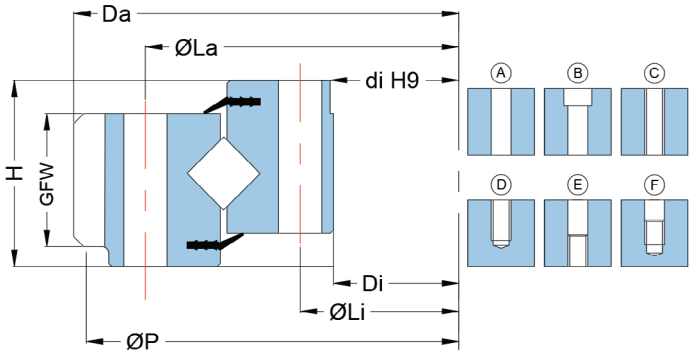


QCB reference	Outline dimensions				Outer holes			Inner holes			20° metric stub gear				Weight
	Da	Di	H	di H9	La	na	Style	Li	ni	Style	P	M	Z	Fz max	
	mm	mm	mm	mm	mm			mm			mm			KN	kg
SEG 244 14 01 CC LM	244	125	25		214	#24 Ø11	A	145	#20-1 Ø11	A	240	2	120	4	6
SEG 244 14 03 AA LM	244	125	35		214	#24 Ø11	A	145	#20-1 Ø11	A	240	2	120	5.5	6.5
SEG 314 20 01 AA LM	314	145	50		270	#16 Ø13	A	175	#16-1 Ø13	A	306	4.5	68	28	17
SEG 318 15 01 AA LM	318	169	45	170	275	#20 Ø13.5	A	195	#20 M12	C	312	3	104	12.9	14
SEG 318 16 01 AA LM	318.6	171	40	173	275	#12 Ø13	A	195	#A2 Ø13	A	312	4	78	16	15
SEG 318 22 01 CC LM	318	162	56		275	#20 Ø13	A	182	#20-1 Ø13	A	310.5	4.5	69	18	17
SEG 379 20 02 AA LM	379	210	45	212	335	#24 Ø13.5	A	240	#24-1 Ø13.5	A	368	4	92	23	20
SEG 379 20 04 AA LM	379	210	45	212	335	#24 Ø13.5	A	240	#24-1 M12	C	368	2	92	23	20
SEG 403 20 01 AA LM	403.5	234	55	235	358	#24 Ø13.5	B	259	#28-1 Ø13	A	396	4.5	88	29	26
SEG 437 20 02 CC LM	437	265	50	267	390	#16 Ø17.5	A	295	#16 Ø17.5	A	427.5	4.5	95	21	28
SEG 535 25 01 AA LM	535	305	75	306	466	#18 Ø22	A	336	#18 Ø22	A	520	8	65	45	65
SEG 589 25 00 AA LM	589.5	382	75	384	540	#36 Ø18	A	410	#36-1 Ø18	A	580.5	4.5	129	32	80
SEG 595 25 02 AA LM	595	381	65		540	#18 Ø17	B	410	#18 Ø17	B	585	5	117	36	62
SEG 595 32 01 AA LM	595	382	88	384	540	#24 Ø18	A	410	#24-1 Ø18	A	585	5	117	46	80
SEG 816 32 02 AA LM	816	571	90	574	753	#36 Ø22	A	604	#36-1 Ø22	A	792	6	132	65	118
SEG 972 25 01 AA LM	972	764	70	764	912	#36 Ø17	B	796	#36 Ø17	B	960	6	160	51	108
SEG 1289 32 01 AA LM	1290	980	114	985	1198	#40 Ø22	A	1035	#40 Ø22	A	1250	10	125	135	338
SEG 1470 30 00 AA LM	1470	1190	84	1188	1380	#48 M24	A	1235	#48 Ø26	A	1450	10	145	108	270

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

Metric Interchange Series 2 - External

Other metric externally geared x-roller bearings interchangeable with other brands

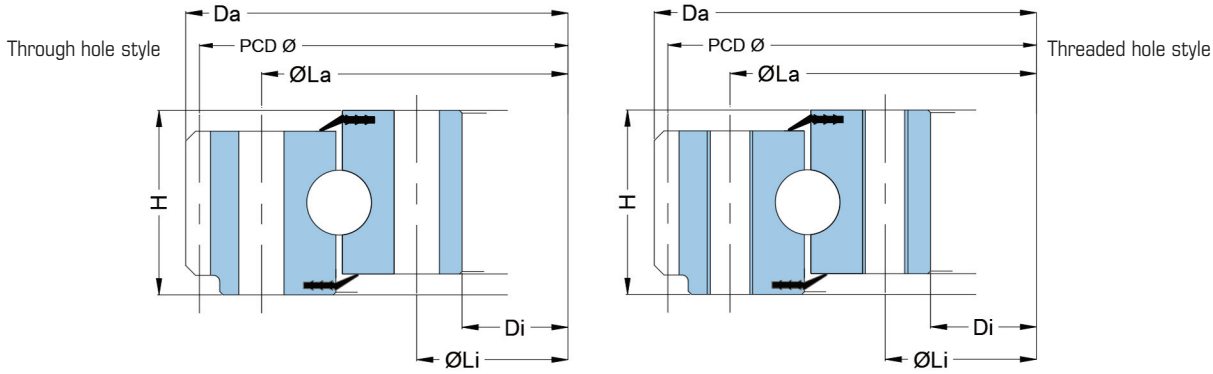


QCB reference	Outline dimensions				Outer holes			Inner holes			20° metric stub gear				Weight
	Da	Di	H	di H9	La	na	Style	Li	ni	Style	P	M	Z	Fz max	
	mm	mm	mm	mm	mm			mm			mm			KN	kg
SEG 403 X20 04 AA LM	403.5	234	55	235	358	#24 Ø13.5	A	259	#28-1 Ø13	A	396	4.5	88	29	26
SEG 535 X20 01 AA LM	535	305	75	306	466	#18 Ø20	A	336	#18-1 Ø20	A	520	8	65	63	60
SEG 589 X18 00 AA LM	589.5	378	75	384	540	#24 Ø16	A	410	#36-1 Ø16	A	580.5	4.5	129	32	62
SEG 589 X18 01 AA LM	589	378	75	384	540	#24 Ø16	A	410	#36-1 Ø16	A	580	5	116	36	62
SEG 654 X25 01 AA LM	654	390	85	392	582	#30 Ø22	A	432	#30-1 Ø22	A	640	8	80	69	100
SEG 695 X20 01 AA LM	695	470	85	480	640	#36 Ø20	A	508	#36-1 Ø20	A	680	5	136	30	82
SEG 700 X20 01 AA LM	700	477	77	480	640	#36 Ø18	A	508	#36-1 Ø18	A	684	6	114	37	85
SEG 737 X20 01 AA LM	737	518	65	519	676	#28 Ø17	A	554	#28-1 M16	B	720	6	120	47	76
SEG 816 X25 01 AA LM	816	571	90	574	753	#18 Ø22	A	604	#18-1 Ø22	A	792	6	132	65	118
SEG 816 X25 02 AA LM	816	571	90	574	753	#36 Ø22	A	604	#36-1 Ø22	A	792	6	132	65	115
SEGH 864 X20 01 AA LM	864	679	82	-	800	#24 M16	D	706	#24 M16	E	852	6	142	63	100
SEGH 864 X20 02 AA LM	864	668	82	-	800	#24 M16	D	706	#24 Ø17	C	852	6	142	63	100
SEGH 886 X25 01 AA LM	886	610	85	615	810	#30 Ø24	A	658	#30 Ø22	A	864	8	108	110	156
SEG 979 X25 02 AA LM	979	717	100	718	893	#36 Ø22	A	753	#36 Ø22	A	940	10	94	113	176
SEG 979 X25 04 AA LM	979	718	100	718	893	#36 Ø22	B	753	#36 Ø22	B	940	10	94	139	205
SEG 1080 X20 02 AA LM	1080	890	82	895	1015	#30 M16	D	922	#30 M16	E	1064	8	133	71	120
SEG 1290 X36 01 AA LM	1289.5	980	114	985	1198	#40 Ø22	A	1035	#40 Ø22	A	1250	10	125		335
SEG 1338 X16 01 AA LM	1338	1119	68	-	1257	#45 Ø16	A	1151	#45 Ø16	A	1310	10	131	100	155
SEG 1448 X16 01 AA LM	1448	1229	68	-	1367	#50 Ø16	A	1261	#50 Ø16	A	1420	10	142	100	168
SEG 1558 X16 01 AA LM	1558	1339	68	-	1477	#54 Ø16	A	1371	#54 Ø16	A	1530	10	153	100	182
SEG 1604 X40 01 AA LM	1604	1208	130	1208	1500	#48 Ø30	A	1280	#48-1 Ø30	A	1570	10	157	147	646
SEG 1668 X16 01 AA LM	1668	1449	68	-	1587	#60 Ø16	A	1481	#60 Ø16	A	1640	10	164	100	195
SEG 1791 X16 01 AA LM	1791	1536	68	-	1708	#54 Ø22	A	1580	#54 Ø22	A	1760	10	176	100	242
SEG 1901 X16 01 AA LM	1901	1646	68	-	1818	#60 Ø22	A	1690	#56 Ø22	A	1870	10	187	100	258
SEG 2073 X20 01 AA LM	2073	1796	68	-	1968	#64 Ø22	A	1840	#50 Ø22	A	2030	14	145	141	305

- Overall dimensions only.
- Variations on each basic design may exist - ask for details.
- Bearings to 8 000 mm outer diameter can be supplied, including segmented bearings.

MTE Series - External Gear

Inch size externally geared bearings interchangeable with Kaydon MTE Series



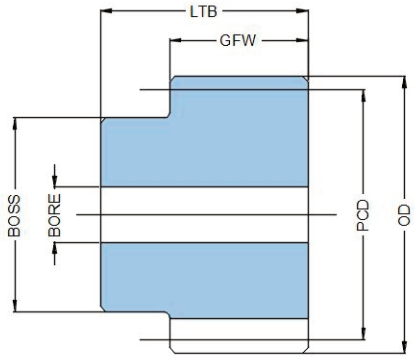
QCB reference	Outline dimensions			Outer holes		Inner holes		Gear details			KAYDON interchange	Weight
	Da	Di	H	La	na	Li	ni	PCD	DP	Z		
	in	in	in	in		in		in				lbs
SEG 312 13 61 AA LM	12.286	5.709	1.968	10.630	#16 Ø0.562	6.890	#16 Ø0.562	12.000	5/7	60	MTE 145	38
SEG 312 13 62 AA LM	12.286	5.709	1.968	10.630	#16 5/8-11	6.890	#16 5/8-11	12.000	5/7	60	MTE 145 T	38
SEG 312 15 63 AA LM	12.286	5.709	1.968	10.630	#16 Ø0.594	6.890	#16 Ø0.594	12.000	5/7	60	MTE 145 X	38
SEG 373 20 61 AA LM	14.686	8.268	1.575	13.190	#16 Ø0.562	9.449	#20 Ø0.562	14.400	5/7	72	MTE 210	38
SEG 373 20 62 AA LM	14.686	8.268	1.575	13.190	#16 5/8-11	9.449	#20 5/8-11	14.400	5/7	72	MTE 210 T	38
SEG 373 22 63 AA LM	14.686	8.268	1.968	13.190	#16 Ø0.594	9.449	#20 Ø0.594	14.400	5/7	72	MTE 210 X	44
SEG 434 22 64 AA LM	17.086	10.433	1.968	15.354	#18 Ø0.562	11.614	#24 Ø0.562	16.800	5/7	84	MTE 265	57
SEG 434 22 65 AA LM	17.086	10.433	1.968	15.354	#18 5/8-11	11.614	#24 5/8-11	16.800	5/7	84	MTE 265 T	57
SEG 434 22 66 AA LM	17.086	10.433	1.968	15.354	#18 Ø0.594	11.614	#24 Ø0.594	16.800	5/7	84	MTE 265 X	57
SEG 520 25 62 AA LM	20.486	12.750	2.062	18.875	#20 5/8-11	14.375	#20 5/8-11	20.200	5/7	101	MTE 324 T	98
SEG 520 25 63 AA LM	20.486	12.770	2.375	18.875	#20 Ø0.688	14.375	#20 Ø0.688	20.200	5/7	101	MTE 324X	99
SEG 626 20 61 AA LM	24.650	16.250	2.375	22.250	#16 Ø0.813	17.750	#20 Ø0.813	24.250	4	97	MTE 415	132
SEG 626 20 62 AA LM	24.650	16.250	2.375	22.250	#16 3/4-10	17.750	#20 3/4-10	24.250	4	97	MTE 415T	132
SEG 683 20 61 AA LM	26.900	18.500	2.375	24.500	#18 Ø0.813	20.000	#24 Ø0.813	26.500	4	106	MTE 470	147
SEG 683 20 62 AA LM	26.900	18.500	2.375	24.500	#18 3/4-10	20.000	#24 3/4-10	26.500	4	106	MTE 470 T	147
SEG 753 20 61 AA LM	29.650	21.250	2.375	27.250	#24 Ø0.813	22.750	#28 Ø0.813	29.250	4	117	MTE 540	163
SEG 753 20 62 AA LM	29.650	21.250	2.375	27.250	#24 3/4-10	22.750	#28 3/4-10	29.250	4	117	MTE 540 T	163
SEG 852 25 62 AA LM	33.534	23.125	2.875	30.625	#18 Ø0.938	24.875	#24 Ø0.938	33.000	3	99	MTE 590	283
SEG 852 25 63 AA LM	33.534	23.125	2.875	30.625	#18 7/8-9	24.875	#24 7/8-9	33.000	3	99	MTE 590 T	283
SEG 970 30 61 AA LM	38.201	27.750	2.875	35.250	#24 Ø0.938	29.500	#28 Ø0.938	37.667	3	113	MTE 705	325
SEG 970 32 62 AA LM	38.201	27.750	2.875	35.250	#24 7/8-9	29.500	#28 7/8-9	37.667	3	113	MTE 705 T	325
SEG 1063 32 62 AA LM	41.850	28.750	3.250	38.000	#20 Ø1.063	31.000	#24 Ø1.063	41.200	2.5	103	MTE 730	491
SEG 1063 32 63 AA LM	41.850	28.750	3.250	38.000	#20 1-8	31.000	#24 1-8	41.200	2.5	103	MTE 730 T	491
SEG 1205 40 61 AA LM	47.444	34.250	4.250	43.875	#24 Ø1.188	36.250	#28 Ø1.188	46.800	2.5	117	MTE 870	771
SEG 1205 40 62 AA LM	47.444	34.250	4.250	43.875	#24 1.1/8-7	36.250	#28 1.1/8-7	46.800	2.5	117	MTE 870 T	771

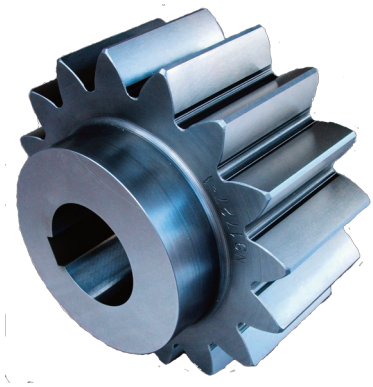
- Overall dimensions only.
- We can manufacture variations on each design such as varied number of bolts, bolt style etc

Stock Pinions

For light duty, general industrial applications

A modest range of stock pinions in C45 steel and suited to many light industrial applications. Metric units are usually supplied in pilot bore form, US dimension units match those of other manufacturers.





QCB reference	Outline dimensions						Gear details			
	OD	LTB	GFW	Boss	Bore		PCD	Module	Z	
	mm	mm	mm	mm	mm		mm			
M5 Z12	70	75	50	45	16		60	5	12	
M5 Z13	75	75	50	50	16		65	5	13	
M5 Z14	80	75	50	55	20		70	5	14	
M5 Z15	85	75	50	60	20		75	5	15	
M5 Z16	90	75	50	65	20		80	5	16	
M5 Z17	95	75	50	70	20		85	5	17	
M5 Z18	100	75	50	70	20		90	5	18	
M5 Z19	105	75	50	70	20		95	5	19	
M6 Z12	84	80	60	54	20		72	6	12	
M6 Z14	96	80	60	65	20		84	6	14	
M6 Z15	102	80	60	70	20		90	6	15	
M6 Z16	108	80	60	75	20		96	6	16	
M6 Z18	120	80	60	80	20		108	6	18	
M6 Z20	132	80	60	90	20		120	6	20	
M8 Z15 PB	136	110	80	90	20		120	8	15	

QCB reference	Outline dimensions							Gear details			US Reference
	OD	LTB	GFW	Boss	Bore	Key		PCD	DP	Z	
	in	in	in	in	in	in		in			
DP4 Z14 ##1	3.90	2.88	2	2.88	1	1/4		3.500	4	14	39200001
DP4 Z17 ##1	4.65	2.88	2	3.63	1	1/4		4.250	4	17	39200002
DP3 Z14 ##1	5.20	2.88	2	3.88	1.25	5/16		4.667	3	14	39200003
DP3 Z17 ##1	6.20	2.88	2	4.88	1.25	5/16		5.667	3	17	39200004

High torque applications

Heavy duty pinions are made to order after proper evaluation of the requirements and to match QCB slewing ring gear profiles. They may be nitride hardened, have ground gear profiles and keyed or splined bores to suit QCB specified or client selected gearboxes.

Pinion shafts can also be supplied for hollow shaft output gearboxes.

Slewing ring technical

Transport, handling & storage

QCB Slewing rings will be oiled, wrapped and labelled for transport and storage for a period of approximately 6 months. They should be transported and stored horizontally or on specially adapted incline frames. Shock loads should be avoided. Exposed gear teeth should be protected from impact damage.

To avoid the possibility of damage in transit, appropriate grease nipples will be bagged and taped to each ring. Do not discard when unwrapping the bearing. As some QCB slewing rings can be lubricated from both inner and outer ring (depending on design) remove the grease plugs and install either the provided grease nipples or any adapters required for automatic lubrication systems.

Check the weight of any ring before lifting and ensure lifting straps or chains are of sufficient capacity. Suitable lifting straps are inserted in many QCB pack on larger bearings for ease of handling.

If packing tape is removed to access the lifting bolts the integrity of the packing should be restored before long term storage otherwise surface corrosion may occur. The standard black oxide coating on many QCB slewing rings will help prevent this. The raceways will be protected by the factory grease charge, but in cases of very long term storage it may be prudent to have the bearings checked professionally before installation.

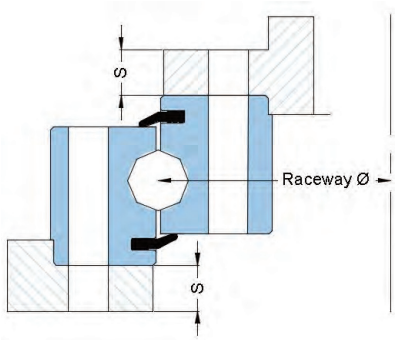
Standard commercial chlorine-free solvents can be used to degrease slewing rings if required. Use sparingly and do not let any excess work under the lip seals and contaminate the raceways.

Check the condition and location of any seals before installation. Spare seal strip is available from QCB if required.

Support structures

Although slewing rings are designed to support very large loads they are inherently elastic structures and must be supported by a flat, machined structures which are rigid enough to resist torsional buckling and deflection under load to assure their smooth operation.

The diameter of any supporting flanges must, at a mimimum, equal the diameter of the bearing they support. A single thick flange is preferable to a thinner, gusseted ring. Minimum flange thicknesses are listed (Table 2).



Raceway Ø (mm)	500	750	1000	1250	1500	2000	2500	3000
Thickness (mm)	25	35	35	40	50	60	70	80

Table 2: Recommended support plate thicknesses

Under load, flatness defects must not exceed the values tabulated (Table 3) to avoid tight spots or seizure; both of which will reduce the service life of the ring.

Shorter wave defects (between 2 adjacent bolt holes) must not exceed 1/4 of the values listed. Defects in the radial direction called "conicity" must not exceed 0.05mm/m of raceway diameter.

Raceway Ø (mm)	500	750	1000	1250	1500	2000	2500	3000
Single row ball	0.12	0.18	0.21	0.25	0.28	0.33	0.38	0.42
SIngle row x-roller	0.10	0.12	0.15	0.18	0.20	0.25	0.29	0.32

Table 3: Surface flatness requirements

If these tolerances cannot be achieved then the use of epoxy resin grouts such as CHOCKFAST must be considered.

Marking & Certification

QCB slewing rings are clearly marked by laser with their part number, a factory date and year code as well as a serial number that allows traceability back to the production processes and tests that each bearing undergoes.

Catalogue stock units and any bearing in 50Mn steel (CC) can be supplied with a Certificate of Conformity on request.

Geared bearings and any other bearings in 42CrMo4 steel (AA) can be supplied with materials certificates and a dimensional test report.

If required for DNV, LLoyd or other Certification bodies an extended datapack can be provided that includes Charpy tests. MPI and X-rays. Note: Any special requirements need to be cleary specified at time of order.

QCB Slewing ring numbering system

H	SEG	H	1166	2	20	01	6	AA	LM

1	H	Helical gear (omit if not required)
2	SEG	Style, family type and gearcode
3	H	Hardened gear (omit if not required)
4	1166	Outer diameter (mm)
5	2	Number of raceways (omit for single race bearings)
6	20	Major rolling element diameter (20 = ball; x20 = roller)
7	01	Design variant
8	6	Precision grade (omit for standard QCB industrial grade)
9	AA	Material code for inner and outer ring
10	LM	QCB design code

Ring material codes

QCB code	UNI	AISI	BS970	JIS	DIN
C	C45	1045	EN8D	S45C	1.1191
A	42CrMo4	4140	EN19A	SCM440	1.7225

Through hardened steels, stainless steels and some aluminium alloys are used for special applications.

Slewing ring orientation

During manufacture and hardening of the raceways, a soft spot remains on each raceway. The filler plug is located at this junction, held in place with a tapered pin. It is through this plug that the rolling elements and spacers are inserted during assembly.

A subtle modification of the raceway limits the load carrying characteristics of the bearing at this point and thus it should be positioned at a point of minimum stress (usually this is at right angles to the main load axis) if at all possible.

In some applications an asymmetric bolt pattern or dowel pins will force a specific orientation. This may also help grease points line up where expected for lubrication system access.

Slewing rings can usually work in any orientation. If it is application specific this will be made obvious by design.

Dowel pins, spigots or pilot diameters

If high radial loads are to be supported, the shear stresses in the bolts may exceed safe levels and the circularity of the ring may be affected.

A structural adhesive such as LOCTITE 586, dowel pins on the bolt PCD or the use of spigot and/or pilot diameters is recommended.

Bolt torque

Light series flanged bearings can be used with Grade 8.8 bolts. Most other QCB slewing rings are designed to use Grade 10.9 bolts (or in UK Grade 12.9 Cap screws). Bolt limit curves are calculated using VDI 2230 standards.

Check you are using the correct grade of bolt. Do not re-use old bolts.

Flat hardened steel washers may be used to reduce surface pressures under the bolt head. The use of spring or serrated washers is forbidden.

Untreated bolts should be lightly oiled and tightened progressively in steps of around 60%, then 80% and lastly finally 100% of recommended bolt torque using a calibrated torque wrench; tightening successive bolts at around 120 degree spacing in turn. Large diameter bolts need to be tightened using appropriate methods.

Bearing rotation should be tested during the tightening process as the cause of any tight spots needs to be investigated and resolved before proceeding.

Bolts torques need to be checked after assembly and before the machine enters service as a degree of settling may occur. Thereafter bolt tightness needs to be checked after 100 hours service, then at least annually during scheduled. maintenance. Recommended torques are listed in Tables 4 & 5.

