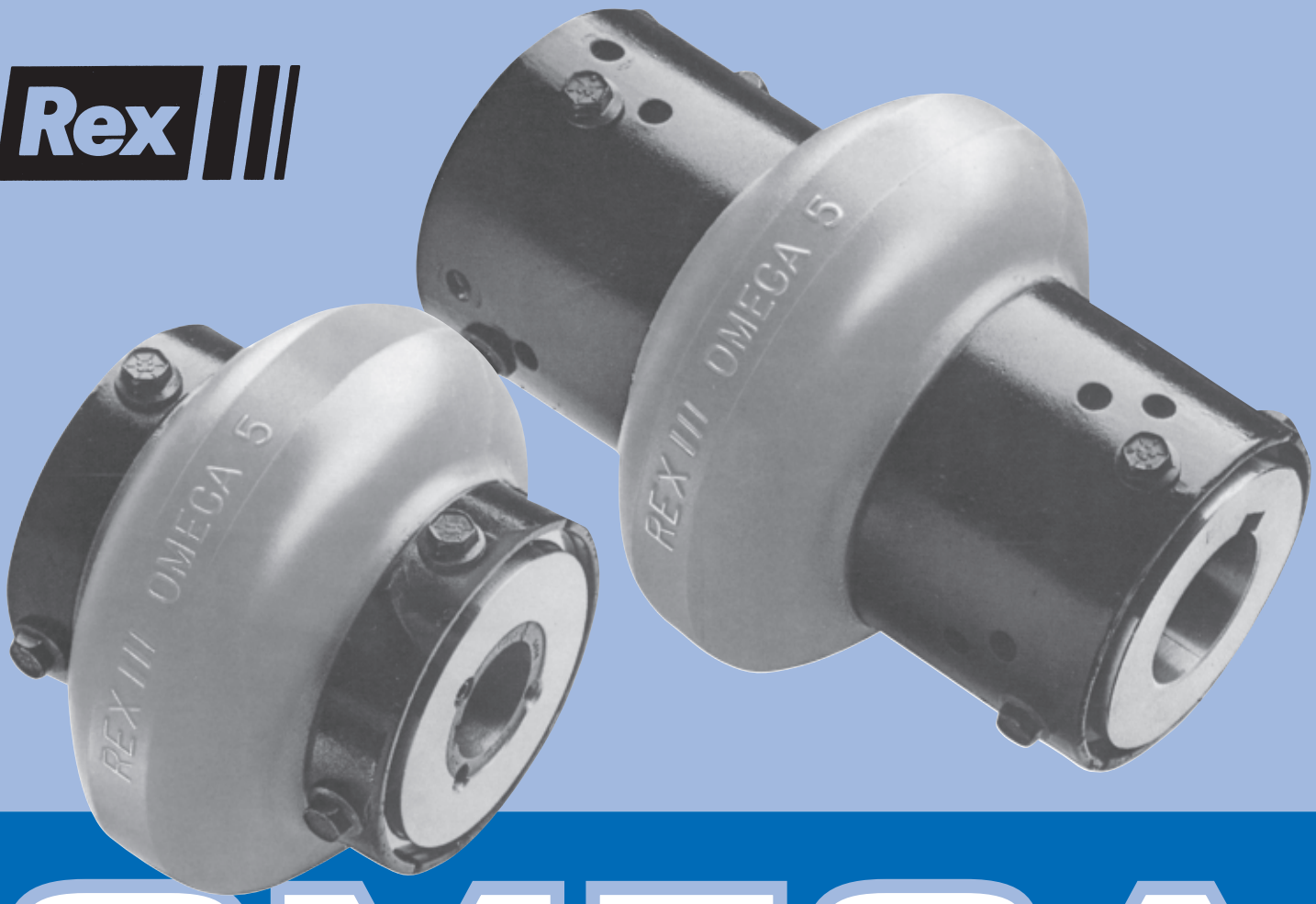
Rex III



OMEGA COUPLINGS

No other coupling can offer all these features…

Rapid and Easy Assembly/Disassembly - Element consists of two halves split longitudinally. Allows for "in-place" removal/installation. No need to move connected equipment.

