KÖBO+KTB
The Chain People

TABLE 1 SERVICE FACTORS

TYPE OF DRIVE	
Electric Motors Steam Turbines	Internal combustion engines Steam Engines Water Turbines

Type of Machine	OPERATIONAL HOURS PER DAY					
Uniform load	8 and under	8 to 16 inclusive	over 16	8 and under	8 to 16 inclusive	over 16
Agitators, Brewing Machinery,Centrifugal Blowers and compressors, Conveyors, Centrifugal fans and pumps, Generators, sewage disposal equipment	1	1.12	1.25	1.25	1.4	1.6
Moderate shock load *						
Clay machinery, Cranes and hoists, Laundry Wood working, Machine tools, Rotary mills, Paper and Textile machinery.	1.6	1.8	2	2	2.24	2.5
Heavy shock load *						
Reciprocating conveyors, Crushers,Shakers, Metal mills, Rubber machinery, Reciprocating compressors	2.5	2.8	3.12	3.12	3.55	4

* It is recommended that keys (with top clearance if in Taper Bushes) are fitted for applications where load fluctuation is expected.

SELECTION STANDARD ELECTRIC MOTORS

Read across Table 2 from the motor frame size and find the applicable nominal motor speed column. Read the appropriate coupling selection for either taper or pilot bore.

Table 2 (service factor not less than 1.6).

		3,000 rpm		1,500 rpm		1,000 rpm		750 rpm	
Motor frame	Shaft Dia in	Motor power	Coupling size	Motor power	Coupling size	Motor power	Coupling size	Motor power	Coupling size
size	mm	kW		kW		kW		kW	
90 S	24	1.5	70	1.1	70	0.75	70		
90 L	24	2.2	70	1.5	70	1.1	70		
132 S	38	5.5	110	5.5	110	3	110	2.2	110
132 S	7.5	110							
132 M	38			7.5	110	4	110	3	110
132 M	38					5.5	110	3	110
160 M	42	11	110	11	110	7.5	110	4	110
160 M	42	15	110	11	110	7.5	110	5.5	110
180 M	48	22	150	18.5	150				
180 L	48			22	150	15	150	11	150
200 L	55	30	180			18.5	180	15	180
200 L	55	37	180	30	180	22	180	15	180
225 S	60			37	180			18.5	180
225 M	55*	45	180	45	180	30	180	22	180
225 M	60	45	180	45	180	30	180	22	180
250 M	60*	55	180	55	230	37	230	30	230
250 M	65	55	180	55	230	37	230	30	230
280 S	75			75	230	45	230	37	230
280 M	75			90	230	55	230	37	230

*3,000 RPM only

A) Service Factor — Determine the required service factor from Table 1

B) Design Power — Multiply the normal running power by the service factor. This gives the design power which is used as a basis for coupling selection.

C) Coupling size — Refer to table 3 and from the appropriate speed in the speed column, read across untill a power equal to or greater than the design power required is found.

D) Bore Size — From the dimension Table 5 check that the chosen hubs can accommodate the required bores

Example: A coupling is required to transmit 70kW between a 1440 rpm electric motor ans a hoist running over 16 hours per day. The motor shaft is 70mm and the hoist shaft is 75mm.

A) Service factor from table 1 is 2
B) Design power: 70 x 2 = 140kW
C) Coupling size: by reading across from 1440 rpm in the speed column of Table 3. 143kW is the first power to exceed the required 140kW (design power). The size of coupling at the head of this column is 180
D) Bore size: By refering to Table 5 it can be seen that type 180B can accommodate both shaft sizes. However if the coupling needs to be Taper bore then type 230 is required.