

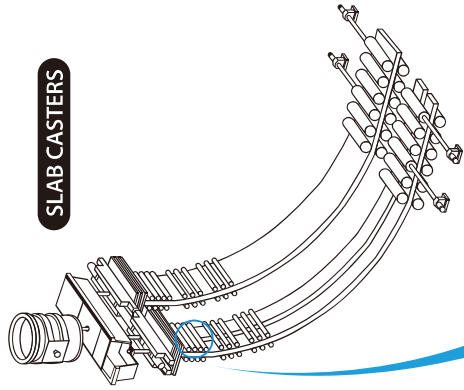
Special bearings for steel industry

HKT bearings was established as a bearing manufacturer of Posco and developed many kinds of bearing used in every section of steel production from raw material handling to rolling mill and cooling bed. In continuous caster, various types of special bearing are widely used in accordance with special requirements, as below;

- Flexible bearing, FBL series
(Application : Mold & upper segment in continuous caster) page 224
- Split center bearing with water cooled housing and seals, 800 series
(Application : Driven guide roll in slab caster) page 234
- Self-aligning cylindrical roller bearing, SAC series
(Application : Driven guide roll in slab caster) page 244
- Pressure roller bearing, PRB series
(Application : Pallet cars in sinter plant) page 250
- Back-up roller, ZB series
(Application : Backing shaft of cluster mill) page 254



Flexible bearing - Mold & upper segment in continuous caster FBL series

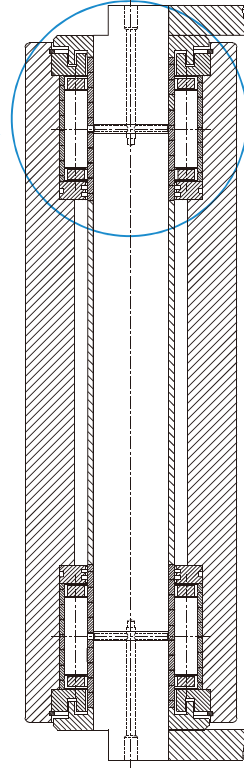


Components

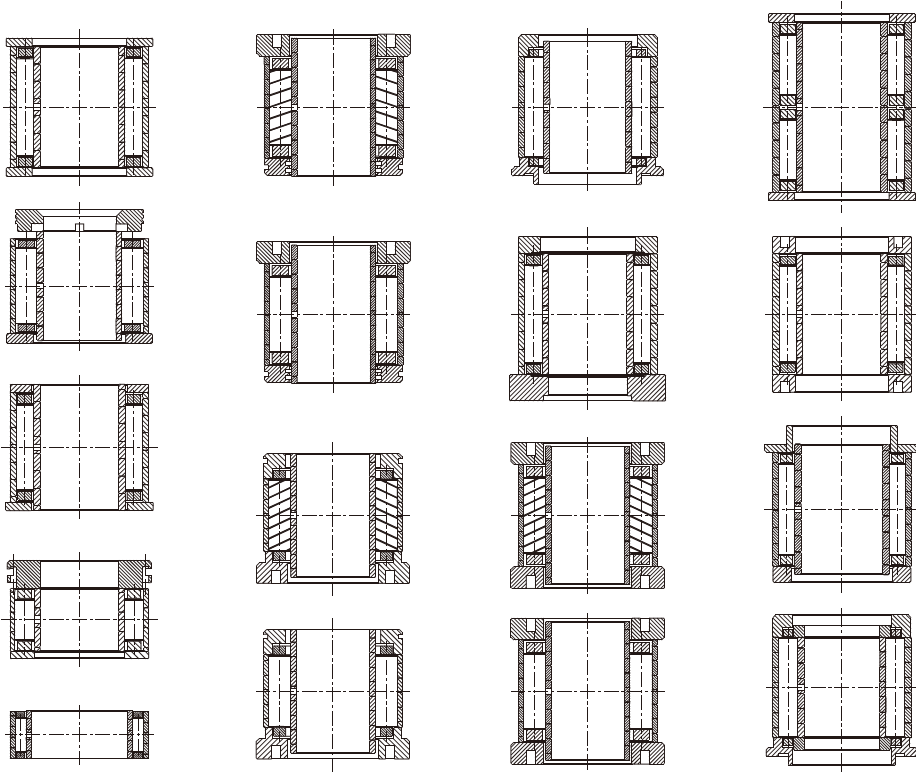
- Spring outer ring
- Spring inner ring
- Cylindrical Roller + Cage assembly
- Side rings

Advantages and special features

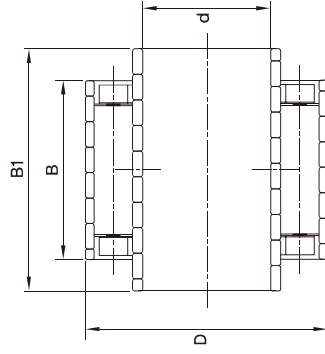
- Flexible bearing with spring rings, made of special steel, solves below problems in strand guiding rolls in mold & upper segments.
- High temperature
- Dust contamination
- Heavy shock load
- Space limitations
- As the life of flexible bearing is very long compared with that of needle bearing, end-users are re-using flexible bearing more than 3~4 times, by cleaning and re-lubricating in maintenance period.
- Easy fitting and dismantling.



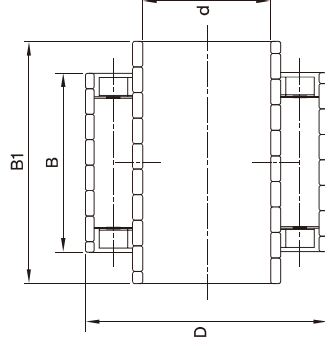
Various kinds of side ring combinations



FBL Series - Flexible bearing

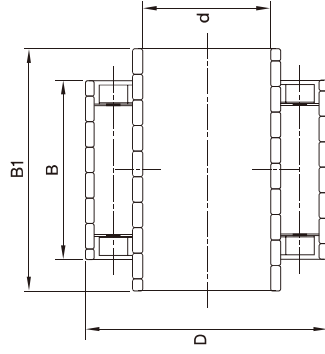


Shaft Dia.(d)	BEARING Designations		D	B1	B	Load Ratings Stat. C ₀ (kN)	
	Shaft Dia.(d)	Designations					
30		FBL 30/60 x 125/80 WTR	60	125	80	243	
		FBL 30/62 x 32/32	62	32	32	72	
		FBL 30/62 x 43/43	62	43	43	110	
		FBL 30/62 x 58/58	62	58	58	161	
		FBL 30/62 x 60/45	62	60	45	110	
		FBL 30/62 x 94/94DR	62	94	94	234	
		FBL 30/62 x 114/114 WTR	62	114	114	309	
		FBL 30/62 x 134/134DR	62	134	134	378	
	35		FBL 35/60 x 64/38 WTR	60	64	38	115
			FBL 35/62 x 50/36	62	50	36	84
		FBL 35/65 x 64/38 WTR	65	64	38	122	
		ISO F 35/68 x 42/42	68	42	42	132	
		FBL 40/68 x 45/45 WFR	68	45	45	130	
		FBL 40/68 x 50/45 WFR	68	50	45	130	
40		FBL 40/68 x 58/45 W2R	68	58	45	130	
		FBL 40/68 x 58/45 W3R-MITTAL	68	58	45	130	
		FBL 40/68 x 58/45 W3R-HIGHVELD	68	58	45	169	
		FBL 40/70 x 70/70 WTR	70	70	70	250	
		FBL 40/71 x 32/32 ISDEMIR	71	32	32	91	
		FBL 40/71 x 70/70 WTR	71	70	70	250	
		FBL 40/71 x 94/94 WTR	71	94	94	312	
		FBL 40/71 x 32/32 BRGMAN	71	32	32	91	
		FBL 40/71 x 32/32 CST	71	32	32	91	
		FBL 40/71 x 32/32 DDL	71	32	32	91	
	FBL 40/71 x 32/32 TAIBEC	71	32	32	91		

