

Service factors for chain, gear and grid couplings by application

Application	Electric motor with standard torque	Application	Electric motor with standard torque
Aerator	2,0	Man lifts	Not approved
Agitators		Mills (rotary type)	
Vertical and horizontal	1,0	Ball or pebble	2,0
Screw, propeller, paddle	1,5	Rod or tube	2,0
Barge haul puller		Metal forming machines	
Blowers		Dryer and cooler	1,75
Centrifugal	1,0	Continuous caster	1,75
Lobe or vane	1,25	Draw bench carriage and main drive	2,0
Car dumpers	2,5	Extruder	2,0
Car pullers	1,5	Forming machine and forming mills	2,0
Clarifier or classifier	1,0	Slitters	1,0
Clay working machines		Wire drawing or flattening	1,75
Brick press	1,75	Wire winder	1,5
Pug mill	1,75	Coilers and uncoilers	1,5
Briquette machine	1,75	Mixers (see agitators)	
Compressors		Concrete	1,75
Centrifugal	1,0	Muller	1,5
Rotary, lobe or vane	1,25	Press, printing	1,5
Rotary, screw	1,0	Pug mill	1,75
Reciprocating		Pulverizers	
Direct connected	Contact SKF	Hammermill and hog	1,75
Without flywheel	Contact SKF	Roller	1,5
With flywheel and gear between compressor and prime mover		Pumps	
1 cylinder, single acting	3,0	Boiler feed	1,5
1 cylinder, double acting	3,0	Centrifugal	
2 cylinders, single acting	3,0	Constant speed	1,0
2 cylinders, double acting	3,0	Frequent speed changes under load	1,25
3 cylinders, single acting	3,0	Descaling, with accumulators	1,25
3 cylinders, double acting	2,0	Gear, rotary, or vane	1,25
4 or more cylinders, single acting	1,75	Reciprocating, plunger, piston	
4 or more cylinders, double acting	1,75	1 cylinder, single or double acting	3,0
Conveyors		2 cylinders, single acting	2,0
Apron, assembly, belt, chain	1,0	2 cylinders, double acting	1,75
Bucket flight, screw	1,25	3 or more cylinders	1,5
Live roll, shaker	1,0	Screw pump, progressing cavity	1,25
Inclined belt and screw	3,0	Vacuum pump	1,25
Reciprocating	1,75	Screens	
Main hoist	1,75	Air washing	1,0
Skip hoist	1,5	Grizzly	2,0
Slope	1,75	Rotary coal or sand	1,5
Bridge, travel or trolley	2,5	Vibrating	2,5
Cranes and hoist	1,75	Water	1,0
Crushers		Ski tows and lifts	Not approved
Cable reel	1,25	Steering gear	1,0
Dredges		Stoker	1,0
Conveyors	2,0	Tyre shredder	1,5
Cutter head, jig drive	1,5	Tumbling barrel	1,75
Maneuvering winch	1,5	Winch, maneuvering	
Pumps (uniform load)	1,75	Dredge, marine	1,5
Dynamometer		Wind turbines	1,25
Screen drive, stacker	1,5	Windlass	1,5
Utility winch	1,0	Woodworking machinery	1,0
Elevators		Work lift platforms	Not approved
Bucket, centrifugal discharge	1,25		
Freight or passenger	Not approved		
Gravity discharge	1,25		
Escalators	Not approved		
Exciter, generator	1,0		
Extruder, plastic	1,5		
Fans			
Centrifugal	1,0		
Cooling tower	2,0		
Forced draft – across the lines start	1,5		
Forced draft motor			
Driven through fluid or electric slip clutch	1,0		
Gas recirculating	1,5		
Induced draft with damper control or blade cleaner	1,25		
Induced draft without controls	2,0		
Feeder			
Apron, belt, disc, screw	1,0		
Reciprocating	2,5		
Generators			
Even load	1,0		
Hoist or railway service	1,5		
Welder load	2,0		
Hammermill	1,75		
Kiln	2,0		
Laundry washer or tumbler	2,0		
Line shafts			
Any processing machinery	1,5		
Machine tools			
Auxiliary and traverse drive	1,0		
Bending rolls, notching press			
Punch press, planer, plate			
Reversing	1,75		
Main drive	1,5		

For balanced opposed design, contact SKF

If people are occasionally transported, contact SKF for selection of the proper size coupling

