

## 5. Selection method of size

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- ① By using the following formula, obtain Design Torque required.

$$T = 97,400 \frac{\text{kw}}{N} \times \text{S.F} \quad T = 71,620 \frac{\text{HP}}{N} \times \text{S.F}$$

T = Design torque(kg· cm)  
 kw = Power(kw)  
 HP = Power(HP)  
 N = Working revolution(rpm)  
 S F = Recommended service factor.

- ② Select the size with the same or with the greater value at the Basic Torque column, Refer to the maxmun shaft diamers of the size selected, and then compare the shaft diameters of the application with the max. bore dia of the size selected. If the coupling bore is not suitable, select the larger size coupling.
- ③ Special requirements
- A. on calculating the torque required, use the lowest operating speed(N) of the application
- B. If there are reverse motions repeated or frequent irregular load changes, take service factor twice.

### 2. Example

When you select a COUPLING to connect 30HP, 1,750rpm motor and rotary type pump. Motor shaft dia is 48mm and pump' s 52mm.

- ① service factor of pump is 1.8.

$$\text{Torque(kg·cm)} = \frac{30 \times 71.620 \times 1.8}{1.750} = 2.210$$

- ② Normal transmitting power is 30HP.

The coupling size 1040 accepts the calculated torque 2210kg·cm . And then compare the application shaft diameter sizes(52mm) to the maximum bore of the selected coupling size 1040(43φ mm).

You will select the coupling size 1060 accepting upto 55mm shaft dia meter. The size also accept the application motor speed 1750 rpm. Either H or V cover is available. Finally, the coupling size 1060 is selected.