

## ● INM Series Hydraulic Motors

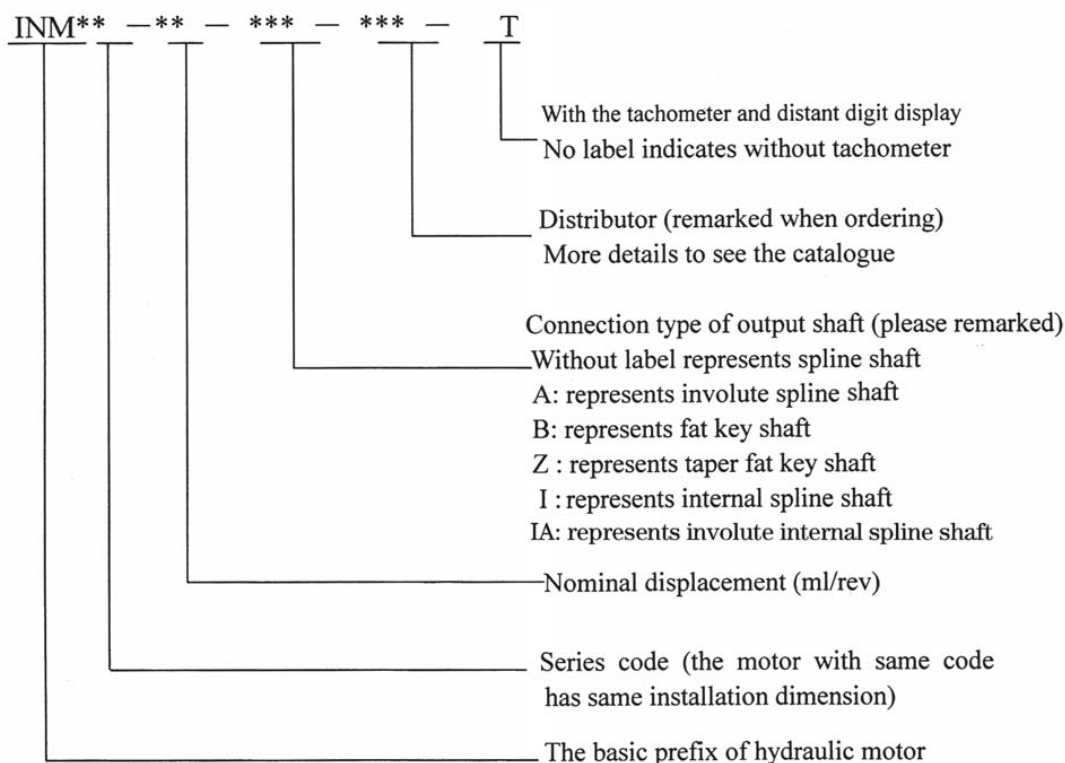
### 1. Brief Introduction

INM series motors are a result of the many years' of experience based on Italy technology, and incorporate a number of design variations with respect to the technology intended to increase the strength of the motor casings and the load capacity of the internal dynamic components. The result is the series of motors with high continuous power ratings, both because of the reduced internal specific loads, and because of the high mechanical and volumetric efficiency that contribute in reducing the amount of heat produced and therefore also the negative effects associated with it. The main characteristics are as follows:

- (1) The side loading between the piston and swiveling cylinder has been eliminated; the hydrostatic balance is built between the piston feet; the pistons transmit load to the shaft via a rolling bearing. All above reduces the friction loss in the load transmission. Therefore INM series hydraulic motor features high mechanical efficiency and high starting torque (above 0.92).
- (2) Rotary axial distributor (patent technology) ensures simply and reliable performance, good sealing capability, low leakage. The plastic piston ring between pistons and cylinder reduces the leakage, so the volumetric efficiency of motor is very high (more than 0.99).
- (3) Due to the reduced friction loss in structure and improved sealing capability, so the motor can operate at low speeds with a high degree of speed stability, even if at 1r/min of speed. Hereby the speed control range is wide (the speed control ratio is up to 1000).
- (4) The pistons and bearing sleeve is matched well via supporting ring to eliminate the clearance. So the series motors can run in pump condition. When the inlet port and outlet port is closed, the motors could run in freewheeling condition.
- (5) The working pressure of the series motor is very high, and the maximum pressure is up to 45MPa. The motor also features light weight, small size and high specific power,
- (6) Because of simple structure, reasonable design, and using large load capacity bearing, the series motors has many excellent features as follow good reliability, long lifetime and low noise. transmission shaft endure radial load. Circumrotate way could be reverse.

Due to above these advantages, it has been widely applied in all kinds of hydraulic transmission system such as plastic injection machine, ship and deck machinery, construction machinery and equipment, hoist and transport vehicle, heavy metallurgical machinery, petroleum and mine machine, light industry equipment, lath, light industry equipment and drilling machine etc. In particular, it can be well available in driving screw rod of injection machine, hoisting winches and capstan, and driving various slew drives.

## 2. Model options



## 3. Options example

INM2-400BD31 represents that the motor is the 2 series unit of INM hydraulic motor. The nominal displacement is 400ml/rev, the output shaft is flat key shaft, and distributor model is D31 without tachometer. Please fill in the complete code options when ordering. If there are any specific requests, please noted in detail in delivery contract or contact our company