For high peak load applications (such as metal rolling mills), contact SKF

Service factors for chain, gear and grid couplings by industry

Application	Electric motor with standard torque	Application	Electric motor with standard torque
Aggregate processing		Soaking pit cover drives	
Cement, mining kilns		Lift	1,0
Tube, rod and ball mills		Travel	2,0
Direct or on low speed shaft of reducer, with final drive machined spur gears	2,0	Straighteners	2,0
Single helical or herringbone gears	1,75	Unscramblers (billet bundle busters)	2,0
Conveyors, feeders, screens, elevators	See general listing	Wire drawing machinery	1,75
Crushers, ore or stone	2,5	Oil industry	
Dryer, rotary	1,75	Chiller	1,25
Grizzly	2,0	Oil well pumping (not over 150% peak torque)	2,0
Hammermill or hog	1,75	Paraffin filter press	1,5
Tumbling mill or barrel	1,75	Rotary kiln	2,0
Brewing and distilling		Paper mills	
Bottle and can filling machines	1,0	Barker auxiliary, hydraulic	2,0
Brew kettle	1,0	Barker, mechanical	2,0
Cookers, continuous duty	1,25	Barking drum	
Lauter tub	1,5	L, S, shaft of reducer with final drive	
Mash tub	1,25	Helical or herringbone gear	2,0
Scale hopper, frequent peaks	1,75	Machined spur gear	2,5
Clay working industry		Cast tooth spur gear	3,0
Brick press, briquette machine, clay working machine	1,75	Beater and pulper	1,75
Pug mill	1,75	Bleachers, coaters	1,0
Food industry		Calender and super calender	1,75
Beet slicer	1,75	Chipper	2,5
Bottling, can filling machine	1,0	Converting machine	1,25
Cereal cooker	1,25	Couch	1,75
Dough mixer, meat grinder	1,75	Cutter, flet whipper	2,0
Lumber		Cylinder	1,75
Band resaw	1,5	Dryer	1,75
Circular resaw, cut-off	1,75	Felt stretcher	1,25
Edger, head rig, hog	2,0	Fourdrinier	1,75
Gang saw (reciprocating)	Contact SKF	Jordan	2,0
Log haul	2,0	Log haul	2,0
Planer	1,75	Line shaft	1,5
Rolls, non-reversing	1,25	Press	1,75
Rolls, reversing	2,0	Pulp grinder	1,75
Sawdust conveyor	1,25	Reel, rewinder, winder	1,5
Slab conveyor	1,75	Stock chest, washer, thickener	1,5
Sorting table	1,5	Stock pumps, centrifugal	
Trimmer	1,75	Constant speed	1,0
Metal rolling mills		Frequent speed changes under load	1,25
Coilers (up or down) cold mills only	1,5	Suction roll	1,75
Coilers (up or down) hot mills only	2,0	Vacuum pumps	1,25
Coke plants		Rubber industry	
Pusher ram drive	2,5	Calender	2,0
Door opener	2,0	Cracker, plasticator	2,5
Pusher or larry car traction drive	3,0	Extruder	1,75
Continuous caster	1,75	Intensive or banbury mixer	2,5
Cold mills		Mixing mill, refiner or sheeter	
Strip mills	Contact SKF	One or two in line	2,5
Temper mills	Contact SKF	Three or four in line	2,0
Cooling beds	1,5	Five or more in line	1,75
Drawbench	2,0	Tyre building machine	2,5
Feed rolls – blooming mills	3,0	Tyre and tube press opener (peak torque)	1,0
Furnace pushers	2,0	Tuber, strainer, pelletizer	1,75
Hot and cold saws	2,0	Warming mill	
Hot mills		One or two mills in line	2,0
Strip or sheet mills	Contact SKF	Three or more mills in line	1,75
Reversing blooming	Contact SKF	Washer	2,5
Slabbing mills	Contact SKF	Sewage disposal equipment	
Edger drives	Contact SKF	Bar screen, chemical feeders, Collectors dewatering	
Hot mills		Screen, grit collector	1,0
Strip or sheet mills	Contact SKF	Sugar industry	
Reversing blooming	Contact SKF	Cane carrier and leveler	1,75
Slabbing mills	Contact SKF	Cane knife and crusher	2,0
Edger drives	Contact SKF	Mill stands, turbine driver with all helical or herringbone gears	
Ingot cars	2,0	Electric drive or steam engine	1,5
Manipulators	3,0	Drive with helical, herringbone, or spur gears with any prime mover	1,75
Merchant mills	Contact SKF	Textile industry	
Mill tables		Batcher	1,25
Roughing breakdown mills	3,0	Calender, card machine	1,5
Hot bed or transfer, non-reversing	1,5	Cloth finishing machine	1,5
Runout, reversing	3,0	Dry can, loom	1,5
Runout, non-reversing, non-plugging	2,0	Dyeing machinery	1,25
Reel drive	1,75	Knitting machine	Contact SKF
Rod mills	Contact SKF	Mangle, napper, soaper	1,25
Screwdown	2,0	Spinner, tenter frame, winder	1,5
Seamless tube mills			
Piercer	3,0		
Thrust block	2,0		
Tube conveyor rolls	2,0		
Reeler	2,0		
Kick out	2,0		
Shear, croppers	Contact SKF		
Sideguards	3,0		
Skelp mills	Contact SKF		
Slitters, steel mill only	1,75		

