

Service Factors

Service Factors for Operation of Drive System

| Application | Service Factor |
|--|----------------|
| AERATOR | 2.0 |
| AGITATORS | |
| Vertical and Horizontal Scenv, Propeller, Paddle | 1.0 |
| BARGE HAUL PULLER | 1.5 |
| BLOWERS | |
| Centrifugal | 1.0 |
| Lobe or Vane | 1.25 |
| CAR DUMPERS | 2.5 |
| CAR PULLERS | 1.5 |
| CLARIFIER or CLASSIFIER | 1.0 |
| COMPRESSORS | |
| Centrifugal | 1.0 |
| Rotary, Lobe or Vane | 1.25 |
| Rotary, Screw | 1.0 |
| With Flywheel and Gear between Compressor and Prime Mover | |
| 1 Cylinder, single acting | 3.0 |
| 1 Cylinder, double acting | 3.0 |
| 2 Cylinders, single acting | 3.0 |
| 2 Cylinders, double acting | 3.0 |
| 3 Cylinders, single acting | 3.0 |
| 3 Cylinders, double acting | 2.0 |
| 4 or more cylinders, single acting | 1.75 |
| 4 or more cylinders, double acting | 1.75 |
| CONVEYORS | |
| Apron, Assembly, Belt, Chain, Flight, Screw | 1.0 |
| Bucket | 1.25 |
| Live Roll, Shaker and Reciprocating | 3.0 |
| CRANES and HOIST | |
| Main Hoist | 1.75 |
| Skip Hoist | 1.75 |
| Slope | 1.5 |
| Bridge, Travel or Trolley | 1.75 |
| DYNAMOMETER | 1.0 |
| ELEVATORS | |
| Bucket, Centrifugal Discharge | 1.25 |
| Gravity Discharge | 1.25 |
| EXCITER, GENERATOR | 1.0 |
| EXTRUDER, PLASTIC | 1.5 |
| FANS | |
| Centrifugal | 1.0 |
| Cooling Tower | 2.0 |
| Forced Draft-Across the Line start | 1.5 |
| Forced Draft Motor driven thru 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 |
| FEEDERS | |
| Apron, Belt, Disc, Screw | 1.0 |
| Reciprocating | 2.5 |
| GENERATORS | |
| Even Load | 1.0 |
| Hoist or Railway Service | 1.5 |
| Welder Load | 2.0 |
| GENERATORS | |
| Even Load | 1.0 |

| Application | Service Factor |
|--|----------------|
| Hoist or Railway Service | 1.5 |
| Welder Load | 2.0 |
| HAMMERMILL | 1.75 |
| LAUNDRY WASHER or TUMBLER | 2.0 |
| LINE SHAFTS | |
| Any Processing Machinery | 1.5 |
| MACHINE TOOLS | |
| Auxiliary and Traverse Drive | 1.0 |
| Bending Roll, Notching Press, Punch Press, Planer, Plate Reversing | 1.75 |
| Main Drive | 1.5 |
| METAL FORMING MACHINES | |
| Continous Caster | 1.75 |
| Draw Bench Carriage and Main Drive | 2.0 |
| Extruder | 2.0 |
| Farming Machine and Forming Mills | 2.0 |
| Slitters | 1.0 |
| Wire Drawing or Flattening | 1.75 |
| Wire Winder | 1.5 |
| Coilers and Uncoilers | 1.5 |
| MIXERS | |
| Concrete | 1.75 |
| Muller | 1.5 |
| PRESS, PRINTING | 1.5 |
| PUG MILL | 1.75 |
| PULVERIZERS | |
| Hammermil and Hog | 1.75 |
| Roller | 1.5 |
| PUMPS | |
| Boiler Feed | 1.5 |
| Centrifugal-Constant Speed | 1.0 |
| Frequent Speed Changes under Load | 1.25 |
| Descaling with accumulators | 1.25 |
| Gear, Rotary, or Vane | 1.25 |
| Reciprocating, Plunger Piston | |
| 1 Cylinder, single or double acting | 3.0 |
| 2 Cylinders, single acting | 2.0 |
| 2 Cylinders, double acting | 1.75 |
| 3 or more cylinders | 1.5 |
| Screw Pump, Progressing Cavity | 1.25 |
| Vacuum Pump | 1.25 |
| SCREENS | |
| Air Washing | 1.0 |
| Grizzly | 2.0 |
| Rotary Coal or Sand | 1.5 |
| Vibrating | 2.5 |
| Water | 1.0 |
| STEERING GEAR | 1.0 |
| STOKER | 1.0 |
| TIRE SHREDDER | 1.5 |
| TUMBLING BARREL | 1.75 |
| WINCH, MANEUVERING | |
| Dredge, Marine | 1.5 |
| WINDLASS | 1.5 |
| WOODWORKING MACHINERY | 1.0 |