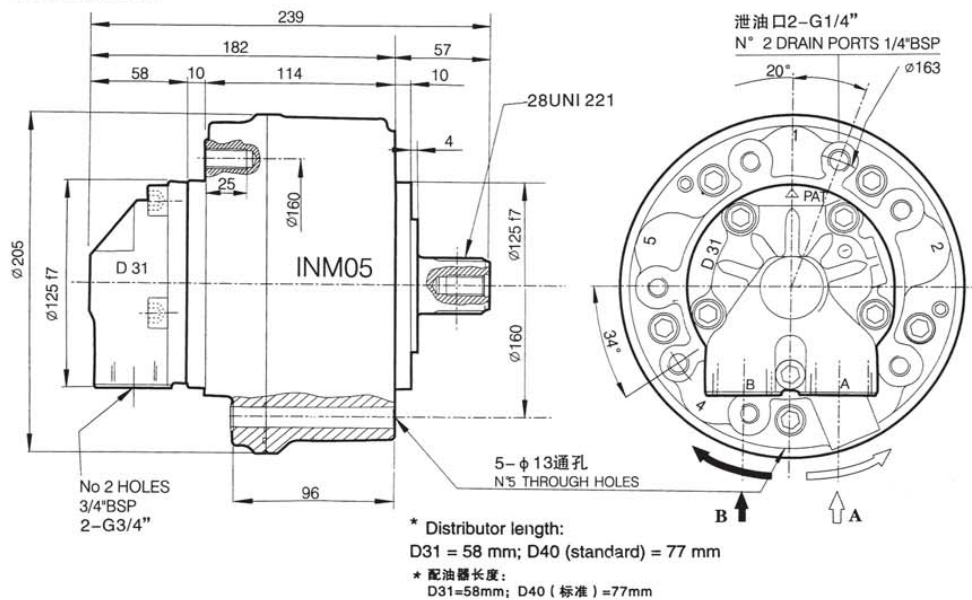
#### 4. INM系列液压马达技术性能参数

| 型号<br>TYPE | 理论排量<br>(ml/r)<br>THEORIC DISPLACEMENT | 额定压力<br>(MPa)<br>RATED PRESSURE | 尖峰压力<br>(MPa)<br>PEAK PRESSURE | 额定扭矩<br>(N·m)<br>RATED TORQUE | 单位扭矩<br>(N·m/MPa)<br>SPECIFIC TORQUE | 连续转速<br>(r/min)<br>CONT SPEED |      | 最高转速<br>(r/min)<br>Max. SPEED | 重量<br>(kg)<br>WEIGHT |
|------------|--|---------------------------------|--------------------------------|-------------------------------|--------------------------------------|-------------------------------|------|-------------------------------|----------------------|
|            |  |                                 |                                |                               |                                      |                               |      |                               |                      |
| INM05-60   | 59                                     | 25                              | 45                             | 235                           | 9.4                                  | 1~700                         | 1000 | 22                            |                      |
| INM05-75   | 74                                     | 25                              | 42.5                           | 295                           | 11.8                                 | 1~700                         | 1000 |                               |                      |
| INM05-90   | 86                                     | 25                              | 37.5                           | 343                           | 13.7                                 | 1~700                         | 1000 |                               |                      |
| INM05-110  | 115                                    | 25                              | 40                             | 458                           | 18.3                                 | 1~650                         | 900  |                               |                      |
| INM05-130  | 129                                    | 25                              | 37.5                           | 513                           | 20.5                                 | 1~650                         | 900  |                               |                      |
| INM05-150  | 151                                    | 25                              | 32.5                           | 600                           | 24                                   | 1~650                         | 900  |                               |                      |
| INM05-170  | 166                                    | 25                              | 32.5                           | 660                           | 26.4                                 | 1~600                         | 800  |                               |                      |
| INM05-200  | 191                                    | 25                              | 28                             | 760                           | 30.4                                 | 1~600                         | 800  |                               |                      |
| INM1-100   | 99                                     | 25                              | 42.5                           | 385                           | 15.4                                 | 1~550                         | 1000 | 31                            |                      |
| INM1-150   | 154                                    | 25                              | 40                             | 600                           | 24                                   | 1~550                         | 1000 |                               |                      |
| INM1-175   | 172                                    | 25                              | 37.5                           | 670                           | 26.8                                 | 1~550                         | 900  |                               |                      |
| INM1-200   | 201                                    | 25                              | 35                             | 785                           | 31.4                                 | 1~550                         | 800  |                               |                      |
| INM1-250   | 243                                    | 25                              | 35                             | 950                           | 38                                   | 1~450                         | 700  |                               |                      |
| INM1-300   | 290                                    | 25                              | 30                             | 1130                          | 45.2                                 | 1~350                         | 650  |                               |                      |
| INM1-320   | 314                                    | 25                              | 28                             | 1225                          | 49                                   | 1~350                         | 600  |                               |                      |
| INM1-350   | 340                                    | 25                              | 28                             | 1327                          | 53                                   | 1~300                         | 600  |                               |                      |
| INM2-200   | 192                                    | 25                              | 42.5                           | 750                           | 30                                   | 0.7~550                       | 800  | 51                            |                      |
| INM2-250   | 251                                    | 25                              | 42.5                           | 980                           | 39.2                                 | 0.7~550                       | 800  |                               |                      |
| INM2-300   | 304                                    | 25                              | 40                             | 1188                          | 47.5                                 | 0.7~500                       | 750  |                               |                      |
| INM2-350   | 347                                    | 25                              | 37.5                           | 1355                          | 54.2                                 | 0.7~500                       | 750  |                               |                      |
| INM2-420   | 425                                    | 25                              | 35                             | 1658                          | 66.3                                 | 0.7~450                       | 750  |                               |                      |
| INM2-500   | 493                                    | 25                              | 35                             | 1923                          | 76.9                                 | 0.7~450                       | 700  |                               |                      |
| INM2-600   | 565                                    | 25                              | 30                             | 2208                          | 88.3                                 | 0.7~450                       | 700  |                               |                      |
| INM2-630   | 623                                    | 25                              | 28                             | 2433                          | 97.3                                 | 0.7~400                       | 650  |                               |                      |
| INM3-425   | 426                                    | 25                              | 42.5                           | 1660                          | 66.4                                 | 0.5~500                       | 650  | 87                            |                      |
| INM3-500   | 486                                    | 25                              | 42.5                           | 1895                          | 75.8                                 | 0.5~450                       | 600  |                               |                      |
| INM3-600   | 595                                    | 25                              | 40                             | 2320                          | 92.8                                 | 0.5~450                       | 575  |                               |                      |
| INM3-700   | 690                                    | 25                              | 35                             | 2700                          | 108                                  | 0.5~400                       | 500  |                               |                      |
| INM3-800   | 792                                    | 25                              | 35                             | 3100                          | 124                                  | 0.5~400                       | 500  |                               |                      |
| INM3-900   | 873                                    | 25                              | 35                             | 3400                          | 136                                  | 0.5~350                       | 400  |                               |                      |
| INM3-1000  | 987                                    | 25                              | 28                             | 3850                          | 154                                  | 0.5~300                       | 350  |                               |                      |
| INM4-600   | 616                                    | 25                              | 40                             | 2403                          | 96.1                                 | 0.4~400                       | 550  | 120                           |                      |
| INM4-800   | 793                                    | 25                              | 40                             | 3100                          | 124                                  | 0.4~350                       | 550  |                               |                      |
| INM4-900   | 904                                    | 25                              | 37.5                           | 3525                          | 141                                  | 0.4~325                       | 450  |                               |                      |
| INM4-1000  | 1022                                   | 25                              | 35                             | 4000                          | 160                                  | 0.4~300                       | 400  |                               |                      |
| INM4-1100  | 1116                                   | 25                              | 35                             | 4350                          | 174                                  | 0.4~275                       | 400  |                               |                      |
| INM4-1300  | 1316                                   | 25                              | 28                             | 5125                          | 205                                  | 0.4~225                       | 350  |                               |                      |
| INM5-800   | 807                                    | 25                              | 42.5                           | 3150                          | 126                                  | 0.3~325                       | 450  |                               |                      |
| INM5-1000  | 1039                                   | 25                              | 42.5                           | 4050                          | 162                                  | 0.3~300                       | 450  |                               |                      |
| INM5-1200  | 1185                                   | 25                              | 40                             | 4625                          | 185                                  | 0.3~300                       | 400  | 175                           |                      |
| INM5-1300  | 1340                                   | 25                              | 40                             | 5225                          | 209                                  | 0.3~300                       | 400  |                               |                      |
| INM5-1450  | 1462                                   | 25                              | 37.5                           | 5700                          | 228                                  | 0.3~275                       | 350  |                               |                      |
| INM5-1600  | 1634                                   | 25                              | 37.5                           | 6350                          | 254                                  | 0.3~250                       | 300  |                               |                      |
| INM5-1800  | 1816                                   | 25                              | 35                             | 7075                          | 283                                  | 0.3~250                       | 300  |                               |                      |
| INM5-2000  | 2007                                   | 25                              | 35                             | 7825                          | 313                                  | 0.3~200                       | 250  |                               |                      |
| INM6-1700  | 1690                                   | 25                              | 45                             | 6600                          | 264                                  | 0.2~250                       | 400  |                               |                      |
| INM6-2100  | 2127                                   | 25                              | 40                             | 8300                          | 332                                  | 0.2~225                       | 350  | 275                           |                      |
| INM6-2500  | 2513                                   | 25                              | 35                             | 9800                          | 392                                  | 0.2~200                       | 300  |                               |                      |
| INM6-3000  | 3041                                   | 25                              | 30                             | 11875                         | 475                                  | 0.2~175                       | 250  |                               |                      |
| INM7-1200  | 1214                                   | 25                              | 30                             | 4125                          | 165                                  | 0.2~325                       | 380  |                               |                      |
| INM7-2000  | 2007                                   | 25                              | 35                             | 7975                          | 319                                  | 0.2~350                       | 450  | 310                           |                      |
| INM7-2500  | 2526                                   | 25                              | 35                             | 10050                         | 402                                  | 0.2~300                       | 350  |                               |                      |
| INM7-3000  | 2985                                   | 25                              | 35                             | 11877                         | 475                                  | 0.2~250                       | 300  |                               |                      |
| INM7-3300  | 3290                                   | 25                              | 35                             | 13075                         | 523                                  | 0.2~220                       | 275  |                               |                      |
| INM7-3600  | 3611                                   | 25                              | 32                             | 14350                         | 574                                  | 0.2~200                       | 250  |                               |                      |
| INM7-4300  | 4298                                   | 25                              | 30                             | 17100                         | 684                                  | 0.2~175                       | 225  |                               |                      |