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Service factors for disc couplings by application

Application	Electric motor with standard torque	Application	Electric motor with standard torque
Agitators		Table conveyor	
Pure liquid	1,0	Non-reversing	3,0
Liquid with variable concentration	1,5	Reversing	4,0
Briquetting machines	2,0	Wire-drawing machine	3,0
Canning machines	1,0	Wire-winding machine	2,5
Compressors		Mixers	
Centrifugal	1,5	Concrete mixer	2,0
Reciprocating (multi-cylinder)	3,0	Drum	2,0
Conveyors		Oil industry	
Apron	2,0	Chiller	1,5
Belt	2,0	Oil well pump	2,0
Disk	2,0	Paraffin filter press	2,0
Bucket (on floor)	1,5	Rotary kiln	2,0
Chain	2,0	Paper mills	
Reciprocating	3,0	Barker	2,5
Screw	2,0	Beater and pulper	2,0
Crushers (powder)		Bleacher	1,5
Ball mill	2,5	Calender	2,0
Cement kiln	2,0	Couch	2,5
Dryer and cooler	2,0	Cylinder	2,5
Kiln	2,0	Dryer	2,5
Pebble	2,0	Felt stretcher	1,5
Rod mill	2,0	Felt whipper	2,5
Tumbling barrel	2,0	Jordan	2,0
Crushers		Press	2,5
Ore	3,5	Reel	2,0
Stone	3,5	Stock chest	2,0
Cutters (for plant stems)	2,0	Suction roll	2,5
Dredges		Washer and thickener	2,0
Cable reel	2,0	Winder	2,0
Conveyor	2,0	Printing machines	2,0
Cutter head drive	3,0	Pumps	
Jig drive	3,0	Centrifugal	1,0–2,0
Maneuvering winch	2,0	Reciprocating	
Pumps	2,0	Double-action	2,5
Screen drive	2,0	Single-action	
Stacker	2,0	1 or 2 cylinders	3,0
Utility winch	2,0	3 or more cylinders	2,5
Elevators		Rotary (gear, lobe, vane)	1,5
Escalator	1,5	Rubber industry	
Freight	2,0	Mixer (Banbury)	3,0
Extrusion press		Rubber calender	2,0
For plastic	2,0	Rubber mill	3,0
For metal	2,5	Sheeter	2,0
Fans and blowers		Tire-building machine	3,0
Centrifugal	1,0–1,5	Tire-tube press opener	1,0
Cooling tower (forced draft)	2,0	Tuber and strainer	2,0
Induced draft	2,0	Screens	
Lobe	1,5	Air washing	1,0
Vane	1,5	Rotary (stone or gravel)	1,5
Food industry		Vibrating	3,0
Beet slicer	2,0	Textile industry	
Cereal cooker	1,5	Batcher	1,5
Dough mixer	2,0	Calender	2,0
Meat grinder	2,0	Carding machine	1,5
Generators (for general use)	1,5	Cloth finishing machine	1,5
Hammermill	3,0	Dry can	2,0
Iron and steel making equipment		Dryer	2,0
Bloom or slab shear	3,0	Tractor	1,5
Chain transfer	2,0	Washing machines	
Cold rolling mill (tandem)	3,0	Reversing type	2,0
Continuous casting oscillation	3,0	Water supply and sewage disposal equipment	
Cooling bed	2,0	Pump	1,5
Crop shear	3,0	Winch	2,0
Descaler	3,0		
Medium and small-size rolling mill (tandem)	3,0		
Manipulator	3,0		
Roller table (high load)	3,0		
Roller table (low load)	2,0		
Pipe welding machine	3,0		
Lumber industry			
Barker (drum type)	2,5		
Edger feed	2,0		
Live roll	2,0		
Log conveyor	2,0		
Off-bearing roll	2,0		
Planer	2,0		
Slab conveyor	2,0		
Sorting table	1,5		
Deburring machine	2,0		
Metal-working machines			
Bending roll	2,0		
Planer	2,0		
Punch press (gear-driven)	3,0		
Machine tool			
Main drive	2,0		
Auxiliary drive	1,5		
Draw bench (carriage)	3,0		
Draw bench (main drive)	3,0		
Forming machine	3,0		
Slitter	2,0		

Service factors to be added to above values for heavy shock and fluctuating loads

Medium fluctuating load	Frequent torque fluctuations during operation. Motor starts and stops frequently.	0,5
Heavy fluctuating load	Frequent shock loads and heavy torque fluctuations.	1,0
Impact load	Frequent impact imposed on system. High fluctuations occur.	>1,5