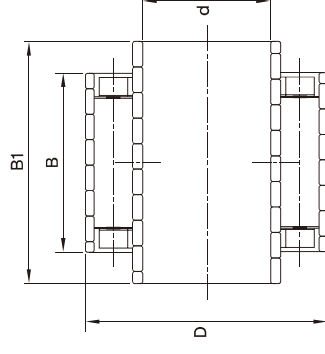


Shaft Dia.(d)	BEARING Designations		D	B1	B	Load Ratings Stat. C ₀ (kN)
	Shaft Dia.(d)	Designations				
40		FBL 40/71 x 42.5/42.5 WTR	71	42.5	42.5	136
		FBL 40/71 x 45/45 WTR	71	45	45	147
		FBL 40/71 x 57/47 WTR	71	57	47	156
		FBL 40/78 x 57/45	71	57	47	157
		FBL 40/82 x 80/62	82	82	62	216
		FBL 40/82 x 80/62 GR	82	70	70	216
		FBL 45/75x86/70 WTR	75	86	70	143
		FBL 45/80 x 42/37	80	42	37	119
		FBL 45/80x57/56A WTR	80	57	56	150
		FBL 45/80 x 70/60 WTR	80	70	60	208
45		FBL 45/80 x 70/70	80	70	70	252
		FBL 45/80 x 70/70 A RINGS	80	70	70	252
		FBL 45/80 x 70/70 B RINGS	80	70	70	252
		FBL 45/80 x 70/70 S RINGS	80	70	70	252
		FBL 45/80 x 70/70 JD RINGS	80	70	70	252
		FBL 45/80 x 73/63 WTR	80	73	63	274
		FBL 45/80 x 73/63 HDWTR	80	73	63	274
		FBL 45/80 x 73/63 LWTR	80	73	63	274
		FBL 45/80 x 80/70 ACC WTR	80	80	70	252
		FBL 45/80 x 95/70	80	80	70	252
		FBL 45/80 x 98/98DR	80	98	98	310
		FBL 45/80 x 98/98DR B RINGS	80	98	98	310
		FBL 45/80 x 110/110DR	80	110	110	363
		FBL 45/80 x 118/118DR	80	118	118	399
		FBL 45/85 x 45/35 WTR	85	45	35	122

FBL Series - Flexible bearing

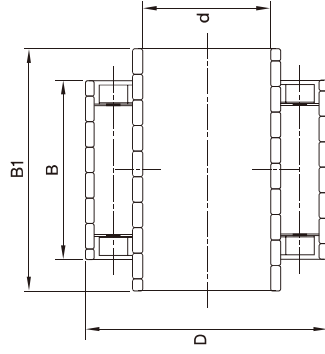


Shaft Dia.(d)	BEARING				Load Ratings Stat. C ₀ (kN)
	Designations	D	B1	B	
50	FBL 50/72 x 40/40 WTR	72	40	40	128
	FBL 50/75 x 40/40 WTR	75	40	40	141
	FBL 50/75 x 45/40 WTR	75	45	40	141
	FBL 50/75 x 58/48 WTR	75	58	48	156
	FBL 50/75 x 60/50 WTR	75	60	50	214
	FBL 50/85 x 70/70	85	70	70	336
	FBL 50/85 x 73/45 WTR	85	73	45	216
	FBL 50/85x75/70 WTR	85	75	70	331
	FBL 50/85 x 80/70	85	80	70	336
	FBL 50/85 x 80/70 2KYCSP	85	80	70	336
	FBL 50/85 x 80/70 ACC WTR	85	80	70	336
	FBL 50/85 x 80/70 C RINGS	85	80	70	302
	FBL 50/88 x 62/50 WTR	88	62	50	194
	FBL 50/90 x 60/50 WTR	90	60	50	223
	FBL 50/95 x 80/70 WTR	95	80	70	376
	FBL 50/95 x 75/65	95	75	65	267
	FBL 50/95 x 85/50GR	95	85	50	302
FBL 50/95 x 87/47	95	87	47	238	
FBL 50/95 x 90/63 W3R105	95	90	63	272	
FBL 50/95 x 90/64	95	90	64	272	
FBL 50/95 x 90/72 2KYCSP	95	90	72	352	
FBL 50/95 x 95/70	95	95	70	272	
FBL 50/95 x 95/70 A RINGS	95	95	70	272	
FBL 50/95 x 95/70 WTR	95	95	70	272	

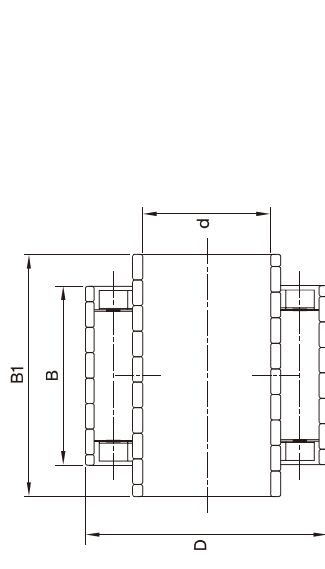


Shaft Dia.(d)	BEARING				Load Ratings Stat. C ₀ (kN)
	Designations	D	B1	B	
50	FBL 50/95 x 95/70 With JD RINGS	95	95	70	272
	FBL 50/95 x 95/70 Y1PH	95	95	70	272
	FBL 50/95 x 73/63 WTR	95	73	63	310
	FBL 50/96 x 85/65	96	85	65	339
	FBL 55/90 x 58/40	90	58	40	157
	FBL 55/90 x 90/72 2KYCSP	90	90	72	403
	FBL 55/90 x 73/63 WTR	90	73	63	322
	FBL 55/90 x 73/63 H RINGS	90	73	63	322
	FBL 55/95 x 73/63 WTR	95	73	63	310
	FBL 55/100 x 65/55 WTR	100	65	55	290
55	FBL 60/89 x 73/63 WTR	89	73	63	348
	FBL 60/90 x 65/55 WTR	90	65	55	274
	FBL 60/95 x 73/63 WTR	95	73	63	359
	FBL 60/95 x 73/63 H RINGS	95	73	63	359
	FBL 60/100 x 67/62 WTR	100	67	62	327
	FBL 60/100 x 90/64	100	90	64	351
	FBL 60/105 x 73/63	105	73	63	373
	FBL 60/110 x 80/80	110	80	80	604
	FBL 60/110 x 105/80	110	105	80	604
	FBL 60/110 x 105/80 A RINGS	110	105	80	604
60	FBL 60/110 x 105/80 USM	110	105	80	604
	FBL 60/110 x 105/80 JD RINGS	110	105	80	604
	FBL 60/110 x 105/94 JD RINGS	110	105	94	608
	FBL 61/107.81 x 74.2/60	107.81	74.2	60	265