Protects Equipment - The super flexible polyurethane element "cushions shock loads" and accommodates up to 4° angular and 4.8 mm parallel misalignment.

Reduces Vibration - Less "wear and tear" on connected equipment. Longer system life.

Safe - No metal-to-metal contact between driver and driven components. Non-sparking. Reduces the risk of fire.

Visual Inspection - No need to disassemble the coupling. The element can even be inspected while in operation by using a strobe light.

Chemical Resistance - Highly resistant to oils, corrosion and most chemicals.

Less Inventory - Standard and spacer elements use the same hub. Adjustable spacer design meets most shaft spacing requirements.

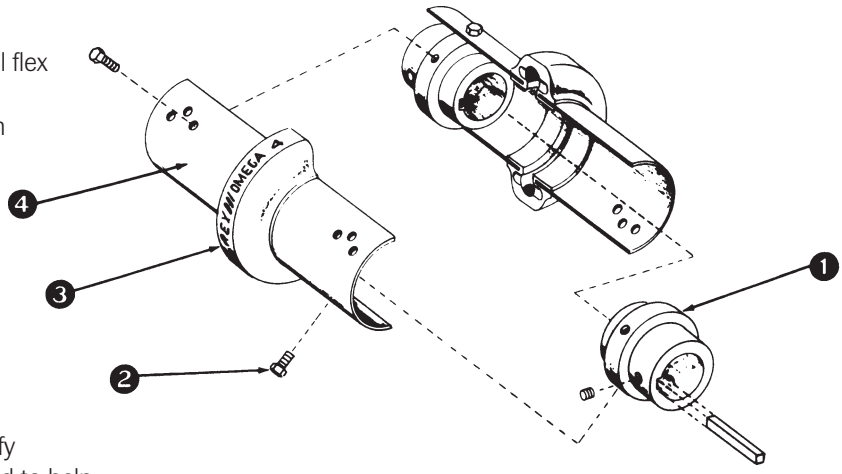
Lower Maintenance Cost - No lubrication or service required.

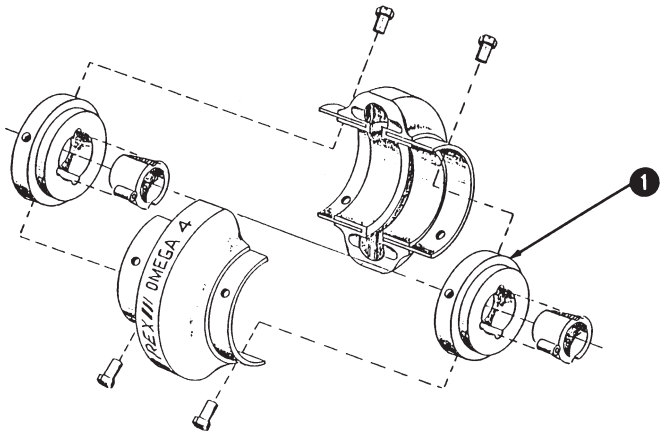
MaudKirk
The moving power behind industry

Rex Omega Spacer Coupling

One coupling fits all. Unique bolt arrangement allows universal flex element to accept all standard pump/motor shaft separations.

1 Hubs can be provided from "stock" with rough bore, finish bore or bored to accept compression bushings. All hubs are reversible.
2 Metric high tensile standard thread capscrews with self-locking patches. See table below for recommended capscrew torque ratings.
3 Tough, urethane flex element, transmits torque, accepts misalignment, reduces vibration and noise and is not seriously affected by petroleum products and most chemicals.
4 Formed metal shoes with punched bolt hole patterns satisfy ANSI, DIN and ISO spacer requirements. Shoes are coated to help resist corrosion.

