

(GB/T 18150—2006 / ISO 10823:2004) The standard of "Guidelines for the Selection of Roller Chain Drives"(GB/T 18150-2006 / ISO 10823:2004) had been issued. If you try to calculate the actual transmission power of chain, you must consider revising the transmission power of driving sprocket (input power).

Actual power(Corrected power)=input power×service factor× teeth factor  
Service factor is listed in the following table.

Teeth factor =  $(19/Z_s)^{1.08}$  ( $Z_s$ —tooth number of the small sprocket)

**工况系数表 Service factor table**

从动机械特性 Driven Mechanism Characteristic	主动机械特性 Driving Mechanism Characteristic		
	平稳运转 Smooth Running	轻微振动 Slight Vibration	中等振动 Medium Vibration
平稳运转 Smooth Running	1.0	1.1	1.3
中等振动 Medium Vibration	1.4	1.5	1.7
严重振动 Severe Vibration	1.8	1.9	2.1

GB/T 18150—2006 / ISO 10823:2004

The chain factories with long history in the world have their own chain transmission power rating graph and power diagram. We can refer to the GB/T 18150-2006 / ISO 10823:2004 standard selecting the drive power or selecting chain according to the drive power, the condition is that we should know the tooth number of the small sprocket and its speed. Only if the actual power is within the range of rating power of the power rating graph, the selected chain is suitable.

Now we use the transmission part in walking tractor and the transmission power in rotary tillage to proof whether the chain selection is correct.

**传动部分**

$n_s$  1351 /  
 $Z_s$  14  
10.944 8.16  
B 08B- 2

**Chain drive part**

Small sprocket speed  $n_s=1351$  r/min  
Tooth number of small sprocket  $Z_s=14$   
Actual power (Corrected power)=10.944hp=8.16kW  
From B series horsepower rating graph, you will find selected 08B-2 chain is suitable.

**旋耕部分**

$n_s$  199 /  
 $Z_s$  13  
9.888 7.37  
A 12A - 2  
16A - 1 60H - 2

**Ratary tillage chain part**

Small sprocket speed  $n_s=199$  r/min  
Tooth number of small sprocket  $Z_s=13$   
Actual power (Corrected power)=9.888hp=7.37kW  
From A series horsepower rating graph, you will find selected 12A-2 chain is unsuitable. You should choose 16A-1 or 60H-2 heavy duty roller chain instead of 12A-2.

**功率曲线图 (A系列滚子链)**  
**Power rating graph (A series roller chain)**

本功率曲线图的特定条件主要是:

19  
120  
1 : 3 3 : 1  
15000

**The main characteristics of this power graph are as follows:**

For drive  $Z_s=19$   
Chain length: 120 pitches  
Transmission ratio: 1 : 3 to 3 : 1  
Service life of chain: 15000 hours



Note: The rating power of multiple strand chain can be obtained by multiplying the strand factor by the rating power of single strand chain.

**排数系数表 Strand factor table**

排数 Number of strand	1	2	3	4	5	6
系数 Factor	1.0	1.7	2.5	3.3	4.1	4.9

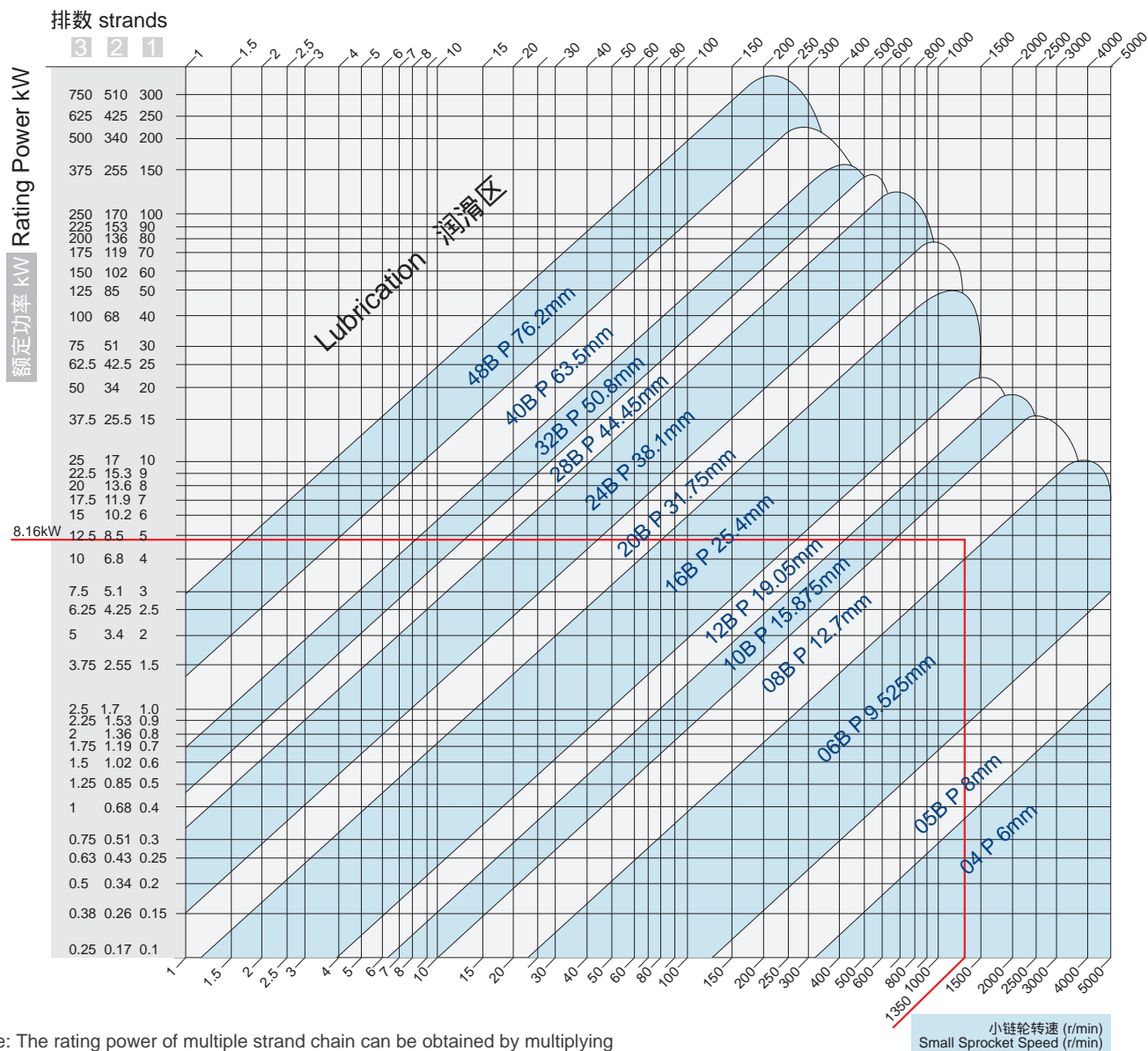
功率曲线图 (B系列滚子链)  
Power rating graph (B series roller chain)

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For drive Zs=19  
Chain length: 120 pitches  
Transmission ratio: 1 : 3 to 3 : 1  
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