FBL Series – Flexible bearing



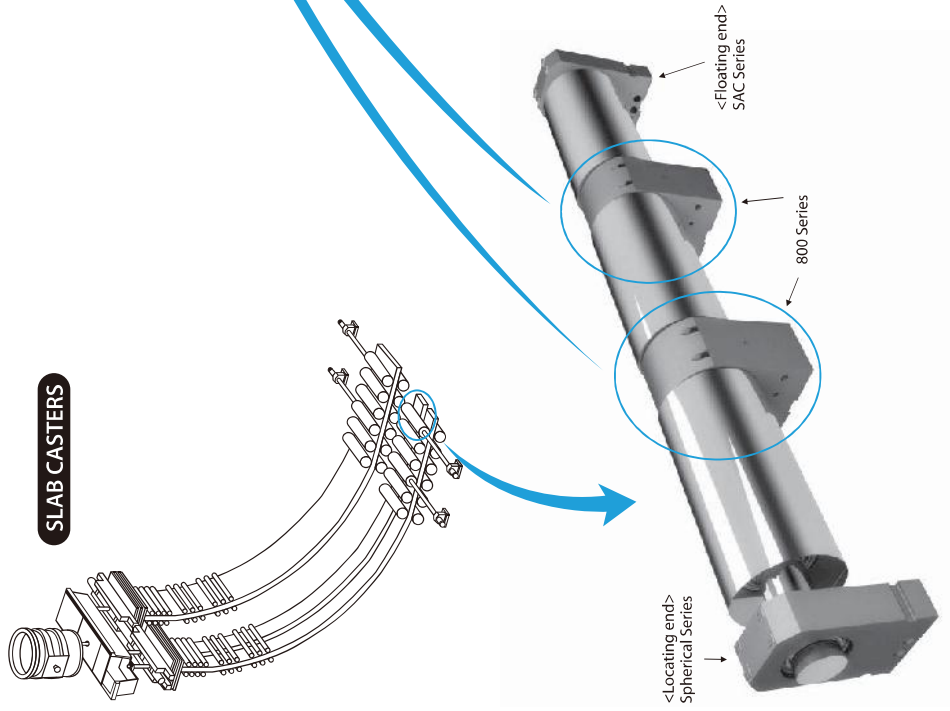
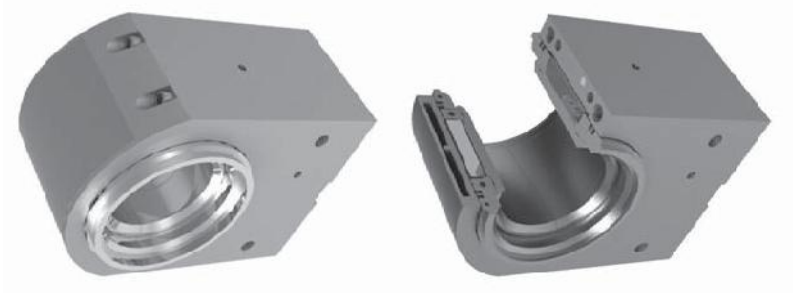
Shaft Dia.(d)	BEARING Designations		D	B1	B	Load Ratings Stat. C ₀ (kN)
	Shaft Dia.(d)	Designations				
65		FBL 65/102 x 54/54	102	54	54	290
		FBL 65/102 x 55/55 GR WTR	102	55	55	397
		FBL 65/102 x 55/55 SR WTR	102	55	55	496
		FBL 65/102 x 70/54	102	70	54	290
		FBL 65/102 x 140/54	102	140	54	290
		FBL 65/102 x 105/80	102	105	80	494
		FBL 65/110 x 73/63 WTR	110	73	63	377
		FBL 65/110 x 73/63 A RINGS	110	73	63	377
		FBL 65/110 x 73/63 H RINGS	110	73	63	377
		FBL 65/110 x 75/65 WTR	110	75	65	392
70		FBL 65/110 x 105/80 WTR	110	105	80	397
		FBL 65/102 x 140/55 GR WTR	102	140	55	496
		FBL 65/102 x 140/55 SR WTR	102	140	55	530
		FBL 70/120 x 80/80	120	80	80	530
		FBL 70/120 x 105/80	120	105	80	530
		FBL 70/120 x 105/80 HZ	120	105	80	329
		FBL 75/105 x 54/54 WTR	105	54	54	281
		FBL 75/105 x 58/48 WTR	105	58	48	329
80		FBL 75/105 x 60/54 WTR	105	60	54	401
		FBL 75/105 x 73/63	105	73	63	474
		FBL 75/115 x 90/80 WTR	115	90	80	464
		FBL 80/120 x 73/63 WTR	120	73	63	464
	FBL 80/120 x 73/63 A RINGS	120	73	63	464	
	FBL 80/120 x 73/63 H RINGS	120	73	63	473	



Shaft Dia.(d)	BEARING Designations		D	B1	B	Load Ratings Stat. C ₀ (kN)
	Shaft Dia.(d)	Designations				
80		FBL 80/125 x 70/65 WTR	125	70	65	358
90		FBL 90/130 x 45/44	130	45	44	535
		FBL 90/130 x 70/65 WTR	130	70	65	808
		FBL 90/140 x 150/100	140	150	100	1172
	FBL 90/160 x 130/130U	160	130	130	868	
100		FBL 100/180 x 82/82	180	82	82	842
120		FBL 120/165 x 96/75 WTR	165	95	75	583
140		FBL 140/181 x 80/50 GR WTR	181	80	50	674
		FBL 140/200 x 67/50 GR W5R	200	67	50	1267
160		FBL 160/225 x 85.5/85.5	225	85.5	85.5	996
		FBL 160/225 x 90/70	225	90	70	92

Split center bearing with water cooled housing and seals 800 series (For Driven guide roll in slab caster)

800 Series



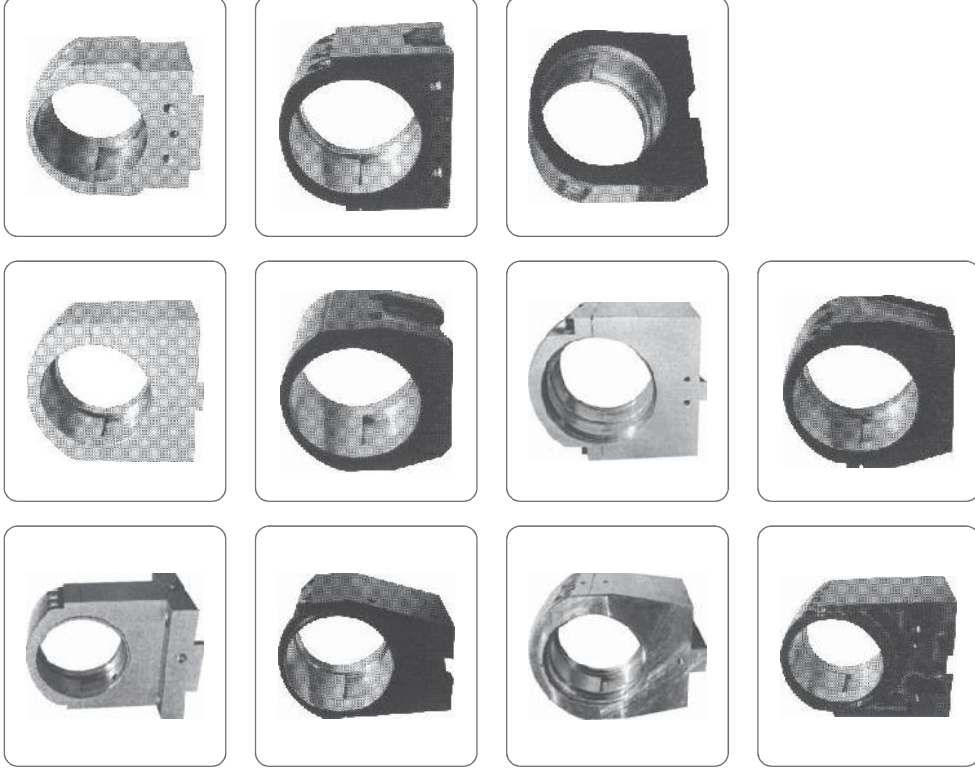
Components

- Bearing
 - Outer ring
 - Inner ring
 - Clamping ring
 - Roller
- Water cooled housing
- Seals
 - Labyrinth ring + Laminar ring

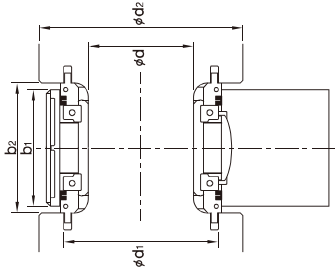
Advantages and special features

- 800 series, split center bearing with water cooled housing and seals, solves below problems in driven guide roll in slab caster.
- High temperature
- Heavy load
- Dust & water contamination
- To be fitted on recessed shaft
- To dissipate heat in high temperature circumstance, cooling water is circulating through housing block.
- Specially designed sealing system enables to prevent foreign contaminants penetrating into bearing block. Labyrinth ring is recommended to be installed between the housing and roll by injection of silicon.
- Every main component has two halves, exceptionally only one half of outer ring is fitted in bottom of the housing block.
- Outer ring and inner ring has angled joints to ensure continuity of contact with rollers.
- Two halves of inner ring are fully fitted on shaft by two clamping rings.
- When fitting two halves of inner ring on shaft, there should be a gap at the joint in order to ensure full contact between the bore of inner ring and shaft. The gaps differ from the sizes, 0.35mm to 0.55mm.
- Easy fitting and dismantling.