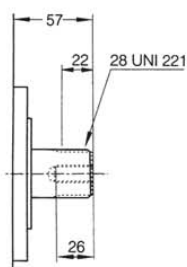
## 5. INM05系列液压马达安装连接尺寸图及性能曲线

### DIMENSIONS

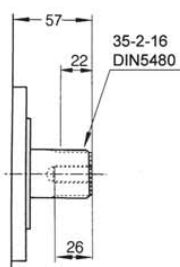


### SHAFTS 轴伸型式

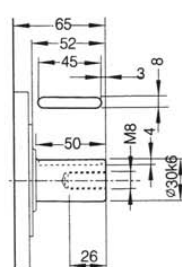
#### Splined 矩形外花键



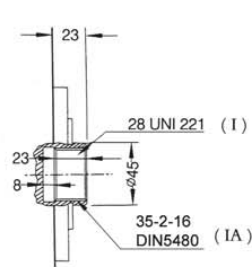
#### Splined A 渐开线外花键 A



#### Cylindrical B 圆柱平键 B



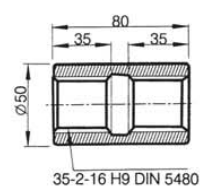
#### Internal spline I, IA 内花键 I, IA



### SPLINE DATA - 花键参数

| 35-2-16 DIN 5480 |    |                                   | 28 UNI 221 (6-28-34) DIN 5463 |    |                                   |
|------------------|----|-----------------------------------|-------------------------------|----|-----------------------------------|
|                  | d0 | $\phi 32.0$                       |                               | d1 | $\phi 28.0^{+0.021}_{+0}$ H7      |
|                  | d1 | $\phi 35.0^{+0.520}_{+0}$ H14     |                               | d2 | $\phi 34.1^{+0.160}_{+0}$ H11     |
|                  | d2 | $\phi 31.0^{+0.160}_{+0}$ H11     |                               | A  | $7.0^{+0.028}_{+0.013}$ F7        |
|                  | A  | $\phi 3.5$                        |                               | d3 | $\phi 28.0^{-0.007}_{-0.020}$ g6  |
|                  | da | $\phi 27.711$ H11                 |                               | d4 | $\phi 34.0^{-0.065}_{-0.160}$ h14 |
|                  | d3 | $\phi 34.6^{-0.160}_{-0.520}$ h11 |                               | B  | $7.0^{-0.013}_{-0.026}$ f7        |
|                  | d4 | $\phi 30.6^{-0.160}_{-0.520}$ h14 |                               |    |                                   |
|                  | B  | $\phi 4.0$                        |                               |    |                                   |
|                  | db | $\phi 39.000$ f8                  |                               |    |                                   |
|                  |    |                                   |                               |    |                                   |

#### ADAPTORS 联轴器

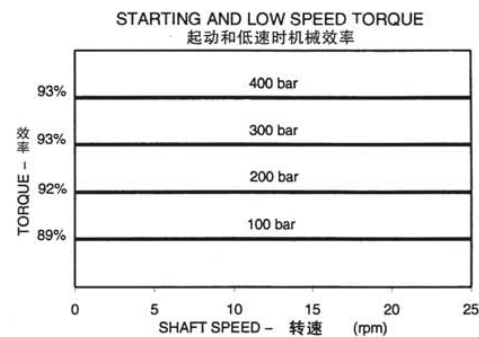
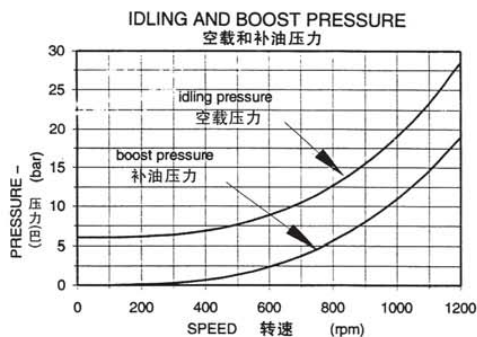
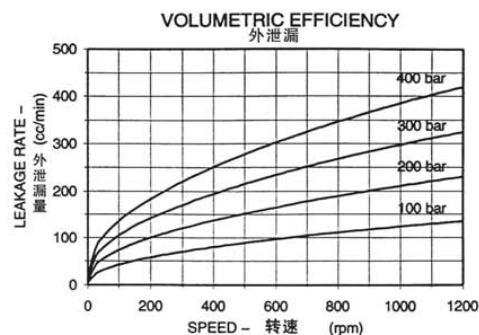
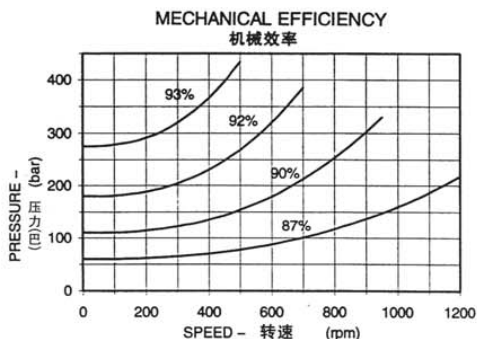


## PERFORMANCE

The graphs indicate the typical performance characteristics of the **150 cc** motor operating with mineral oil with viscosity 40 cSt at 50 °C.

## 特性曲线

下列图表为排量**150cc**的马达，在工作液采用矿物油，粘度40cSt,油温50℃工作时的典型特性曲线。



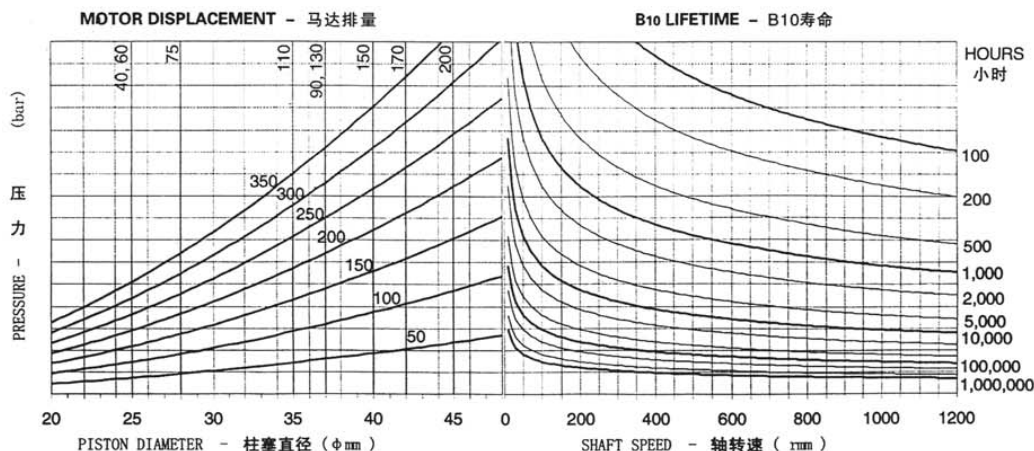
## BEARING LIFETIME

The graph refers to the motor with the optional roller bearings (option H).  
Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

