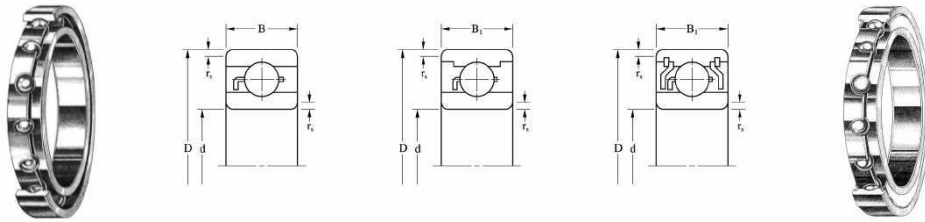


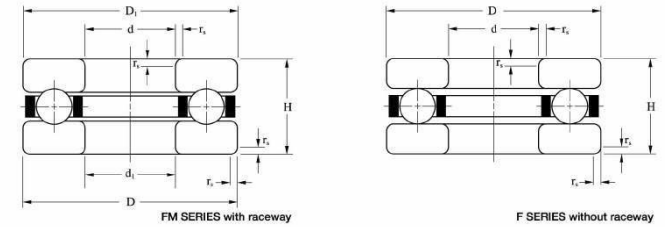
Extra thin metric series : ET, ER



Bore Diameter :		Outer Diameter :		Open Type Width :		Seal-Shield Type Width :		Chamfer rs(min)		Bearing References			Load Rating		Max. Speed		Ball Complement			Weight(Ref.)		
d		D		B		B ₁				Open	2Shields	2Seals	Cr (N)	Co (N)	Grease	Oil	Cage Type	Qty.: Z	Size: Dw		2Shields	Flange 2Shields
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				(N)	(N)	X1000min ⁻¹		pcs.	mm	inch		g	
ET series																						
15	0.5906	20	0.7874	3.5	0.1378	-	-	0.15	0.0059	ET2015	-	-	943	583	11	13	W	14	1.588	0.0625	2.14	-
		21	0.8268	3.5	0.1378	-	-	0.15	0.0059	ET2115	-	-	937	581	11	13	W	14	1.588	0.0625	3.04	-
16	0.6299	22	0.8661	4.0	0.1575	4.0	0.1575	0.15	0.0059	ET2216 ⁽¹⁾	ZZS	TTS	971	620	10	12	W	15	1.588	0.0625	3.39	3.70
		23	0.9055	4.5	0.1772	4.5	0.1772	0.15	0.0059	ET2316 ⁽¹⁾	ZZS	TTS	971	620	10	12	W	15	1.588	0.0625	4.98	5.29
20	0.7874	25	0.9843	4.0	0.1575	4.0	0.1575	0.15	0.0059	ET2520 ⁽¹⁾	ZZS	TTS	1 010	691	8.5	10	W	17	1.588	0.0625	2.96	3.30
ER series																						
9.525	0.3750	15.875	0.6250	3.967	0.1562	3.967	0.1562	0.25	0.0098	ER1038 ⁽¹⁾	ZZS	TTS	857	435	15	17.5	W	11	1.588	0.0625	2.40	2.60
12.700	0.5000	19.050	0.7500	3.967	0.1562	3.967	0.1562	0.25	0.0098	ER1212 ⁽¹⁾	ZZS	TTS	919	537	12	14	W	13	1.588	0.0625	3.01	3.26
15.875	0.6250	22.225	0.8750	3.967	0.1562	3.967	0.1562	0.25	0.0098	ER1458 ⁽¹⁾	ZZS	TTS	971	620	10	12	W	15	1.588	0.0625	3.64	3.95
19.050	0.7500	25.400	1.0000	3.967	0.1562	3.967	0.1562	0.25	0.0098	ER1634 ⁽¹⁾	ZZS	TTS	1 010	691	8.5	10	W	17	1.588	0.0625	4.22	4.56

(1) Open type bearings have shield/seal grooves.
 (2) Single shield or single seal types are also available; suffix ZS or TS.
 (3) Prefix S is added for stainless material types. Load ratings of stainless material types are calculated by CrX0.85 and CoX0.80 of SUJ2 material types.
 (4) Applicable only for open, single Z, ZZ, single RU and 2RU types in inner ring rotating conditions. Max. speeds for the contact rubber seal(s) types will be around 50-60% of above values.

