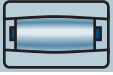
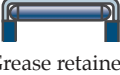


Table 13.1: Selection guide for rolling-element bearings.

Bearing type	Examples	Approximate maximum diameter, mm	Radial capacity	Axial capacity	Combined load	Moment load	Speed	Stiffness	Quiet running	Misalignment compensation	Allowable axial displacement	Typical applications
Radial ball												
Deep groove	  Conrad Filling notch	1000	2	2	2	1 ^a	2	2	4	1	0	Textiles, power tools, pumps, gearboxes
Self-aligning	  Internal External	120	2	1	1	0	4	1	3	4	0	Fans, paper making machinery
Angular contact	 Single row	320	2	2	3	1 ^a	3	2	3	1	0	Pumps, compressors, centrifuges
Duplex	  Back-to-back Tandem	320	3	2	3	2	2	3	2	0	0	Pumps, compressors, centrifuges
Two-directional	 Split-ring	110	1	3	2	2 ^a	3	2	2	0	0	Compressors
Thrust ball	  Flat race Grooved race	1000	0	2	0	0	1	2	1	1	0	Plastic extruder tools, crane hooks
Cylindrical roller	  Separable inner ring Separable outer ring	500	3	0	0	0	3	3	3	1	4	Traction motors, electric motors, gearboxes
Full compliment	  Separable inner ring Separable outer ring	120	4	1	2	0	1	4	1	1	2	Elevators, gearboxes
Double row		1250	4	1	2	2	1	4	1	0	2	Cranes, rolling mills, wire rope sheaves
Spherical roller	 Single row	320	4	2	4	0	2	3	2	4	0	Fans, gearboxes, crushers, vibrating screens
Toroidal (CARB)		1120	4	0	0	0	2	3	2	4	4	Papermaking machines, gearboxes, fans, electric motors
Needle	  Drawn cup, open end Grease retained	185	3	0	0	0	2	3	2	0	4	Planetary gearboxes, alternators
Taper roller – single row		360	3	3	4	1	2	3	2	1	0	Gearboxes, cone crushers
Taper roller – double row	  Back-to-back Tandem	130	4	3	4	2	2	4	2	1	0	Gearboxes, rail car axles

0: Unsuitable, 1: Poor, 2: Fair, 3: Good, 4: Excellent.

^a Dual-row only, otherwise 0.