## 轴承寿命

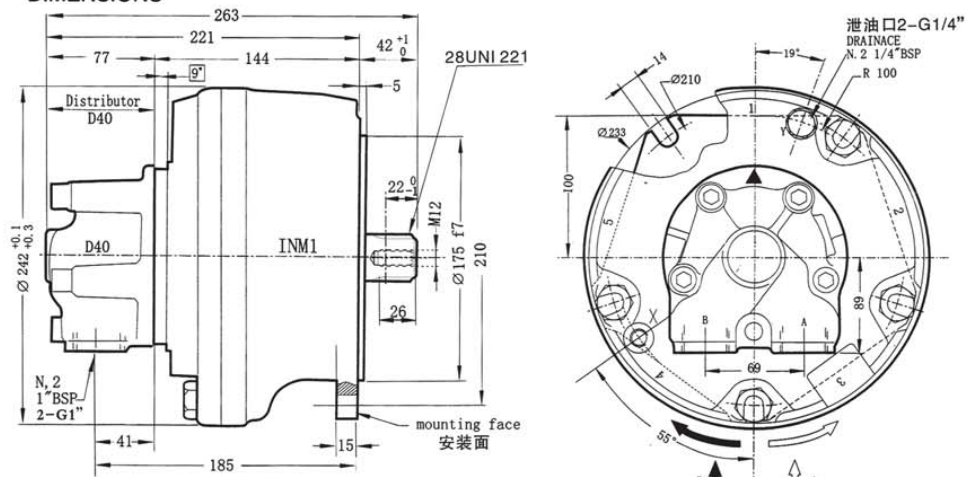
该图表适用配置滚柱轴承（代号H）的马达。

注意轴承平均寿命（ $B_{50}$ 寿命）大约是 $B_{10}$ 寿命的5倍。



## 6. INM1系列液压马达 INM1 Series Hydraulic Motors

### DIMENSIONS

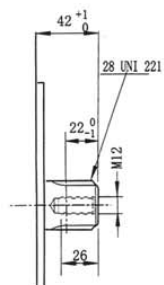


Flange and shaft dimensions are the same as for GM1, M1 and P1 series motors

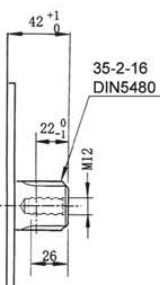
法兰和轴承尺寸与GM1、M1和P1马达系列相同

### SHAFTS 轴伸型式

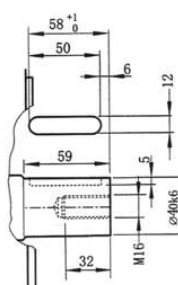
Splined  
矩形外花键



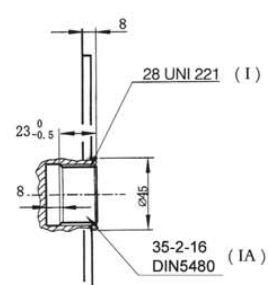
Splined A  
渐开线外花键 A



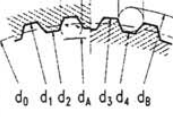
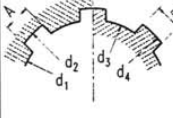
Cylindrical B  
圆柱平键 B



Internal spline I, IA  
内花键 I, IA

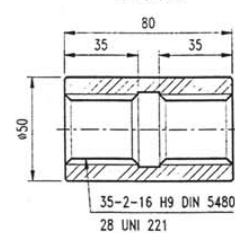


### SPLINE DATA - 花键参数

| 35-2-16 DIN 5480  |   | 28 UNI 221 (6-28-34 DIN 5463)   |   |
|---|---|---|---|
|  | d0 $\varnothing 32.0$                       |  | d1 $\varnothing 28.0^{+0.021}_{-0} H7$      |
| d1 $\varnothing 35.0^{+0.020}_{-0} H14$   | d2 $\varnothing 31.0^{+0.160}_{-0} H11$     | d2 $\varnothing 34.1^{+0.160}_{-0} H11$   | A $7.0^{+0.028}_{-0} F7$                    |
| A $\varnothing 3.5$   | da $\varnothing 27.711 H11$                 | d3 $\varnothing 28.0^{+0.007}_{-0.020} g6$  | d4 $\varnothing 34.0^{+0.065}_{-0.160} h14$ |
| d3 $\varnothing 34.6^{+0.160}_{-0} h11$   | d4 $\varnothing 30.6^{+0.020}_{-0.020} h14$ | B $7.0^{+0.028}_{-0} f7$  |   |
| B $\varnothing 4.0$   | db $\varnothing 39.000 f8$                  |   |   |

### ADAPTORS

联轴器

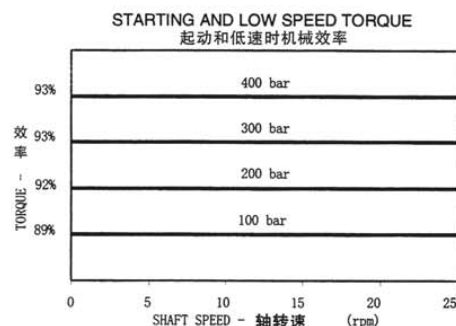
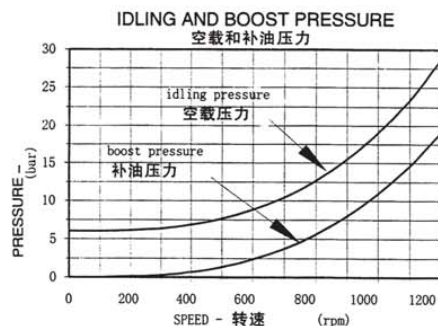
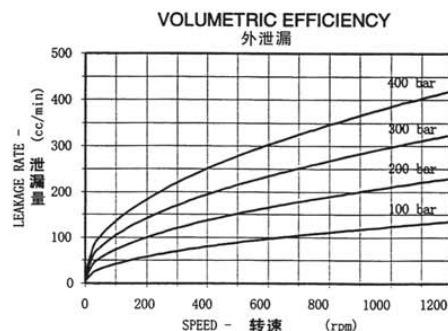
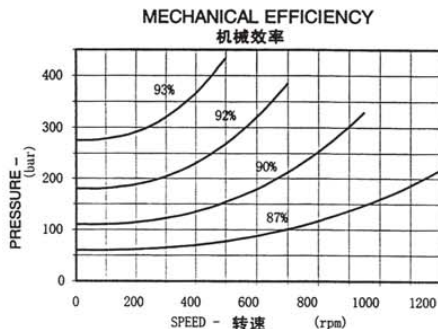


## PERFORMANCE

The graphs indicate the typical performance characteristics of the 150 cc motor operating with mineral oil with viscosity 40 cSt at 50 °C.

## 特性曲线

下列图表为排量150cc的马达，在工作液采用矿物油，粘度40cSt,油温50℃工作时的典型特性曲线。



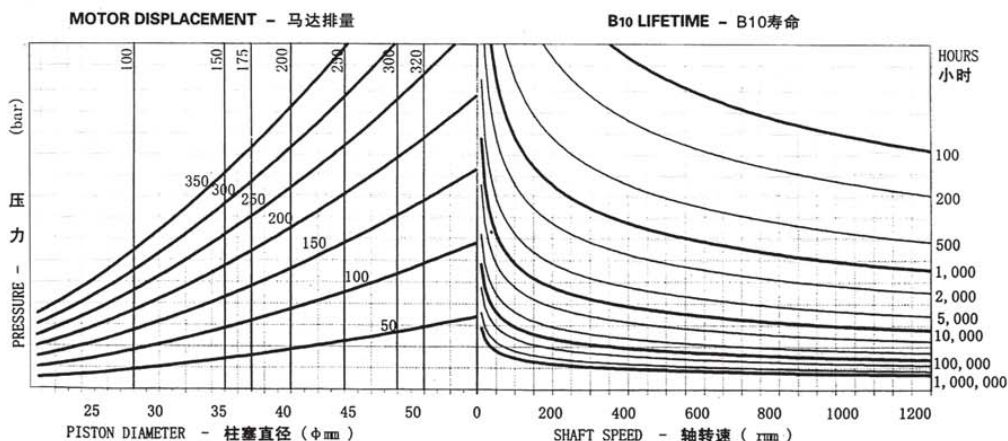
## BEARING LIFETIME

The graph refers to the motor with the optional roller bearings (option H) recommended for most applications. Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