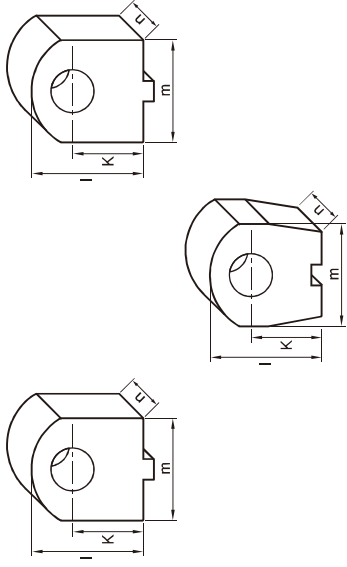
Various types of water cooled housing



800 series - Split center bearing with water cooled housing and seals

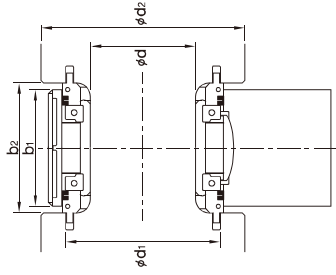


d	d ₁	d ₂	b ₁	b ₂	BEARING & HOUSING Designations	Load Ratings Stat. C ₀ (kN)	l	m	n	k
60	108	150	62	70	800M60BH-RIST	250	192	150	62	125
	118	160	62	70	800M70BH-RIST	281	197	160	62	125
	129	160	62	70	700M75BH-POSCO	306	207	165	134	135
	129	165	66	76	700M75BH-SALDANHA	344	207	166	134	135
75	129	165	58	64	700M75BH-4100261	287	202	165	134	130
	117	160	91	101	800M75BH-5.333121.Q	447	228	160	91	158
80	134	180	62	70	800M80BH-RIST	321	215	180	62	135
	144	185	66	76	700M90BH-POSCO	360	230	180	134	150
90	144	185	66	76	700M90BH-SALDANHA	381	230	180	134	150
	144	180	58	64	700M90BH-4100259	331	202	180	134	122.5
95	136	180	85	95	800M95BH-5.301575.G	447	233	180	85	153
	140	200	130	150	800M100BH-CST	844	265	195	130	175
100	140	200	130	150	800M100BHINCLN-CST	844	265	195	130	175
	160	200	127	146	800M100BH-AHU-7203	844	265	200	127	175
	148	200	134	146	800M100BH-8L15009	844	250	220	134	160
	148	200	134	146	800M100BH-TN	844	250	220	134	160
105	148	205	148	165	800M105/205BH-DAN	970	237.5	212	148	145
	171	230	134	146	800M110BH-GE1794	972	273	260	134	170
110	171	220	134	146	800M110BH-GE1799	972	275	240	134	175
	171	220	120	140	800M110BH-PBA360H	1019	325	220	120	225
	176	230	135	155	800M110BH-PBA404H	1237	385	230	135	180
	176	230	139	155	800M110BH-SSM	1001	255	230	139	150
115	178	240	167	181	800M115BH-SSM-W135	1001	255	230	135	150
	224	240	158	174	800M115BH-CSC	1139	330	240	167	220
					800M115BH-PCR-NSN	907	333	240	158	220

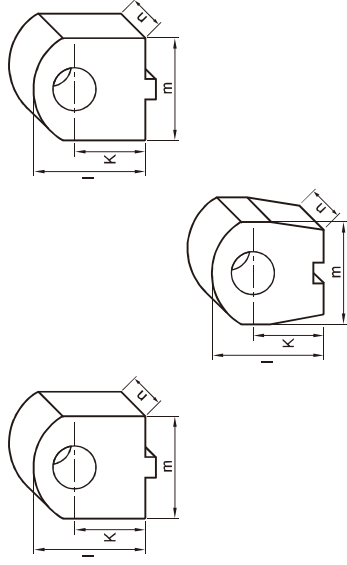


d	d ₁	d ₂	b ₁	b ₂	BEARING & HOUSING Designations	Load Ratings Stat. C ₀ (kN)	l	m	n	k
120	177	230	132	144	800M120BH-2960124	985	240	240	132	135
	177	230	132	144	800M120BH-2960151	985	240	240	132	135
	177	230	132	144	800M120BH-2960151-72	985	240	240	132	135
	177	230	132	144	800M120BH-2960154V	985	252	240	132	145
	177	230	132	144	800M120BH-2960155V	985	241	240	132	135
	177	220	145	165	800M120BH-4.974103.S	1004	260	220	145	160
	177	220	140	164	800M120BH-5.271320.M	897	245	220	140	145
	177	230	144	160	800M120BH-8L15948/2	1144	288	230	144	185
	193	250	135	155	800M120BH-PBA251H-2	1353	305	250	135	190
	193	250	135	155	800M120BH-PBA299	985	280	250	135	165
	193	250	135	155	800M120BH-PBA299A	985	280	250	135	165
	177	220	140	164	800M120BH-PCR-2203	985	275	220	140	175
178	220	145	165	800M120BH-PCR-2204	1004	260	220	145	160	
191	220	140	164	800M120BH-R220-DAN	897	245	225	140	145	
191	225	140	164	800M120BH-R225	897	245	225	140	145	
191	250	139	155	800M120BH-R250	1207	290	250	139	175	
193	250	135	155	800M120BH-POSCO/CCM3	965	280	250	135	165	
191	250	135	155	800M120BH-R250-POSCO-CCM3	1135	290	250	135	175	
191	260	139	155	800M120BH-R260	1207	300	260	139	180	
177	230	144	160	800M120BH-8040E	1144	288	230	144	185	
189.5	250	162	180	800M120BH-BT-R250	1524	260	260	162	145	
177	230	144	160	800M120BH-LZSMS-R230	1182	278.5	234	160	144	
186	245	170	185	800M125BH-COCKERILL	1382	302.5	245	170	190	
195	245	170	185	800M125BH-COCKERILL/HKM	1678	302.5	245	170	190	
225	255	186	202	800M125BH-GE1713	1035	366	265	186	250	

800 series - Split center bearing with water cooled housing and seals

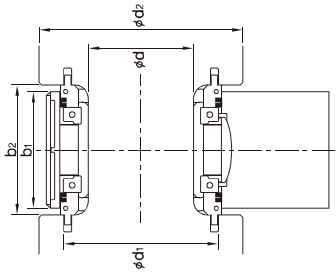


d	d ₁	d ₂	b ₁	b ₂	BEARING & HOUSING Designations	Load Ratings Stat. C ₀ (kN)	l	m	n	k
130	203	260	170	186	800M130BH-1734	1441	333	270	170	215
	195	280	150	164	800M130BH-7931e	1233	320	270	150	200
	187	245	165	185	800M130BH-21012114	1453	271	240	200	160.5
	187	265	180	200	800M130BH-21012123	1233	290	260	224	170.5
	204	250	170	180	800M130BH-H280	1496	280	270	170	145
	195	260	170	186	800M130BH-8L15949/1	1233	333	260	170	215
	189	240	165	185	800M130BH-4.974110.R	1493	285	240	165	175
	192	260	174	190	800M130BH-8L15218	1233	320	260	174	200
	192	260	174	190	800M130BH-8L15218-A(40)	1233	320	260	174	200
	185	240	150	170	800M130BH-CST	1278	285	240	150	175
	203	270	135	155	800M130BH-PBA252H-2	1446	315	270	135	190
	203	280	143	163	800M130BH-PBA300	1016	310	280	143	180
	203	280	143	163	800M130BH-PBA300A	1016	310	280	143	180
	185	240	160	185	800M130BH-8041E	1223	300	240	160	190
	203	250	170	185	800M130BH-8L15076	1233	310	265	170	195
	195	250	132	144	800M130BH-GE1495	1035	271	270	132	135
	195	250	130	144	800M130BH-GE1585	1035	261	270	130	145
	195	270	150	164	800M130BH-GE1812	1035	300	270	150	175
	195	260	170	186	800M130BH-LZSM5-R260	1701	320.5	270	170	190
185	240	160	185	800M130BH-PCR2401	1223	300	240	160	190	
204	250	170	180	800M130BH-PDV	1496	295	270	170	180	
204	250	170	180	800M130BH-PDV-COOP	1496	295	270	170	180	
200	250	160	184	800M135BH-R250-DAN	1617	275	255	160	160	
200	250	160	184	800M135BH-5.271329.H	1617	275	250	160	160	
140	213	280	175	191	800M140BH-220906778	1908	305	275	175	180