DIN ISO 898 Class			Grade 8.8		Grade 10.9		Grade 12.9	
Yield point Rp 0.2			<=M16 640 Mpa >M16 660 MPa		940 Mpa		1100 MPa	
ISO Din 13	Stress X-section	Core X-section	Tension force	Torque	Tension force	Torque	Tension force	Torque
	mm2	mm2	KN	Nm	KN	Nm	KN	Nm
M12	84.3	76.2	38.5	78	56	117	66	135
M14	115	105	53	126	77	184	90	216
M16	157	144	72	193	106	279	124	333
M18	193	175	92	270	129	384	151	459
M20	245	225	117	387	166	558	194	648
M22	303	282	146	522	208	747	243	873
M24	353	324	168	666	239	954	280	1116
M27	459	427	221	990	315	1395	370	1665
M30	561	519	270	1350	385	1890	450	2250
M33	694	547	335	Use bolt elongation methods	450	Use bolt elongation methods	560	Use bolt elongation methods
M36	817	759	395		560		660	
M39	976	913	475		670		790	
M42	1120	1045	542		772		904	
M45	1300	1224	632		905		1059	
M48	1470	1377	714		1018		1191	
M52	1760	1652	857		1221		1429	
M56	2030	1905	989		1408		1648	
M60	2360	2227	1156		1647		1927	

Table 4: Recommended bolt torque (metric bolts)

ANSI B1.1 SAE Grade 8 Coarse Thread		
Bolt size	Tensile area	Torque
	in^2	ft-lbs
1/4-20 UNC	0.0318	7.2
5/16-18 UNC	0.0524	15
3/8-16 UNC	0.0775	25.9
7/16-4 UNC	0.1063	40.9
1/2-13 UNC	0.1419	78
5/8-12 UNC	0.2260	154
3/4-10 UNC	0.3340	272
7/8-9 UNC	0.4620	436
1-8 UNC	0.6060	653
1.1/8-7 UNC	0.7630	927
1.1/4-7 UNC	0.9690	1299

Table 5: Recommended bolt torques (UNC thread)

Gearing

Metric slewing rings usually have a 20 deg involute spur gear, but variations can exist. Helical gears, worm gears, transmission chain profiles and cable handling profiles are made to special order. Imperial slewing rings generally use either a Fellowes stub, an American stub or American full depth gear.

All QCB geared bearings are manufactured in 42CrMo4 steel which offers superior gear strength over some other slewing rings.

Gear profiles may have an addendum correction to further improve strength or improve the meshing characteristics. QCB can advise on all aspects of gear design to ensure optimum performance using modern calculation software, especially important for high torque or multi-drive systems.

Gear backlash

Pinion gear backlash must be set at the point of maximum eccentricity on the slewing ring, usually indicated by 3 painted teeth.For multiple drive systems rotate the bearing so each is set at this point.

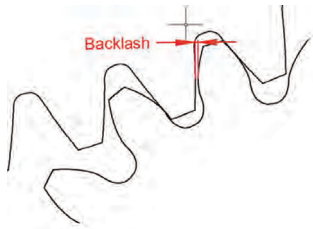


Figure 4: Gear backlash

Pinions should be properly supported and aligned to maintain full width contact even under high torque conditions.

The backlash should be set to between 0.03-0.05 x gear module (Table 6) This is altered by moving the pinion radially - something which most motor mounts will accomodate. A lower backlash figure may result in higher rates of wear on the gearing.

Module	Backlash (mm)	Module	Backlash (mm)
4	0.12-0.16	14	0.42-0.56
5	0.15-0.20	16	0.48-0.64
6	0.18-0.24	18	0.54-0.72
8	0.24-0.32	20	0.60-0.80
10	0.30-0.40	22	0.66-0.88
12	0.36-0.48	24	0.72-0.96

Table 6: Recommended backlash figures for normal applications

A fixed centre distance design requires careful consideration at the design stage.

During installation the slewing gear should be rotated a few times to check the mesh. Wear exceeding 0.1 x gear module should trigger replacement.

Seals

Standard nitrile or rubber seal strips are used in most QCB slewing rings. Special design can include a double lip seal, double seals or metal labyrinth style seals with grease injection for extreme conditions.

Seals should be inspected on installation and during regular maintenance periods. Rubber seals can perish if exposed to the elements.

Replacement nitrile rubber or VITON seal strip is stocked.

In extreme cases seals can be glued into position using specialist cleaners and adhesives (available from QCB).

Internal clearance and wear

The axial and radial internal clearance of QCB bearings are to standards set by QCB Technical and inline with those of other manufacturers. QCB Crossed roller bearings have a light preload as standard as they are generally required to offer greater stability and rigidity in applications.

Properly selected, installed and maintained, QCB slewing rings will offer years of satisfactory service.

After assembly the total deflection under a repeatable test load should be recorded to serve as a reference for future maintenance checks.

- Apply load in one direction and settle the bearing.
- Zero the dial gauges
- Reverse the load and measure the relative movement between the rings.
- Repeat this measurement a few times to check the consistency of your readings then rotate the slewing ring and take at least 4 measurements around the circumference on smaller bearings, more on larger units.
- Ensure the measurement positions are marked and recorded so that the test can be repeated in future planned maintenance periods.

In general slewing rings will wear at a linear rate in service, but as a "rule of thumb" once the measured deflection reaches 1.5x original value plans should be considered to order a replacement. If the deflection exceeds 2x the original value then the ring should be replaced for safety reasons.

Proper maintenance and record keeping will ensure a replacement is ordered only when necessary but avoid unnecessary downtime.

Large slewing rings can be long lead time items !

Allowable wear figures for normal industrial applications are tabulated Table 7:

Single and double row ball bearings

Track Ø (mm)	Ball Ø and alllowable clearance increase						
	20	22	25	30	35	40	45
1000	1.4	1.4	1.4	1.5	1.7	1.9	2.1
1250		1.5	1.5	1.6	1.7	2	2.2
1500			1.6	1.7	1.7	2	2.3
1750				1.8	1.8	2.1	2.3
2000					1.9	2.2	2.4
2250					2	2.3	2.5
2500					2	2.3	2.6
2750						2.4	2.6
3000						2.5	2.7
3250						2.6	2.8
3500							2.9

Single row x-roller bearings

Track Ø (mm)	Roller Ø and alllowable clearance increase				
	16	20	25	32	40
400	0.22	0.22	0.24		
800	0.25	0.27	0.29	0.33	0.38
1000	0.30	0.32	0.34	0.38	0.43
1500	0.50	0.52	0.54	0.58	0.63
2000		0.62	0.64	0.68	0.72
2500			0.74	0.78	0.83

Table 7: Allowable wear in standard slewing rings

Lubrication - Raceway

QCB slewing rings are factory lubricated with a generic NLGI Class 2 mineral oil based EP grease. Other greases can be supplied to order.

However, the onus is on the customer to check that the slewing ring is adequately lubricated upon installation.

In general, slewing rings operate at slow speeds and under heavy loads. The raceways can be 100% filled with grease to prevent the entry of contaminants into the raceway.

The regreasing interval is defined by the environment. The recommended relubrication intervals are shown in Table 8.

Conditions	Recommended lubrication interval
Dry, clean workshop	~300 hours use or 6 months
Outside & exposed	~150 hours use or 4 months
Aggressive outdoors	~50 hours use or 2months
Extreme conditions	Continuous lubrication ideal

Table 8: Recommended lubrication intervals for slewing ring raceways

Rotate the slewing ring while greasing to distribute grease evenly around the raceway as well as to avoid over pressurising the seals which may become dislodged. Ideally a thin smear of fresh grease should weep from under the lip seals.

A simple formula suggests the approximate amount of grease required:-
(All dimensions in mm)

Single row ball bearing
Grease qty (grammes) = 0.7 x Raceway Ø x Ball Ø² / 1000

Single row x-roller bearing
Grease qty (grammes) = 0.5 x Raceway Ø x Roller Ø² / 1000

QCB approved lubricants include:-

Brand	Grease	Operating temp range
BP	Energrease LS EP2	-20 - +120 C
ESSO	Beacon EP2	-20 - +120 C
TOTAL	Multis EP2	-30 - +120 C
TOTAL	Ceran XM460	-30 - +180 C
EXXONMOBIL	Mobilith SHC 460	-30 - +120 C
SHELL	Alvania EP2	-25 - +120 C
FUCHS	Stabyl LT50	-50 - +120 C
COUGAR	CG 7950	-20 - +140 C
COUGAR	CG 8520	-30 - +180 C

Table 9: QCB recommended raceway lubricants

Automatic grease lubrication systems are strongly recommended as this ensures adequate grease at all times.

Lubrication - Open gearing

The gear teeth should be lubricated on assembly once the backlash has been set. A recommended grease should be brushed or sprayed on to cover the teeth completely.

QCB approved gear lubricants include:-

Brand	Grease	Operating temp range
BP	Energol WRL	-20 - +120 C
TOTAL	CARTER Open Gear	-20 - +125 C
SHELL	Aeroshell 14	-54 - +93 C
EXXONMOBIL	Mobiltac 81	-20 - +120 C
COUGAR	CG 8350	-40 - +160 C

Table 10: QCB recommended gear lubricants

QCB Technical can discuss other lubricants such as

- Food Grade lubricants
- Bio-degradeable lubricants for offshore use.

Internal construction

QCB slewing rings generally have a slug spacer. Options include a full complement design, ball spacers or steel strip cages for high speed applications. Discuss your requirements with QCB's technical experts.

Speed ratings

Slewing rings generally operate at slow speeds and speed ratings of slewing rings are generally considered superfluous. However, some high speed applications such as bottling lines, radar systems exist.

Speed limits are related to the nDm factor (rpm x raceway (mm)). Larger bearings have lower nDm limits.

Construction	Lubrication	nDm limit
Ball bearing with spacer	Grease	65 000 - 40 000
Ball bearing with cage	Grease or oil	130 000 - 70 000
Crossed roller	Grease	35 000 - 24 000

Table 11: Limiting Ndm factors for slewing rings

Surface finish

Most bearings under 1200mmm diameter are black oxide coated as standard. Various studies have demonstrated that black oxide offers protection against tribochemical attack, reduces the permeation of hydrogen and increases resistance to moisture damage. It thus enhances the aesthetics and performance of QCB slewing rings - and underlines our commitment to quality.

Other surface treatment options include

- Bare metal finish
- Hot zinc plasma spray
- Zinc plating (Galvanising)
- Nylon coating
- Epoxy paint
- ARMOLOY (Thin Dense Chromium Coating)

Slewing ring enquiry sheet

A sketch would assist in our visualisation of your requirements. We can accept CAD and 3D files in most formats.

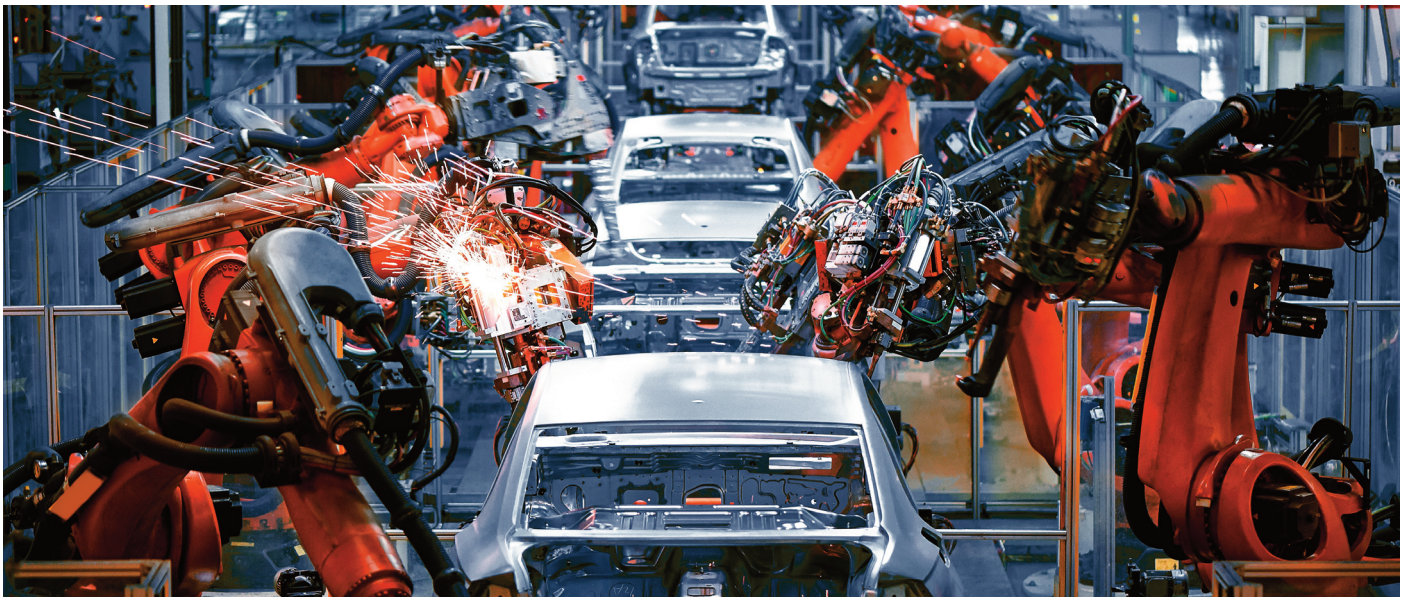
We have inserted typical answers in some boxes to assist your understanding of the form

1a	**Company**					**Department**					
1b	**Address**					**Phone**					
1c	**Contact**					**e-mail**					
2a	**Project #/ Desc.**					**New project or replacement?**		**New**		**Rep**	
2b											
2c	**Is this a replacement for an existing part part ?**					*Manufacturers part reference or drawing*					
3a	**Load data (include structural loads)**		**Loads Applied?**			**Loads Suspended?**			**Service factor included? (Y/N)**		
3b	**Required safety factors? Specific design codes?**					*Lloyds/ DNV/ BV etc*					
	Please indicate if any safety factors have been included in your figures. If not we may add a service factor based on industry standards										
3c	**Load type (Static or Dynamic)**		*1 - Dynamic*		*2 - Dynamic*		*3 - Dynamic*		*4 - Static*	*5 - Static*	*6 - Static*
3d	**Load case # or label (max/ test)**		*Normal*							*Test*	*Survival*
3e	**Axial load**	KN									
3f	**Radial load**	KN									
3g	**Moment load**	KNm									
3h	**Rotation Speed**	rpm							*0*	*0*	*0*
3i	**%-age cycle time**	**Total 100%**	*60*		*20*		*20*		*0*	*0*	*0*
3j	*Dynamic cycle time must add to 100%. Static loads are considered seperately to life calculations.*										
3k	**Rotating ring**	**Inner**		**Outer**			**Shock loading?**		*Smooth / Moderate / Severe*		
3l	**Rotation axis**	**Horizontal**		**Vertical**			**Inclined**		*(Degrees from vertical?)*		
3m	**Rotation < 360 from centerline**			degrees		**Time to swing "x" degrees**				seconds	
3n	*Oscillatory motion (Note: if the bearing moves "x" degrees off a centreline, 1 full oscillation defined as = "4x" degrees*										
3o	**Rotation**	**Continuous**		**Intermittent**			**Reversible**				
3p	**Expected service life (i.e actual rotation hours)**										
4a	**Spur gear data**	**External**		**Internal**			**Module / DP**		**Gear face width** (mm)		
4b	**Number of teeth on geared ring**			**Addendum correction?**					**Center distance** (mm)		
4c	**Number of teeth on pinion gear**			**Addendum correction?**					**No. of pinions and relationship**	*2@120°*	
4d	**Calculated torque on geared ring**			KNm	or	**Tangential gear force on geared ring**				KN	
4e	**Calculated torque on single pinion**			KNm	or	**Tangential gear force on single pinion**				KN	
5a	**Ambient temp C**		**Special seals?** *(Normal = NBR)*						*VITON, Oring or V seal, Labyrinth seal*		
5b	**Grease point location**						**Preferred size**		*6mm, 8mm, 10mm,1/8" BSP or other*		
5c	**Critical dimensions**	*(List any critical dimensions or other data which must be considered)*									
5d											
5e											
5f											
5g											
5h											
5i											

QCB Slewing Rings Technical Support

Ph: +44 (0) 1952 980198 e-mail: info@qcbslewingrings.com

High Precision Slewing Ring Bearings



- Suitable for indexing tables, tool changers, precision welding and assembly jigs.
- Specified when a high degree of accuracy and repeatability in operation is required.
- Rings manufactured in 42CrMo steel.
- Fine toleranced location diameters on inner and outer rings.
- Precision ground raceways for low axial and radial runout figures.
- Defined unloaded startup torques which are tested and certified by QCB.
- Each bearing is subject to 100% dimension inspection and individually certified.
- Imported to order only.
- Drawings will be issued only after a full evaluation of the project's requirements by QCB.

SUN-P & -UP High Precision Bearings

Crossed roller bearings for high precision applications

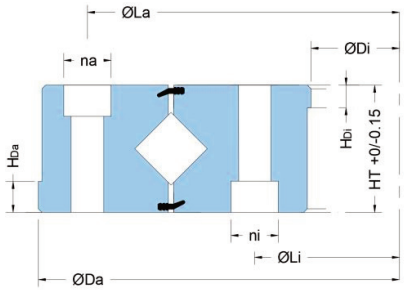


Fig 1

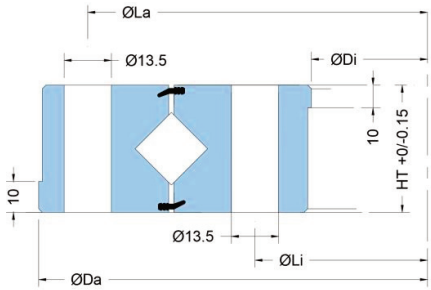


Fig 2

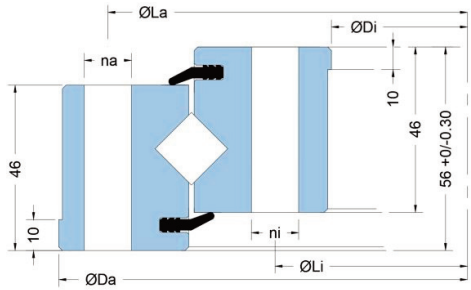


Fig 3

QCB Reference	Dimensions			Outer holes		Inner holes		Axial/Rad runout	Start torque	Max. speed	Weight	Fig
	Da	Di	H	La	na	Li	ni					
	mm	mm	mm	mm		mm		µm	Nm	rpm	kg	
SUN P 210 01 AA LM	210 h5	90 H5	25	187	12 Ø9CS	112	12 Ø9CS	4	10	235	4	1
SUN P 240 01 AA LM	240 h5	115 H5	28	217	12 Ø9CS	139	12 Ø9CS	5	15	195	6	1
SUN P 295 01 AA LM	295 h5	160 H5	35	270	12 Ø11CS	184	12 Ø11CS	6	20	150	11	1
SUN P 297 01 AA LM	297 h6	183 H6	30	275	12 Ø13.5	205	12 Ø13.5	10	25	145	9	2
SUN UP 297 02 AA LM	297 h5	183 H5	30	275	12 Ø13.5	205	12 Ø13.5	4	25	145	9	2
SUN P 380 01 AA LM	380 h5	210 H5	40	350	16 Ø13.5CS	240	16 Ø13.5CS	8	35	115	21	1
SUN P 424 01 AA LM	424 h6	280 H6	40	396	18 Ø13.5	308	18 Ø13.5	15	40	95	23	2
SUN UP 424 02 AA LM	424 h5	280 H5	40	396	18 Ø13.5	308	18 Ø13.5	6	40	95	23	2
SUN P 527 01 AA LM	527 h6	383 H6	40	500	24 Ø13.5	410	24 Ø13.5	15	50	75	30	2
SUN UP 527 02 AA LM	527 h5	383 H5	40	500	24 Ø13.5	410	24 Ø13.5	7	50	75	30	2
SUN P 540 01 AA LM	540 h5	350 H5	45	505	24 Ø13.5CS	385	24 Ø13.5CS	12	55	75	41	1
SUN P 622 01 AA LM	622 h6	478 H6	40	595	30 Ø13.5	505	30 Ø13.5	20	65	60	36	2
SUN UP 622 02 AA LM	622 h5	478 H5	40	595	30 Ø13.5	505	30 Ø13.5	8	65	60	36	2
SUN P 722 01 AA LM	722 h6	578 H6	40	695	36 Ø13.5	605	36 Ø13.5	20	80	50	42	2
SUN UP 722 02 AA LM	722 h5	578 H5	40	695	36 Ø13.5	605	36 Ø13.5	10	80	50	42	2
SUN P 814 01 AA LM	814 h6	674 H6	56	790	40 Ø13.5	698	40 Ø13.5	20	150	47	54	3
SUN P 914 01 AA LM	914 h6	774 H6	56	890	40 Ø13.5	798	40 Ø13.5	25	180	41	62	3
SUN P 1014 01 AA LM	1014 h6	874 H6	56	990	44 Ø13.5	898	44 Ø13.5	30	200	37	69	3
SUN P 1164 01 AA LM	1164 h6	1024 H6	56	1140	48 Ø13.5	1048	48 Ø13.5	30	250	32	81	3

QCB Reference	ROLLIX interchange	QCB Reference	ROLLIX interchange
SUN P 210 01 AA LM	88 0148 00	SUN P 540 01 AA LM	88 0445 01
SUN P 240 01 AA LM	88 0178 00	SUN P 622 01 AA LM	88 0550 00
SUN P 295 01 AA LM	88 0288 00	SUN UP 622 02 AA LM	88 0550 01
SUN P 297 01 AA LM	88 0240 00	SUN P 722 01 AA LM	88 0620 00
SUN UP 297 02 AA LM	88 0240 01	SUN UP 722 02 AA LM	88 0620 01
SUN P 380 01 AA LM	88 0297 00	SUN P 814 01 AA LM	88 0744 00
SUN P 424 01 AA LM	88 0352 00	SUN P 914 01 AA LM	88 0844 00
SUN UP 424 02 AA LM	88 0352 01	SUN P 1014 01 AA LM	88 0944 00
SUN P 527 01 AA LM	88 0455 00	SUN P 1164 01 AA LM	88 1094 00
SUN UP 527 02 AA LM	88 0455 01		