## 轴承寿命

该图表适用配置滚柱轴承（代号H）的马达，大多数情况下推荐使用。

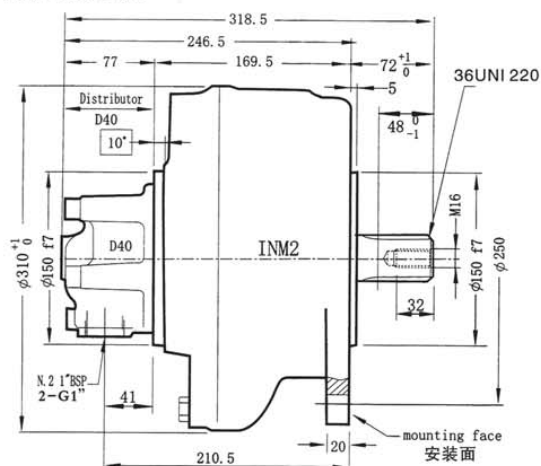
注意轴承平均寿命（ $B_{50}$ 寿命）大约是 $B_{10}$ 寿命的5倍。



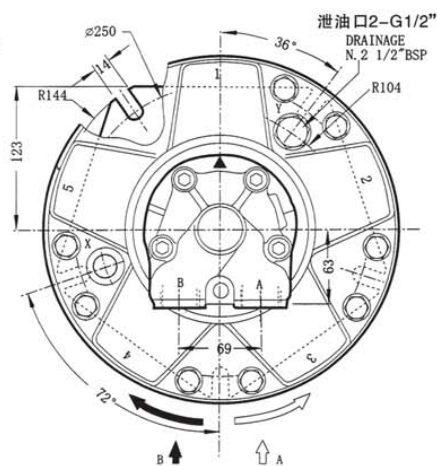


## 7. INM2系列液压马达 INM2 Series Hydraulic Motors

## DIMENSIONS



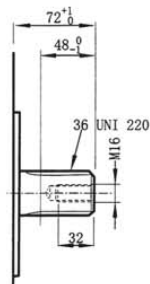
Flange and shaft dimensions are the same as for GM2, M3 and P3 series motors.



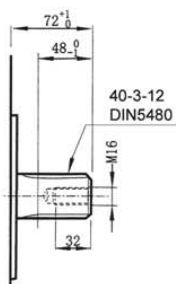
法兰和轴承尺寸与GM2、M3 和 P3马达系列相同

### SHAFTS 轴伸型式

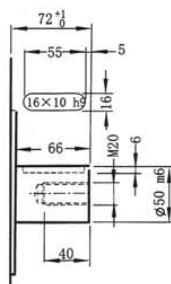
Splined  
矩形外花键



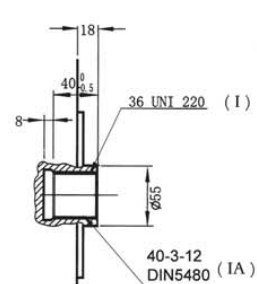
Splined A  
渐开线外花键 A



Cylindrical B  
圆柱平键 B



Internal spline I、IA  
内花键 I、IA




### SPLINE DATA - 花键参数

40-3-12 DIN 5480

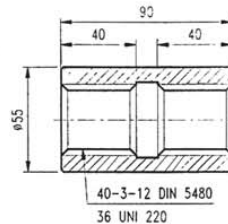
The drawing shows a cross-section of a gear profile. Key dimensions are labeled:  $d_0$  (outer diameter),  $d_1$  (pitch diameter),  $d_2$  (addendum diameter),  $d_3$  (throat diameter),  $d_4$  (throat diameter), and  $d_8$  (throat diameter). The profile is divided into two parts, A and B, by a vertical line. The profile is shown with a hatched area representing the material.

|       |   |
|-------|---|
| $d_0$ | $\varnothing 36,0$  |
| $d_1$ | $\varnothing 40,0 \begin{smallmatrix} -0 \\ +0,620 \end{smallmatrix} H14$ |
| $d_2$ | $\varnothing 34,0 \begin{smallmatrix} -0 \\ +0,160 \end{smallmatrix} H11$ |
| A     | $\varnothing 5,25$  |
| da    | $\varnothing 28,964 \quad H11$  |
| $d_3$ | $\varnothing 39,4 \begin{smallmatrix} -0 \\ +0,160 \end{smallmatrix} h11$ |
| $d_4$ | $\varnothing 33,4 \begin{smallmatrix} -0 \\ +0,620 \end{smallmatrix} h14$ |
| B     | $\varnothing 6,0$   |
| db    | $\varnothing 45,989 \quad f8$   |

| 36 UNI 220 (DIN 5462)   |    |                                      |          |    |
|---|----|--------------------------------------|----------|----|
|  | d1 | $\varnothing 36.0^{+0.025}_{-0}$     | H7       |    |
|   | d2 | $\varnothing 40.0^{+0.160}_{-0}$     | H11      |    |
|   | A  | 7.0                                  | $+0.028$ | F7 |
|   | d3 | $\varnothing 36.0^{+0.009}_{-0.025}$ | g6       |    |
|   | d4 | $\varnothing 40.0^{+0.065}_{-0.160}$ | d11      |    |
|   | B  | 7.0                                  | $-0.028$ | f7 |

## ADAPTORS

### 联轴器



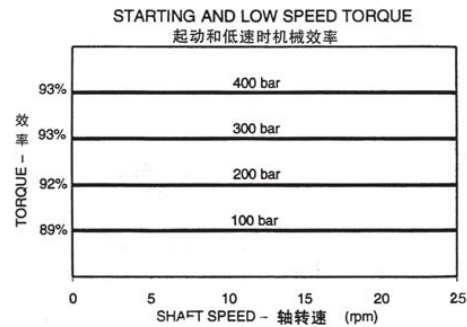
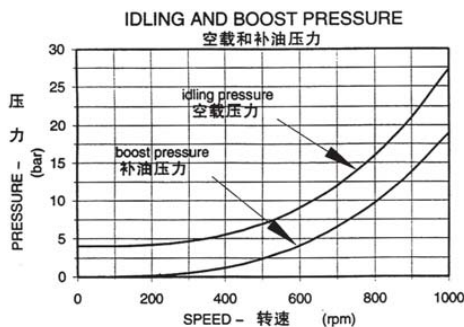
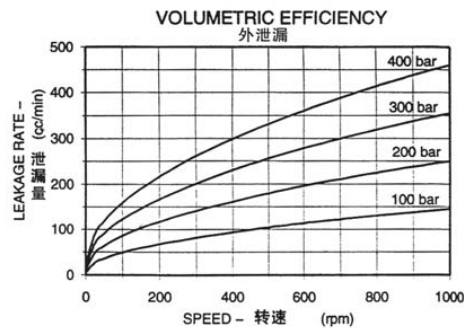
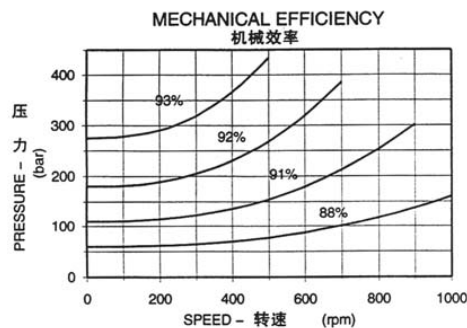


## PERFORMANCE

The graphs indicate the typical performance characteristics of the **300cc** motor operating with mineral oil with viscosity 40 cSt at 50 °C.