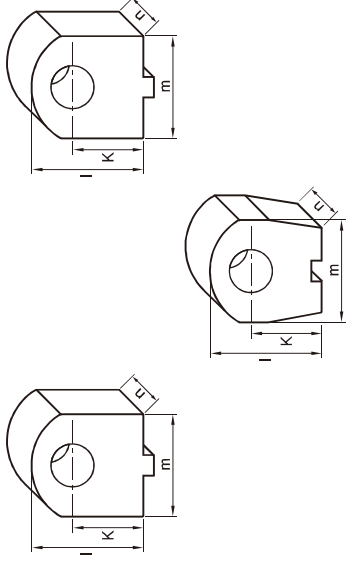


d	d ₁	d ₂	b ₁	b ₂	BEARING & HOUSING Designations	Load Ratings Stat. C ₀ (kN)	l	m	n	k
140	206	260	165	185	800M140BH-4.974083.Q	1580	305	260	165	185
	213	270	173	190	800M140BH-7059	1786	319	280	173	195
	189.5	235	127	146	800M140BH-IPSCO	973	283	235	127	175
	189.5	235	127	146	800M140BH-INCLN-IPSCO	973	283	235/260.5	127	175
	206	260	205	225	800M140BH-5.171285.T	2171	305	260	205	185
	212	280	184	200	800M140BH-8L15217	1429	339	280	184	210
	212	280	184	200	800M140BH-8L15217-A(40)	1429	339	280	184	210
	208	265	178	192	800M140BH-CSC	1429	372.5	265	178	250
	200	260	160	185	800M140BH-8042E	1424	320	260	160	200
	208	285	170	185	800M140BH-COCKERILL	1786	324.5	275	170	200
	254	285	164	180	800M140BH-NSN	1411	373	270	164	245
	200	260	160	185	800M140BH-PCR2605	1424	320	260	160	200
	202	260	165	185	800M140BH-PCR2606	1580	305	260	165	185
	214	270	175	185	800M140BH-PDV	1581	320	285	175	195
	214	270	175	185	800M140BH-PDV-COOP	1581	320	285	175	195
	219	275	170	185	800M140BH-HKM	899	324.5	275	170	200
	235/211	285	174	190	800M140BH-5S281SNY252	-	301.5	285	174	175
	204	255	160	180	800M143BH-CST	1372	337.5	255	160	220
	204	255	160	180	800M143BH-INCLN-CST	1372	337.5	255	160	220
	213	280	162	180	800M145BH-USM	1699	390	280	162	260
218	295	195	209	800M145BH-CSC	2427	407.5	295	195	270	
224	295	170	185	800M145BH-GE1811	1425	312.5	300	170	175	
224	295	170	185	800M145BH-GE1811 ISPAT 306	1425	306	300	170	175	
213	280	162	180	800M145BH-R280 USM	1699	390	280	162	260	
218	295	195	209	800M145BH-R295 USM	2427	407.5	295	195	270	

800 series - Split center bearing with water cooled housing and seals

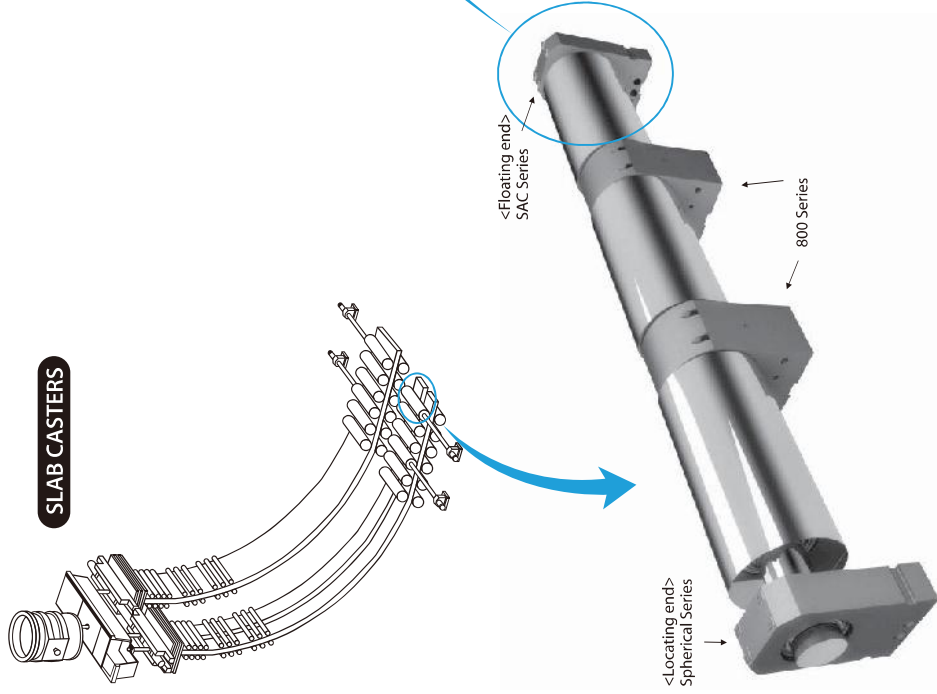


d	d ₁	d ₂	b ₁	b ₂	BEARING & HOUSING Designations	Load Ratings Stat. C ₀ (kN)	l	m	n	k
145	214.5	310	170	186	800M145BH-8L15950/1	1699	360	290	170	215
	220	290	194	210	800M145BH-GE1711	1425	400.5	300	194	270
	224	295	170	185	800M145BH-GE1751	1425	306	300	170	175
	218	280	170	186	800M145BH-LZSM5-R290	1794	332.5	290	170	190
	227	300	200	220	800M150BH-21012135	2326	343	290	224	208
	-	295	170	200	800M150BH-575718A	1429	307.5	300	170	175
	223	290	180	196	800M150BH-7058	2069	336	300	180	205.5
	230	310	190	206	800M150BH-8L15216	1691	365	310	190	225
	-	295	170	200	800M150BH-ESSAR	1691	307.5	300	170	175
	238	330	168	188	800M150BH-PBA301	1627	375	330	168	220
150	238	330	168	188	800M150BH-PBA301A	1627	375	330	168	220
	225	290	174	190	800M150BH-R290	1627	315/325	290	174	180/190
	244/220	280	184	200	800M150BH-SS302NY252	-	309	280	184	175
	223	300	174	190	800M150BH-BT-R300/90	1910	308.5	295	174	170
	223	300	174	190	800M150BH-BT-R300/95	1910	308.5	295	174	170
	259/233	315	209	225	800M155BH-GE1714	1343	420	330	209	280
	-	325	195	215	800M160BH-567093	2072	340	347	195	200
	262	325	187	203	800M160BH-7057	2191	375	330	187	225
	242	310	174	190	800M160BH-8L14664A	2072	350	335	174	220
	243	300	185	200	800M160BH-8L15077	1611	360	315	185	220
160	242	305	174	190	800M160BH-GE1583	1343	310	174	170	200
	242	310	174	190	800M160BH-MR	2166	340	310	174	200
	233	330	178	194	800M160BH-USM	2104	418.5	320	178	280
	269/243	335	209	225	800M165BH-GE1712	1910	443	350	209	290
170	243	330	199	215	800M170BH-USM	2787	435	320	199	280



d	d ₁	d ₂	b ₁	b ₂	BEARING & HOUSING Designations	Load Ratings Stat. C ₀ (kN)	l	m	n	k
170	243	315	210	220	800M170BH-7221	2445	367	320	210	220
	248	320	196	212	800M170BH-COCKERILL	2523	370	320	196	220
	239	295	160	180	800M170BH-CST	1747	362.5	295	160	225
180	239	295	160	180	800M180BH-MDL-CST	1847	362.5	295	160	225
	258	335	150	170	800M180BH-3621	2069	375	335	150	217.5
	258	335	150	170	800M180BH-R335	2069	375	335	150	217.5
190	339	370	208	234	800M190BH-NSN	-	455	390	208	280
	337	400	190	210	800M265/400BH-DAN	2679	450	440/560	190	265

Self-aligning cylindrical roller bearing SAC series (For Driven guide roll in slab caster)



SAC Series



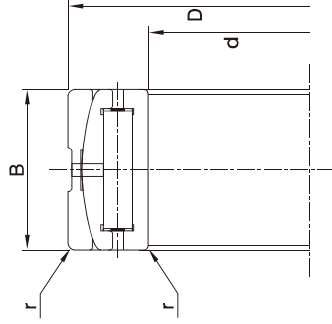
Components

- Outer Cover
- Outer ring
- Inner ring
- Roller

Advantages and special features

- While a spherical roller bearing is installed on one end of roll, self-aligning cylindrical roller bearing (SAC bearing) is widely used to the other end in order to comply with free movement of roll.
- Full complement of rollers can ensure heavy load.
- Plain shaped inner ring with cylindrical rollers give the following advantages.
 - Inner ring can be mounted on the shaft with tight fit, thus SAC bearings perform with great quality in high speeds and heavy load.
 - Easy dismantling
 - High accuracy of roll rotation
- For fitting in misalignment positions, the joint surfaces between outer cover and outer ring are rounded in order for self-aligning.