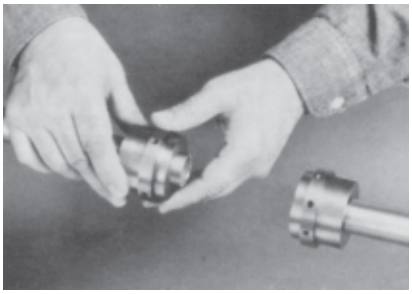




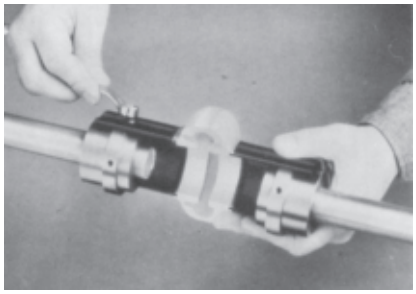
Rex Omega Standard Coupling

15 sizes handle torques up to 38442 Nm

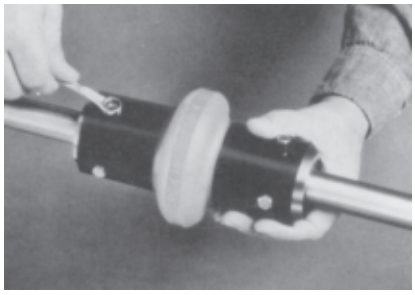
Installation… as simple as peeling an orange



Mount one hub to shaft, leave other hub loose for adjustment of spacing.

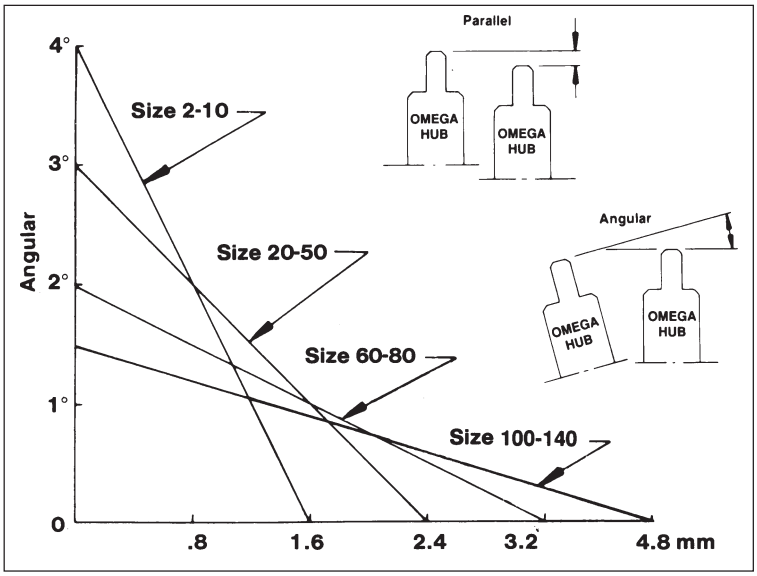


Place half of the Omega element around hubs and secure with self-locking capscrews. Omega element will space the other hub. Now secure the other hub.



Mount other half of the Omega element. Tighten all capscrews to recommended torques (below) and you're done!

Allowable Misalignment



Note: Any combination of parallel and angular misalignment which falls under the triangle will not cause a premature fatigue failure of the flexible element in normal use.

NOTE: Coupling alignment is directly related to smooth, efficient equipment operation. Care should be taken for best possible alignment.

Recommended Capscrew Torque

Cplg Size	Torque (Nm)*	Cplg Size	Torque (Nm)*
2 3 4 5 10	23	60 70 80	100
		100 120	370
20 30 40 50	40	140	800
		* *dry*	

Capscrews have self-locking patches which should not be reused more than twice. Capscrews can be further used if a thread locking adhesive is applied.