Service Factors and Reference

Service Factors for Operation of Drive System

| Industry | Service Factor |
|--|----------------|
| AGGREGATE PROCESSING, CEMENT, MINING KILNS; TUBE, ROD and MILLS | |
| Direct or on L.S. shaft of Reducer, with final drive Machined Spur Gears | 2.0 |
| Single Helical or Herringbone Gears | 1.75 |
| Crushers, Ore or Stone | 2.5 |
| Dryer, Rotary | 1.75 |
| Grizzly | 2.0 |
| Hammermill or Hog | 1.75 |
| Tumbling Mill or Barrel | 1.75 |
| BREWING and DISTILLING | |
| Bottle and Can Filling Machines | 1.0 |
| Brew Kettle | 1.0 |
| Cookers, Continuous Duty | 1.25 |
| Lauter Tub | 1.5 |
| Mash Tub | 1.25 |
| Scale Hopper, Frequent Peaks | 1.75 |
| CLAY WORKING INDUSTRY | |
| Brick Press, Briquette Machine, Clay Working Machine, Pug Mill | 1.75 |
| DREDGES | |
| Cable Reel | 1.75 |
| Conveyors | 1.25 |
| Cutter head, Jig Drive | 2.0 |
| Maneuvering Winch | 1.5 |
| Pumps (Uniform load) | 1.5 |
| Screen Drive, Stacker | 1.75 |
| Utility Winch | 1.5 |
| FOOD INDUSTRY | |
| Beet Slicer | 1.75 |
| Botting, Can Filling Machine | 1.0 |
| Cereal Cooker | 1.25 |
| Dough Mixer, Meat Grinder | 1.75 |
| LUMBER | |
| Band Resaw | 1.5 |
| Circular Resaw, Cut-off | 1.75 |
| Edger, Head Rig, Hog | 2.0 |
| Log Haul | 2.0 |
| Planer | 1.75 |
| Rolls, Non-Reversing | 1.25 |
| Rolls, Reversing | 2.0 |
| Sawdust Conveyor | 1.25 |
| Slab Conveyour | 1.75 |
| Sorting Table | 1.5 |
| Trimmer | 1.75 |
| METAL ROLLING MILLS | |
| Coilers (Up or Down) Cold Mills only | 1.5 |
| Coilers (Up or Down) Hot Mills only | 2.0 |
| Coke Plants | |
| Pusher Ram Drive | 2.5 |
| Door Opener | 2.0 |
| Pusher or Larry Car Traction Drive | 3.0 |
| Continuous Caster | 1.75 |
| Colling Beds | 1.5 |
| Drawbench | 2.0 |
| Feed Rolls-Blooming Mills | 3.0 |
| Furnace Pushers | 2.0 |
| Hot and Cold Saws | 2.0 |
| Ingot Cars | 2.0 |
| Manipulators | 3.0 |
| Mill Tables | |
| Roughing Breakdown Mills | 3.0 |
| Hot Bed or Transfer, non-reversing | 1.5 |
| Runout, reversing | 3.0 |
| Runout, non-reversing, non-plugging | 2.0 |
| Reel Drives | 1.75 |
| Screwdown | 2.0 |
| Seamless Tube Mills | |
| Piercer | 3.0 |
| Thrust Block | 2.0 |
| Tube Conveyor Rolls | 2.0 |
| Reeler | 2.0 |
| Kick Out | 2.0 |
| Sideguards | 3.0 |