## 特性曲线

下列图表为排量**300cc**的马达，在工作液采用矿物油，粘度40cSt,油温50℃工作时的典型特性曲线。



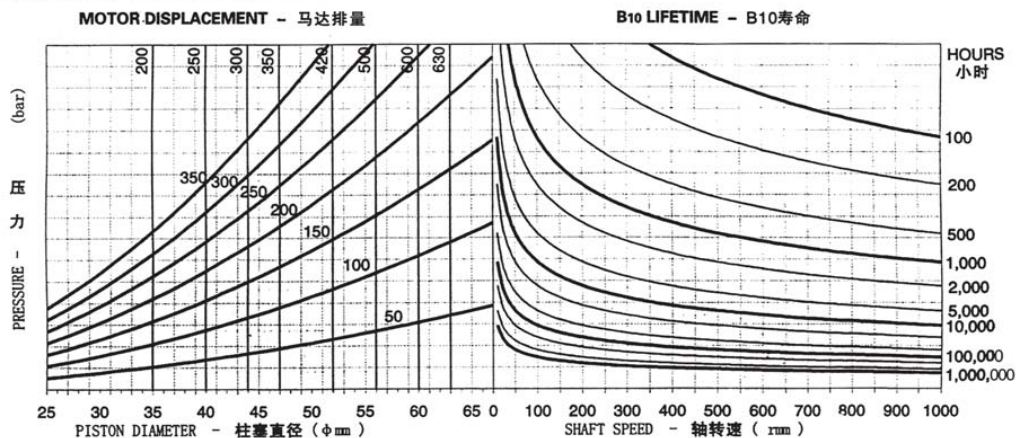
## BEARING LIFETIME

The graph refers to the motor with the optional roller bearings (option H) recommended for most applications. Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

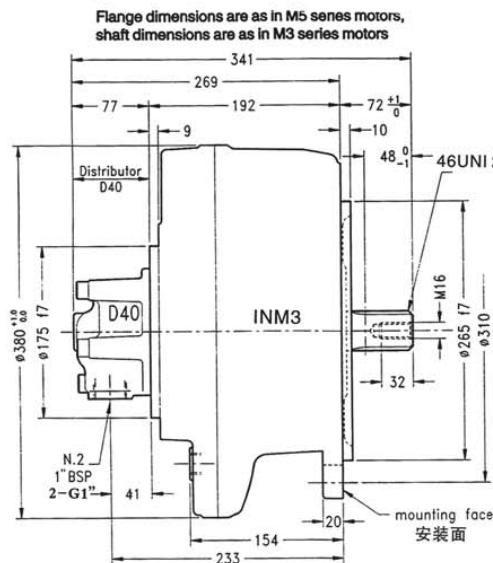
## 轴承寿命

该图表适用配置滚柱轴承（代号H）的马达，大多数情况下推荐使用。

注意轴承平均寿命（ $B_{50}$ 寿命）大约是 $B_{10}$ 寿命的5倍。

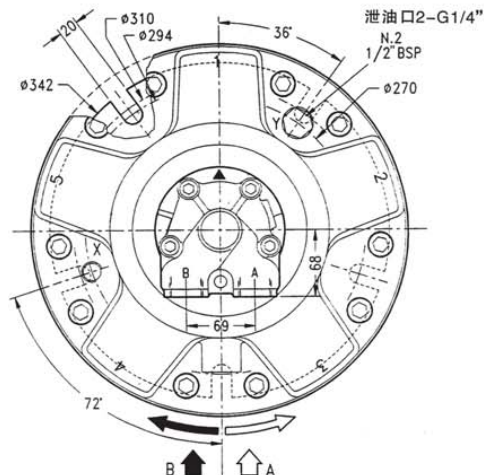


## 8. INM3系列液压马达 INM3 Series Hydraulic Motors



Available also GM3 completely interch.

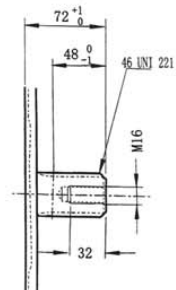
法兰和轴承尺寸与 M5系列马达系列相同。  
轴尺寸与M3系列马达相同。



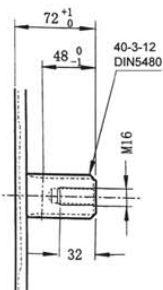
外形尺寸尺寸完全适用 GM3，

### SHAFTS 轴伸型式

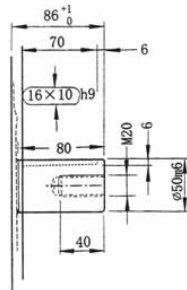
Splined  
矩形外花键



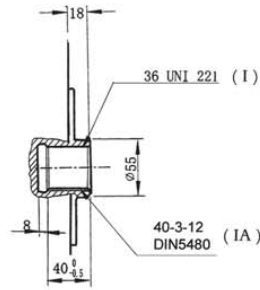
Splined A  
渐开线外花键 A



Cylindrical B  
圆柱平键 B



Internal spline I、IA  
内花键 I、IA

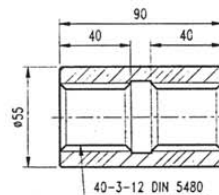


### SPLINE DATA – 花键参数

| 40-3-12 DIN 5480 |    | 46 UNI 221 (8-46-54 DIN 5463) |  |
|------------------|----|-------------------------------|--|
|                  | d0 | 36.0                          |  |
|                  | d1 | 40.0 $^{+0.020}_{-0}$ H14     |  |
|                  | d2 | 34.0 $^{+0.100}_{-0}$ H11     |  |
|                  | A  | 5.25                          |  |
|                  | da | 28.964 H11                    |  |
|                  | d3 | 39.4 $^{+0}_{-0.100}$ h11     |  |
|                  | d4 | 33.4 $^{+0}_{-0.020}$ h14     |  |
|                  | B  | 6.0                           |  |
|                  | db | 45.989 f8                     |  |
|                  | d1 | 46.0 $^{+0.030}_{-0}$ H7      |  |
|                  | d2 | 54.0 $^{+0.190}_{-0}$ H11     |  |
|                  | A  | 9.0 $^{+0.028}_{-0}$ F7       |  |
|                  | d3 | 46.0 $^{+0.005}_{-0.025}$ g6  |  |
|                  | d4 | 54.0 $^{+0.100}_{-0.290}$ d11 |  |
|                  | B  | 9.0 $^{+0.028}_{-0}$ f7       |  |
|                  | db | 45.989 f8                     |  |

### ADAPTORS

联轴器

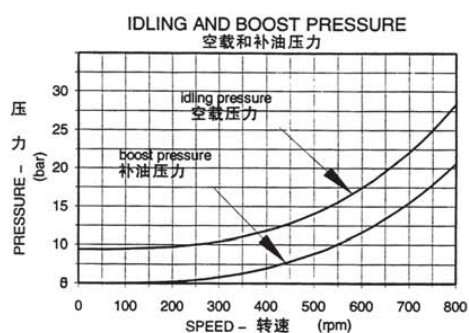
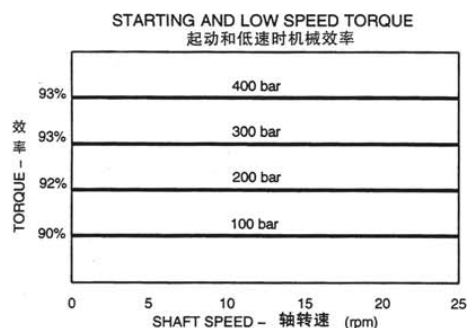
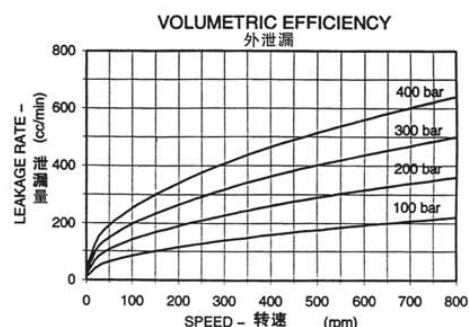
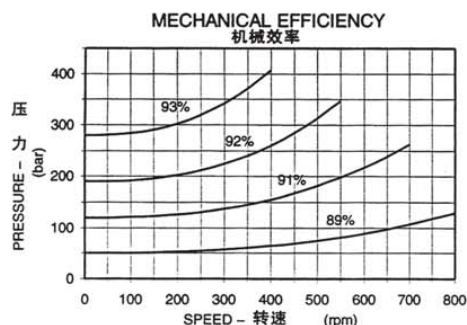


## PERFORMANCE

The graphs indicate the typical performance characteristics of the **600cc** motor operating with mineral oil with viscosity 40 cSt at 50 °C.