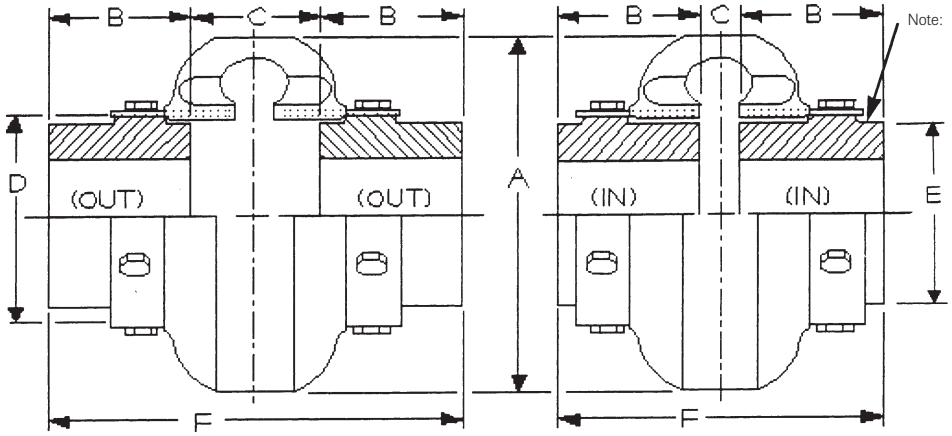
Do NOT Lubricate Capscrew Threads

WARNING: Failure to secure capscrews properly could cause coupling component(s) to become dislodged during operation, resulting in personal injury.

Omega Standard Coupling

(With straight bore hubs)

NOTE: Taper lock hubs available



Note: Hub/shoulder design varies per coupling size. Consult **Maud Kirk** for specific size assembly drawings.

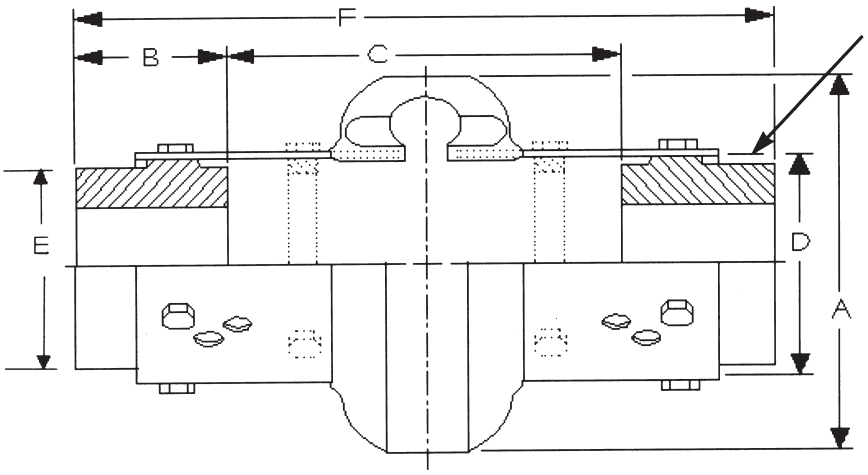
OMEGA COUPLING NO.	RECOM. MAX BORE mm	MIN. BORE mm	POWER ❶ RATING kW/rpm	TORQUE ❶ RATING Nm	MAX RPM	DIMENSIONS IN MILLIMETRES								
						A OUTER DIA	B HUB LENGTH	C SHAFT SPACING ❷ IN	C SHAFT SPACING ❷ OUT	D MAJ. HUB DIA.	E MIN. HUB DIA.	F TOTAL LENGTH MIN	F TOTAL LENGTH MAX	WEIGHT kg ❸
E2-M	28	13	0.0023	21.5	7500	89	24	36	46	47	38	84	94	0.55
E3-M	34	13	0.0043	41.2	7500	102	38	8	46	59	50	84	122	1.1
E4-M	42	13	0.0066	62.0	7500	116	38	8	46	66	57	84	122	1.4
E5-M	48	13	0.011	104.5	7500	137	44	8	59	80	70	97	147	2.5
E10-M	55	13	0.017	163.8	7500	162	44	8	59	93	84	97	147	3.7
E20-M	60	21	0.027	260	6600	184	50	13	65	114	102	113	165	5.9
E30-M	75	21	0.043	412	5800	210	58	12	69	138	118	125	182	9.6
E40-M	85	26	0.066	622	5000	241	63	8	75	168	146	135	202	15.9
E50-M	90	26	0.090	864	4200	279	70	11	91	207	152	151	230	24.5
E60-M	105	31	0.148	1412	3800	318	82	8	97	222	165	173	262	32.8
E70-M	120	31	0.262	2486	3600	356	85	18	109	235	175	189	281	39
E80-M	155	31	0.467	4463	2000	406	114	17	149	286	240	245	377	77
E100-M	171	48	1.0	9605	1900	533	140	44	95	359	267	324	375	111
E120-M	190	48	2.0	19221	1800	635	152	57	124	448	305	362	429	193
E140-M	229	48	4.0	38442	1500	762	178	76	127	530	381	432	483	339