High Precision Crossed Roller Bearings

CRB & CRBC Series crossed roller bearings

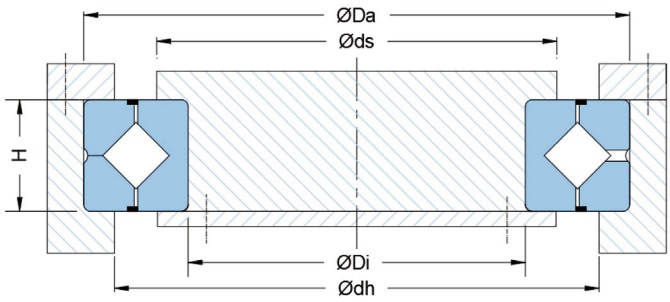
Split outer ring

QCB Reference		Dimensions				Shoulder Ø		CRB load capacity		CRBC load capacity		Weight
Full complement	With cage	Di	Da	H	rs min	ds	dh	Cr	Cor	Cr	Cor	
		mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	kg
CRB 3010	CRBC 3010	30	55	10	0.3	35.8		7.35	8.36	3.83	4.13	0.12
CRB 4010	CRBC 4010	40	65	10	0.3	46.3		8.33	10.6	4.28	5.14	0.15
CRB 5013	CRBC 5013	50	80	13	0.6	57.9		16.7	20.9	10.7	12.6	0.29
CRB 6013	CRBC 6013	60	90	13	0.6	67.9		18.0	24.3	11.6	14.6	0.33
CRB 7013	CRBC 7013	70	100	13	0.6	75.2		19.4	27.7	12.3	16.7	0.38
CRB 8016	CRBC 8016	80	120	16	0.6	91.6		30.1	42.1	18.2	25.5	0.74
CRB 9016	CRBC 9016	90	130	16	1	99.5		31.4	45.3	19.4	28.6	0.81
CRB 10020	CRBC 10020	100	150	20	1	110.7		33.1	50.9	31.5	45.1	1.45
CRB 11020	CRBC 11020	110	160	20	1	120.7		34.0	54	33.5	50.7	1.56
CRB 12025	CRBC 12025	120	180	25	1.5	134.2		66.9	100	47.7	70.5	2.62
CRB 13025	CRBC 13025	130	190	25	1.5	143.9		69.5	107	49.2	74.8	2.82
CRB 14025	CRBC 14025	140	200	25	1.5	153.9		74.8	121	50.7	79.2	2.96
CRB 15025	CRBC 15025	150	210	25	1.5	165.9		76.8	128	53.8	87.7	3.16
CRB 15030	CRBC 15030	150	230	30	1.5	166.8		100	156	69.2	108	5.3
CRB 20025	CRBC 20025	200	260	25	2	215.9		84.2	157	60.2	110	4.0
CRB 20030	CRBC 20030	200	280	30	2	218.8		114	200	108	178	6.7
CRB 20035	CRBC 20035	200	295	35	2	226.5		151	252	137	215	9.58
CRB 25025	CRBC 25025	250	310	25	2.5	263.4		69.3	150	67.2	136	4.97
CRB 25030	CRBC 25030	250	330	30	2.5	270.5		126	244	116	208	8.1
CRB 25040	CRBC 25040	250	355	40	2.5	278.1		195	348	179	299	14.8
CRB 30025	CRBC 30025	300	360	25	2.5	313.9		76.3	178	73.8	162	5.88
CRB 30035	CRBC 30035	300	395	35	2.5	323.8		183	367	163	299	13.4
CRB 30040	CRBC 30040	300	405	40	2.5	330.4		212	409	194	351	17.2
CRB 40035	CRBC 40035	400	480	35	2.5	422		156	370	133	300	14.5
CRB 40040	CRBC 40040	400	510	40	2.5	429.8		241	531	222	455	23.5
CRB 50040	CRBC 50040	500	600	40	2.5	527.6		239	607	212	497	26
CRB 50050	CRBC 50050	500	625	50	2.5	533.3		267	653	247	561	41.7
CRB 50070	CRBC 50070	500	680	70	2.5			536	1020	536	1020	86.1
CRB 60040	CRBC 60040	600	700	40	3	625.8		264	721	231	581	30.6
CRB 60070	CRBC 60070	600	780	70	3			591	1230	591	1230	102
CRB 600120	CRBC 600120	600	870	120	3			1250	2270	1250	2210	274
CRB 70045	CRBC 70045	700	815	45	3	725.2		281	836	250	681	46.5
CRB 70070	CRBC 70070	700	880	70	3			630	1390	630	1390	115
CRB 700150	CRBC 700150	700	1020	150	3			1660	3010	1660	3010	478
CRB 80070	CRBC 80070	800	950	70	4	828.5		468	1330	417	1090	109
CRB 800100	CRBC 800100	800	1030	100	4			936	2040	936	2040	247

CRB/ CRBC bearings feature a split outer ring which is bolted together for transport

RA Series crossed roller bearings

Split outer ring for inner ring rotation, ultra thin series



QCB Reference	Dimensions				Shoulder Ø		Load capacity		Weight
	Di	Da	H	r min	ds	dh	Cr	Cor	
	mm	mm	mm	mm	mm	mm	KN	KN	kg
RA 1005	10	21	5	0.15	12.5	17	1.12	0.809	0.009
RA 1505	15	26	5	0.15	17.5	22	1.32	1.1	0.012
RA 2005	20	31	5	0.15	122.5	27	1.49	1.4	0.015
RA 3005	30	41	5	0.15	32.5	37	1.89	2.14	0.021
RA 4005	40	51	5	0.15	42.5	47	2.14	2.74	0.027
RA 5005	50	61	5	0.15	52.5	57	2.43	3.49	0.032
RA 6005	60	71	5	0.15	62.5	67	2.63	4.09	0.038
RA 7005	70	81	5	0.15	72.5	77	2.81	4.68	0.044
RA 8005	80	91	5	0.15	82.5	87	3.05	5.43	0.050
RA 9005	90	101	5	0.15	92.5	97	3.19	6.03	0.056
RA 10005	100	111	5	0.15	102.5	107	3.37	6.03	0.061
RA 5008	50	66	8	0.5	53.5	60.5	5.10	7.19	0.08
RA 6008	60	76	8	0.5	63.5	70.5	5.68	8.68	0.09
RA 7008	70	88	8	0.5	73.5	805	5.98	9.80	0.10
RA 8008	80	96	8	0.5	83.5	90.5	6.37	11.3	0.11
RA 9008	90	106	8	0.5	93.5	100.5	6.76	12.4	0.12
RA 1008	100	116	8	0.5	103.5	110.5	7.15	13.9	0.14
RA 11008	110	126	8	0.5	113.5	120.5	7.45	15.0	0.15
RA 12008	120	136	8	0.5	123.5	130.5	7.84	16.5	0.17
RA 13008	130	146	8	0.5	133.5	140.5	7.94	17.6	0.18
RA 14008	140	156	8	0.5	143.5	1505	8.33	19.1	0.19
RA 15008	150	166	8	0.5	153.5	160.5	8.82	20.6	0.20
RA 16013	160	186	13	0.8	165	179	23.3	44.9	0.59
RA 17013	170	196	13	0.8	175	189	23.5	46.5	0.64
RA 18013	180	206	13	0.8	185	199	24.5	49.8	0.68
RA 19013	190	216	13	0.8	195	209	24.9	51.5	0.69
RA 20013	200	226	13	0.8	205	219	25.8	54.7	0.71

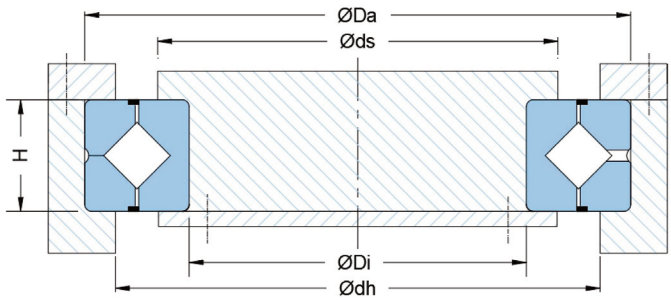
RA Series numbering system

RA 14008	UU	CC0	P5

1	RA 14008	Series and size
2	-	No seal
	-U	Sealed one side
	-UU	Sealed both sides
3	CC0	Light preload
	C0	Slight clearance
	C1	Clearance grade > C0
4	-	Precision grade P0 (standard)
	P2	Precision class (radial and axial runout and tolerance class) P2, P4, P5 , P6 or USP

RB Series crossed roller bearings

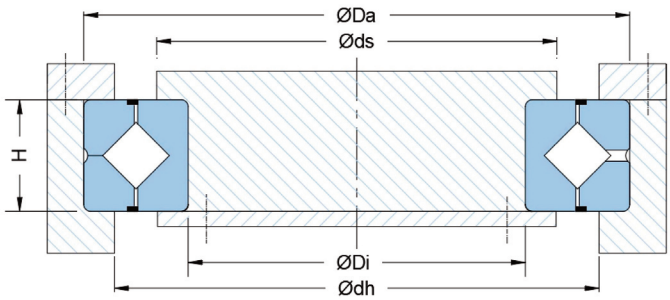
Split outer ring for inner ring rotation



QCB Reference	Dimensions			Shoulder height		Load capacity		Weight
	Di	Da	H	ds(max)	Dh(min)	Cr	Cor	
	mm	mm	mm	mm	mm	KN	KN	kg
RB 2008	20	36	8	23.5	30.5	3.23	3.1	0.04
RB 2508	25	41	8	28.5	35.5	3.63	3.83	0.05
RB 3010	30	55	10	37	47	7.35	8.36	0.12
RB 3510	35	60	10	41	51.5	7.64	9.12	0.13
RB 4010	40	65	10	46.5	57.5	8.33	10.6	0.16
RB 4510	45	70	10	51	61.5	8.62	11.3	0.17
RB 5013	50	80	13	57	72	16.7	20.9	0.27
RB 6011	60	90	13	67	82	18.0	24.3	0.30
RB 7013	70	100	13	77	92	19.4	27.7	0.35
RB 8016	80	120	16	88	110	30.1	42.1	0.70
RB 9016	90	130	16	98	118	31.4	45.3	0.75
RB 10016	100	140	16	109	129	31.7	48.6	0.83
RB 10020	100	150	20	113	133	33.1	50.9	1.45
RB 11012	110	135	12	117	128	12.5	2401	0.40
RB 11015	110	145	15	119	136	23.7	41.5	0.75
RB 11020	110	160	20	120	143	34	54	1.56
RB 12016	120	150	16	127	141	24.2	43.2	0.72
RB 12025	120	180	25	133	164	66.9	100	2.62
RB 13015	130	160	15	137	152	25	46.7	0.72
RB 13025	130	190	25	143	174	69.5	107	3.82
RB 14016	140	175	16	147	162	25.9	50.1	1
RB 14025	140	200	25	154	185	74.8	121	2.96
RB 15013	150	180	13	157	172	27	53.5	0.68
RB 15025	150	210	25	164	194	76.8	128	3.16
RB 15030	150	230	30	169	211	100	156	5.30
RB 16025	160	220	25	173	204	81.7	135	3.14
RB 17020	170	220	20	184	198	29	62.1	2.21
RB 18025	180	240	25	195	225	84	143	3.44
RB 19025	190	240	25	202	222	41.7	82.9	2.99
RB 20025	200	260	25	215	245	84.2	157	4
RB 20030	200	280	30	221	258	114	200	6.7
RB 20035	200	295	35	225	270	151	252	9.6
RB 22025	220	280	25	135	265	92.3	171	4.1
RB 24025	240	300	25	256	281	68.3	145	4.5
RB 25025	250	310	25	265	290	69.3	150	5
RB 25030	250	330	30	269	306	126	244	8.1
RB 25040	250	355	40	275	326	195	248	14.8
RB 30025	300	360	25	315	340	76.3	178	5.9
RB 30035	300	395	35	322	368	183	367	13.4
RB 30040	300	405	40	326	377	212	409	17.2
RB 35020	350	400	20	363	383	54.1	143	3.9

RB Series crossed roller bearings

Split outer ring for inner ring rotation



QCB Reference	Dimensions			Shoulder height		Load capacity		Weight
	Di	Da	H	ds(max)	Dh(min)	Cr	Cor	
	mm	mm	mm	mm	mm	KN	KN	kg
RB 40035	400	480	35	422	459	156	370	14.5
RB 40040	400	510	40	428	479	241	531	23.5
RB 45025	450	500	25	464	484	61.7	182	6.6
RB 50025	500	550	25	514	534	65.5	201	7.3
RB 50040	500	600	40	526	572	239	607	26
RB 50050	500	625	50	536	587	267	653	41.7
RB 60040	600	700	40	627	673	264	721	29
RB 70045	700	815	45	731	777	281	836	46
RB 80070	800	950	70	836	900	468	1330	105
RB 90070	900	1050	70	937	1001	494	1490	120
RB 1000110	1000	1250	100	1057	1171	1220	3220	360
RB 1250110	1250	1500	110	1308	1423	1350	3970	440

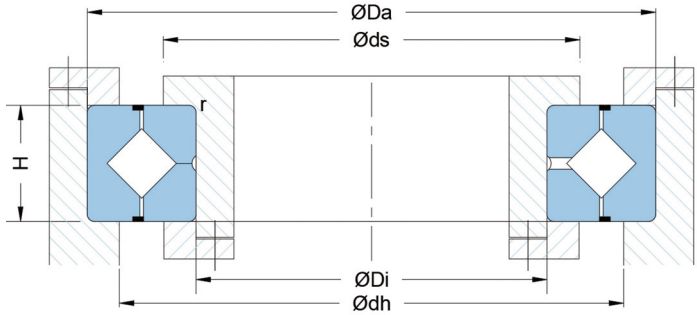
RB Series numbering system

RB 50025	UU	CC0	P5

1	RB 50025	Series and size
2	-	No seal
	-U	Sealed one side
	-UU	Sealed both sides
3	CC0	Light preload
	C0	Slight clearance
	C1	Clearance grade > C0
4	-	Precision grade P0 (standard)
	P2	Precision class P2 (radial and axial runout and tolerance class)
	P4	Precision class P4 (radial and axial runout and tolerance class)
	P5	Precision class P5 (radial and axial runout and tolerance class)
	P6	Precision class P6 (radial and axial runout and tolerance class)
	USP	Radial and axial runout class USP

RE Series crossed roller bearings

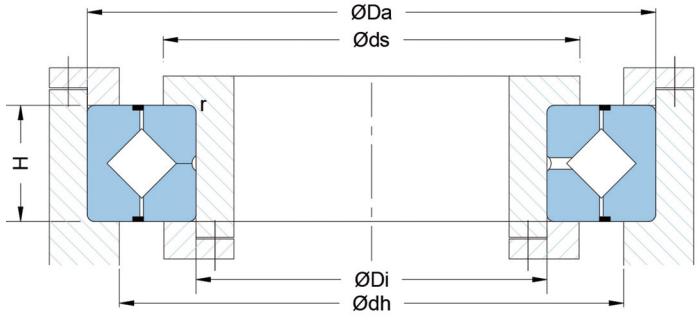
Split inner ring for outer ring rotation



QCB Reference	Dimensions			Shoulder height		Load capacity		Weight
	Di	Da	H	ds(max)	Dh(min)	Cr	Cor	
	mm	mm	mm	mm	mm	KN	KN	kg
RE 2008	20	36	8	24.5	32.5	3.23	3.1	0.04
RE 2508	25	41	8	29.5	37.5	3.63	3.83	0.05
RE 3010	30	55	10	37.5	4805	7.35	8.36	0.12
RE 3510	35	60	10	42.5	53.5	7.64	9.12	0.13
RE 4010	40	65	10	47.5	58.5	8.33	10.6	0.16
RE 4510	45	70	10	52.5	63.5	8.62	11.3	0.17
RE 5013	50	80	13	57.5	73	16.7	20.9	0.27
RE 6013	60	90	13	68	83	18.0	24.3	0.3
RE 7013	70	100	13	78	93	19.4	27.7	0.35
RE 8016	80	120	16	91	111	30.1	42.1	0.7
RE 9016	90	130	16	100	122	31.4	45.3	0.75
RE 10016	100	140	16	109	131	31.7	48.6	0.83
RE 10020	100	150	20	115	137	33.1	50.9	1.45
RE 11012	110	135	12	117	128	12.5	24.1	0.4
RE 11015	110	145	15	122	136	23.7	41.5	0.75
RE 11020	110	160	20	125	147	34.0	54	1.56
RE 12016	120	150	16	127	143	24.2	43.2	0.72
RE 12025	120	180	25	135	166	66.9	100	2.62
RE 13015	130	160	15	137	153	25.0	46.7	0.72
RE 13025	130	190	25	1445	176	69.5	107	2.82
RE 14016	140	175	16	147	162	25.9	50.1	1.00
RE 14025	140	200	25	154	185	74.8	121	2.96
RE 15013	150	180	13	158	172	27.0	53.5	0.68
RE 15025	150	210	25	164	194	76.8	128	3.16
RE 15030	150	230	30	173	210	100	156	5.3
RE 16025	160	220	25	173	204	81.7	135	3.14
RE 17020	170	220	20	184	198	29.0	62.1	2.21
RE 18025	180	240	25	195	225	84.0	143	3.44
RE 19025	190	240	25	202	222	41.7	82.9	2.99
RE 20025	200	260	25	215	245	84.2	157	4
RE 20030	200	280	30	221	258	114	200	6.7
RE 20035	200	295	35	225	270	151	252	9.6
RE 22025	220	280	25	235	265	92.3	171	4.1
RE 24025	240	300	25	256	281	68.3	145	4.5
RE 25025	250	310	25	268	293	69.3	150	5
RE 25030	250	330	30	269	306	126	244	8.1
RE 25040	250	355	40	275	326	195	348	14.8
RE 30025	300	360	25	319	344	75.5	178	5.9
RE 30035	300	395	35	322	368	183	367	13.4
RE 30040	300	405	40	326	377	212	409	17.2
RE 35020	350	400	20	363	383	54.1	143	3.9

RE Series crossed roller bearings

Split inner ring for outer ring rotation



QCB Reference	Dimensions			Shoulder height		Load capacity		Weight
	Di	Da	H	ds(max)	Dh(min)	Cr	Cor	
	mm	mm	mm	mm	mm	KN	KN	kg
RE 40035	400	480	35	422	459	156	370	14.5
RE 40040	400	510	40	428	479	241	531	23.5
RE 45025	450	500	25	464	484	61.7	182	6.6
RE 50025	500	550	25	514	534	65.5	201	7.3
RE 50040	500	600	40	526	572	239	607	26
RE 50050	500	625	50	536	587	267	653	41.7
RE 60040	600	700	40	627	673	264	721	29

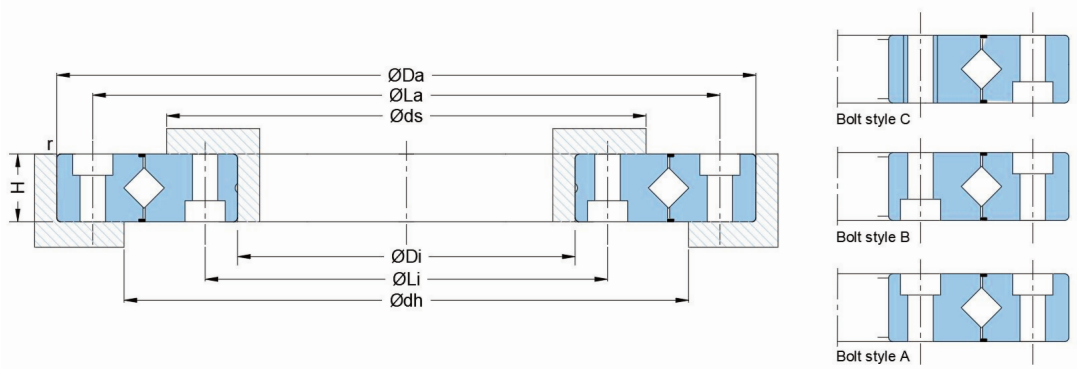
RE Series numbering system

RE 50025	UU	CC0	P5

1	RE 50025	Series and size
2	-	No seal
	-U	Sealed one side
	-UU	Sealed both sides
3	CC0	Light preload
	C0	Slight clearance
	C1	Clearance grade > C0
4	-	Precision grade P0 (standard)
	P2	Precision class P2 (radial and axial runout and tolerance class)
	P4	Precision class P4 (radial and axial runout and tolerance class)
	P5	Precision class P5 (radial and axial runout and tolerance class)
	P6	Precision class P6 (radial and axial runout and tolerance class)
	USP	Radial and axial runout class USP

RU Series crossed roller bearings

Integrated inner and outer rings/ Suitable for inner or outer ring rotation



QCB Reference	Dimensions										r min	Housing Ø		Load capacity		Weight
	Di	Da	H	La	ni	Size	Counterbore	Li	ni			ds	Dh	Cr	Cor	
	mm	mm	mm	mm			mm	mm			mm	mm	mm	KN	KN	kg
RU 28 C	10	52	8	16	4	M3		42	6	Ø3.4 CS Ø6.5x3.2	0.3	24	29.5	2.9	2.4	0.12
RU 42 C	20	70	12	28	6	M3		57	6	Ø3.4 CS Ø6.5x3.2	0.6	37	47	7.35	8.35	0.29
RU 66 C	35	95	15	45	8	M4		83	8	Ø4.5 CS Ø8x4.3	0.6	59	74	17.5	22.3	0.62
RU 85 C	55	120	15	65	8	M5		105	8	Ø5.5 CS Ø9.5x5.4	0.6	79	93	20.3	29.5	1
RU 124 A	80	165	22	97	10	Ø5.5	Ø9.5x5.4	148	10	Ø5.5 CS Ø9.5x5.4	1	114	134	33.1	50.9	2.6
RU 124 B	80	165	22	97	10	Ø5.5	Ø9.5x5.4	148	10	Ø5.5 CS Ø9.5x5.4	1	114	134	33.1	50.9	2.6
RU 124 C	80	165	22	97	10	M5		148	10	Ø5.5 CS Ø9.5x5.4	1	114	134	33.1	50.9	2.6
RU 148 A	90	210	25	112	12	Ø9	Ø14x8.6	187	12	Ø9 CS Ø14x8.6	1.5	133	162	49.1	76.8	4.9
RU 148 B	90	210	25	112	12	Ø9	Ø14x8.6	187	12	Ø9 CS Ø14x8.6	1.5	133	162	49.1	76.8	4.9
RU 148 C	90	210	25	112	12	M8		187	12	Ø9 CS Ø14x8.6	1.5	133	162	49.1	76.8	4.9
RU 178 A	115	240	25	139	12	Ø9	Ø14x8.6	217	12	Ø9 CS Ø14x8.6	1.5	161	195	80.3	135	6.8
RU 178 B	115	240	25	139	12	Ø9	Ø14x8.6	217	12	Ø9 CS Ø14x8.6	1.5	161	195	80.3	135	6.8
RU 178 C	115	240	25	139	12	M8		217	12	Ø9 CS Ø14x8.6	1.5	161	195	80.3	135	6.8
RU 228 A	160	295	35	184	12	Ø11	Ø17.5x10.8	270	12	Ø11 CS Ø17.5x10.8	2	208	246	104	173	11.4
RU 228 B	160	295	35	184	12	Ø11	Ø17.5x10.8	270	12	Ø11 CS Ø17.5x10.8	2	208	246	104	173	11.4
RU 228 C	160	295	35	184	12	M10		270	12	Ø11 CS Ø17.5x10.8	2	208	246	104	173	11.4
RU 297 A	210	380	40	240	16	Ø14	Ø20x12.8	350	16	Ø14 CS Ø20x12.8	2.5	272	320	156	281	21.3
RU 297 B	210	380	40	240	16	Ø14	Ø20x12.8	350	16	Ø14 CS Ø20x12.8	2.5	272	320	156	281	21.3
RU 297 C	210	380	40	240	16	M12		350	16	Ø14 CS Ø20x12.8	2.5	272	320	156	281	21.3
RU 445 A	350	540	45	385	24	Ø14	Ø20x13.8	505	24	Ø14 CS Ø20x12.8	2.5	417	473	222	473	35.4
RU 445 B	350	540	45	385	24	Ø14	Ø20x13.8	505	24	Ø14 CS Ø20x12.8	2.5	417	473	222	473	35.4
RU 445 C	350	540	45	385	24	M12		505	24	Ø14 CS Ø20x12.8	2.5	417	473	222	473	35.4

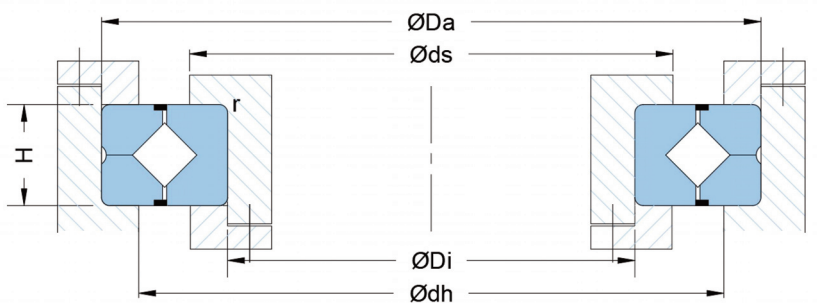
RU Series numbering system

RU 148	UU	CC0	P5	A	-N

1	RU 148	Series and size
2	-	No seal
	-U	Sealed one side
	-UU	Sealed both sides
	-UT	Single seal, non-counterbore side
3	CC0	Slight preload
	C0	Positive internal clearance
4	P5	Precision class P5
	P4	Precision class P4 (radial and axial runout and tolerance class)
	P2	Precision class P2 (radial and axial runout and tolerance class)
5	A	Inner and outer rings counterbored in the same direction
	B	Inner and outer rings counterbored in opposite directions
	C	Outer ring counterbored, inner ring tapped through
6		Blank, or if -N includes lubricating nipple

SX Series crossed roller bearings

Integrated inner ring; Split outer ring; Ultra thin design; Suitable for inner ring rotation



QCB Reference	Dimensions					Housing Ø		Load capacity		Weight
	Di	Da	H	S	r	ds	dh	Cr	Cor	
	mm	mm	mm	mm	mm	mm	mm	KN	KN	kg
SX 011814	70	90	10	1.2	0.6	79.5	80.5	12	30	0.3
SX 011818	90	115	13	1.2	1	101.5	102.5	17	47	0.4
SX 011820	100	125	13	1.2	1	111.5	112.5	18	52	0.5
SX 011824	120	150	16	1.5	1	134.4	135.6	26	75	0.8
SX 011828	140	175	18	1.5	1.1	156.3	157.7	41	116	1.1
SX 011832	160	200	20	1.5	1.1	179.2	180.8	44	133	1.7
SX 011836	180	225	22	2	1.1	201.2	202.8	63	187	2.3
SX 011840	200	250	24	2	1.5	224.2	225.8	68	208	3.1
SX 011848	240	300	28	2	2	269.2	270.8	95	300	5.3
SX 011860	300	380	38	2.5	2.1	339.2	340.8	156	504	12
SX 011868	340	420	38	2.5	2.1	379.2	380.8	167	563	13.5
SX 011880	400	500	46	2.5	2.1	449	451	244	833	24
SX 0118/500	500	620	56	2.5	3	558.8	561.2	355	1244	44

SX Series numbering system

SX 0118	36	VSP

1	SX 0118	Series and dimension code
2	36	Diameter code
3	-	Normal clearance
	RLO	Reduced internal clearance
	VSP	Light preload

XR Series crossed taper-roller bearings

High moment load capacity, high accuracy bearings

QCB Reference	Dimensions				Load capacity		Limiting speed	Weight
	Di	Da	H	r	Axial	Radial		
	mm	mm	mm	mm	KN	KN	rpm	kg
MXR 637050	300	400	37	1.5	80.1	63	720	13
MXR 652050	310	425	45	2.5	102	82.2	640	20
MXR 699050	370	495	50	3	119	93.6	600	30
XR 496051	203.2	279.4	31.75	1.5	61.6	51.3	800	6.5
XR 678052	330.2	457.2	63.5	3.3	123	100	620	35
XR 766051	457.2	609.6	63.5	3.3	178	141	520	51
XR 820060	580	760	80	6.4	234	215	300	100
XR 855053	685.8	914.4	79.375	3.3	344	270	260	150
XR 882055	901.7	1117.6	82.55	3.3	396	300	200	185
XR 889058	1028.7	1327.15	109.22	3.3	534	405	160	400
XR 897051	1549.4	1828.8	101.6	3.3	699	518	80	500

- Have an effective spread far larger than the height of the bearing due to the tapered roller design
- The tapered rollers roll without sliding relative to the raceway and thus can operate at higher speeds when compared to standard crossed roller bearings
- Able to resist very high tilting moment loads.
- Most commonly split on the inner ring for outer ring rotational accuracy, although split outer ring designs can be offered

Suggested applications

- Precision index tables
- Radar systems
- Optical and radio telescopes
- Crane centre pivots
- Welding manipulators
- Mooring buoys

Clients are encouraged to discuss their application details with QCB Technical to ensure fault free installation and operation.

