

传动装置选择程序

DRIVE SELECTION PROCEDURE

传动滚子链的选择程序

一般选择

(1) 选择链条时需要了解以下情况：

1. 电源
2. 传输功率
3. 从动设备
4. 主动轴和从动轴的每分钟转数及轴直径
5. 轴中心距

(2) 工作系数的确定

根据输入功率的类型和从动设备的类型从表4中选择工作系数，以补偿施加于链条上的载荷。

(3) 设定设计功率

用传输功率乘以(2)项中查得的系数

单排链：

(A) 设计功率= 传输功率×工作系数

多排链：

(B) 设计功率= $\frac{\text{传输功率} \times \text{工作系数}}{\text{多排链系数}}$

(4) 小链轮齿数和滚子链的确定

根据高速轴的转数和设计功率(如果转速低，则是传动轴。如果超速传动，则是从动轴)，参照表1《简易选择图表》和额定功率选择合适的链条和小链轮齿数。确定小链轮齿数后，检查选定链轮的孔径，确定该链轮与主动轴配合。

(5) 大链轮齿数的确定

用传动比乘以小链轮齿数。

选择实例 (1)

Q1. 用一台1800rpm的电机驱动一台3马力的离心压缩机，如何选择链条和链轮。

A1. 从表4中查工作系数为1.3。

传输功率×工作系数=设计功率
 $3\text{HP} \times 1.3 = 3.9\text{HP}$

2. 参照表1《简易选择图表》查1800rpm, 3.9HP, 可查取链条OCM 35, 链轮为16T~20T。

Procedure for selecting roller chain for transmission

GENERAL SELECTION

(1) The following information is required for chain selection:

1. Source of power
2. Power to be transmitted
3. Driven Equipment
4. Revolution of drive and driven shaft per minute, and the diameter of the shaft
5. Center distance of the shafts

(2) Determination of service factor

Select a service factor from Table 4 to compensate for the loads imposed on the chain by the type of input power and the type of equipment to be driven.

(3) Establish design horsepower

Multiply the power to be transmitted by the factor obtained from (2)

Single strand:

(A) Design horsepower = The power to be transmitted × service factor

Multiple strand:

(B) Design horsepower =

$\frac{\text{The power to be transmitted} \times \text{service factor}}{\text{Multiple strand factor}}$

(4) Determination of number of teeth in small sprocket and roller chain

According to the number of revolutions and designing horsepower of a high speed shaft(in case of low speed, it is a drive shaft. In the event of overdrive, it is a driven shaft), refer to Table 1 Easy Selection Chart and horse power ratings and select an appropriate chain and the number of teeth of small sprocket. When you determine the number of teeth for small sprocket, check the bore capacity of the sprocket selected, making sure it will accommodate the driving shaft.

(5) Determination of number of teeth in the large sprocket

Multiply the drive ratio by the number of teeth in small sprocket.

Selection Example (1)

Q1. A centrifugal compressor with 3HP is driven by an 1800 rpm electric motor. How to select chain and sprockets.

A1. Seek the service factor, 1.3, from Table 4.

Power to be transmitted × Service factor = Design Horsepower

$3\text{HP} \times 1.3 = 3.9\text{HP}$

2. Refer to Table 1. Easy selection chart for 1800rpm 3.9 HP, and OCM 35 Chain with sprocket 16T to 20T is obtained.