❶ Service Factor = 1.0 ❷ Dimensions with shaft ends flush with hub face. ❸ Weight with max. bore hubs.

Omega Spacer Coupling

(With straight bore hubs)

NOTE: Taper lock hubs available



Note: Hub/shoulder design varies per coupling size. Consult **Maud Kirk** for specific size assembly drawings.

Note: Extension spacers available for larger shaft spacing.

OMEGA COUPLING NO. ❶	RECOM. MAX BORE mm	MIN. BORE mm	POWER ❷ RATING kW/rpm	TORQUE ❷ RATING Nm	MAX RPM ❸	DIMENSIONS IN MILLIMETRES								
						A OUTER DIA	B HUB LENGTH	C SHAFT SPACING ❹ IN	C SHAFT SPACING ❹ OUT	D MAJ. HUB DIA.	E MIN. HUB DIA.	F TOTAL LENGTH MIN ❺	F TOTAL LENGTH MAX	WEIGHT kg ❻
ES2-R-M	28	13	0.0023	21.5	7500	89	24	91	100	47	38	146	149	1.0
ES3-R-M	34	13	0.0043	41.2	7500	102	38	85	140	59	50	184	216	1.8
ES4-R-M	42	13	0.0066	62.0	7500	116	38	85	140	66	57	184	216	2.3
ES5-R-M	48	13	0.011	104.5	7500	137	44	89	140	80	70	184	228	3.4
ES10-R-M	55	13	0.017	163.8	7500	162	44	89	140	93	84	184	228	4.7
ES20-M	60	21	0.027	260	4800	184	50	67	180	114	102	238	280	7.1
ES30-M	75	21	0.043	412	4200	210	58	54	180	138	118	238	293	11.4
ES40-M	85	26	0.066	622	3600	241	63	41	180	168	146	238	307	18.2
ES50-M	90	26	0.090	864	3100	279	70	28	180	207	152	238	319	27.3
ES60-M	105	31	0.148	1412	2800	318	82	66	250	222	165	318	415	38.2
ES70-M	120	31	0.262	2486	2600	356	85	59	250	235	175	318	421	46.4
ES80-M	155	31	0.467	4463	1800	406	114	72	250	286	240	318	478	81.8

❶ SUFFIX "R" designates high speed ring design (Rings standard for sizes ES2-R to ES10-R, optional for ES20 to ES80) ❷ Service Factor = 1.0
❸ High speed rings standard with ES2-R to ES10-R, optional for ES20 to ES80 ❹ Dimensions with shaft ends flush with hub face ❺ Overall length of element
❻ Weight with max. bore hubs

Coupling Selection Procedures

1. Calculate kW/RPM
2. Determine service factor from table 3. If not listed, see load classification table below. Remember to consider both driver and driven equipment and temperature limitations.
3. Multiply kW/RPM by the service factor to get equivalent kW/RPM.
4. Select coupling size from Table 1 with a rating equal to or greater than the equivalent kW/RPM determined in step 3.
5. Be sure that the operating speed of the coupling does not exceed maximum RPM ratings.
6. Select desired hub type - straight bore or bushed. Check maximum allowable coupling bore.

OR

1. Calculate operating torque $\frac{kW}{RPM}$ (9550)
2. Multiply operating torque by service factor obtained from Table 3.
3. Select coupling size from Table 2 with a capacity equal to or greater than determined in step 2.
4. Follow steps 5 and 6 at left.

