

Coupling selection

The choice of the coupling size is made by referring to the power to be transmitted in [Kw] to the number of shaft revolution in which the coupling is keyed [n=revolution per minute. RPM] and the recommended service factor [fs].

P = power to be transmitted [Kw].

n = coupling rotating speed [rotate/min.-RPM].

fs = recommended service factor (see Table A to choose the service factor)

Determine the effective torque of the plant T_N

$$T_N = \frac{Kw}{n} \times 9550 = [Nm]$$

Considering the service factor *fs* the admissible nominal torque of the coupling T_{KN} must be greater than or equal to the nominal operating torque T_N

$$T_{KN} \geq T_N \times fs = [Nm]$$

Twice the nominal torque of the coupling is allowed for a maximum of 10 times/hour, to start or stop the controls.

$$T_{Kmax} \geq 2 \times T_{KN}$$

Peripheral speed **VP:**

F = \emptyset external coupling

$$Vp = \frac{\pi \times n \times F}{60000} = \left[\frac{m}{s} \right]$$

Warning !

Please contact Eurotras technical services if:

- The operating speed is close to the maximum catalogue speed.
- The environment temperature exceeds 80°C (80 degrees Celsius)
- More than 10 starts per hour occur
- The peripheral speed (Vp) exceeds 35 m/sec.s

(TABLE-A) SERVICE FACTOR (FS)				
DRIVING MOTORS	DAILY DURATION OF THE SERVICE	UNIFORM	MILD IMPACT	STRONG IMPACT
Electrical	From 1 to 3 hours/day	1,00	1,50	2,00
	Up to 10 hours/day	1,50	2,00	2,50
	24 hours/day	1,75	2,50	3,00
Multi-cylinder internal combustion	From 1 to 3 hours/day	1,50	1,75	2,00
	Up to 10 hours/day	1,75	2,00	2,50
	24 hours/day	2,00	2,50	3,00
Single-cylinder internal combustion	From 1 to 3 hours/day	1,75	2,00	2,50
	Up to 10 hours/day	2,00	2,50	3,00
	24 hours/day	2,50	3,00	3,50