High Precision Turntable Bearings

YRT, YRTS, YRTM and ZKLDF

QCB High precision turntable bearings

YRT, YRTS and YRTM precision turntables

A double direction caged roller thrust bearing with a radial guide roller set that combine to create a very rigid, accurate bearing system with high load capacity.

- YRT Series - for slow and limited duration applications
- YRT... VSP series- for higher accuracy
- YRTS Series - higher limiting speeds and low, uniform torque across a broad speed range
- YRTM Series - with integral inductive measuring system

Predrilled and ready to fit
Axially and radially preloaded
Unsealed

YRT bearings are delivered fully assembled and preloaded. They should never be dismantled, or parts interchanged for any reason. The retaining screws should be loosened before fitting to allow the bearing to centralise, the either re-tightened or removed.

The fixing bolts should be tightened progressively in steps of 40%, 70% and 100% of recommended torque values and in a crosswise sequence to eliminate distortion.

Bearing frictional torque should be tested at <5 rpm, noting that the start-up torque may be 2-2.5 x the listed values.

YRT bearings require housings of similar accuracy to operate effectively.

ZKLDF Axial angular contact bearings

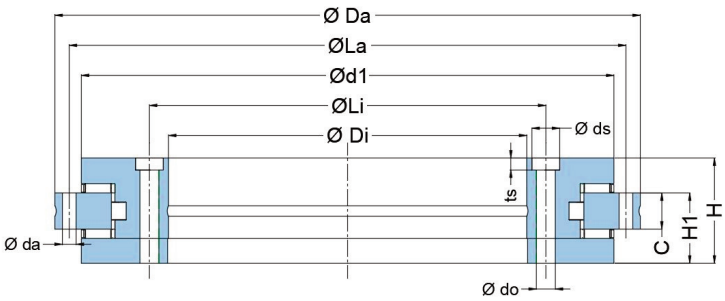
A range of sealed, axial angular contact ball bearings suitable for high axial and radial loads with high rigidity demands.

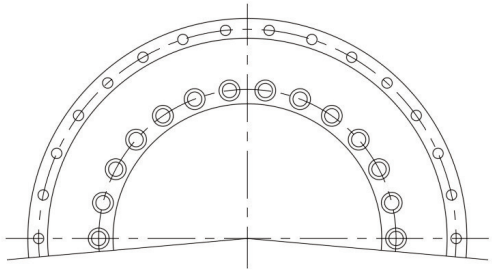
Suitable for use in rotary tables, milling, grinding and honing heads where continuous operation at high speed is required.

QCB High precision rotary turntables are imported to order and only after a full evaulation of the application.

YRT, YRTS & YRTM Series

Double direction axial roller bearings - Dimensions

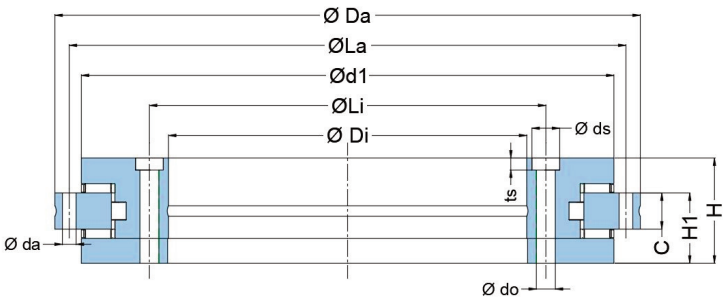


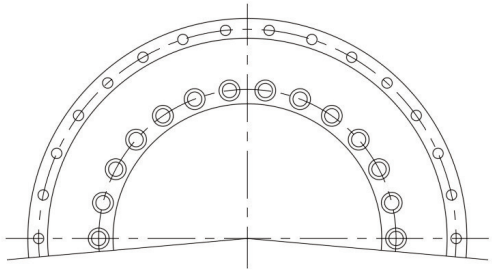


QCB Reference	Boundary dimensions						Inner holes					Outer holes			# Retaining screws	Extraction screws G	
	Di	Da	H	H1	C	d1	Li	ødo	øds	ts	ni	La	øda	na		Size	#
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm				
YRT 50	50	126	30	20	10	105	63	5.6	9	4.2	12-2	116	5.6	12	2	-	-
YRT 80	80	146	35	23.35	12	130	92	5.6	10	4.2	12-2	138	5.6	12	2	-	-
YRT 100	100	185	38	25	12	160	112	5.6	10	5.4	18-2	170	5.6	18-3	2	M5	3
YRT 120	120	210	40	26	12	184	135	7	11	6.2	24-2	195	7	24-3	2	M8	3
YRT 150	150	240	40	26	12	214	165	7	11	6.2	36-2	225	7	36-3	2	M8	3
YRT 180	180	280	43	29	15	244	194	7	11	6.2	48-2	260	7	48-3	2	M8	3
YRT 200	200	300	45	30	15	274	215	7	11	6.2	48-2	285	7	48-3	2	M8	3
YRT 260	260	385	55	36.5	18	345	280	9.3	15	8.2	36-2	365	9.3	36-3	2	M12	3
YRT 325	325	450	60	40	20	415	342	9.3	15	8.2	36-2	430	9.3	36-3	2	M12	3
YRT 395	395	525	65	42.5	20	486	415	9.3	15	8.2	48-2	505	9.3	48-3	2	M12	3
YRT 460	460	600	70	46	22	560	482	10	15	8.2	48-2	580	10	48-3	2	M12	3
YRT 580	580	750	90	60	30	700	610	11.4	18	11	48-2	720	11.4	48-6	2	M12	6
YRT 650	650	870	122	78	34	800	680	14	20	13	48-2	830	14	48-6	2	M12	6
YRT 850	850	1095	124	80.5	37	1018	890	18.5	26	17	60-3	1055	18.5	60-6	3	M16	6
YRT 950	950	1200	132	86	40	1130	990	18.5	26	17	60-3	1160	18.5	60-6	3	M16	6
YRT 1030	1030	1300	145	92.5	40	1215	1075	18.5	26	17	72-6	1255	18.5	72-6	6	M16	6
YRT 1200	1200	1490	164	108	52	1410	1240	18.5	26	17	72-6	1445	18.5	72-6	6	M16	6
YRTS 200	200	300	45	30	18	274	215	7	11	6.2	48-2	285	7	48-3	2	M8	3
YRTS 260	260	385	55	36.5	18	345	280	9.3	15	8.2	36-2	365	9.3	36-3	2	M12	3
YRTS 325	325	450	60	40	20	415	342	9.3	15	8.2	36-2	430	9.3	36-3	2	M12	3
YRTS 395	395	525	65	42.5	20	486	415	9.3	15	8.2	48-2	505	9.3	48-3	2	M12	3
YRTS 460	460	600	70	46	22	560	482	9.3	15	8.2	48-2	482	9.3	48-3	2	M12	3
YRTM 150	150	240	43	26	12	214	165	7	11	6.2	36-2	225	7	36-3	2	M8	3
YRTM 180	180	280	46	29	15	244	194	7	11	6.2	48-2	260	7	48-3	2	M8	3
YRTM 200	200	300	47	30	15	274	215	7	11	6.2	48-2	285	7	48-3	2	M8	3
YRTM 260	260	385	55	36.5	18	345	280	9.3	15	8.2	36-2	365	9.3	36-3	2	M12	3
YRTM 325	325	450	60	40	20	415	342	9.3	15	8.2	36-2	430	9.3	36-3	2	M12	3
YRTM 395	395	525	65	42.5	20	486	415	9.3	15	8.2	48-2	505	9.3	48-3	2	M12	3
YRTM 460	460	600	70	46	22	560	482	9.3	15	8.2	48-2	580	9.3	48-3	2	M12	3

YRT, YRTS & YRTM Series

Double direction axial roller bearings - Load ratings

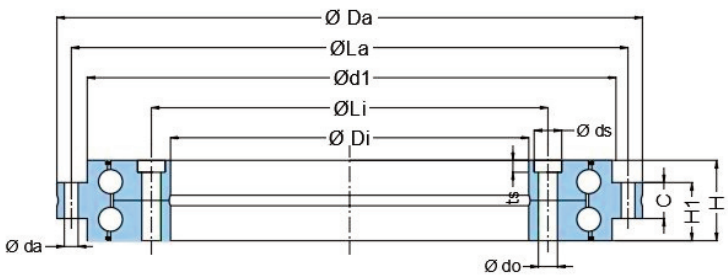


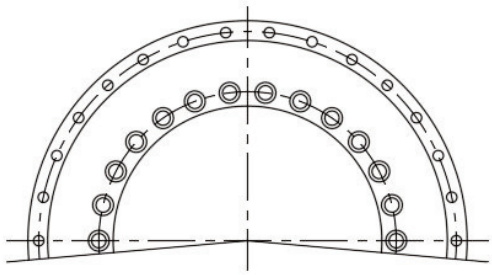


QCB Reference	Bolt torque	Basic load ratings				Limit speed (grease)	Friction torque	Weight	Dimension Tolerances					Axial/Radial runout
		Ca	Coa	Cr	Cor				Di max	Di min	Da max	Da min	H / H1	
	Nm	KN	KN	KN	KN	rpm	Nm	kg	mm	mm	mm	mm	mm	µm
YRT 50	8.5	38	158	28.5	49.5	600	2.5	1.6	+0.000	-0.008	+0.000	-0.011	±0.125	2
YRT 80	8.5	56	255	42.8	100	530	3	2.4	+0.000	-0.009	+0.000	-0.011	±0.150	3
YRT 100	8.5	76.5	415	47.5	120	430	3	4.1	+0.000	-0.010	+0.000	-0.015	±0.175	3
YRT 120	14	102	540	52	143	340	7	5.3	+0.000	-0.010	+0.000	-0.015	±0.175	3
YRT 150	14	112	630	56	170	320	10	6.2	+0.000	-0.013	+0.000	-0.015	±0.175	3
YRT 180	14	118	710	69.5	200	280	12	7.7	+0.000	-0.013	+0.000	-0.018	±0.175	4
YRT 200	14	120	765	81.5	220	260	14	9.7	+0.000	-0.015	+0.000	-0.018	±0.175	4
YRT 260	34	160	1060	93	290	200	20	18.3	+0.000	-0.018	+0.000	-0.020	±0.200	6
YRT 325	34	275	1930	120	345	170	40	25	+0.000	-0.023	+0.000	-0.023	±0.200	6
YRT 395	34	300	2280	186	655	140	55	33	+0.000	-0.023	+0.000	-0.028	±0.200	6
YRT 460	34	355	2800	200	765	120	70	45	+0.000	-0.023	+0.000	-0.028	±0.225	6
YRT 580	68	490	4250	228	965	80	140	89	+0.000	-0.025	+0.000	-0.035	±0.250	10
YRT 650	116	1040	8000	490	1800	65	200	170	+0.000	-0.038	+0.000	-0.050	±0.250	10
YRT 850	284	1000	8650	455	1730	50	300	253	+0.000	-0.050	+0.000	-0.063	±0.300	12
YRT 950	284	1290	11400	30	2040	40	600	312	+0.000	-0.050	+0.000	-0.063	±0.300	12
YRT 1030	284	1380	12000	620	2650	35	800	375	+0.000	-0.072	+0.000	-0.080	±0.300	15
YRT 1200	300	1435	12850	745	2800	25	1000	450	+0.000	-0.075	+0.000	-0.085	±0.300	15
YRTS 200	14	155	840	94	226	1160		9.7	+0.000	-0.015	+0.000	-0.018	±0.175	4
YRTS 260	34	173	1050	110	305	910		18.3	+0.000	-0.018	+0.000	-0.020	±0.200	6
YRTS 325	34	191	1260	109	320	760		25	+0.000	-0.023	+0.000	-0.023	±0.200	6
YRTS 395	34	214	1540	121	390	650		33	+0.000	-0.023	+0.000	-0.028	±0.200	6
YRTS 460	34	221	1690	168	570	560		45	+0.000	-0.023	+0.000	-0.028	±0.225	6
YRTM 150	14	112	630	56	170	320	10	6.2	+0.000	-0.013	+0.000	-0.015	±0.175	3
YRTM 180	14	118	710	69.5	200	280	12	7.7	+0.000	-0.013	+0.000	-0.018	±0.175	4
YRTM 200	14	120	765	81.5	220	260	14	9.7	+0.000	-0.015	+0.000	-0.018	±0.175	4
YRTM 260	34	160	1060	93	290	200	20	18.3	+0.000	-0.018	+0.000	-0.020	±0.200	6
YRTM 325	34	275	1930	120	345	170	40	25	+0.000	-0.023	+0.000	-0.023	±0.200	6
YRTM 395	34	300	2280	186	655	140	55	33	+0.000	-0.023	+0.000	-0.028	±0.200	6
YRTM 460	34	355	2800	200	765	120	70	45	+0.000	-0.023	+0.000	-0.028	±0.225	6

ZKLDF Series

Axial angular contact ball bearings





QCB Reference	Boundary dimensions								Mounting bolt data							# Retaining screws	Extraction screws G	
	Di	Da	H	H1	d1	d2	d3	a	Inner ring				Outer ring					
	mm	mm	mm	mm	mm	mm	mm	mm	Li	ni	ødo	ds x ts	La	na	øda		Size	#
ZKLDF 100	100	185	38	25	160	136	158	5.4	112	18-2	5.6	10x5.4	170	18-3	5.6	2	M5	3
ZKLDF 120	120	210	40	26	184	159	181	6.2	135	24-2	7	11x6.2	195	24-3	7	2	M8	3
ZKLDF 150	150	240	40	26	214	188	211	6.2	165	36-2	7	11x6.2	225	36-3	7	2	M8	3
ZKLDF 200	200	300	45	30	274	243	271	6.2	215	48-2	7	11x6.2	285	48-3	7	2	M8	3
ZKLDF 260	260	385	55	36.5	345	313	348	8.2	280	36-2	9.3	15x8.5	365	36-3	9.3	2	M12	3
ZKLDF 325	325	450	60	40	415	380	413	8.2	342	36-2	9.3	15x8.2	430	36-3	9.3	2	M12	3
ZKLDF 395	395	525	65	42.5	486	450	488	8.2	415	48-2	9.3	15x8.2	505	48-3	9.3	2	M12	3
ZKLDF 460	460	600	70	46	560	520	563	8.2	482	48-2	9.3	15x8.2	580	48-3	9.3	2	M12	3

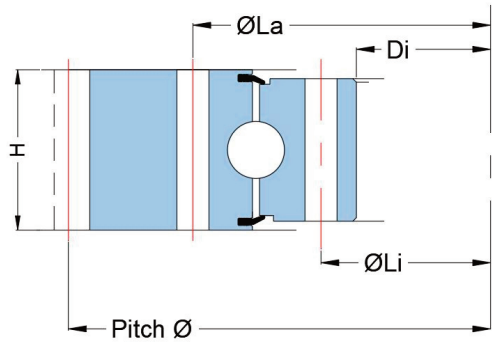
QCB Reference	Bolt torque	Basic load ratings		Limit speed (grease)	Friction torque	Weight	Dimension tolerances					Axial/Radial runout
		Co	Coa				Di max	Di min	Da max	Da min	H / H1	
	Nm	KN	KN	rpm	Nm	kg	mm	mm	mm	mm	mm	µm
ZKLDF 100	8.5	67	251	2800	1.6	4.5	+0.000	-0.010	+0.000	-0.015	±0.175	4
ZKLDF 120	14	72	315	2400	2	6	+0.000	-0.010	+0.000	-0.015	±0.175	6
ZKLDF 150	14	76	365	2000	3	7.5	+0.000	-0.013	+0.000	-0.015	±0.175	6
ZKLDF 200	14	112	550	1600	4.5	11	+0.000	-0.015	+0.000	-0.018	±0.175	6
ZKLDF 260	34	155	920	1200	7.5	22	+0.000	-0.018	+0.000	-0.020	±0.200	6
ZKLDF 325	34	165	1110	1000	11	28	+0.000	-0.023	+0.000	-0.023	±0.020	6
ZKLDF 395	34	214	1470	800	16	39	+0.000	-0.023	+0.000	-0.028	±0.020	6
ZKLDF 460	34	255	1860	700	21	50	+0.000	-0.023	+0.000	-0.028	±0.250	6

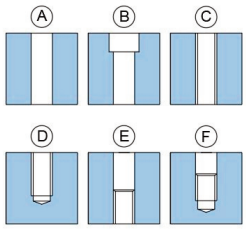
Timing Belt Profile Slewing Rings

- Steel
- Stainless steel
- Aluminium
- 8M & 14M profiles

8mm & 14mm Timing Belt Series

Steel, Stainless steel or Aluminium



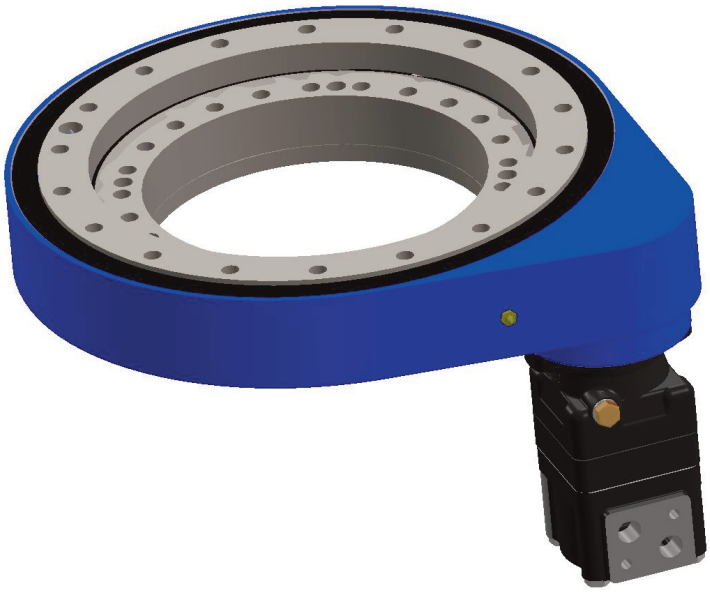


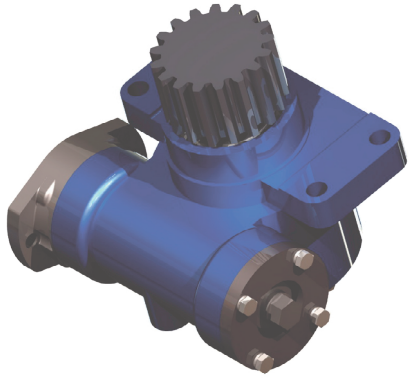
QCB Reference	No of teeth	Overall dimensions				Outer holes		Inner holes	
		Pitch Ø	Di	H	GFW	La	na	Li	ni
		mm	mm	mm	mm	mm		mm	
STB 8 40 01 CC LM	40	101.86	16	30	25	78	4 x Ø6.5	30	4 x Ø6.5
STB 8 40 02 CC LM	40	101.86	16	40	35	78	4 x Ø6.5	30	4 x Ø6.5
STB 8 44 01 CC LM	44	112.05	16	30	25	78	4 x Ø6.5	30	4 x Ø6.5
STB 8 44 02 CC LM	44	112.05	16	40	35	78	4 x Ø6.5	30	4 x Ø6.5
STB 8 48 01 CC LM	48	120.86	20	30	25	86	4 x Ø6.5	34	4 x Ø6.5
STB 8 48 02 CC LM	48	120.86	20	40	35	86	4 x Ø6.5	34	4 x Ø6.5
STB 8 56 01 CC LM	56	142.60	20	30	25	86	4 x Ø6.5	34	4 x Ø6.5
STB 8 56 02 CC LM	56	142.60	20	40	35	86	4 x Ø6.5	34	4 x Ø6.5
STB 8 64 01 CC LM	64	162.97	70	30	25	136	6 x Ø6.5	84	6 x Ø6.5
STB 8 64 02 CC LM	64	162.97	70	40	35	136	6 x Ø6.5	84	6 x Ø6.5
STB 8 72 01 CC LM	72	183.35	70	30	25	136	6 x Ø6.5	84	6 x Ø6.5
STB 8 72 02 CC LM	72	183.35	70	40	35	136	6 x Ø6.5	84	6 x Ø6.5
STB 8 80 01 CC LM	80	203.72	70	30	25	136	6 x Ø6.5	84	6 x Ø6.5
STB 8 80 02 CC LM	80	203.72	70	40	35	136	6 x Ø6.5	84	6 x Ø6.5
STB 8 90 01 CC LM	90	229.18	70	30	25	180	6 x Ø9	108	6 x Ø9
STB 8 90 02 CC LM	90	229.18	70	40	35	180	6 x Ø9	108	6 x Ø9
Material code C (50Mn); L (Aluminium) or S (Stainless steel) ; Wider belts & differing no. of teeth can be accomodated to special order; Standard design hole type A									
STB 14 28 01 CC LM	28	124.78	20	50	45	86	4 x Ø6.5	34	4 x Ø6.5
STB 14 48 02 CC LM	28	124.78	20	65	60	86	4 x Ø6.5	34	4 x Ø6.5
STB 14 30 01 CC LM	30	133.69	20	50	45	86	4 x Ø6.5	34	4 x Ø6.5
STB 14 30 02 CC LM	30	133.69	20	65	60	86	4 x Ø6.5	34	4 x Ø6.5
STB 14 34 01 CC LM	34	151.51	20	50	45	86	4 x Ø6.5	34	4 x Ø6.5
STB 14 34 02 CC LM	34	151.51	20	65	60	86	4 x Ø6.5	34	4 x Ø6.5
STB 14 38 01 CC LM	38	169.34	70	50	45	136	6 x Ø6.5	84	6 x Ø6.5
STB 14 38 02 CC LM	38	169.34	70	65	60	136	6 x Ø6.5	84	6 x Ø6.5
STB 14 44 01 CC LM	44	196.08	70	50	45	136	6 x Ø6.5	84	6 x Ø6.5
STB 14 44 02 CC LM	44	196.08	70	65	60	136	6 x Ø6.5	84	6 x Ø6.5
STB 14 48 01 CC LM	48	213.90	88	50	45	180	6 x Ø9	108	6 x Ø9
STB 14 48 02 CC LM	48	213.90	88	65	60	180	6 x Ø9	108	6 x Ø9
STB 14 56 01 CC LM	56	249.55	88	50	45	180	6 x Ø9	108	6 x Ø9
STB 14 56 02 CC LM	56	249.55	88	65	60	180	6 x Ø9	108	6 x Ø9
STB 14 64 01 CC LM	64	285.21	138	50	45	230	6 x Ø9	158	6 x Ø9
STB 14 64 02 CC LM	64	285.21	138	65	60	230	6 x Ø9	158	6 x Ø9
STB 14 72 01 CC LM	72	320.86	176	50	45	278	6 x Ø11	198	6 x Ø11
STB 14 72 02 CC LM	72	320.86	176	65	60	278	6 x Ø11	198	6 x Ø11
STB 14 80 01 CC LM	80	356.51	176	50	45	278	6 x Ø11	198	6 x Ø11
STB 14 80 02 CC LM	80	356.51	176	65	60	278	6 x Ø11	198	6 x Ø11