Thrust series : FM, F



FM series with raceway

Bearing Reference	Inner Ring Bore Dia.		Outer Ring Outer Dia.		Outer Ring Bore Dia.		Inner Ring Outer Dia.		Chamfer		Hight		Load Rating		Max Speed		Cage Type	Ball Complement			Weight (Ref.)
	d		D		d ₁		D ₁		rs(min)		H		Ca(N)	Coa(N)	Oil	Qty.: Z		Size: Dw			
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	(N)	X1000min ⁻¹	pcs.			mm	inch	g	
F3-8M	3	0.1181	8	0.3150	3.2	0.1260	7.8	0.3071	0.15	0.0059	3.5	0.1378	994	932	24	TP	6	1.588	0.0625	0.8	
F4-9M	4	0.1575	9	0.3543	4.2	0.1654	8.8	0.3465	0.15	0.0059	4.0	0.1575	945	932	22	TP	6	1.588	0.0625	1.2	
F4-10M	4	0.1575	10	0.3937	4.2	0.1654	9.8	0.3858	0.15	0.0059	4.0	0.1575	925	932	21	TP	6	1.588	0.0625	1.5	
F5-12M	5	0.1969	12	0.4724	5.2	0.2047	11.8	0.4646	0.20	0.0079	4.0	0.1575	1 060	1 240	19	TP	8	1.588	0.0625	2.1	
F6-12M	6	0.2362	12	0.4724	6.2	0.2441	11.8	0.4646	0.20	0.0079	4.5	0.1772	1 820	2 220	18	TP	9	2.000	0.0787	2.2	
F6-14M	6	0.2362	14	0.5512	6.25	0.2461	13.8	0.5433	0.20	0.0079	5.0	0.1969	2 160	2 440	16	TP	7	2.381	0.0937	3.5	
F7-13M	7	0.2756	13	0.5118	7.2	0.2835	12.8	0.5039	0.20	0.0079	4.5	0.1772	1 770	2 220	18	TP	9	2.000	0.0787	2.4	
F7-17M	7	0.2756	17	0.6693	7.2	0.2835	16.8	0.6614	0.30	0.0118	6.0	0.2362	3 090	3 800	14	TP	8	2.778	0.1094	6.3	
F8-16M	8	0.3150	16	0.6299	8.2	0.3228	15.8	0.6220	0.30	0.0118	5.0	0.1969	3 920	4 990	16	TP	9	3.000	0.1181	3.9	
F8-19M	8	0.3150	19	0.7480	8.2	0.3228	18.8	0.7402	0.30	0.0118	7.0	0.2756	3 940	4 970	12	TP	8	3.175	0.1250	9.3	
F9-20M	9	0.3543	20	0.7874	9.2	0.3622	19.8	0.7795	0.30	0.0118	7.0	0.2756	3 860	4 970	12	TP	8	3.175	0.1250	9.9	
F10-18M	10	0.3937	18	0.7087	10.2	0.4016	17.8	0.7008	0.30	0.0118	5.5	0.2165	2 470	3 490	14	TP	10	2.381	0.0937	5.3	

(1) Bearings in stainless steel material (suffix H) would also be available upon request. Load ratings of stainless material types are calculated by CrX0.85 or CoX0.80 of SUJ2 material types.

F series without raceway

Bearing Reference	Bore Dia.		Outer Dia.		Chamfer		Hight		Load Rating		Cage Type	Qty.: Z	Ball Complement			Weight (Ref.)
	d		D		rs(min)		H		Ca(N)	Coa(N)			Size: Dw			
	mm	inch	mm	inch	mm	inch	mm	inch	(N)	g						
F2-6	2	0.0787	6	0.2362	0.10	0.0039	3.0	0.1181	143	83	TD	6	1.000	0.0394	0.5	
F2X-7	2.5	0.0984	7	0.2756	0.10	0.0039	3.5	0.1378	199	120	TD	6	1.200	0.0472	0.9	
F3-8	3	0.1181	8	0.3150	0.10	0.0039	3.5	0.1378	212	140	TD	7	1.200	0.0472	1.0	
F4-9	4	0.1575	9	0.3543	0.15	0.0059	4.0	0.1575	220	160	TD	8	1.200	0.0472	1.4	
F4-10	4	0.1575	10	0.3937	0.15	0.0059	4.5	0.1772	355	245	TD	7	1.588	0.0625	1.9	
F5-11	5	0.1969	11	0.4331	0.15	0.0059	4.5	0.1772	341	245	TD	7	1.588	0.0625	2.2	
F6-12	6	0.2362	12	0.4724	0.15	0.0059	4.5	0.1772	389	314	TD	9	1.588	0.0625	2.5	
F7-15	7	0.2756	15	0.5906	0.20	0.0079	5.0	0.1969	793	628	TD	8	2.381	0.0937	4.2	
F8-16	8	0.3150	16	0.6299	0.20	0.0079	5.0	0.1969	537	443	TD	8	2.000	0.0787	4.9	
F9-17	9	0.3543	17	0.6693	0.20	0.0079	5.0	0.1969	567	499	TD	9	2.000	0.0787	5.2	
F10-18	10	0.3937	18	0.7087	0.20	0.0079	5.5	0.2165	800	707	TD	9	2.381	0.0937	6.1	