Size Table 1

Standard	Spacer	kW/RPM
E2	ES2	0.0023
E3	ES3	0.0043
E4	ES4	0.0066
E5	ES5	0.011
E10	ES10	0.017
E20	ES20	0.027
E30	ES30	0.043
E40	ES40	0.066
E50	ES50	0.090
E60	ES60	0.148
E70	ES70	0.262
E80	ES80	0.467
E100	NA	1.0
E120	NA	2.0
E140	NA	4.0

Torque Capacity Table 2

Size	Torque*	Size	Torque*
2	21.5	40	622
3	41.2	50	864
4	62	60	1412
5	104.5	70	2486
10	163.8	80	4463
20	260	100	9605
30	412	120	19221
		140	38442

** (Nm)*

Element Temp. Range

-40°C to +93°C (ambient)
SF adjustment for temp.
66°C (+0.25), 74°C (+0.50)
82°C (+0.75), 93°C (+1.00)

Service Factors

SERVICE FACTORS are means of classifying different equipment and applications into various load classifications. Due to variations in application of equipment, service factors are used to adjust equipment ratings to accommodate for variable loading conditions. Below is a general guide - refer to Table 3 for specific factors.

Load Classification	Service Factor
Continuous service and running loads vary only slightly	1.0
Torque loading varies during operation of the equipment	1.5
Torque loading varies during operation, frequent stop/start cycles are encountered	2.0
For shock loading and substantial torque variations	2.5
For heavy shock loading or light reversing drives	3.0
Reversing torque loads do not necessarily mean reversal of rotation. Depending upon severity of torque reversal, such loads must be classified between "medium" and "extreme".	Consult **Maud Kirk**