Material code C (50Mn); L (Aluminium) or S (Stainless steel) ; Wider belts & differing no. of teeth can be accomodated to special order. Standard design hole type A

Bolt pattern and style can be modified for OEM volume

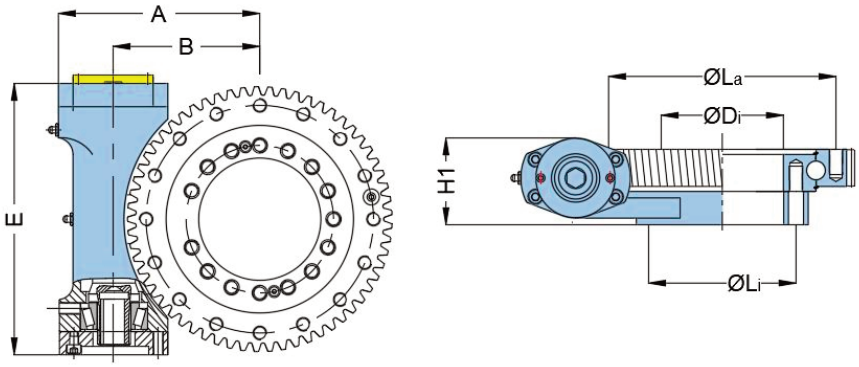
Worm Gear Slewing Drives
Spur Gear Slewing Drives
Rotation Drives





WGS Series

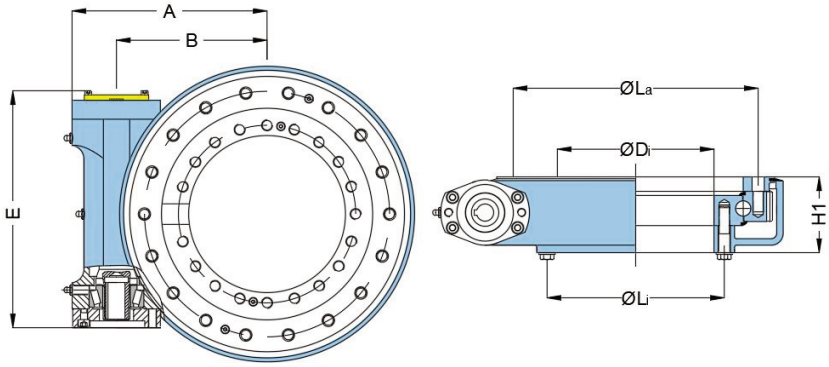
Helical gear, exposed gearing



QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	C	Di	E	H1	La	na	Li	ni					
	mm	mm	mm	mm	mm	mm	mm		mm				KNm		kg
WGS 9 61 25 H R	239	174	157	145	322	104	270	16	175	16-1	M16	61:1	6.5	<0.17	37
WGS 12 78 25 H R	285	220	200	229	332	114	358	18	259	20-1	M16	78:1	7.5	<0.17°	41
WGS 14 85 25 H R	303	238	217	265	338	114	390	18	295	24-1	M16	85:1	8	<0.17°	47
WGS 17 102 25 H R	340	275	261	324	385	123	479	20	365	20	M16	102:1	10	<0.15°	87

WGSE Series

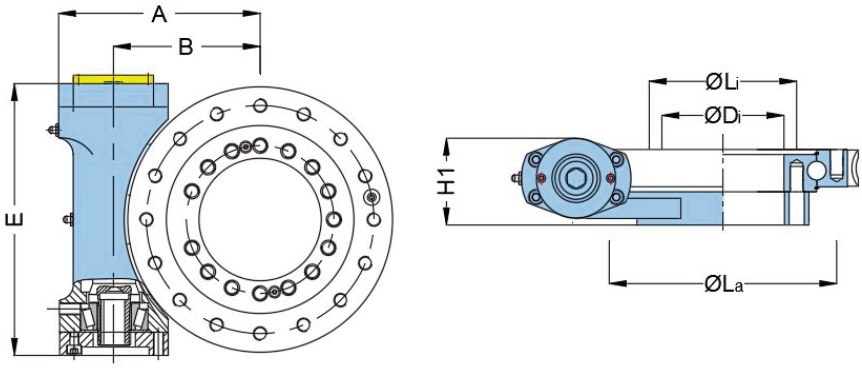
Helical gear, enclosed gearing



QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	C	Di	E	H1	La	na	Li	ni					
	mm	mm	mm	mm	mm	mm	mm		mm				KNm		kg
WGSE 3C 62 16 R	114	80	157		160.8	98	100	6	100	6	M10	62:1	0.4	<0.2°	12
WGSE 5 62 16 R	132	94	173		173	79	128	6	100	8-1	M10	62:1	0.4	<0.2°	16
WGSE 5A 62 16 R	138	100	173		173	119	128	6	100	6	M10	62:1	0.6	<0.2°	20
WGSE 7 73 16 H R	170	133	211	98	211	81	203	8	121	10	M12	73:1	1.5	<0.2°	25
WGSE 9A 61 25 H R	239	174	314	145	314	108	270	16	175	16-1	M16	61:1	6.5	<0.17°	49
WGSE 12A 78 25 H R	285	220	332	229	332	111	358	18	259	20-1	M16	78:1	7.5	<0.17°	60
WGSE 14A 85 25 H R	303	238	338	265	338	110	390	18	295	24-1	M16	85:1	8	<0.17°	73
WGSE 17A 102 25 H R	348	282	385	324	385	126	479	20	365	20	M16	102:1	10	<0.15°	110
WGSE 21 125 25 H R	403	339	469	432	462	137	584	36	467	36-1	M20	125:1	15	<0.15°	158
WGSE 25 150 25 H R	467	402	462	512	462	130	675	36	565	36-1	M20	150:1	18	<0.15°	204

WGW Series

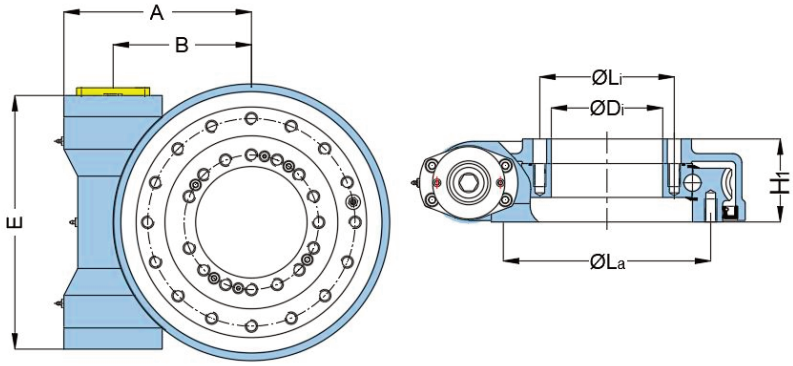
Worm gear, exposed gearing



QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	Di	E	H1		La	na	Li	ni					
	mm	mm	mm	mm	mm		mm		mm				KNm		kg
WGW 7 47 25 H R	207	143	105	295	100		205	10	135	12-1	M12	47:1	3.5	<0.15°	29
WGW 9 62 25 H R	244	180	145	330	106		270	16	175	16-1	M16	62:1	8	<0.15°	40
WGW 12 79 25 H R	287	223	229	370	106		358	18	259	20-1	M16	79:1	9.5	<0.15°	52
WGW14 86 25 H R	302	238	255	380	111		390	18	295	24-1	M16	86:1	10.8	<0.13°	62
WGW 17 104 25 H R	349	285	312	405	106		479	20	365	20	M16	104:1	12.9	<0.1°	82
WGW 21 90 25 H R	415	350	425	483	130		584	36	467	36-1	M20	90:1	28.7	<0.1°	139
WGW 25 104 25 H R	464	399	525	513	130		675	24	565	24	M20	104:1	34	<0.11°	176

WGWEA Series

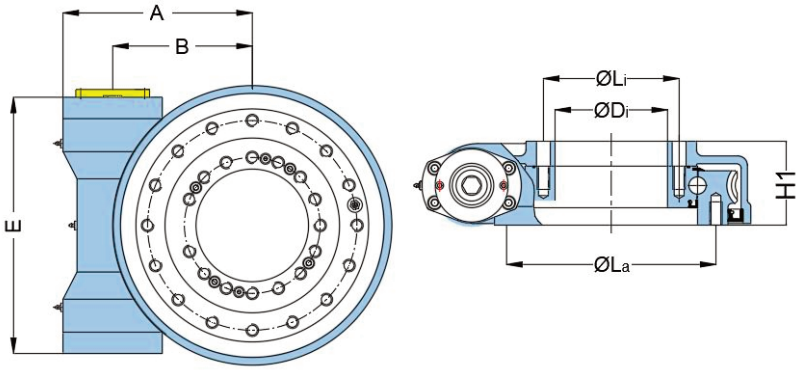
Worm gear, enclosed gearing



QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	Di	E	H1		La	na	Li	ni					
	mm	mm	mm	mm	mm		mm		mm				KNm		kg
WGWEA 7 47 25 H R	207	143	105	295	97		205	10	135	12-1	M12	47:1	3.5	<0.15°	35
WGWEA 9 62 25 H R	244	180	145	330	108		270	16	175	16-1	M16	62:1	8	<0.15°	53
WGWEA 12 79 25 H R	287	223	229	370	108		358	18	259	20-1	M16	79:1	9.5	<0.15°	67
WGWEA 14 86 25 H R	302	238	265	380	108		390	18	295	24-1	M16	86:1	10.8	<0.13°	75
WGWEA 17 104 25 H R	349	285	332	405	108		479	20	365	20	M16	104:1	12.9	<0.1°	96
WGWEA 19B 94 25 H R	378	313	380	435	108		520	32	420	32-1	M16	94:1	18.5	<0.1°	118
WGWEA 21 90 R MTAP	415	350	425	483	130		584	36	467	36-1	M20	90:1	28.7	<0.1°	172
WGWEA 25 104 R MTAP	464	399	525	513	130		675	36	565	36-1	M20	104:1	34	<0.1°	202

WGWEB Series

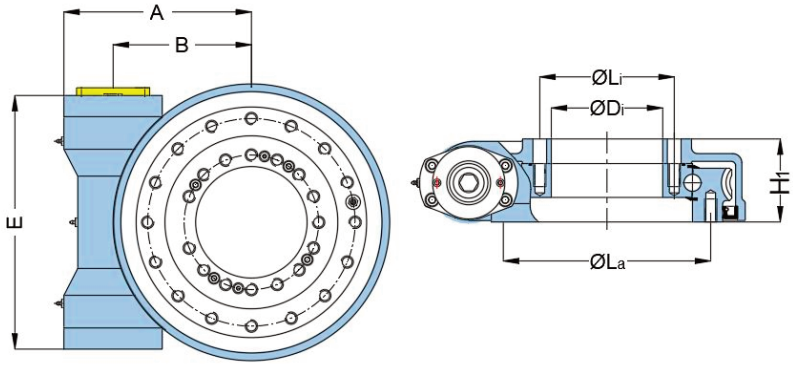
Worm gear, exposed gearing; IP seals



QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	Di	E	H1		La	na	Li	ni					
	mm	mm	mm	mm	mm		mm		mm				KNm		kg
WGWEB 7 47 25 H R	206.5	143	105	295	97		205	10	135	12-1	M12	47:1	3.5	<0.15°	35
WGWEB 9 62 25 H R	238	180	145	330	108		270	16	175	16-1	M16	62:1	8	<0.15°	53
WGWEB12 79 25 H R	284	223	229	370	108		358	18	259	20-1	M16	79:1	9.5	<0.15°	67
WGWEB 14 86 25 H R	302	238	265	380	108		390	18	295	24-1	M16	86:1	10.8	<0.13°	75
WGWEB 17 104 25 H R	347	285	332	405	108		479	20	365	20	M16	104:1	12.9	<0.1°	96
WGWEB 19B 94 25 H R	378	313	380	435	108		520	32	420	32-1	M16	94:1	18.5	<0.1°	118
WGWEB 21 90 25 H R	404	350	425	483	130		584	36	467	36-1	M20	90:1	28.7	<0.1°	172
WGWEB 25 104 25 H R	464	399	525	513	130		675	36	565	36-1	M20	104:1	34	<0.1°	202

WGHSE Series

Worm gear, enclosed bronze gearing for high torque applications

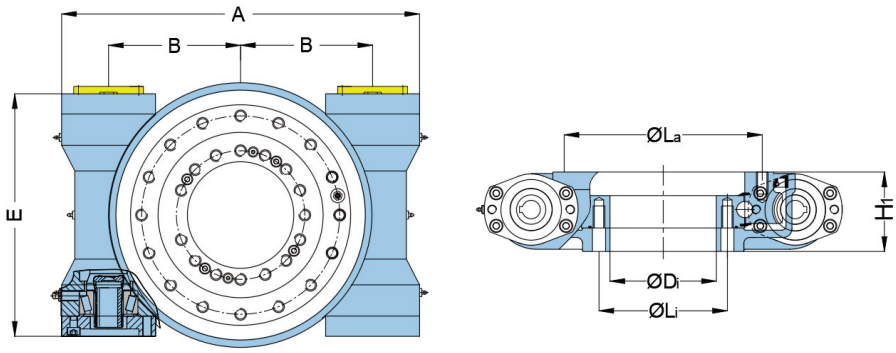


QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	Di	E	H1		La	na	Li	ni					
	mm	mm	mm	mm	mm		mm		mm				KNm		kg
WGHSE 14 86 25 H R	301	237	256	380	108		390	18	295	24-1	M16	86:1	10.8	<0.13°	82
WGHSE 17 104 25 H R	399	285	332	405	108		479.4	20	365.1	20	M16	104:1	16	<0.15°	~96
WGHSE 21 82 40 H R	438	368	425	488	145		584	24	465	24-1	M16	82:1	21.8	<0.1°	188
WGHSE 21 82 40 H 2R	876	368	425	488	145		584	24	465	24-1	M16	82:1	43.6	<0.1°	208
WGHSE 25 94 40 H R	486	416	512	498	148		685	30	560	30-1	M16	94:1	25	<0.15°	255
WGHSE 25 94 40 H 2R	972	416	512	498	148		685	30	560	30-1	M16	94:1	50	<0.15°	275

IMPORTED TO ORDER ONLY AFTER CAREFUL TECHNICAL EVALUATION

WGWEA-2 Series

Worm gear, dual drives

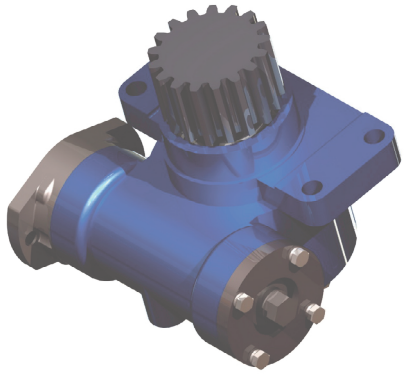


QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Output torque	Accuracy	Weight
	A	B	Di	E	H1		La	na	Li	ni					
	mm	mm	mm	mm	mm		mm		mm				KNm		kg
WGWEB 14 86 25 H 2R	603	238	265	380	108		390	18	295	24-1	M16	86:1	16.2	<0.13°	90
WGWEA 17 104 25 H 2R	698	285	332	405	108		479	20	365	20	M16	104:1	19.4	<0.1°	115
WGWEA 21 90 25 H 2R	830	350	425	483	130		584	36	467	36-1	M20	90:1	28.7	<0.1°	205
WGWEA 25 104 25 H 2R	972	416	512	537	148		675	36	560	30-1	M20	104:1	58	<0.1°	273

IMPORTED TO ORDER ONLY AFTER CAREFUL TECHNICAL EVALUATION

WGR Rotation Drives

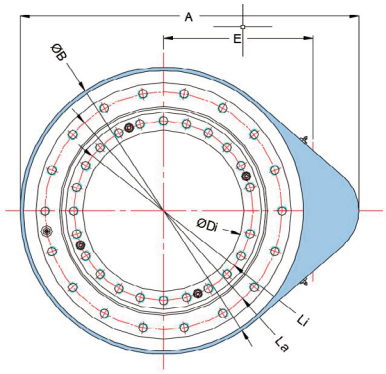
Worm gearbox with pinion gear output

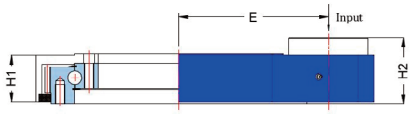


QCB reference		Ratio	Output torque KNm		
WGR 72 32 25 H R 32	Standard unit with 32mm output shaft	30:1	0.9		
WGR 72 30 25 H R M5Z12	Standard unit with M5 Z12 pinion shaft fitted	30:1	0.9		
WGR 72 30 25 H R M6Z12	Standard unit with M6 Z12 pinion shaft fitted	30:1	0.9		
WGR 72 30 26 H R M6Z20	Standard unit with M6 Z20 pinion shaft fitted	30:1	0.9		
WGR 110 39 25 H R 50	Standard unit with 50mm dual key output shaft	39:1	1.6		
WGR 114 44 25 H R 60	Standard unit with 60mm dual key output shaft	44:1	2.8		
WGR 114 44 25 H R M9Z11	Standard unit with M9 Z11 pinion shaft fitted	44:1	2.8		

SGSDE Series

Spur gear slew drives





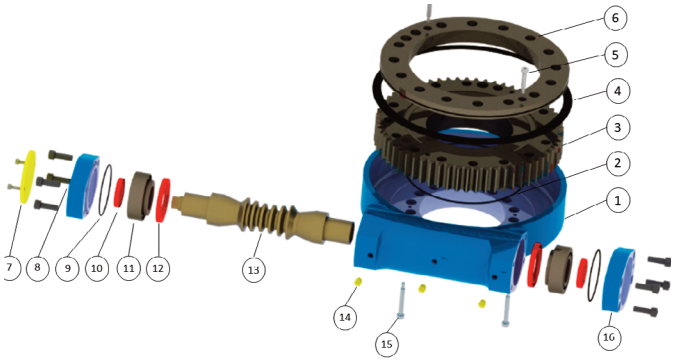
QCB reference	Outline dimensions						Outer holes		Inner holes		Bolt size	Ratio	Speed limit	Output torque	Accuracy	Weight
	A	B	Di	E	H1	H2	La	na	Li	ni						
	mm	mm	mm	mm	mm	mm	mm		mm				rpm	KNm		kg
SGSDE 9 5 25 1	430	346	145	184	74	105	270	16	173	15-1	M16	5:1	<20	2.8	<0.17°	38
SGSDE 12 6 25 1	519	436	229	226	77	108	358	16	259	20-1	M16	6.53:1	<20	7.5	<0.17°	~48
SGSDE 14 7 25 1	557	471	265	246	77	108	390	16	295	16-1	M16	7:1	<20	12	<0.17°	56
SGSDE 17 8 25 1	639	556	324	286	77	108	480	20	365	20	M16	8.6:1	<15	10	<0.17°	75

Slew drive technical

Slewing drives consist of an externally geared slewing ring and associated worm shaft on a common base in an open or closed housing.

QCB Slewing drives are supplied fully assembled and ready to get to work.

QCB Slewing drives should be mounted, installed and maintained in the same way as QCB Slewing rings. The constituent parts are illustrated below:-



1	Enclosed housing	9	End cap O-rings
2	Large O-ring	10	Outer oil seals
3	Slewing ring	11	Taper roller bearing
4	Top plate seal	12	Inner oil seals
5	Top plate fixing bolts	13	Worm shaft
6	Top plate	14	Grease nipples
7	Non-drive end cover	15	Locating shoulder bolts
8	End cap and bolts	16	Drive end adapter cap

QCB Slewing drives are supplied fully assembled and ready to get to work.

QCB Slewing drive numbering system

WGSE	14A	85	C	25	H	2	R

1	WGSE	Basic design code
2	14A	Basic size & design revision
3	85	Reduction ratio
4	-	Metric threads (Standard)
Option	B	Imperial threads
5	-	Blind tapped holes inner and outer ring (Standard)
Option	T	Inner ring through holes / Outer ring blind tapped holes
Option	C	Inner and outer ring threaded holes through
6	25	Input shaft size
7	H	Hex head on non-drive shaft end for manual rotation
8	-	Number of worm shafts (Single or dual drive)
9	R	Motor shaft to right of housing
Option	L	Motor input to left of housing

Special executions

Units with encoders, motors fitted or with special adapter flanges are issued project specific part references.

Support structure

Under load, flatness defects must not exceed the values tabulated below to avoid tight spots or seizure, both of which will reduce the life of the ring. Short wave defects (deflection between 2 bolts) must not exceed 1/4 of the long wave (circumferential) values.

Basic size	3"	5"	7"	9"	12"
Flatness deviation (mm)	0.04	0.10	0.10	0.12	0.15

Basic size	14"	17"	19"	21"	25"
Flatness deviation (mm)	0.15	0.15	0.17	0.20	0.20

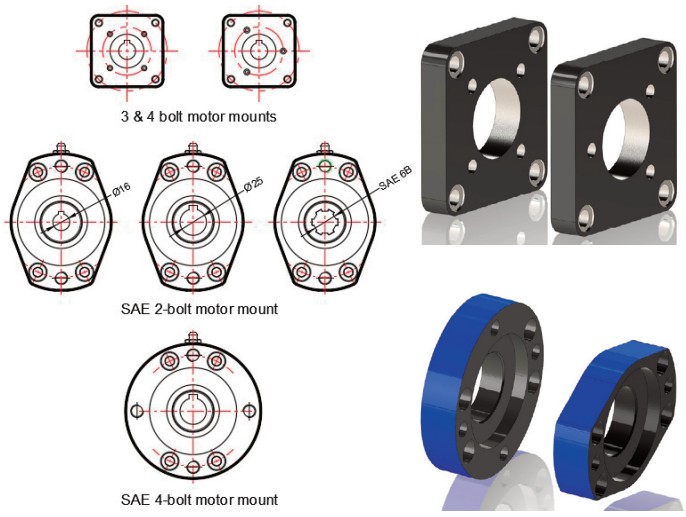
Table 12: Allowable flatness defects for slewing drives

Fastening bolts

QCB recommends Grade 10.9 bolts or cap screws if available. Grade 8.8 bolts are not suitable. Bolt torque figures are tabulated under Slewing Ring Technical

Motor mount flanges

In some cases the standard input flange can be replaced to accomodate other motor or geared motors



Lubrication - QCB Slew drives

Although factory lubricated it is mandatory that QCB slewing drives are properly greased during installation to ensure good service. Suitable greases must be applied to the slewing ring raceway, as well as the worm gearing and worm shaft support bearings. The amount of grease required in grammes is tabulated below.§

Basic size	3"	5"	7"	9"	12"
Slew ring race	-	15	20	35	50
Worm gear	35	60	65	100	110
Taper roller bearings	7	7	7	10	10

Basic size	14"	17"	19"	21"	25"
Flatness deviation (mm)	60	75	105	130	150
Worm gear	110	120	130	140	150
Taper roller bearings	10	10	10	10	10

Table 13: Grease quantity requirements for slewing drives

The regreasing interval is defined by the environment. The recommended relubrication intervals are:-

Conditions	Recommended lubrication interval
Dry, clean workshop	~1000 hours use or 12 months
Outside & exposed	~500 hours use or 6 months
Aggressive outdoors	~150 hours use or 3 months
Extreme conditions	~50 hours or 2 months

Table 14: Recommended lubrication interval slew drives

Lubrication : QCB Rotation Drives

After 100 hours of operation the grease in a WGR drive should be refreshed. Grease should be injected into one port while older grease is purged from the other.