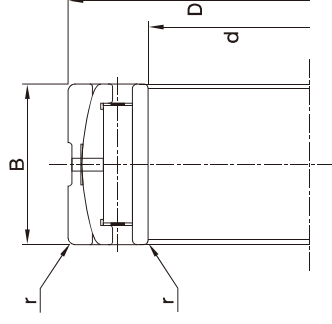
SAC Series - Self Aligning Cylindrical roller bearing



BR - Locating Type

ex) Reference No.SAC 22220 B : - SAC 22220 BX : Floating Type
 - SAC 22220 BR : Locating Type

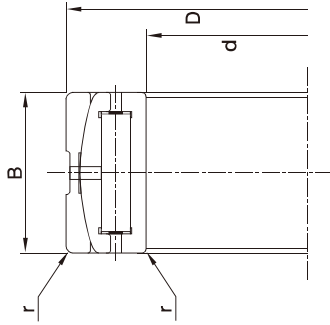
BEARING Shaft Dia.(d)	Designations millimeter	Load Ratings		RPM r/min	D	B	r
		Dyn. C _d (kN)	Stat. C ₀ (kN)				
90	SAC 22218 B	225	374	1133	160	40	2
	SAC 23218 B	276	484	866	160	52.4	2
	SAC 21318 B	296	467	866	190	43	3
95	SAC 22318 B	438	671	800	190	64	3
	SAC 22219 B	250	412	1066	170	43	2.1
	SAC 21319 B	322	528	800	200	45	3
100	SAC 22319 B	476	737	800	200	67	3
	SAC 23120 B	280	539	933	165	52	2
	SAC 22220 B	276	456	1000	180	46	2.1
110	SAC 23220 B	368	660	733	180	60.3	2.1
	SAC 21320 B	354	583	733	215	47	3
	SAC 22320 B	561	880	733	215	73	3
120	SAC 23022 B	226	484	1000	170	45	2
	SAC 23122 B	325	643	866	180	56	2
	SAC 24122 B	400	825	466	180	69	2
130	SAC 22222 B	363	616	933	200	53	2.1
	SAC 23222 B	461	841	666	200	69.8	2.1
	SAC 21322 B	423	693	666	240	50	3
140	SAC 22322 B	667	1061	666	240	80	3



BX - Floating Type

BEARING Shaft Dia.(d)	Designations millimeter	Load Ratings		RPM r/min	D	B	r
		Dyn. C _d (kN)	Stat. C ₀ (kN)				
120	SAC 23024 B	259	561	933	180	46	2
	SAC 24024 B	317	737	666	180	60	2
	SAC 23124 B	390	764	800	200	62	2
130	SAC 24124 B	500	1045	400	200	80	2
	SAC 22224 B	491	841	866	215	58	2.1
	SAC 23224 B	542	1023	633	215	76	2.1
130	SAC 23026 B	317	671	866	200	52	2
	SAC 24026 B	405	896	633	200	69	2
	SAC 23126 B	425	858	733	210	64	2
140	SAC 24126 B	510	1100	400	210	80	2
	SAC 22226 B	485	880	800	230	64	3
	SAC 23226 B	614	1166	566	230	80	3
140	SAC 23028 B	337	748	800	210	53	2
	SAC 24028 B	420	990	600	210	69	2
	SAC 23128 B	475	990	666	225	68	2.1
140	SAC 24128 B	585	1276	366	225	85	2.1
	SAC 22228 B	532	990	733	250	68	3
	SAC 23228 B	711	1375	533	250	88	3
140	SAC 23328 B	1039	1716	500	300	102	4

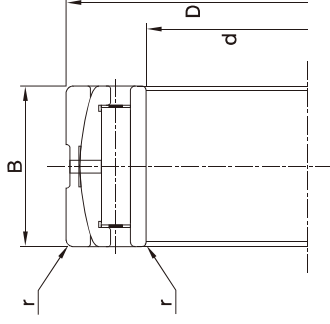
SAC Series - Self Aligning Cylindrical roller bearing



BR - Locating Type

ex) Reference No.SAC 22220 B : - SAC 22220 BX : Floating Type
 - SAC 22220 BR : Locating Type

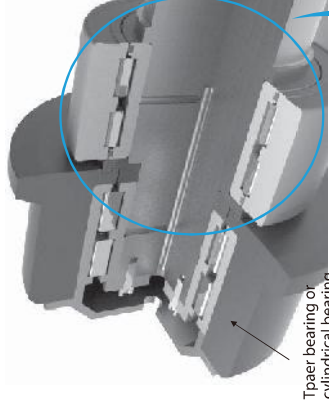
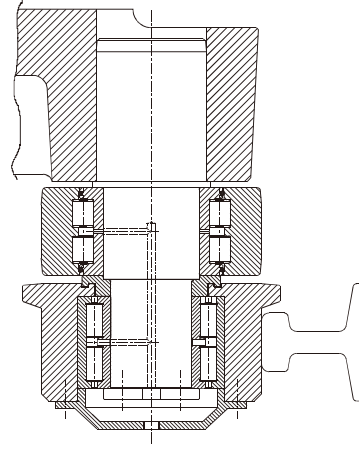
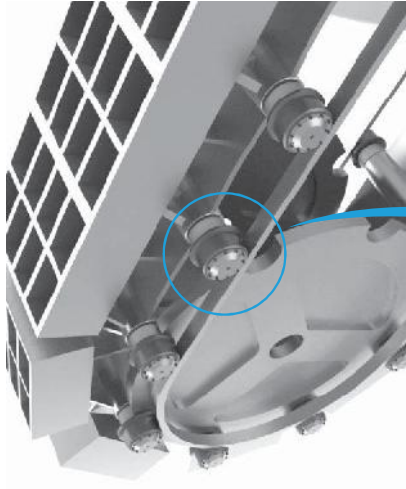
BEARING Shaft Dia.(d)	Designations millimeter	Load Ratings		RPM r/min	D	B	r
		Dyn. C _d (kN)	Stat. C ₀ (kN)				
150	SAC 23030 B	371	825	733	225	56	2.1
	SAC 24030 B	479	1144	566	225	75	2.1
	SAC 23130 B	630	1320	600	250	80	2.1
	SAC 24130 B	780	1683	333	250	100	2.1
	SAC 22230 B	655	1188	666	270	73	3
	SAC 23230 B	833	1606	500	270	96	3
	SAC 22330 B	1168	1936	466	320	108	4
	SAC 23032 B	430	968	733	240	60	2.1
	SAC 24032 B	557	1320	500	240	80	2.1
	SAC 23132 B	735	1507	566	270	86	2.1
160	SAC 24132 B	904	1936	300	270	109	2.1
	SAC 22232 B	768	1419	633	290	80	3
	SAC 23232 B	952	1826	466	290	104	3
	SAC 22332 B	1269	2156	433	340	114	4
	SAC 23034 B	527	1166	666	260	67	2.1
	SAC 24034 B	679	1606	466	260	90	2.1
170	SAC 23134 B	780	1650	533	280	83	2.1
	SAC 24134 B	930	2046	283	280	109	2.1
	SAC 22234 B	870	1606	566	310	86	4
	SAC 23234 B	1085	2123	433	310	110	4
	SAC 22334 B	1416	2376	433	360	120	4



BX - Floating Type

BEARING Shaft Dia.(d)	Designations millimeter	Load Ratings		RPM r/min	D	B	r
		Dyn. C _d (kN)	Stat. C ₀ (kN)				
180	SAC 23936 B	353	913	733	250	52	2
	SAC 23036 B	616	1375	600	280	74	2.1
	SAC 24036 B	796	1903	433	280	100	2.1
	SAC 23136 B	913	1936	500	300	96	3
	SAC 24136 B	1061	2376	266	300	118	3
	SAC 22236 B	898	1716	566	320	86	4
	SAC 23236 B	1148	2332	400	320	112	4
	SAC 22336 B	1591	2695	400	380	126	4
	SAC 23938 B	339	880	733	260	52	2
	SAC 23038 B	640	1474	566	290	75	2.1
190	SAC 24038 B	831	1980	433	290	100	2.1
	SAC 23138 B	1020	2288	466	320	104	3
	SAC 24138 B	1190	2750	250	320	128	3
	SAC 22238 B	987	1870	533	340	92	4
	SAC 23238 B	1299	2640	366	340	120	4
	SAC 22338 B	1720	2915	366	400	132	5
	SAC 23940 B	447	1144	666	280	60	2.1
	SAC 23040 B	748	1683	533	310	82	2.1
	SAC 24040 B	960	2332	400	310	109	2.1
	SAC 23140 B	1200	2596	433	340	112	3
200	SAC 24140 B	1374	3080	233	340	140	3
	SAC 22240 B	1130	2123	500	360	98	4
	SAC 23240 B	1432	2970	366	360	128	4
	SAC 22340 B	1858	3190	366	420	138	5

Pressure roller bearing PRB series (For pallet cars in sinter plant)



⇐ Taper bearing or cylindrical bearing

⇐ Pressure roller bearing (PRB)



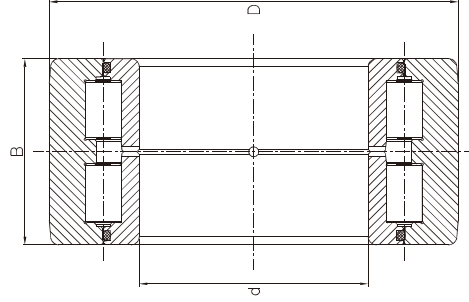
Components

- Outer ring
- Inner ring
- Roller
- Sealing ring

Advantages and special features

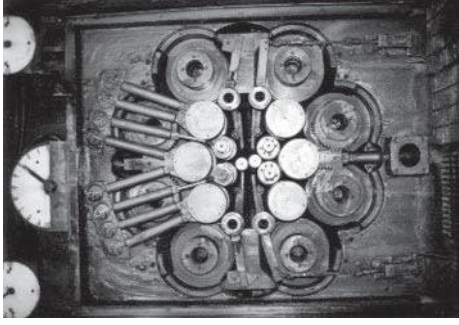
- Reinforced outer ring ensure shock load when pressure roller bearings push gear shaped drive wheels which pull pallet chain.
- Full complement of rollers ensure heavy load.
- Sealing ring with improved design prevents foreign contamination.