| Industry | Service Factor |
|---|----------------|
| Slitters, Steel Mill only | 1.75 |
| Lift | 1.0 |
| Travel | 2.0 |
| Straighteners | 2.0 |
| Unscramblers (Billet Bundle Busters) | 2.0 |
| Wire Drawing Machinery | 1.75 |
| OIL INDUSTRY | |
| Chiller | 1.25 |
| Oilwell Pumping (not over 150% peak torque) | 2.0 |
| Paraffin Filter Press | 1.5 |
| Rotary Kiln | 2.0 |
| PAPER MILLS | |
| Barker Auxiliary, Hydraulic | 2.0 |
| Barker, Mechanical | 2.0 |
| Barking Drum | |
| L.S. shaft of reducer with final drive-Helical or Herringbone Gear | 2.0 |
| Machined Spur Gear | 2.5 |
| Cast Tooth Spur Gear | 3.0 |
| Beater & Pulper | 1.75 |
| Bleachers, Coaters | 1.0 |
| Calender & Super Calender | 1.75 |
| Chipper | 2.5 |
| Converting Machine | 1.25 |
| Couch | 1.75 |
| Cutter, Felt Whipper | 2.0 |
| Dryer | 1.75 |
| Cylinder | 1.75 |
| Felt Stretcher | 1.25 |
| Fourdrinier | 1.75 |
| Jordan | 2.0 |
| Log Haul | 2.0 |
| Line Shaft | 1.5 |
| Press | 1.75 |
| Pulp Grinder | 1.75 |
| Reel, Rewinder, Winder | 1.5 |
| Stock Chest, Washer, Thickener | 1.5 |
| Stock Pumps, Centrifugal | |
| Constant Speed | 1.0 |
| Frequent Speed Changes Under load | 1.25 |
| Suction Roll | 1.75 |
| Vacuum Pumps | 1.25 |
| RUBBER INDUSTRY | |
| Calender | 2.0 |
| Cracker, Plasticator | 2.5 |
| Extruder | 1.75 |
| Intensive or Banbury Mixer | 2.5 |
| Mixing Mill, Refiner or Sheeter | |
| One or two in line | 2.5 |
| Three or four in line | 2.0 |
| Five or more in line | 1.75 |
| Tire Building Machine | 2.5 |
| Tire & Tube Press Opener (Peak Torque) | 1.0 |
| Tuber, Strainer, Pelletizer | 1.75 |
| Warming Mill | |
| One or two Mills in line | 2.0 |
| Three or more Mills in line | 1.75 |
| Washer | 2.5 |
| SEWAGE DISPOSAL EQUIPMENT | |
| Bar Screen, Chemical feeders, Collectors, Dewatering Screen, Grit Collector | 1.0 |
| SUGAR INDUSTRY | |
| Cane Carrier & Leveler | 1.75 |
| Cane Knife & Crusher | 2.0 |
| Mill Stands, Turbine Driver with all Helical or Herringbone, or Spur Gears with any Prime Mover | 1.75 |
| TEXTILE INDUSTRY | |
| Batcher | 1.25 |
| Calender, Card Machine | 1.5 |
| Cloth Finishing Machine | 1.5 |
| Dry Can, Loom | 1.5 |
| Dyeing Machinery | 1.25 |
| Mangle, Napper, Soaper | 1.25 |
| Spinner, Tenter Frame, Winder | 1.5 |