Size	Required grease quantity (grammes)
WGR 72	350 - 400
WGR 110	1200 - 1300
WGR 114	1700 - 1800

Table 15: Grease quantity requirements for rotation drives

Recommended lubricants

The tabulated lubricants are suitable for all slewing drives

Location	Factory approved lubricants
Slew ring raceway	MOBIL Mobilith SHC 220 / Shell Alvania EP2
Worm gear	MOBIL Mobilith SHC 100 / COUGAR CG 8100
Taper roller bearings	MOBIL Mobilith SHC 100 / COUGAR CG 8100

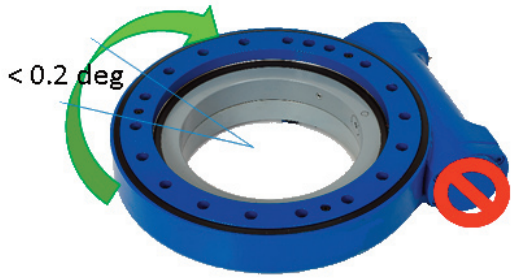
Table 16: QCB recommended lubricants for slew drives

Tracking accuracy & backlash

The tracking accuracy of every QCB Slewing drive is tested and recorded during assembly. The difference between tracking accuracy and backlash is illustrated below. In this example the tracking accuracy is catalogued at < 0.2 deg, the gear PCD is 375mm and the reduction ratio 86:1.

Tracking accuracy

- The worm shaft is locked in place
- The worm wheel or slewing ring outer ring rotates less than 0.2 deg



Backlash

- The worm wheel is locked in place
- The worm shaft will rotate up to 0.2 x reduction ratio or 0.2 x 86 = 17.2 deg

Backlash can be calculated & measured

- The worm wheel is locked in place
- The worm shaft will move axially by (Gear PCD) x tan (0.2) /2 or 0.65mm

Basic size	Ratio	Accuracy	Gear PCD	Backlash	Axial backlash
		deg	mm	deg	mm
WGS 7	73:1	0.2	230	14.6	0.40
WGS 9	61:1	0.17	307	10.4	0.46
WGS 12	78:1	0.17	392	13.3	0.58
WGS 14	85:1	0.17	427	14.5	0.63
WGS 17	102:1	0.15	513	15.3	0.67
WGS 21	125:1	0.15	618	18.8	0.81§
WGS 25	150:1	0.15	754	22.5	0.99
WGWEA 7	47:1	0.15	235	7.0	0.31
WGWEA 9	62:1	0.15	310	9.3	0.41
WGWEA 12	79:1	0.15	395	11.6	0.52
WGWEA 14	86:1	0.13	430	11.2	0.49
WGWEA 17	104:1	0.1	520	10.5	0.45
WGWEA 19	94:1	0.1	564	9.5	0.49
WGWEA 21	90:1	0.1	630	9.0	0.55
WGWEA 25	104:1	0.1	728	10.5	0.64

Table 17: Backlash figures for QCB slew drives

Other variants are available to order

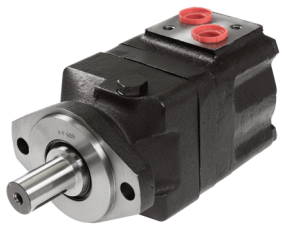
- Higher precision slewing drives
- Twin start non-self locking units can be supplied to order
- Dual axis units

Hydraulic power requirements

The typical requirements of QCB slew drives at full and half load are tabulated and meant as guidelines to designers. QCB can offer project specific device if asked.

WGS/SE	Load torque	Speed	Motor	Pressure	Flowrate
	KNm	rpm		Bar	lpm
3	0.4	2	AMM32P	45	6
5	0.6	2	AMM32P	45	7
7	1.5	3	AMM50P	85	12
9	6.5	3	MSA150	130	35
12	7.5	3	MSA150	120	40
14	8	3	MSA150	120	44
17	10	2.5	MSA150	120	45
21	15	2	MSA150	150	45
25	18	2	MSA150	150	50

WGS/WGSE Series hydraulics (Full load)



WGS/SE	Load torque	Speed	Motor	Pressure	Flowrate
	KNm	rpm		Bar	lpm
3	0.2	2	AMM32P	25	5
5	0.3	2	AMM32P	30	5
7	0.8	3	AMM50P	45	12
9	3.3	3	AWMP125	75	26
12	3.8	3	AWMP125	80	30
14	4	3	AWMP125	80	35
17	5	2.5	AWMP125	80	38
21	7.5	2	AWMP125	100	50
25	9	2	AWMP125	100	55

WGS/WGSE Series hydraulics (50% load)

WGWEA	Load torque	Speed	Motor	Pressure	Flowrate
	KNm	rpm		Bar	lpm
7	3.5	2.5	MSA125	115	16
9	8	2.5	MSA150	150	28
12	9.5	3	MSA150	150	35
14	10.8	2.5	MSA200	125	45
17	12.9	3	MSA200	125	55
19	18.5	2	MSA300	120	62
21	28.7	2	MTAP400	150	60
25	34.2	1.5	MTAP500	125	85

WGWEA Series hydraulics (FULL load)

WGWEA	Load torque	Speed	Motor	Pressure	Flowrate
	KNm	rpm		Bar	lpm
7	1.8	2.5	MSA125	55	15
9	4	2.5	MSA125	100	22
12	4.8	3	MSA125	90	25
14	5.4	2.5	MSA125	95	28
17	6.5	3	MSA150	120	30
19	9.3	2	MSA150	135	32
21	14.4	2	MTAP300	95	45
25	17.1	1.5	MTAP300	95	53

WGWEA Series hydraulics (50% load)

Electrically powered slew drives?

Increasing popular.

QCB has the answers.

Ask for details!

Slewing drive enquiry sheet

A sketch would assist in our visualisation of your requirements. We can accept CAD and 3D files in most formats.

1a	**Company**				**Department**						
1b	**Address**				**Phone**						
1c	**Contact**				**e-mail**						
2a	**Project #/ Desc.**				**New project or replacement?**		**New**		**Rep**		
2b											
2c	**Is this a replacement for an existing part part ?**				*Manufacturers part reference or drawing*						
3a	**BEARING LOAD DATA**		**Loads Applied?**		**Loads Suspended?**		**Service factor included? (Y/N)**				
3b	*Please indicate if any safety factors have been included in your figures. If not we may add a service factor based on industry standards*										
3c	**Rotation axis orientation**	**Horizontal**		**Vertical**		**Inclined**	*(Degrees from vertical?)*				
3d	**Load type (Static or Dynamic)**		*1 - Dynamic*		*2 - Dynamic*	*3 - Dynamic*	*4 - Static*		*5 - Static*		*6 - Static*
3e	**Load case # or label (max/ test)**		*Normal*						*Test*		*Survival*
3f	**Axial load**	KN									
3g	**Radial load**	KN									
3h	**Moment load**	KNm									
3i	**%-age cycle time**	**Total 100%**	*60*		*20*	*20*	*0*		*0*		*0*
3j	**Expected service life (i.e actual rotation hours)**										
3k	*Dynamic cycle time must add to 100%. Static loads are considered seperately to life calculations.*										
4a	**GEAR LOAD DATA**										
4b	**Load torque**	KNm									
4c	**Holdback torque**	KNm									
4d	**Moment of inertia**	Kgm^2									
4e	**Rotation Speed**	rpm									
4f	**Duration of acceleration**	s									
4g	**Rotation < 360 from centerline**			degrees		**Time to swing "x" degrees**					seconds
4h	*Oscillatory motion (Note: if the bearing moves "x" degrees off a centreline, 1 full oscillation defined as = "4x" degrees*										
5a	**DRIVE MOTOR DETAILS -** *(unless otherwise requested QCB slew drives will be supplied in RIGHT HAND version)*										
3l	**Hydraulic motor**	Pressure			*Bar*		Flowrate				*liters/min*
5c											
5d	**Electric Gearmotor**	Voltage (DC/AC)			Freq. (Hz)		Brake req?				
5e											
5f	*For small qty orders we supply standard units with adapter flanges and shaft extensions to suit specified gearmotor units*										
5g	*For volume orders we would import specially modified slew drives from source for a more economical solution*										
5h											
5i											
5j											
5k											

QCB Slewing Drives Technical Support

Ph: +44 (0) 1952 980198 e-mail: info@qcbslewingrings.com

Slew Ring Interchange

Slew Ring Identification

QCB Interchange

Data provided as a guide only.
Check full technical details with QCB

QCB	TORRIANI	ROLLIX	INA	ROTH ERDE	ISB	IMO
FUN 20 SERIES, FLANGED, UNGEARED, METRIC (Precision and double drilled versions exist - Contact QCB for details)						
FUN 318 20 00						
FUN 418 20 00					NBL.20.0314.200.1PPN	90.20.0311/0.07002
FUN 505 20 00	SD 505 20 00 C	23.0411.01	VLU 20 0414 N	21/520.0	NBL.20.0414.200.1PPN	90.20.0411/0.07012
FUN 650 20 00	SD 650 20 00 C	23.0541.01	VLU 20 0544 N	21/650.0	NBL.20.0544.200.1PPN	90.20.0541/0.07022
FUN 750 20 00	SD 750 20 00 C	23.0641.01	VLU 20 0644 N	21/750.0	NBL.20.0644.200.1PPN	90.20.0641/0.07032
FUN 850 20 00	SD 850 20 00 C	23.0741.01	VLU 20 0744 N	21/850.0	NBL.20.0744.200.1PPN	90.20.0741/0.07042
FUN 950 20 00	SD 950 20 00 C	23.0841.01	VLU 20 0844 N	21/950.0	NBL.20.0844.200.1PPN	90.20.0841/0.07052
FUN 1050 20 00	SD 1050 20 00 C	23..0941.01	VLU 20 0944 N	21/1050.0	NBL.20.0944.200.1PPN	90.20.0941/0.07062
FUN 1200 20 00	SD 1200 20 00 C	23.1091.01	VLU 20 1094 N	21/1200.0	NBL.20.1094.200.1PPN	90.20.1091/0.07072
FIG 20 SERIES, INTERNAL GEAR, METRIC (Precision and double driiled versions exist - Contact QCB for details)						
FIG 418 20 00					ZBL 20 0314 200 1SPTN	93.20.0311/0.07202
FIG 505 20 00	I 505 20 00 C	22.0411.01	VLI 20 0414 N	21/520.2	ZBL 20 0414 200 1SPTN	93.20.0411/0.07212
FIG 650 20 00	I 650 20 00 C	22.0541.01	VLI 20 0544 N	21/650.2	ZBL 20 0544 200 1SPTN	93.20.0541/0.07222
FIG 750 20 00	I 750 20 00 C	22.0641.01	VLI 20 0644 N	21/750.2	ZBL 20 0644 200 1SPTN	93.20.0641/0.07232
FIG 850 20 00	I 850 20 00 C	22.0741.01	VLI 20 0744 N	21/850.2	ZBL 20 0744 200 1SPTN	92.20.0741/0.07242
FIG 950 20 00	I 950 20 00 C	22.0841.01	VLI 20 0844 N	21/950.2	ZBL 20 0844 200 1SPTN	93.20.0841/0.07252
FIG 1050 20 00	I 1050 20 00 C	22.0941.01	VLI 20 0944 N	21/1050.2	ZBL 20 0944 200 1SPTN	93.20.0941/0.07262
FIG 1200 20 00	I 1200 20 00 C	22.1091.01	VLI 20 1094 N	21/1200.2	ZBL 20 1094 200 1SPTN	93.20.1041/0.07272
FEG 20 SERIES, EXTERNAL GEAR, METRIC (Precision and double drilled versions exist - Contact QCB for details)						
FEG 404 20 00					EBL.20.0314.200.1SPTN	91.20.0311/0.07102
FEG 505 20 00	E 505 20 00 C	21.0411.01	VLA 20 0414 N	21/520.1	EBL.20.0414.200.1SPTN	91.20.0411/0.07112
FEG 650 20 00	E 650 20 00 C	21.0541.01	VLA 20 0544 N	21/650.1	EBL.20.0544.200.1SPTN	91.20.0541/0.07122
FEG 750 20 00	E 750 20 00 C	21.0641.01	VLA 20 0644 N	21/750.1	EBL.20.0644.200.1SPTN	91.20.0641/0.07132
FEG 850 20 00	E 850 20 00 C	21.0741.01	VLA 20 0744 N	21/850.1	EBL.20.0744.200.1SPTN	91.20.0741/0.01742
FEG 950 20 00	E 950 20 00 C	21.0841.01	VLA 20 0844 N	21/950.1	EBL.20.0844.200.1SPTN	91.20.0841/0.01752
FEG 1050 20 00	E 1050 20 00 C	21.0941.01	VLA 20 0944 N	21/1050.1	EBL.20.0944.200.1SPTN	91.20.0941/0.01762
FEG 1200 20 00	E 1200 20 00 C	21.1091.01	VLA 20 1094 N	21/1200.1	EBL.20.1094.200.1SPTN	91.20.1091/0.01772
FUN 32 SERIES, UNGEARED, METRIC (Precision versions exist - Contact QCB for details)						
FUN 1100 32 00	SD 1100 32 00 C			110/1100.0	NBL 30 0955 200 1PPN	90.32.0955/0.06015
FUN 1200 32 00	SD 1200 32 00 C			110/1200.0	NBL 30 1055 200 1PPN	90.32.1055/0.06025
FUN 1300 32 00	SD 1300 32 00 C			110/1300.0	NBL 30 1155 200 1PPN	90.32.1155/0.06035
FUN 1400 32 00	SD 1400 32 00 C			110/1400.0	NBL 30 1255 200 1PPN	90.32.1255/0.06045
FUN 1500 32 00	SD 1500 32 00 C			110/1500.0	NBL 30 1355 200 1PPN	90.32.1355/0.06055
FUN 1600 32 00	SD 1600 32 00 C			110/1600.0	NBL 30 1455 200 1PPN	90.32.1455/0.06065
FIG 32 SERIES, INTERNAL GEAR, METRIC (Precision versions exist - Contact QCB for details)						
FIG 1100 32 00	I 1100 32 00 C			110/1100.2	ZBL 30 0955 200 1STPN	92.32.0955/0.06215
FIG 1200 32 00	I 1200 32 00 C			110/1200.2	ZBL 30 1055 200 1STPN	92.32.1055/0.06225
FIG 1300 32 00	I 1300 32 00 C			110/1300.2	ZBL 30 1155 200 1STPN	92.32.1155/0.06235
FIG 1400 32 00	I 1400 32 00 C			110/1400.2	ZBL 30 1255 200 1STPN	92.32.1255/0.06245
FIG 1500 32 00	I 1500 32 00 C			110/1500.2	ZBL 30 1355 200 1STPN	92.32.1355/0.06255
FIG 1600 32 00	I 1600 32 00 C			110/1600.2	ZBL 30 1455 200 1STPN	92.32.1455/0.06265
FEG 32 SERIES, EXTERNAL GEAR, METRIC (Precision versions exist - Contact QCB for details)						
FEG 1100 32 00	E 1100 32 00 C			110/1100.1	EBL 30 0955 200 1STPN	91.32.0955/0.06115
FEG 1200 32 00	E 1200 32 00 C			110/1200.1	EBL 30 1055 200 1STPN	91.32.1055/0.06125
FEG 1300 32 00	E 1300 32 00 C			110/1300.1	EBL 30 1155 200 1STPN	91.32.1155/0.06135
FEG 1400 32 00	E 1400 32 00 C			110/1400.1	EBL 30 1255 200 1STPN	91.32.1255/0.06145
FEG 1500 32 00	E 1500 32 00 C			110/1500.1	EBL 30 1355 200 1STPN	91.32.1355/0.06155
FEG 1600 32 00	E 1600 32 00 C			110/1600.1	EBL 30 1455 200 1STPN	91.32.1455/0.06165

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QCB	TORRIANI	ROLLIX	INA	ROTH ERDE	ISB	IMO
SUN 20 SERIES, 20MM BALL, UNGEARED, METRIC						
SUN 386 20 01					NBI 20 0314 200 1PPN	10.20.0311.0.02003
SUN 486 20 01	SD 486 20 00 B	33.0411.01	VSU 20 0414 N ZT	060.20.0414	NBI 20 0414 200 1PPN	10.20.0411.0.02013
SUN 616 20 01	SD 616 20 00 B	33.0541.01	VSU 20 0544 N ZT	060.20.0544	NBI 20 0544 200 1PPN	10.20.0541.0.02023
SUN 716 20 01	SD 716 20 00 B	33.0641.01	VSU 20 0644 N ZT	060.20.0644	NBI 20 0644 200 1PPN	10.20.0641.0.02033
SUN 816 20 01	SD 816 20 00 B	33.0741.01	VSU 20 0744 N ZT	060.20.0744	NBI 20 0744 200 1PPN	10.20.0741.0.02043
SUN 916 20 01	SD 916 20 00 B	33.0841.01	VSU 20 0844 N ZT	060.20.0844	NBI 20 0844 200 1PPN	10.20.0741.0.02053
SUN 1016 20 01	SD 1016 20 00 B	33.0941.01	VSU 20 0944 N ZT	060.20.0944	NBI 20 0944 200 1PPN	10.20.0841.0.02063
SUN 1166 20 01	SD 1166 20 00 B	33.1091.01	VSU 20 1094 N ZT	060.20.1094	NBI 20 1094 200 1PPN	10.20.0941.0.02073
SIG 20 SERIES, 20MM BALL, INTERNAL GEAR, METRIC						
SIG 386 20 01					ZB1.20.0314.201-2STPN	12.20.0311/1.02203
SIG 486 20 01	I 486 20 00 B	32.0411.01	VSI 20 0414 NZT	062.20.0414	ZB1.20.0414.201-2STPN	12.20.0411/1.02213
SIG 616 20 01	I 616 20 00 B	32.0541.01	VSI 20 0544 NZT	062.20.0544	ZB1.20.0544.201-2STPN	12.20.0541/1.02223
SIG 716 20 01	I 716 20 00 B	32.0641.01	VSI 20 0644 NZT	062.20.0644	ZB1.20.0644.201-2STPN	12.20.0641/1.02233
SIG 816 20 01	I 816 20 00 B	32.0741.01	VSI 20 0744 NZT	062.20.0744	ZB1.20.0744.201-2STPN	12.20.0741/1.02243
SIG 916 20 01	I 916 20 00 B	32.0841.01	VSI 20 0844 NZT	062.20.0844	ZB1.20.0844.201-2STPN	12.20.0841/1.02253
SIG 1016 20 01	I 1016 20 00 B	32.0941.01	VSI 20 0944 NZT	062.20.0944	ZB1.20.0944.201-2STPN	12.20.0941/1.02263
SIG 1166 20 01	I 1166 20 00 B	32.1091.01	VSI 20 1094 NZT	062.20.1094	ZB1.20.1094.201-2STPN	12.20.1091/1.02273
SEG 20 SERIES, 20MM BALL, EXTERNAL GEAR, METRIC						
SEG 404 20 01					EB1.20.0314-201-2STPN	11.20.0311/1.02103
SEG 505 20 01	E 505 20 00 B	31.0411 01	VSA 20 0414 NZT	061.20.0414	EB1.20.0414-201-2STPN	11.20.0411/1.02113
SEG 650 20 01	E 650 20 00 B	31.0541.01	VSA 20 0544 NZT	061.20.0544	EB1.20.0544-201-2STPN	11.20.0541/1.02123
SEG 750 20 01	E 750 20 00 B	31.0641.01	VSA 20 0644 NZT	061.20.0644	EB1.20.0644-201-2STPN	11.20.0641/1.02133
SEG 850 20 01	E 850 20 00 B	31.0741.01	VSA 20 0744 NZT	061.20.0744	EB1.20.0744-201-2STPN	11.20.0741/1.02143
SEG 950 20 01	E 950 20 00 B	31.0841.01	VSA 20 0844 NZT	061.20.0844	EB1.20.0844-201-2STPN	11.20.0841/1.02153
SEG 1050 20 01	E 1050 20 00 B	31.0941.01	VSA 20 0944 NZT	061.20.0944	EB1.20.0944-201-2STPN	11.20.0941/1.02163
SEG 1200 20 01	E 1200 20 00 B	31.1091.01	VSA 20 1091 NZT	061.20.1094	EB1.20.1094-201-2STPN	11.20.1091/1.02173
SUN X14 SERIES, 14MM CROSSED ROLLER, UNGEARED, METRIC						
SUN 486 X14 01			XSU 14 0414 NZT		NR1 14 0414 201 3PPN	
SUN 616 X14 01			XSU 14 0544 NZT		NR1 14 0544 201 3PPN	
SUN 716 X14 01			XSU 14 0644 NZT		NR1 14 0644 201 3PPN	
SUN 816 X14 01			XSU 14 0744 NZT		NR1 14 0744 201 3PPN	
SUN 916 X14 01			XSU 14 0844 NZT		NR1 14 0844 201 3PPN	
SUN 1016 X14 01			XSU 14 0944 NZT		NR1 14 0944 201 3PPN	
SUN 1166 X14 01			XSU 14 1094 NZT		NR1 14 1094 201 3PPN	
SIG X14 SERIES, 14MM CROSSED ROLLER, INTERNAL GEAR, METRIC						
SIG 386 X14 01						
SIG 486 X14 01			XSI 14 0414 NZT		ZR1 14 0414 201 3SPTN	
SIG 616 X14 01			XSI 14 0544 NZT		ZR1 14 0544 201 3SPTN	
SIG 716 X14 01			XSI 14 0644 NZT		ZR1 14 0644 201 3SPTN	
SIG 816 X14 01			XSI 14 0744 NZT		ZR1 14 0744 201 3SPTN	
SIG 916 X14 01			XSI 14 0844 NZT		ZR1 14 0844 201 3SPTN	
SIG 1016 X14 01						
SIG 1166 X14 01			XSI 14 1094 NZT		ZR1 14 1094 201 3SPTN	
SEG X14 SERIES, 14MM CROSSED ROLLER, EXTERNAL GEAR, METRIC						
SEG 404 X14 01						
SEG 505 X14 01			XSA 14 0414 NZT		ER1 14 0414 201 3SPTN	
SEG 650 X14 01			XSA 14 0544 NZT		ER1 14 0544 201 3SPTN	
SEG 750 X14 01			XSA 14 0644 NZT		ER1 14 0644 201 3SPTN	
SEG 850 X14 01						
SEG 950 X14 01			XSA 14 0844 NZT		ER1 14 0844 201 3SPTN	
SEG 1050 X14 01			XSI 14 0944 NZT		ER1 14 0944 201 3SPTN	
SEG 1200 X14 01			XSI 14 1094 NZT		ER1 14 1094 201 3SPTN	