Pressure Roller Bearing - PRB Series



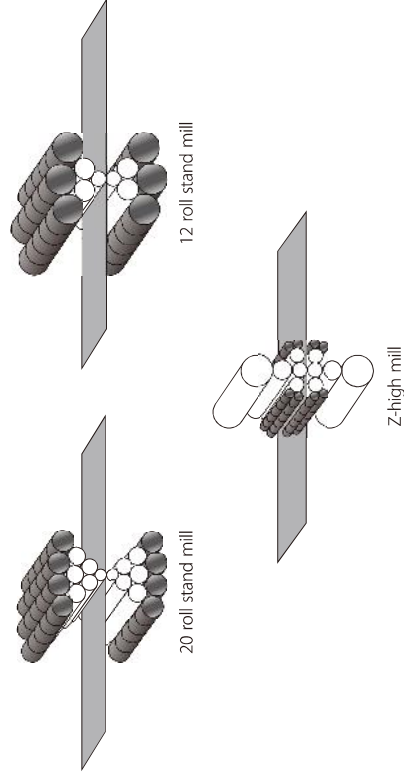
BEARING	Shaft Dia.(d)	Designations	Load Ratings		D	B
			Dyn. C(kN)	Stat. C ₀ (kN)		
88	PRB 88/170x95	384	908	170	95	
93	PRB 93/170x95	384	908	170	95	
110	PRB 93/171x95	384	908	171	95	
	PRB 110/200x90	414	841	200	90	
120	PRB 110/210x110	479	942	210	110	
	PRB 110/300x87/133	604	1022	300	87/133	
128.665	PRB 120/190 x 130	580	1570	190	130	
	PRB 120/210 x 113.8	584	1268	210	113.8	
130	PRB 120/210 x 114	584	1268	210	114	
	PRB 128.665/210 x 101.6	393	1132	210	101.6	
140	PRB 128.665/210 x 114	463	1395	210	114	
	PRB 130/210 x 132	529	1659	210	132	
130	PRB 130/250 x 132	899	1664	250	132	
	PRB 140/250 x 114	769	1601	250	132	
130	PRB 140/250 x 130	899	1957	250	130	

Back-up roller – ZB series (For Backing shaft of cluster mill)

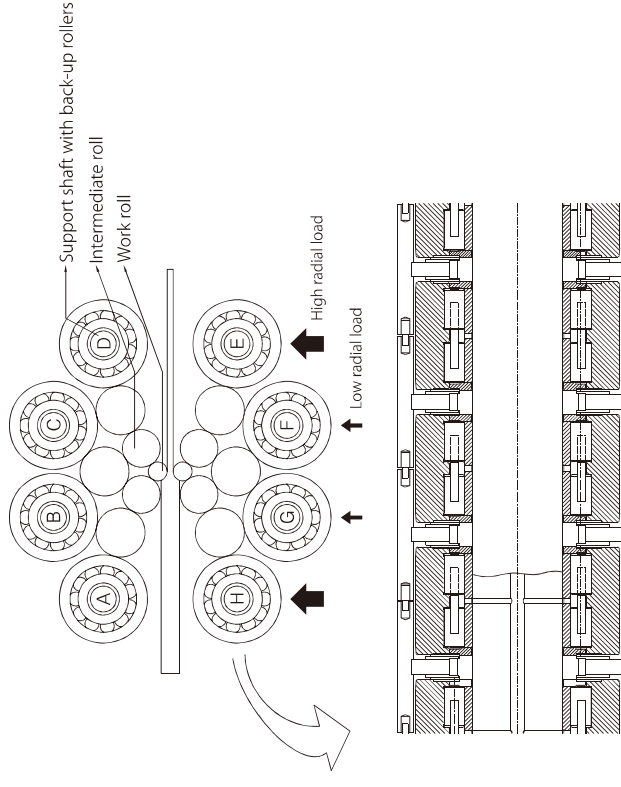


HKT has been supplying back-up roller for various type of multi roll cold mill stands. Depends on their type and manufacturer, roll stands are described in 12 roll stand mill, 20 roll stand mill, Z-high mill, and so on. The demands for rolled product with high quality in thickness and flatness is going to wide needs for back-roller bearing with high running accuracy, and HKT meets their requirements.

Various types of multi-roll cold mill stands (Cluster mill)



20-high mill



The work rolls are supported by intermediate rolls, which are supported by back-up rollers subsequently. A few back-up rollers are arranged in one shaft and ensure from high radial shock load.

Types

Type differs in accordance with design of cluster mill. Depends on type of lubricant and lubrication method, side plates are designed with adequate feature.



Components

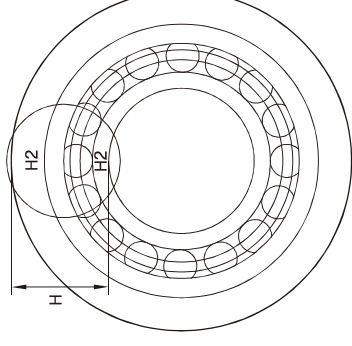
- Outer ring
- Inner ring
- Roller
- Cage
- Internal ring (depends on type)
- Side plate (depends on type)

Advantages and special features

- Outer surface of outer ring have direct contact with the intermediate roll, which carrying certain percentage of rolling forces, hence the outer profile of outer ring has log curve (crowned surface) in order to prevent load concentration at the ends.
- Special section height tolerance

To improve quality of rolled product, not only surface quality of outer ring but also special section height tolerance is required. This is achieved by restricted manufacturing tolerances and grouping each component. Back-up rollers are classified in a few groups, each to 3, 4 or 5 μm tolerance.

Section height group	Section height tolerance μm
H1	0 -0.005
H2	-0.005 -0.010
H3	-0.010 -0.015



Section height group is designated to the position of greatest wall thickness in back-up rollers as above. Group marking must be at the same position on all bearing. The inner ring prefer to be rotated by 90° when maintenance period such that inner ring wear uniformly.

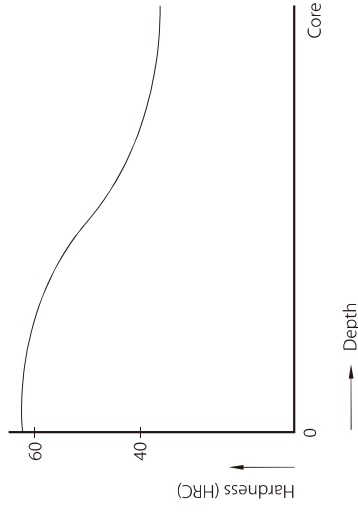
HKT back-up rollers can be supplied in section height groups and every back-up rollers in one supporting shaft must be in one section height group. Therefore, when ordering, please add number of back-up rollers installed in one supporting shaft at the end of designation, for example;

ZB3R 130/300x172,6-56. (means 6 back-up rollers in one shaft)

- High running accuracy with narrow tolerances and runout in each component.