## 特性曲线

下列图表为排量**600cc**的马达，在工作液采用矿物油，粘度40cSt,油温50°C工作时的典型特性曲线。



## BEARING LIFETIME

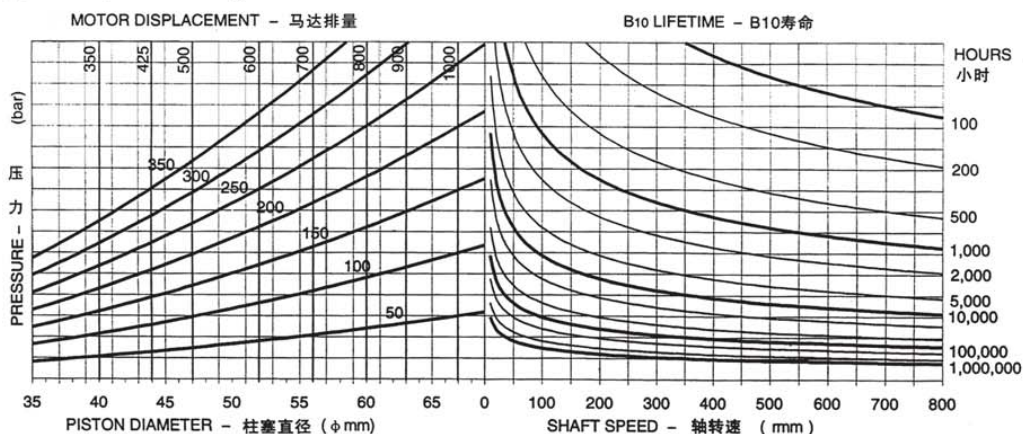
The graph refers to the motor with the standard roller bearings.

Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

## 轴承寿命

该图表适用配置滚柱轴承的马达。

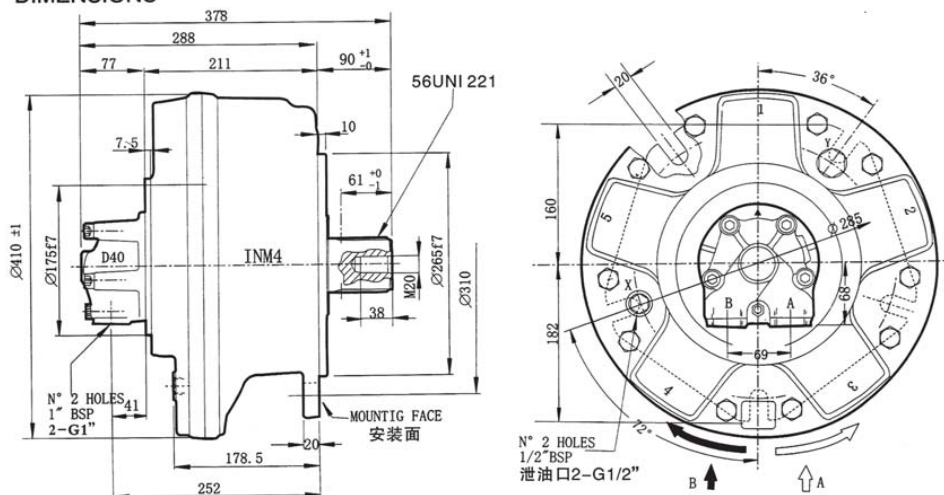
注意轴承平均寿命 ( $B_{50}$  寿命) 大约是  $B_{10}$  寿命的5倍。





## 9. INM 4系列液压马达 INM4 Series Hydraulic Motors

## DIMENSIONS

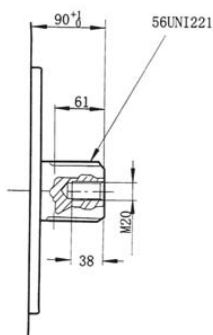


Flange and shaft dimensions are as in GM4、M5 series motors

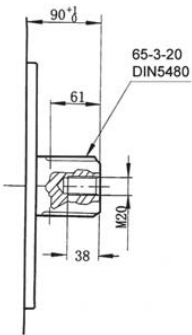
法兰和轴承尺寸与 GM4、M5 马达系列相同

### SHAFTS 轴伸型式

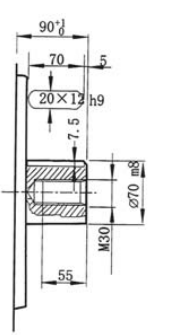
Splined  
矩形外花键



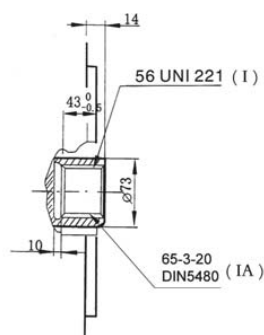
Splined A  
渐开线外花键 A





Cylindrical B  
圆柱平键 B



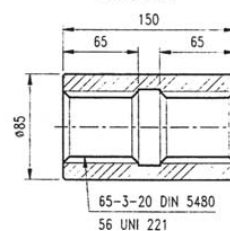
Internal spline I、IA  
内花键 I、IA



### SPLINE DATA - 花键参数

| DIN   |     | 65-3-20 DIN 5480                    | 55-2-26 DIN 5482                    | 55-3-17 DIN 5480                    | 56 UNI 221                                |
|---|-----|-------------------------------------|-------------------------------------|-------------------------------------|---|
|  | d0  | Ø 60.0                              | Ø 52.0                              | Ø 51.0                              | d1 Ø 56.0 <sup>+0.030<br/>+0</sup> H7     |
|   | d1  | Ø 65.0 <sup>+0.740<br/>+0</sup> H14 | Ø 55.0 <sup>+0.300<br/>+0</sup> H12 | Ø 55.0 <sup>+0.740<br/>+0</sup> H14 | d2 Ø 65.0 <sup>+0.190<br/>+0</sup> H1     |
|   | d2  | Ø 59.0 <sup>+0.190<br/>+0</sup> H11 | Ø 50.0 <sup>+0.160<br/>+0</sup> H11 | Ø 49.0 <sup>+0.160<br/>+0</sup> H11 | A Ø 10.0 <sup>+0.028<br/>+0.013</sup> F7  |
|   | A   | Ø 5.25                              | Ø 3.5                               | Ø 5.25                              | d3 Ø 56.0 <sup>-0.010<br/>-0.029</sup> g6 |
|   | UNI |                                     |                                     |                                     | d4 Ø 65.0 <sup>-0.100<br/>-0.150</sup> d1 |
|  | da  | Ø 54.101 H11                        | Ø 46.902 H10                        | Ø 43.807 H11                        | B Ø 10.0 <sup>-0.028<br/>-0.013</sup> f7  |
|   | d3  | Ø 64.4 <sup>-0.190<br/>h11</sup>    | Ø 54.5 <sup>-0.190<br/>h11</sup>    | Ø 54.4 <sup>-0.190<br/>h11</sup>    |   |
|   | d4  | Ø 58.4 <sup>-0.740<br/>h14</sup>    | Ø 49.0 <sup>-0.300<br/>h12</sup>    | Ø 48.4 <sup>-0.620<br/>h14</sup>    |   |
|   | B   | Ø 6.0                               | Ø 3.5                               | Ø 6.0                               |   |
|   | db  | Ø 70.999 f8                         | Ø 56.953 e9                         | Ø 60.873 f8                         |   |