QCB	TORRIANI	ROLLIX	INA	ROTH ERDE	ISB	IMO
SUN 25 SERIES, 25MM BALL, UNGEARED						
SUN 555 25 01					NBI 25 0455 200 1PPN	10 25 0455/0 04010
SUN 655 25 01					NBI 25 0555 200 1PPN	10 25 0555/0 04020
SUN 755 25 01					NBI 25 0655 200 1PPN	10 25 0655/0 04030
SUN 855 25 01	SD 855 25 00 B		VSU 25 0755 NZT		NBI 25 0755 201 2PPN	10 25 0755/0 04040
SUN 955 25 01	SD 955 25 00 B		VSU 25 0855 NZT	060 25 0855	NBI 25 0855 201 2PPN	10 25 0855/0 03010
SUN 1055 25 01	SD 1055 25 00 B		VSU 25 0955 NZT	060 25 0955	NBI 25 0955 201 2PPN	10 25 0955/0 03020
SUN 1155 25 01	SD 1155 25 00 B		VSU 25 1055 NZT	060 25 1055	NBI 25 1055 201 2PPN	10 25 1055/0 03030
SUN 1255 25 01				060 25 1155	NBI 25 1155 201 2PPN	10 25 1155/0 03040
SUN 1355 25 01						
SUN 1455 25 01				060 25 1355	NBI 25 1355 201 2PPN	10 25 1355/0 03060
SUN 1555 25 01				060 25 1455	NBI 25 1455 201 2PPN	10 25 1455/0 03070
SIG 25 SERIES, 25MM BALL, INTERNAL GEAR						
SIG 555 25 01					ZB1 25 0455 201 2SPTN	12 25 0455/1 04210
SIG 655 25 01					ZB1 25 0555 201 2SPTN	12 25 0555/1 04220
SIG 755 25 01					ZB1 25 0655 201 2SPTN	12 25 0655/1 04230
SIG 855 25 01	I 855 25 00 B		VSI 25 0755 NZT	062 25 0855	ZB1 25 0755 201 2SPTN	12 25 0755/1 04240
SIG 955 25 01	I 955 25 00 B		VSI 25 0855 NZT	062 25 0955	ZB1 25 0855 201 2SPTN	12 25 0855/1 03210
SIG 1055 25 01	I 1055 25 00 B		VSI 25 0955 NZT	062 25 1055	ZB1 25 0955 201 2SPTN	12 25 0955/1 03220
SIG 1155 25 01	I 1155 25 00 B		VSI 25 1055 NZT	062 25 1155	ZB1 25 1055 201 2SPTN	12 25 1055/1 03230
SIG 1255 25 01				062 25 1255	ZB1 25 1155 201 2SPTN	12 25 1155/1 03240
SIG 1355 25 01				062 25 1355	ZB1 25 1255 201 2SPTN	12 25 1255/1 03250
SIG 1455 25 01				062 25 1455	ZB1 25 1355 201 2SPTN	12 25 1355/1 03260
SIG 1555 25 01				062 25 1555	ZB1 25 1455 201 2SPTN	12 25 1455/1 03270
SEG 25 SERIES, 25MM BALL, EXTERNAL GEAR						
SEG 600 25 01					EB1 25 0455 201 2STPN	11 25 0455/1 04110
SEG 700 25 01						
SEG 800 25 01					EB1 25 0655 201 2STPN	11 25 0655/1 04130
SEG 900 25 01	E 900 25 00 B		VSA 25 0755 NZT		EB1 25 0755 201 2STPN	11 25 0755/1 04140
SEG 1000 25 01	E 1000 25 00 B		VSA 25 0855 NZT	061 25 0855	EB1 25 0855 201 2STPN	11 25 0855/1 03110
SEG 1100 25 01	E 1100 25 00 B		VSA 25 0955 NZT	061 25 0955	EB1 25 0955 201 2STPN	11 25 0955/1 03120
SEG 1200 25 01	E 1200 25 00 B		VSA 25 1055 NZT	061 25 1055	EB1 25 1055 201 2STPN	11 25 1055/1 03130
SEG 1300 25 01				061 25 1155	EB1 25 1155 201 2STPN	11 25 1155/1 03140
SEG 1400 25 01				061 25 1255	EB1 25 1255 201 2STPN	11 25 1255/1 03150
SEG 1500 25 01				061 25 1355	EB1 25 1355 201 2STPN	11 25 1355/1 03160
SEG 1600 25 01						

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QCB	TORRIANI	ROLLIX	INA	RKS / SKF	ISB	IMO
OTHER UNGEARED BEARINGS						
SUN 234 14 00	SD 234 14 00 D1				NB1 14 0179 201 1PPN	
SUN 234 14 01			VU 14 0179 N		NB1 14 0179 200 1PPN	
SUN 234 14 04		03 0181 07				
SUN 300 12 01						10 12 0222/0 02710
SUN 300 X12 01						
SUN 300 X14 02		08 0220 05				
SUN 329 20 01	SD 329 20 00 D1	03 0260 00			NB1 20 0260 200 1PPN	10 20 0260/0 02448
SUN 329 20 02			VU 20 0260 NZT		NB1 20 0260 202 1PPN	10 20 0260/0 02350
SUN 380 14 01			VU 14 0325 N			10 16 0325/0 03997
SUN 403 22 03		03 0307 00				
SUN 403 X20 01		08 0307 00		92115 5101 001		
SUN 440 20 01		03 0342 05				
SUN 455 25 01		03 0360 00				
SUN 475 20 01	SD 475 20 00 D1					
SUN 475 20 02		03 0402 00				
SUN 522 25 01	SD 522 25 00 B		VU 25 0433 NZT			
SUN 589 X18 01		08 0475 00				
SUN 816 X25 01		08 0675 00				
SUN 816 X25 02				12229 5101 002		
SUN 979 X25 01		08 0823 08		22347 5101 001		
SUN 900 40 01		03 0785 00				
SUN 979 X25 02				22302 5707 XX		
SUN 1130 40 02		03 0980 02				
SUN 1289 25 01				060 25 1204	NB1 25 1204 400 1PPN	
SUN 1399 25 01				060 25 1314	NB1 25 1314 400 1PPN	
SUN 1509 25 01				060 25 1424	NB1 25 1424 400 1PPN	
SUN 1619 25 01				060 25 1534	NB1 25 1534 400 1PPN	
SUN 1752 25 01				060 25 1644	NB1 25 1644 400 1PPN	
SUN 1862 25 01				060 25 1754	NB1 25 1754 400 1PPN	
SUN 2012 30 01				060 30 1904	NB1 25 1904 400 1PPN	
SUN 475 20 01	SD 475 20 00 D1					
SUN 475 20 02		03 0402 00				
SUN 522 25 01	SD 522 25 00 B		VU 25 0433 NZT			
SUN 589 X18 01		08 0475 00				
SUN 816 X25 01		08 0675 00				
SUN 816 X25 02				12229 5101 002		
SUN 979 X25 01		08 0823 08		22347 5101 001		
SUN 900 40 01		03 0785 00				
SUN 979 X25 02				22302 5707 XX		
SUN 1130 40 02		03 0980 02				
SUN 1289 25 01				060 25 1204	NB1 25 1204 400 1PPN	
SUN 1289 X16 01				160 16 1204	NR1 16 1204 400 1PPN	
SUN 1399 25 01				060 25 1314	NB1 25 1314 400 1PPN	
SUN 1399 X16 01				160 16 1314	NR1 16 1314 400 1PPN	
SUN 1509 25 01				060 25 1424	NB1 25 1424 400 1PPN	
SUN 1509 X16 01				160 16 1424	NR1 16 1424 400 1PPN	
SUN 1619 25 01				060 25 1534	NB1 25 1534 400 1PPN	
SUN 1619 X16 01				160 16 1534	NR1 16 1534 400 1PPN	
SUN 1752 25 01				060 25 1644	NB1 25 1644 400 1PPN	
SUN 1752 X16 01				160 16 1644	NR1 16 1644 400 1PPN	
SUN 1862 25 01				060 25 1754	NB1 25 1754 400 1PPN	
SUN 1862 X16 01				160 16 1754	NR1 16 1754 400 1PPN	
SUN 2012 30 01				060 30 1904	NB1 25 1904 400 1PPN	
SUN 2012 X20 01				160 20 1904	NR1 20 1904 400 1PPN	

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QCB	TORRIANI	ROLLIX	INA	RKS / SKF	ISB	IMO
OTHER INTERNALLY GEARED BEARINGS						
SIG 300 14 01		02 0245 00				
SIG 340 16 00	I 340 16 00 D1					
SIG 386 20 02		02 0308 01				
SIG 451 X14 01		07 0380 01				
SIG 486 16 00	I 486 16 00 D1					
SIG 515 30 01		02 0422 00				
SIG 562 25 01	I 562 25 15 D1					
SIG 562 X20 01		07 0489 11				
SIG 610 25 01		02 0520 00				
SIG 665 X18 01		07 0573 01				
SIG 705 2 20 01					ZB2 22 0625 400 1SPPN	
SIG 740 32 01		02 0626 01				
SIG 750 25 01	I 750 25 00 D1					
SIG 771 X35 01		07 0673 00				
SIG 835 25 01		02 0720 02				
SIG 850 2 20 02					ZB2 22 0763 400 1SPPN	
SIG 871 X20 01		07 0770 00				
SIG 871 X20 02						
SIG 935 32 01		02 0820 00				
SIG 960 X25 01		07 0849 00				
SIG 975 X25 01		07 0885 01				
SIG 975 X25 02		07 0885 00				
SIG 976 2 20 01					ZB2 20 0897 200 1SPPN	
SIG 982 2 25 01					ZB2 25 0885 400 1SPPN	
SIG 1050 30 04		02 0820 00				
SIG 1170 40 01		02 1050 00				
SIG 1170 X25 01		07 1075 01				
SIG 1200 2 25 02					ZB2 25 1103 200 1SPPN	
SIG 1251 X32 01		07 1140 13				
SIG 1289 25 01				062 25 1204	ZB1 25 1204 400 1SPPN	
SIG 1289 X16 01				162 16 1204	NR1 16 1204 400 1SPPN	
SIG 1345 2 30 01					ZB2 28 1222 400 1SPPN	
SIG 1345 2 30 02					ZB2 28 1351 401 1SPPN	
SIG 1360 35 01		02 1225 00				
SIG 1390 25 01		02 1295 00				
SIG 1399 25 01				062 25 1314	ZB1 25 1314 400 1SPPN	
SIG 1399 X16 01				162 16 1314	NR1 16 1314 400 1SPPN	
SIG 1431 X35 01		07 1304 04				
SIG 1470 2 30 01					ZB2 30 1351 403 1SPPN	
SIG 1470 2 30 02					ZB2 30 1351 402 1SPPN	
SIG 1509 25 01				062 25 1424	ZB1 25 1424 400 1SPPN	
SIG 1509 X16 01				162 16 1424	NR1 16 1424 400 1SPPN	
SIG 1530 X40 01		07 1385 03				
SIG 1560 45 01		02 1415 00				
SIG 1619 25 01				062 25 1534	ZB1 25 1534 400 1SPPN	
SIG 1619 X16 01				162 16 1534	NR1 16 1534 400 1SPPN	
SIG 1676 40 01		02 1565 02				
SIG 1752 25 01				062 25 1644	ZB1 25 1644 400 1SPPN	
SIG 1752 X16 01				162 16 1644	NR1 16 1644 400 1SPPN	
SIG 1770 X40 01		07 01606 02				
SIG 1862 25 01				062 25 1754	ZB1 25 1754 400 1SPPN	
SIG 1862 X16 01				162 16 1754	NR1 16 1754 400 1SPPN	
SIG 1870 40 01		02 1715 00				
SIG 1916 30 01		02 1805 02				
SIG 2002 X45 01		07 1830 04				
SIG 2012 30 01				062 30 1904	ZB1 30 1904 400 1SPPN	
SIG 2012 X20 01				162 20 1904	NR1 20 1904 400 1SPPN	
SIG 2190 X50 01		07 1997 04				
SIG 2195 40 01		02 2022 00				
SIG 2590 X60 01		07 2400 00				
SIG 3020 X70 01		07 2810 09				

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QCB	TORRIANI	ROLLIX	INA	RKS / SKF	ISB	IMO
OTHER EXTERNALLY GEARED BEARINGS						
SEG 244 14 01		01 0181 02				
SEG 244 14 03	E 244 14 00 D1					
SEG 318 15 01		01 0235 00				
SEG 318 22 01	E 318 22 00 D1				EB1 22 0228 200 1SPPN	
SEG 379 20 02		01 0289 06				
SEG 379 20 04	E 379 22 10 D2	01 0289 10				
SEG 403 20 01	E 403 22 00 D1	01 0307 00			EB1 22 0308 200 1SPPN	
SEG 432 2 20 01					EB2 22 0307 200 1SPPN	
SEG 504 2 25 01					EB2 22 0383 400 1SPPN	
SEG 535 25 01	E 535 25 00 D1					
SEG 535 X20 01		06 0400 00				
SEG 589 X18 01		06 0475 22				
SEG 595 25 02	E 595 25 00 D6				EB1 25 0475 200 1SPPN	
SEG 595 2 25 01					EB2 25 0475 200 1SPPN	
SEG 614 2 25 01					EB2 25 0475 400 1SPPN	
SEG 654 X25 01		06 0508 00				
SEG 700 X20 01		06 0574 09				
SEG 712 2 25 02					EB2 25 0575 200 1SPPN	
SEG 816 32 02	E 816 32 00 D1					
SEG 816 X25 01		06 0675 00				
SEG 864 2 20 02					EB2 20 0752 200 1SPPN	
SEG 864 X20 01		06 0765 08				
SEG 886 X25 01		06 0734 00				
SEG 972 25 01	E 972 25 00 D6				EB1 25 0854 200 1SPPN	
SEG 979 2 25 01					EB2 25 0821 200 1SPPN	
SEG 979 X25 02		06 0823 18				
SEG 1080 2 20 02					EB2 20 0968 200 1SPPN	
SEG 1080 X20 02		06 0797 01				
SEG 1200 2 25 01					EB2 25 1077 200 1SPPN	
SEG 1289 32 02	E 1289 32 15 D1					
SEG 1338 25 01				061 25 1204	EB1 25 1204 400 1SPPN	
SEG 1338 X16 01				161 16 1204	ER1 16 1204 400 1SPPN	
SEG 1380 2 30 01					EB2 28 1215 400 1SPPN	
SEG 1380 2 30 03					EB2 28 1215 200 1SPPN	
SEG 1448 25 01				061 25 1314	EB1 25 1314 400 1SPPN	
SEG 1448 X16 01				161 16 1314	ER1 16 1314 400 1SPPN	
SEG 1472 2 35 01					EB2 35 1249 400 1SPPN	
SEG 1558 25 01				061 25 1424	EB1 25 1424 400 1SPPN	
SEG 1558 X16 01				161 16 1424	ER1 16 1424 400 1SPPN	
SEG 1603 2 30 01					EB2 30 1391 400 1SPPN	
SEG 1604 2 35 01					EB2 35 1402 400 1SPPN	
SEG 1604 X40 01		06 1390 03				
SEG 1634 2 35 01					EB2 35 1390 400 1SPPN	
SEG 1668 25 01				061 25 1534	EB1 25 1534 400 1SPPN	
SEG 1668 X16 01				161 16 1534	ER1 16 1534 400 1SPPN	
SEG 1791 25 01				061 25 1644	EB1 25 1644 400 1SPPN	
SEG 1791 X16 01				161 16 1644	ER1 16 1644 400 1SPPN	
SEG 1805 2 35 01					EB2 35 1578 400 1SPPN	
SEG 1808 2 30 01					EB2 30 1578 400 1SPPN	
SEG 1901 25 01				061 25 1754	EB1 25 1754 400 1SPPN	
SEG 1901 X16 01				161 16 1754	ER1 16 1754 400 1SPPN	
SEG 2073 30 01				061 30 1904	EB1 25 1904 400 1SPPN	
SEG 2073 X20 01				161 20 1904	ER1 20 1904 400 1SPPN	

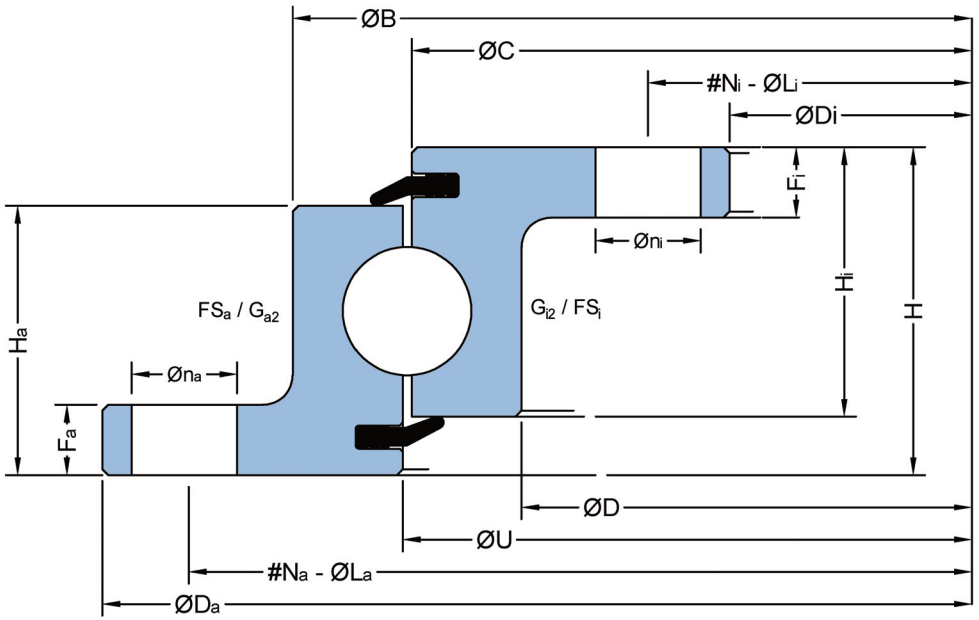
US / INCH SIZES

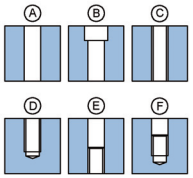
QCB	KAYDON	SILVERTHIN	ROTEK	AVON
FUN 20 I SERIES, FLANGED, UNGEARED, US SIZES				
FUN 518 20 61	RK6 16 P1Z	SK6 16 P1Z	L6 16 P9Z	716 MC1
FUN 648 20 61	RK6 22 P1Z	SK6 22 P1Z	L6 22 P9Z	721 MC1
FUN 748 20 61	RK6 25 P1Z	SK6 25 P1Z	L6 25 P9Z	725 MC1
FUN 848 20 61	RK6 29 P1Z	SK6 29 P1Z	L6 29 P9Z	729 MC1
FUN 948 20 61	RK6 33 P1Z	SK6 33 P1Z	L6 33 P9Z	733 MC1
FUN 1048 20 61	RK6 37 P1Z	SK6 37 P1Z	L6 37 P9Z	737 MC1
FUN 1198 20 61	RK6 43 P1Z	SK6 43 P1Z	L6 43 P9Z	742 MC1
FIG 20 I SERIES, FLANGED, INTERNAL GEAR, US SIZES				
FIG 518 20 61	RK6 16 N1Z	SK6 16 NZ	L6 16 N9Z	716 MB1
FIG 648 20 61	RK6 22 N1Z	SK6 22 NZ	L6 22 N9Z	721 MB1
FIG 748 20 61	RK6 25 N1Z	SK6 25 NZ	L6 25 N9Z	725 MB1
FIG 848 20 61	RK6 29 N1Z	SK6 29 NZ	L6 29 N9Z	729 MB1
FIG 948 20 61	RK6 33 N1Z	SK6 33 NZ	L6 33 N9Z	733 MB1
FIG 1048 20 61	RK6 37 N1Z	SK6 37 NZ	L6 37 N9Z	737 MB1
FIG 1198 20 61	RK6 43 N1Z	SK6 43 NZ	L6 43 N9Z	742 MB1
FEG 20 I SERIES, FLANGED, EXTERNAL GEAR, US SIZES				
FEG 506 20 61	RK6 16 E1Z	SK6 16 EZ	L6 16 E9Z	716 MA1
FEG 639 20 61	RK6 22 E1Z	SK6 22 EZ	L6 22 E9Z	721 MA1
FEG 740 20 61	RK6 25 E1Z	SK6 25 EZ	L6 25 E9Z	725 MA1
FEG 836 20 61	RK6 29 E1Z	SK6 29 EZ	L6 29 E9Z	729 MA1
FEG 945 20 61	RK6 33 E1Z	SK6 33 EZ	L6 33 E9Z	733 MA1
FEG 1047 20 61	RK6 37 E1Z	SK6 37 EZ	L6 37 E9Z	737 MA1
FEG 1190 20 61	RK6 43 E1Z	SK6 43 EZ	L6 43 E9Z	742 MA1
SUN 20 I SERIES, 20MM BALL, UNGEARED, US SIZES				
SUN 518 20 61	HS6 16 P1Z			716 HC1
SUN 648 20 61	HS6 22 P1Z			721 HC1
SUN 748 20 61	HS6 25 P1Z			725 HC1
SUN 848 20 61	HS6 29 P1Z			729 HC1
SUN 948 20 61	HS6 33 P1Z			733 HC1
SUN 1048 20 61	HS6 37 P1Z			737 HC1
SUN 1198 20 61	HS6 43 P1Z			742 HC1
SIG 20 I SERIES, 20MM BALL, INTERNAL GEAR, US SIZES				
SIG 518 20 61	HS6 16 N1Z			716 HB1
SIG 648 20 61	HS6 22 N1Z			721 HB1
SIG 748 20 61	HS6 25 N1Z			725 HB1
SIG 848 20 61	HS6 29 N1Z			729 HB1
SIG 950 20 61	HS6 33 N1Z			733 HB1
SIG 1048 20 61	HS6 37 N1Z			737 HB1
SIG 1198 20 61	HS6 43 N1Z			742 HB1
SEG 20 I SERIES, 20MM BALL, EXTERNAL GEAR, US SIZES				
SEG 505 20 61	HS6 16 E1Z			716 HA1
SEG 639 20 61	HS6 22 E1Z			721 HA1
SEG 740 20 61	HS6 25 E1Z			725 HA1
SEG 836 20 61	HS6 29 E1Z			729 HA1
SEG 945 20 61	HS6 33 E1Z			733 HA1
SEG 1047 20 61	HS6 37 E1Z			737 HA1
SEG 1191 20 61	HS6 43 E1Z			742 HA1

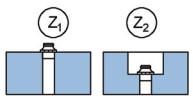
Any of QCB's standard metric designs can be re-drawn and offered with US gearing and imperial bolt sizes.

QCB SLEW RING IDENTIFICATION ASSISTANT

Not to be used for manufacture







ATTRIBUTE		Inches	mm
OVERALL DIMENSIONS			
Major outside diameter	Ø D_a		
Toleranced outside diameter	Ø d_a		
Inside diameter	Ø D_i		
Toleranced inside diameter	Ø d_i		
Inner ring height	H_i		
Outer ring height	H_a		
Overall height	H		
Inner flange thickness	F_i		
Outer flange thickness	F_a		
Outside diameter of inner ring	Ø C		
Inside diameter of outer ring	Ø U		
Secondary inside diameter	Ø D		
Secondary outside diameter	Ø B		

BOLT DETAILS	Inner		Outer	
Number of bolts	Ni		Na	
Style of bolts (refer diagram above)				
Pitch circle diameter of bolts	Ø Li		Ø La	
Hole diameter (A)(B)	Ø ni		Ø na	
Countersink Ø & depth (B)(E)(F)				
Thread Ø (C)(D)(E)(F)				
Depth of thread (D)(E)(F)				
Bolt size used?				