Typical Service Factors❶ - Motor & Turbine Driven Equipment Table 3

AGGREGATE PROCESSING, CEMENT	
Mining Kilns	2.5
Tube, Rod and Bell Mills	3.0
Crushers, Ore or Stone	3.0
Dryer, Rotary	2.0
Grizzly	3.0
Hammermill	2.5
Tumbling Mill or Barrel	2.0
Concrete Mixers	2.0
AGITATORS	
Vertical end Horizontal Screw Propeller, Paddle	1.5
BLOWERS	
Centrifugal	1.0
Lobe or Vane	1.5
BREWERY AND DISTILLING	
Bottling and Can Filling Machinery, Brew Kettle, Cooker, Mash Tub	1.0
Scale Hopper (frequent peaks)	2.0
CAR DUMPER AND PULLER	2.0
CLARIFIER OR CLASSIFIER	1.0
COMPRESSORS	
Centrifugal	1.0
Rotary, Lobe or Vane	2.0
Rotary, Screw	1.25
Reciprocating ❷	
1 cylinder - single acting	6.0
1 cylinder - double acting	5.5
2 cylinder - single acting	5.5
2 cylinder - double acting	5.0
3 cylinders or more - single acting	5.0
3 cylinders or more - double acting	4.5
CONVEYERS	
Apron, Assembly, Belt, Chain Flight, Oven	1.5
Reciprocating	3.0
Screw	1.25
CRANES AND HOISTS	
Main Hoist - Medium Duty	2.0
Main Hoist - Heavy Duty	2.5
Skip Hoist	2.0
Bridge, Travel or Trolley	2.0
DREDGES	
Cable Reel, Conveyor	2.0
Cutter Head Drive, Jig Drive	3.0
Pump, Screen, Drive, Slacker, Utility Winch	2.0
DYNAMOMETER	1.0
ELEVATORS	
Bucket, Freight	2.5
EXCITER, GENERATOR	1.0
EXTRUDER, PLASTIC	2.0
FANS	
Centrifugal	1.0
Cooling Tower	2.0
Forced Draft and Induced Draft	1.5
Large Mine	2.0
Propeller	1.5
FOOD INDUSTRY	
Bottle and Can Filling	1.0
Cereal Cooker	1.0
Dough Mixer, Meat Grinder	2.0
GENERATORS	
Even Load	1.0
Hoist or Railway Service	2.0
Welder Load	2.5
LUMBER INDUSTRY	
Band Resaw, Circular Resaw	2.0
Edger, Head Rig, Hog, Log Haul	2.5
Planer	2.0
Rolls, Non-Reversing	2.0
Rolls, Reversing	2.5
Sawdust Conveyor	1.5
Slab Conveyor, Sorting Table	2.0
MACHINE TOOLS	
Auxiliary Drive	1.5
Main Drive, Notching Press, Planer (Reversing), Plate Planer, Punch Press	2.0
Wire Drawing. Flattening, Winding: Coilers and Uncoilers	2.0
Slitters, Traverse	1.5
OIL INDUSTRY	
Chiller	1.0
Oil Well Pumping (not over 150% peak torque)	2.5
PULP & PAPER MILLS	
Agitator	1.5
Barking Drum	3.0
Beater and Pulper	2.0
Bleacher	1.0
Calendar	2.5
Chipper	3.5
Couch, Cylinder Dryer	2.0
Felt Stretcher	1.0
Fourdrinier	2.0
Jordan	2.5
Press	2.5
Pulp Grinder	2.5
Stock Chest	1.5
Stock Pump	
Centrifugal	1.0
Reciprocating	2.5
Rotary	2.0
Suction Roll	2.5
Winder	2.0
PRINTING PRESS	2.0
PUMPS	
Centrifugal	1.0
Rotary Gear, Lobe, Vane	2.0
Reciprocating	
1 cylinder - single acting	3.0
1 cylinder- double acting	2.5
2 cylinder - single acting	2.5
2 cylinder - double acting	2.0
3 cylinders or more	2.0
RUBBER INDUSTRY	
Banbury Mixer	3.0
Calendar	2.5
Cracker, Mix Mill, Plasticator Refiner, Sheeter, Tire Building Machine	2.0
Tire and Tube Press Opener	1.0
Tuber and Strainer	2.0
Warming Mill	2.5
Washer	3.0
SCREENS	
Air Washing	3.0
Grizzly	1.0
Coal and Sand (Rotary)	2.0
Vibrating	5.0
SEWAGE DISPOSAL EQUIPMENT	1.5
STEEL INDUSTRY	
Coilers	2.0
Draw Benches	2.0
Edger Drives	2.0
Reel Drives	2.0
Runout Tables (Non-Reversing)	3.0
Runout Tables (Reversing)	4.5
Soaking Pit Cover Drives	3.0
Tube Conveyor Rolls	2.5
Wire Drawing	2.0
STEERING GEAR	1.0
STOKER	1.5
TEXTILE MILLS	
Butcher, Calendar, Card Machine, Dry Can	2.0
Dyeing Machinery	1.0
Loom	2.0
Mangle, Napper, Soaper	1.5
Spinner, Tester Frame	2.0
WOODWORKING MACHINES	1.0

❶ The service factors listed are intended only as a general guide and for smooth power sources such as electric motors and steam turbines. For reciprocating prime movers, such as diesel or gas engines, add the following to the service factor:
For 8 or more cylinders, add 0.5
For 6 cylinders, add 1.0
For 4 cylinders, add 1.5
For less than 4 cylinders, consult **Maud Kirk**
If both driver and driven equipment are reciprocating, consult Maud Kirk.

❷ Add 0.5 to factor if without flywheel.

IMPORTANT NOTE - Where torsional vibrations occur as in internal combustion engines or reciprocating compressor or pump applications, check the coupling size for possible development of large amplitude torsional vibration. Also, consider the coupling's torsional stiffness coefficient (available from **Maud Kirk**) as it relates to the equipment manufacturer analysis of the system frequency.

CAUTION - In drive systems sensitive to axial movement (i.e., sleeve bearing equipment), it may be necessary to limit axial and/or thrust force. Consult **Maud Kirk** for proper installation procedure.

MaudKirk
The moving power behind industry

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