Heat Treatment

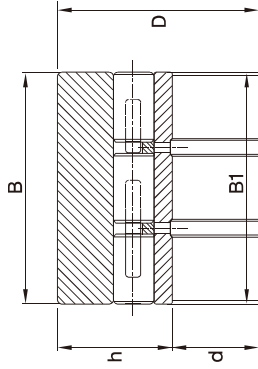
- Outer surface of outer ring have direct contact with the intermediate roll, which carrying certain percentage of rolling forces. Therefore outer ring of back-up roller is required to have adequate rigidity and fatigue strength, the hardness curve of outer ring by means of depth should conform to the below graph;



Maintenance

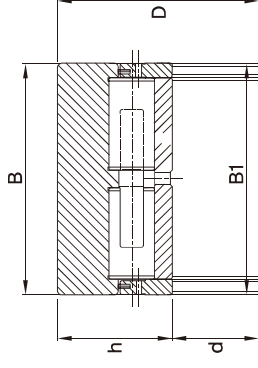
- Sliding fit possible because of point load on inner ring.
- Section height group marking must be at the same position on all bearing. The inner ring prefer to be rotated by 90° when maintenance period such that inner ring wear uniformly.
- As radial load on each back-up roller shaft is different, back-up rollers subject to higher radial load should be interchanged with back-up rollers subject to lower load regularly.
- Outer ring can be reground without loss of hardness. HKT supplies regrinding mandrel, which centers back-up rollers by means of the rolling elements, therefore required run-out of back-up roller set can be achieved.

ZB series - Back up roller



ZB3R

Dimensions				Designation	Mass m kg	Section height h	Basic load ratings		
d	D	B	C				dyn. C kN	stat. C ₀ kN	
50	120	80	80	ZB2R 50/120x80	5.15	34.976	270	380	
50	120	85	85	ZB2R 50/120x85	5.4	34.984	300	430	
55	120	52.197	52	ZB2R 55/120x52.197/52	3.27	32.483	200	310	
60	160	95	95	ZB2R 60/160x95	11.5	46.484	400	590	
62	155	90	90	ZB2R 62/155x90	9.97	46.484	360	530	
65	155	110	110	ZB3R 62/155x110	12.2	46.484	400	630	
65	165	70	70	ZB2R 65/165x70	8.83	49.982	420	590	
65	170	100	100	ZB2R 65/170x100	13.5	52.48	400	600	
70	160	90	90	ZB2R 70/160x90	10.1	44.977	350	550	
70	160.02	90	90	ZB2R 70/160.02x90	10.4	44.971	380	650	
70	160.07	90	90	ZB3R 70/160.07x90	10.5	45	380	670	
90	220	94	94	ZB2R 90/220x94	21.2	65	690	1000	
90	220	96	94	ZB2R 90/220x96/94	65	65	490	700	
90	220	95	95	ZB2R 90/220x95	20.9	65	530	800	
90	220	130	130	ZB3R 90/220x130	28.7	65	700	1130	
90	220.02	94	94	ZB2R 90/220.02x94	21	65	740	1100	
90	220.02	96	94	ZB2R 90/220.02x96/94	22.2	65	550	780	
90	230	100	100	ZB2R 90/230x100	24.2	69.98	640	980	
90	260	125	125	ZB2R 90/260x125	41.3	84.97	920	1520	
99.995	225	120	120	ZB2R 99.995/225x120	26	62.474	630	1000	
100	225	100	100	ZB2R 100/225x100	21.7	62.48	550	840	
100	225	120	119	ZB2R 100/225x120/119	62.5	62.5	770	1310	
100	225	120	119	ZB2R 100/225x120/119	26	62.5	710	1170	
100	225	120	120	ZB3R 100/225x120	27.7	62.5	740	1380	
100	225.021	80	80	ZB2R 100/225.021x80	18.2	62.474	610	990	
100	225.021	100	100	ZB3R 100/225.021x100	27.2	62.474	810	1440	
100	260	95	95	ZB2R 100/260x95	30.2	79.97	700	1060	



ZB2R

Dimensions				Designation	Mass m kg	Section height h	Basic load ratings		
d	D	B	C				dyn. C kN	stat. C ₀ kN	
100	260	105	105	ZB2R 100/260x105	33.5	79.97	710	790	
100	260	130	130	ZB2R 100/260x130	41.5	79.97	950	1580	
110	260	98	98	ZB2R 110/260x98	31.9	75	700	1010	
110	280	165	165	ZB3R 110/280x165	60.2	84.965	1120	1880	
115	260	140	140	ZB2R 115/260x140	41.9	72.47	980	1690	
120	280	165	165	ZB3R 120/280x165	57.7	79.965	1100	1940	
120	350	165	165	ZB3R 120/350x165	98.3	114.965	1370	2220	
130	300	160	159.5	ZB3R 130/300x160/159.5	64.8	84.967	1330	2340	
130	300	172.644	172.644	ZB3R 130/300x172.644	72.6	84.955	1560	2900	
130	300.02	130	129	ZB2R 130/300.02x130/129	51.8	85.01	1070	1620	
130	300.02	132	129	ZB2R 130/300.02x132/129	53.8	85.01	1140	1830	
130	300.02	150	149	ZB2R 130/300.02x150/149	60	85	1200	1860	
130	300.02	161.5	160.5	ZB2R 130/300.02x161.5/160.5	67.4	85	1200	1880	
130	300.02	172.65	171.6	ZB2R 130/300.02x172.65/171.6	73.6	85.01	1440	2370	
130	300.02	172.64	172.6	ZB3R 130/300.02x172.64/172.6	74.8	84.955	1500	2700	
130	350	175	175	ZB2R 130/350x175	101	109.965	1400	2300	
179.984	406.43	224.25	217	ZB3R 179.984/406.43x224.25/217	161	113.155	2350	4500	
180	406.4	171.04	170	ZB2R 180/406.4x171.04/170	125	113.2	1710	3000	
180	406.4	224	220	ZB2R 180/406.4x224/220	174	113.2	1910	3450	
180	406.42	171.04	170	ZB2R 180/406.42x171.04/170	132	113.143	1570	2650	
180	406.42	171.04	171	ZB3R 180/406.42x171.04/171	130	113.2	2080	3850	
180	406.42	171.04	171.04	ZB3R 180/406.42x171.04	130	113.155	2060	3810	
180	406.42	176	170	ZB2R 180/406.42x176/170	136	113.2	1710	3000	
180	406.42	217	217	ZB3R 180/406.42x217	150	113.143	2500	4900	
180	406.42	224	224	ZB2R 180/406.42x224	169	113.2	2600	5100	
180	406.42	224.25	224	ZB2R 180/406.42x224.25/224	162	113.155	2290	4230	



Posco-Kwangyang, Korea	Posco-Pohang, Korea	Hyundai Steel, Korea	Hyundai Precision & Industries, Korea
Hyundai Heavy Industries, Korea	Kangwon Industries, Korea	Dong Kuk Steel, Korea	Samsung SDI, Korea
CIS (Creative & Innovative System), Korea	Samsung Engineering, Korea	LG Chemical, Korea	Dongbu steel, Korea
Hyundai rotom, Korea	Hadong thermal power station, Korea	Samyoung M-Tech, Korea	Scheffler Group (INA-FAG), Korea
Daedong Engineering & Machinery, Korea	Dongbaeng Plantech, Korea	Hyosung heavy industry, Korea	SeAH Besteel, Korea
Puyang steel, China	Handan steel, China	Jinan steel, China	TISCO (Tayuan Iron & Steel CO), China
Beijing Institutes, China	Bao Steel, China	Liuzhou Steel, China	Shougang Jingtang, China
Yinkou Steel, China	Donghwa Steel, China	Benxi Steel, China	Xinyu Steel, China
G Steel (former System), Thailand	NSM, Thailand	Usha Siam, Thailand	Usha Siam, Thailand
Codenill, Belgium	Timken Torrington, US		
ATA JSP, Italy	Danieli Davy Distington, Italy		
Highveld South Africa	Iscor Steel, South Africa		
Roll Art CO, Iran			
Ispat Sidex, Rumanis	SKF, Australia		
Magnum Integrated Technologies, Canada	EBC (Equipment Builders Canada), Canada		
	Voess-Alpine, Germany	SMS Demag (former Mannesmann), Germany	
Tang Eng Iron, Taiwan	YUSCO (Yieh United), Taiwan	Fair Oaks, Taiwan	China Steel, Taiwan
SAIL-Durgapur, India	SAIL-Bokaro, India	SAIL-Rourkela, India	MPPCCI, India
Sakhanha Steel, India	CESC, India	Atomic Energy, India	FL-Smith, India
Blecon Engineering, India	Larsen & Toubro, India	Jindal steel, India	Vizag Steel, India
Ushinas Brazil	CST-Arcelo, Brazil	Koyo, Japan	NSK, Japan
Nippon Steel, Japan	JSP (former Hitachi Zosen), Japan		



HKT BEARINGS Ltd.

162B-3L Namdong Industrial Complex 736-6, Gojan-dong, Namdong-gu, Incheon, Korea
 Tel. +82-32-822-7607 Fax +82-32-865-9164
 E-mail: hktbrg01@chol.com Website: www.hktbearings.com