Unless otherwise specified, **QCB** will assume that the bolts are equally spaced around the pitch circle diameter.
Note 1: It is common for 1 bolt to be missed at the location of the filling slot. This is noted as #24-1 bolts to indicate that there are 23 bolt holes SPACED AS IF there were 24.
Note 2: In the case of an uneven drilling pattern we will require accurate positional data to be able to quote

GEAR DETAILS	
QCB assume a standard imperial or metric spur gear with 20° pressure angle unless otherwise specified	
DP or MODULE known?	DP or M
Internal or external gear	
Number of teeth	#
Gear face width	GFW
Gear hardened?	Yes / No ?
Any known correction or tip reduction?	Yes / No ?

GREASE POINTS & FILLING SLOT	Inner			Outer		
Number of grease nipples	#G_i			#G_a		
Position of grease nipples	G_{i1}	G_{i2}	G_{i3}	G_{a1}	G_{a2}	G_{a3}
Grease point style						
Number & position of filling slots	FS_i			FS_a		
Approximate Ø of filling slots	FS_i			FS_a		

MARKINGS & APPLICATION DETAILS	
MANUFACTURERS PART NUMBER?	
Application	

imported by NBC Group Ltd
Unit D, Stafford Park 18, Telford, TF3 3BN, UK

P: 01952 980198
www.QCBslewingrings.com

QCB or NBC DRAWING NUMBER

Flanged slewing ring

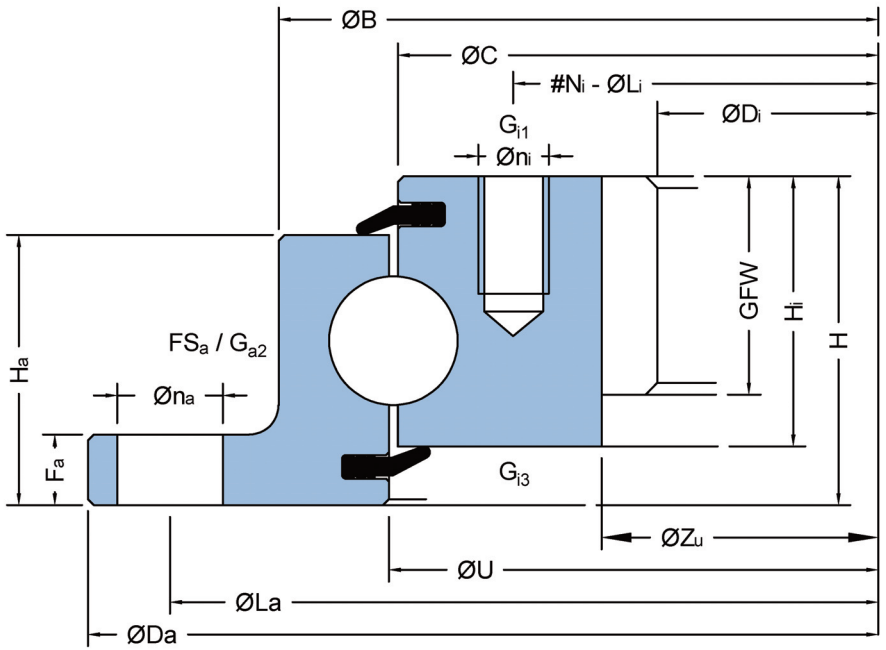
QCB RS 11/2016

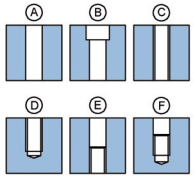
DRAWN:	LJM
DATE:	24/05/2019
CHECKED:	LJM

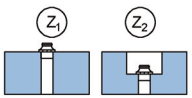
Flanged, Ungeared Slewing Ring

QCB SLEW RING IDENTIFICATION ASSISTANT

Not to be used for manufacture







ATTRIBUTE		Inches	mm
OVERALL DIMENSIONS			
Major outside diameter	Ø D_a		
Toleranced outside diameter	Ø d_a		
Inside diameter	Ø D_i		
Toleranced inside diameter	Ø d_i		
Inner ring height	H_i		
Outer ring height	H_a		
Overall height	H		
Inner flange thickness	F_i		
Outer flange thickness	F_a		
Outside diameter of inner ring	Ø C		
Inside diameter of outer ring	Ø U		
Secondary inside diameter	Ø D		
Secondary outside diameter	Ø B		

BOLT DETAILS	Inner		Outer	
Number of bolts	Ni		Na	
Style of bolts (refer diagram above)				
Pitch circle diameter of bolts	Ø Li		Ø La	
Hole diameter (A)(B)	Ø ni		Ø na	
Countersink Ø & depth (B)(E)(F)				
Thread Ø (C)(D)(E)(F)				
Depth of thread (D)(E)(F)				
Bolt size used?				

Unless otherwise specified, **QCB** will assume that the bolts are equally spaced around the pitch circle diameter.
Note 1: It is common for 1 bolt to be missed at the location of the filling slot. This is noted as #24-1 bolts to indicate that there are 23 bolt holes SPACED AS IF there were 24.
Note 2: In the case of an uneven drilling pattern we will require accurate positional data to be able to quote

GEAR DETAILS		
QCB assume a standard imperial or metric spur gear with 20° pressure angle unless otherwise specified		
DP or MODULE known?	DP or M	
Internal or external gear		
Number of teeth	#	
Gear face width	GFW	
Gear hardened?	Yes / No ?	
Any known correction or tip reduction?	Yes / No ?	

GREASE POINTS & FILLING SLOT	Inner			Outer		
Number of grease nipples	#G_i			#G_a		
Position of grease nipples	G_{i1}	G_{i2}	G_{i3}	G_{a1}	G_{a2}	G_{a3}
Grease point style						
Number & position of filling slots	FS_i			FS_a		
Approximate Ø of filling slots	FS_i			FS_a		

MARKINGS & APPLICATION DETAILS	
MANUFACTURERS PART NUMBER?	
Application	

imported by NBC Group Ltd
Unit D, Stafford Park 18, Telford, TF3 3BN, UK

P: 01952 980198
www.QCBslewingrings.com

QCB or NBC DRAWING NUMBER

Flanged slewing ring

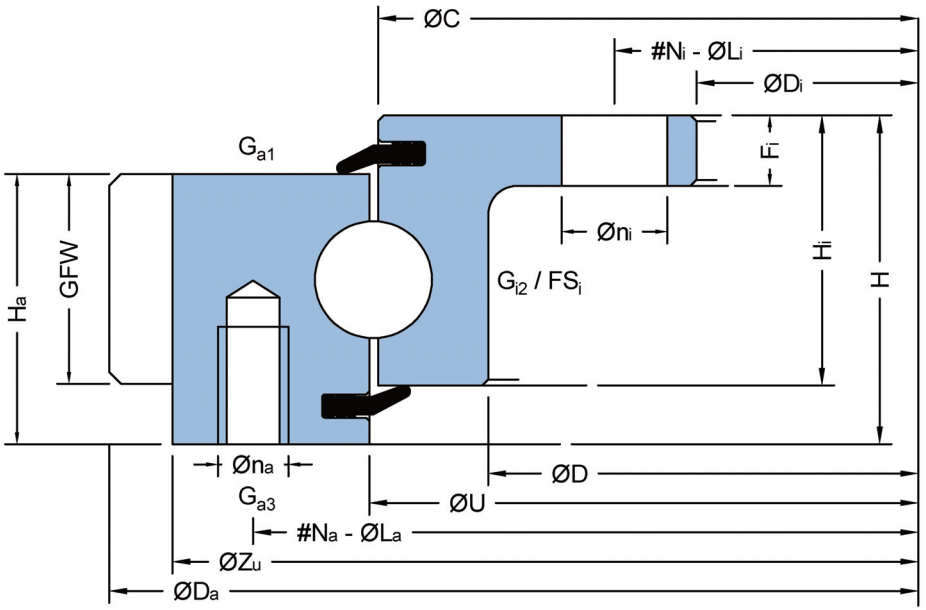
DRAWN:	LJM
DATE:	24/05/2019
CHECKED:	LJM

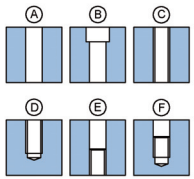
QCB RS 11/2016

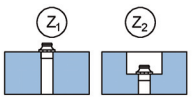
Flanged, Internally Geared Slewing Ring

QCB SLEW RING IDENTIFICATION ASSISTANT

Not to be used for manufacture







ATTRIBUTE		Inches	mm
OVERALL DIMENSIONS			
Major outside diameter	Ø D_a		
Toleranced outside diameter	Ø d_a		
Inside diameter	Ø D_i		
Toleranced inside diameter	Ø d_i		
Inner ring height	H_i		
Outer ring height	H_a		
Overall height	H		
Inner flange thickness	F_i		
Outer flange thickness	F_a		
Outside diameter of inner ring	Ø C		
Inside diameter of outer ring	Ø U		
Secondary inside diameter	Ø D		
Secondary outside diameter	Ø B		

BOLT DETAILS	Inner		Outer	
Number of bolts	Ni		Na	
Style of bolts (refer diagram above)				
Pitch circle diameter of bolts	Ø Li		Ø La	
Hole diameter (A)(B)	Ø ni		Ø na	
Countersink Ø & depth (B)(E)(F)				
Thread Ø (C)(D)(E)(F)				
Depth of thread (D)(E)(F)				
Bolt size used?				

Unless otherwise specified, **QCB** will assume that the bolts are equally spaced around the pitch circle diameter.
Note 1: It is common for 1 bolt to be missed at the location of the filling slot. This is noted as #24-1 bolts to indicate that there are 23 bolt holes SPACED AS IF there were 24.
Note 2: In the case of an uneven drilling pattern we will require accurate positional data to be able to quote

GEAR DETAILS		
QCB assume a standard imperial or metric spur gear with 20° pressure angle unless otherwise specified		
DP or MODULE known?	DP or M	
Internal or external gear		
Number of teeth	#	
Gear face width	GFW	
Gear hardened?	Yes / No ?	
Any known correction or tip reduction?	Yes / No ?	

GREASE POINTS & FILLING SLOT	Inner			Outer		
Number of grease nipples	#G_i			#G_a		
Position of grease nipples	G_{i1}	G_{i2}	G_{i3}	G_{a1}	G_{a2}	G_{a3}
Grease point style						
Number & position of filling slots	FS_i			FS_a		
Approximate Ø of filling slots	FS_i			FS_a		

MARKINGS & APPLICATION DETAILS	
MANUFACTURERS PART NUMBER?	
Application	

imported by NBC Group Ltd
Unit D, Stafford Park 18, Telford, TF3 3BN, UK

P: 01952 980198
www.QCBslewingrings.com

QCB or NBC DRAWING NUMBER

Flanged slewing ring

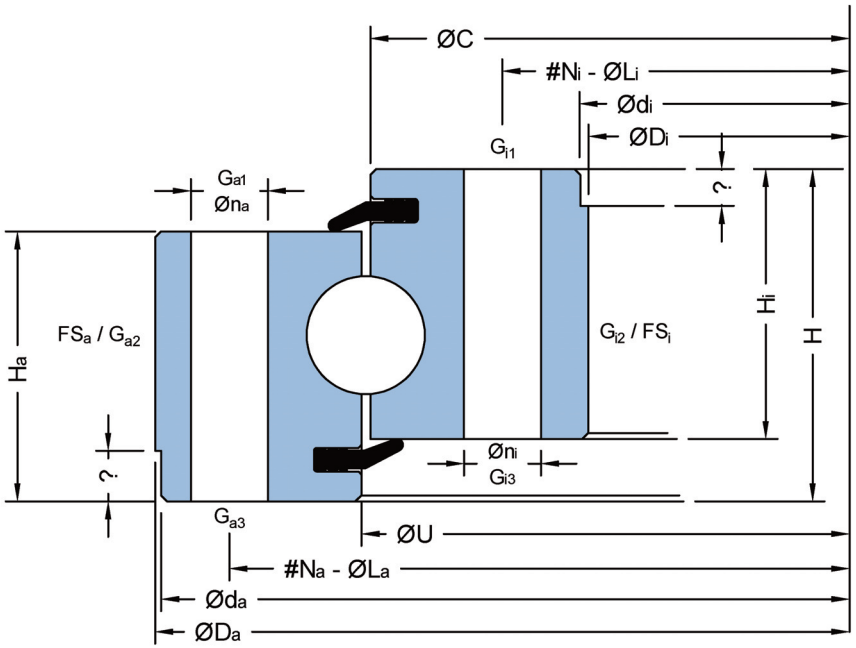
QCB RS 11/2016

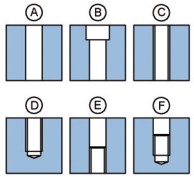
DRAWN:	LJM
DATE:	24/05/2019
CHECKED:	LJM

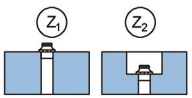
Flanged, Externally Geared Slewing Ring

QCB SLEW RING IDENTIFICATION ASSISTANT

Not to be used for manufacture







ATTRIBUTE		Inches	mm
OVERALL DIMENSIONS			
Major outside diameter	Ø D_a		
Toleranced outside diameter	Ø d_a		
Inside diameter	Ø D_i		
Toleranced inside diameter	Ø d_i		
Inner ring height	H_i		
Outer ring height	H_a		
Overall height	H		
Inner flange thickness	F_i		
Outer flange thickness	F_a		
Outside diameter of inner ring	Ø C		
Inside diameter of outer ring	Ø U		
Secondary inside diameter	Ø D		
Secondary outside diameter	Ø B		

BOLT DETAILS	Inner		Outer	
Number of bolts	Ni		Na	
Style of bolts (refer diagram above)				
Pitch circle diameter of bolts	Ø Li		Ø La	
Hole diameter (A)(B)	Ø ni		Ø na	
Countersink Ø & depth (B)(E)(F)				
Thread Ø (C)(D)(E)(F)				
Depth of thread (D)(E)(F)				
Bolt size used?				

Unless otherwise specified, **QCB** will assume that the bolts are equally spaced around the pitch circle diameter.
Note 1: It is common for 1 bolt to be missed at the location of the filling slot. This is noted as #24-1 bolts to indicate that there are 23 bolt holes SPACED AS IF there were 24.
Note 2: In the case of an uneven drilling pattern we will require accurate positional data to be able to quote

GEAR DETAILS		
QCB assume a standard imperial or metric spur gear with 20° pressure angle unless otherwise specified		
DP or MODULE known?	DP or M	
Internal or external gear		
Number of teeth	#	
Gear face width	GFW	
Gear hardened?	Yes / No ?	
Any known correction or tip reduction?	Yes / No ?	

GREASE POINTS & FILLING SLOT	Inner			Outer		
Number of grease nipples	#G_i			#G_a		
Position of grease nipples	G_{i1}	G_{i2}	G_{i3}	G_{a1}	G_{a2}	G_{a3}
Grease point style						
Number & position of filling slots	FS_i			FS_a		
Approximate Ø of filling slots	FS_i			FS_a		

MARKINGS & APPLICATION DETAILS	
MANUFACTURERS PART NUMBER?	
Application	

imported by NBC Group Ltd
Unit D, Stafford Park 18, Telford, TF3 3BN, UK

P: 01952 980198
www.QCBslewingrings.com

QCB or NBC DRAWING NUMBER

Standard slewing ring

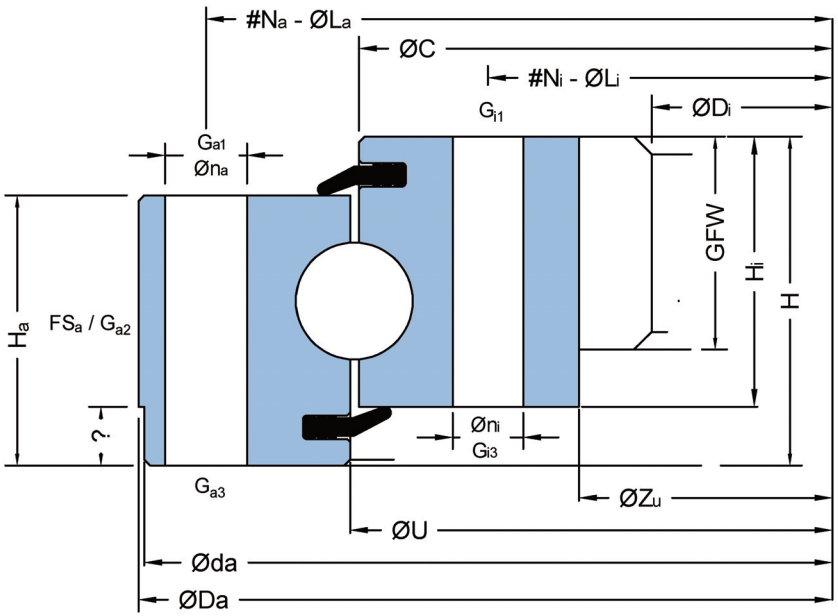
DRAWN:	LJM
DATE:	24/05/2019
CHECKED:	LJM

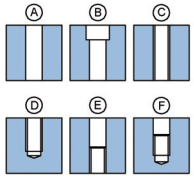
QCB RS 11/2016

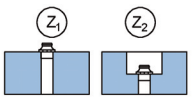
Ungeared Slewing Ring

QCB SLEW RING IDENTIFICATION ASSISTANT

Not to be used for manufacture







ATTRIBUTE		Inches	mm
OVERALL DIMENSIONS			
Major outside diameter	Ø D_a		
Toleranced outside diameter	Ø d_a		
Inside diameter	Ø D_i		
Toleranced inside diameter	Ø d_i		
Inner ring height	H_i		
Outer ring height	H_a		
Overall height	H		
Inner flange thickness	F_i		
Outer flange thickness	F_a		
Outside diameter of inner ring	Ø C		
Inside diameter of outer ring	Ø U		
Secondary inside diameter	Ø D		
Secondary outside diameter	Ø B		

BOLT DETAILS	Inner		Outer	
Number of bolts	Ni		Na	
Style of bolts (refer diagram above)				
Pitch circle diameter of bolts	Ø Li		Ø La	
Hole diameter (A)(B)	Ø ni		Ø na	
Countersink Ø & depth (B)(E)(F)				
Thread Ø (C)(D)(E)(F)				
Depth of thread (D)(E)(F)				
Bolt size used?				

Unless otherwise specified, **QCB** will assume that the bolts are equally spaced around the pitch circle diameter.
Note 1: It is common for 1 bolt to be missed at the location of the filling slot. This is noted as #24-1 bolts to indicate that there are 23 bolt holes SPACED AS IF there were 24.
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GEAR DETAILS	
QCB assume a standard imperial or metric spur gear with 20° pressure angle unless otherwise specified	
DP or MODULE known?	DP or M
Internal or external gear	
Number of teeth	#
Gear face width	GFW
Gear hardened?	Yes / No ?
Any known correction or tip reduction?	Yes / No ?

GREASE POINTS & FILLING SLOT	Inner			Outer		
Number of grease nipples	#G_i			#G_a		
Position of grease nipples	G_{i1}	G_{i2}	G_{i3}	G_{a1}	G_{a2}	G_{a3}
Grease point style						
Number & position of filling slots	FS_i			FS_a		
Approximate Ø of filling slots	FS_i			FS_a		

MARKINGS & APPLICATION DETAILS	
MANUFACTURERS PART NUMBER?	
Application	

imported by NBC Group Ltd
Unit D, Stafford Park 18, Telford, TF3 3BN, UK

P: 01952 980198
www.QCBslewingrings.com

QCB or NBC DRAWING NUMBER

Standard slewing ring

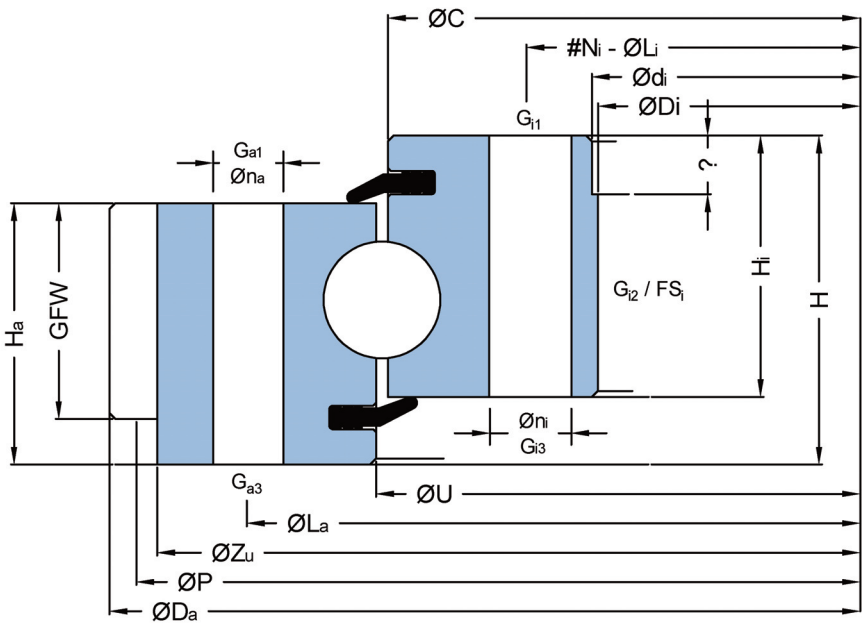
QCB RS 11/2016

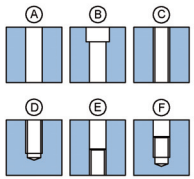
DRAWN:	LJM
DATE:	24/05/2019
CHECKED:	LJM

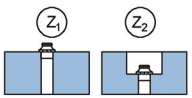
Internally Geared Slewing Ring

QCB SLEW RING IDENTIFICATION ASSISTANT

Not to be used for manufacture







ATTRIBUTE		Inches	mm
OVERALL DIMENSIONS			
Major outside diameter	Ø D_a		
Toleranced outside diameter	Ø d_a		
Inside diameter	Ø D_i		
Toleranced inside diameter	Ø d_i		
Inner ring height	H_i		
Outer ring height	H_a		
Overall height	H		
Inner flange thickness	F_i		
Outer flange thickness	F_a		
Outside diameter of inner ring	Ø C		
Inside diameter of outer ring	Ø U		
Secondary inside diameter	Ø D		
Secondary outside diameter	Ø B		

BOLT DETAILS	Inner		Outer	
Number of bolts	Ni		Na	
Style of bolts (refer diagram above)				
Pitch circle diameter of bolts	Ø Li		Ø La	
Hole diameter (A)(B)	Ø ni		Ø na	
Countersink Ø & depth (B)(E)(F)				
Thread Ø (C)(D)(E)(F)				
Depth of thread (D)(E)(F)				
Bolt size used?				

Unless otherwise specified, **QCB** will assume that the bolts are equally spaced around the pitch circle diameter.
Note 1: It is common for 1 bolt to be missed at the location of the filling slot. This is noted as #24-1 bolts to indicate that there are 23 bolt holes SPACED AS IF there were 24.
Note 2: In the case of an uneven drilling pattern we will require accurate positional data to be able to quote

GEAR DETAILS		
QCB assume a standard imperial or metric spur gear with 20° pressure angle unless otherwise specified		
DP or MODULE known?	DP or M	
Internal or external gear		
Number of teeth	#	
Gear face width	GFW	
Gear hardened?	Yes / No ?	
Any known correction or tip reduction?	Yes / No ?	

GREASE POINTS & FILLING SLOT	Inner			Outer		
Number of grease nipples	#G_i			#G_a		
Position of grease nipples	G_{i1}	G_{i2}	G_{i3}	G_{a1}	G_{a2}	G_{a3}
Grease point style						
Number & position of filling slots	FS_i			FS_a		
Approximate Ø of filling slots	FS_i			FS_a		

MARKINGS & APPLICATION DETAILS	
MANUFACTURERS PART NUMBER?	
Application	

Externally Geared Slewing Ring

imported by NBC Group Ltd
Unit D, Stafford Park 18, Telford, TF3 3BN, UK

P: 01952 980198
www.QCBslewingrings.com

QCB or NBC DRAWING NUMBER

Standard slewing ring

DRAWN:	LJM
DATE:	06/03/2023
CHECKED:	LJM

QCB RS 11/2016

QCB Bearings SLEWING RINGS & DRIVES

QCB SLEWING RINGS AND DRIVES
Unit D, Stafford Park 18, Telford, Shropshire, England
www.qcbslewingrings.com