

L = 链条长度, 节数
N = 大链轮齿数
n = 小链轮齿数
C = 轴中心距, 节数
K = 确定N-n值, 从表6K系数中查K值

将小数圆整为整数后得到节数, 当L为偶数时, 要加一个过渡链节。建议避免使用过渡链节。可能情况下, 通过调整轴中心距, 或改变链轮齿数以便使用节数为偶数的链条。

轴中心距

链条长度和链轮齿数确定后, 用下列公式计算轴中心距:

$$C = \frac{1}{8} \{ 2L - N - n + \sqrt{(2L - N - n)^2 - 0.811(N - n)^2} \}$$

C 为节数

链速和链条载荷

1. 从表2 单位链轮转速(rpm) 的链速可查取链速。
表2 以外的链轮齿数可采用下列公式计算得出。

$$V = \frac{P \cdot N \cdot n}{1,000} \text{ (m/min.)}$$

V = 链速 (M/MIN.)

P = 链条节距 (MM)

N = 链轮齿数

n = 链轮转速 (RPM)

2. 用下列公式计算链条载荷:

$$F = \frac{4.567HP}{V} \text{ (kg)}$$

F = 链条载荷 (kg)

V = 链速 (m/min.)

注: 电机起动和停止时, 产生惯性, 作用于链条上的载荷将大于电机的正常输出功率。

The number of pitches is obtained by omitting fractions. When L is an odd number, an offset link is required. We recommend that you avoid using an offset link. When possible, an even number of pitches by changing the shaft center distance or number of teeth on the sprocket is used.

Shaft Center Distance

If the length of chain and the number of teeth in the sprockets have already been determined, the shaft center distance is calculated using the following formula:

$$C = \frac{1}{8} \{ 2L - N - n + \sqrt{(2L - N - n)^2 - 0.811(N - n)^2} \}$$

C is Number of pitches

Chain Speed and Load on Chain

1. Chain speed is easily obtained from Table 2 chain speed per one rpm of sprocket.

The number of teeth on sprockets other than those on the Table 2 is obtained using the following formula:

$$V = \frac{P \cdot N \cdot n}{1,000} \text{ (m/min.)}$$

V = CHAIN SPEED (M/MIN)

P = CHAIN PITCH (MM)

N = NUMBER OF TEETH IN SPROCKET

n = RPM OF SPROCKET

2. Load on chain is found by the following formula:

$$F = \frac{4.567HP}{V} \text{ (kg)}$$

F = Load on chain (kg)

V = Chain speed (m/min.)

Note : In case of starts and braking of an electric motor, inertia takes place, and a larger load than the normal output horsepower of the motor may impose on chain.