## ADAPTORS 联轴器

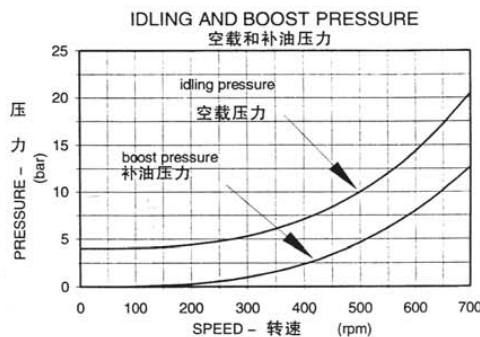
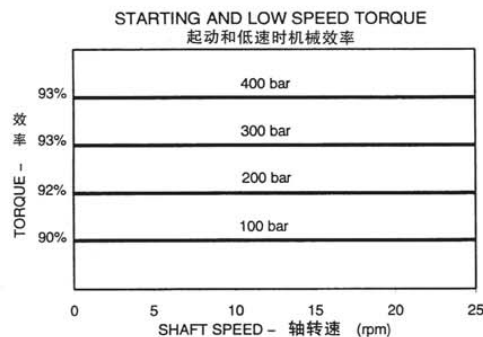
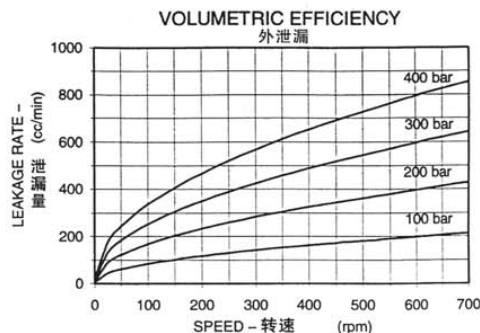
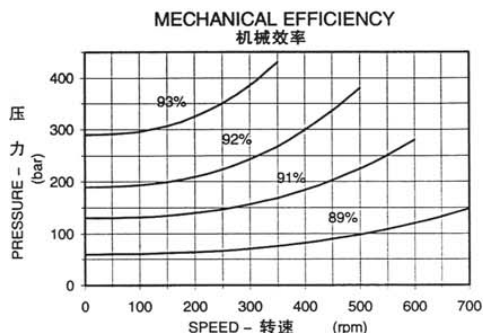


## PERFORMANCE

The graphs indicate the typical performance characteristics of the 900 cc motor operating with mineral oil with viscosity 40 cSt at 50 °C.

## 特性曲线

下列图表为排量900cc的马达，在工作液采用矿物油粘度40cSt,油温50℃工作时的典型特性曲线。



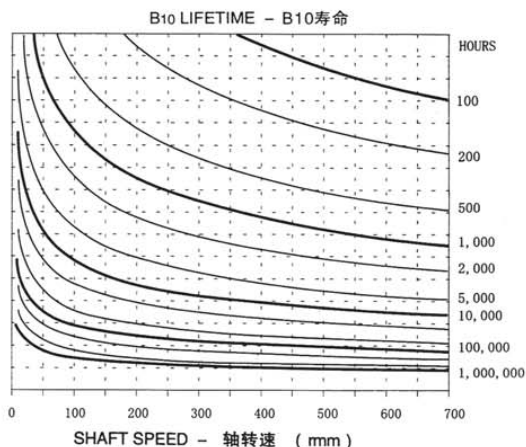
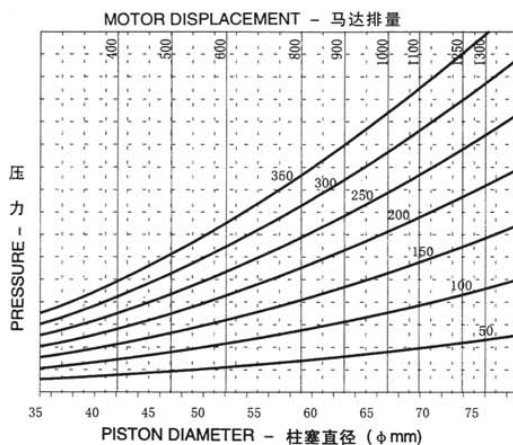
## BEARING LIFETIME

The graph refers to the motor with the standard roller bearings.  
Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

## 轴承寿命

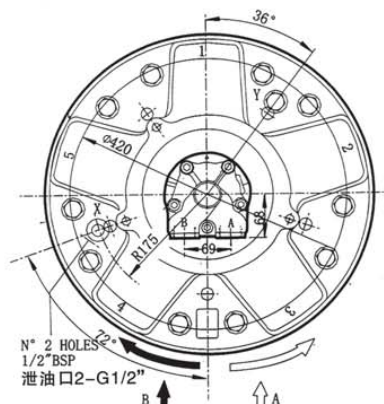
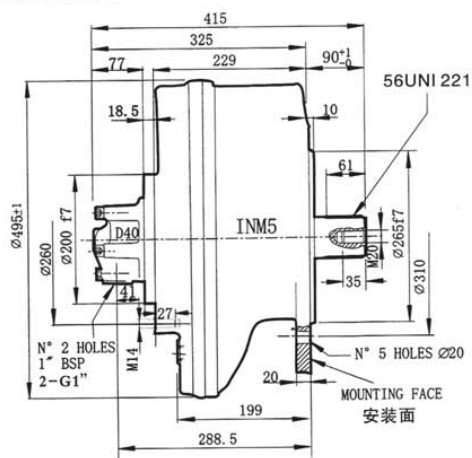
该图表适用配置滚柱轴承的马达。

注意轴承平均寿命 ( $B_{50}$  寿命) 大约是  $B_{10}$  寿命的5倍



## 10. INM 5系列液压马达 INM5 Series Hydraulic Motors

### DIMENSIONS

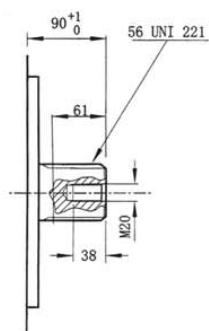


Flange and shaft dimensions are as in GM5、M5 series motors

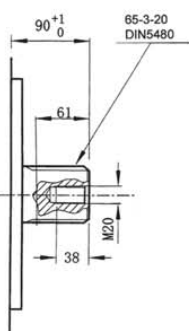
法兰和轴承尺寸与GM5、M5 马达系列相同

### SHAFTS 轴伸型式

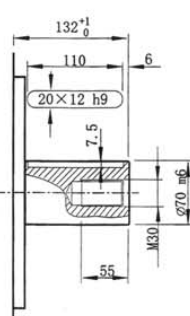
#### Splined 矩形外花键



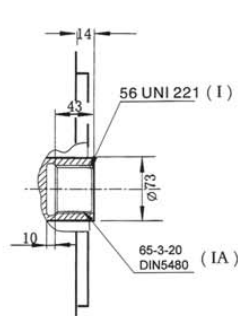
#### Splined A 渐开线外花键 A



#### Cylindrical B 圆柱平键 B



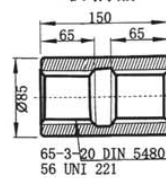
#### Internal spline I、IA 内花键 I、IA



### SPLINE DATA – 花键参数

| DIN | 65-3-20 DIN 5480 | 55-2-26 DIN 5482 | 55-3-17 DIN 5480 | 56 UNI 221 |
|-----|------------------|------------------|------------------|------------|
| d0  | 260.0            | 252.0            | 251.0            | 256.0      |
| d1  | 265.0            | 255.0            | 255.0            | 265.0      |
| d2  | 259.0            | 250.0            | 249.0            | 250.0      |
| A   | 5.25             | 3.5              | 5.25             | 5.25       |
| da  | 254.101          | 246.902          | 243.807          | 254.0      |
| d3  | 264.4            | 254.5            | 254.4            | 265.0      |
| d4  | 258.4            | 249.0            | 248.4            | 258.0      |
| B   | 6.0              | 3.5              | 6.0              | 6.0        |
| db  | 270.999          | 256.953          | 260.873          | 270.0      |

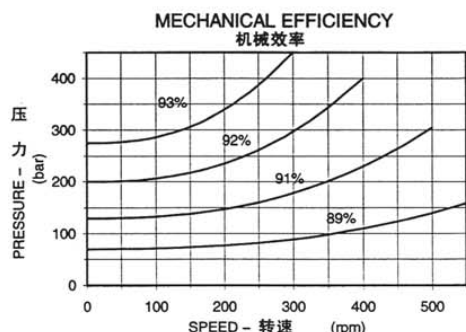
#### ADAPTORS 联轴器





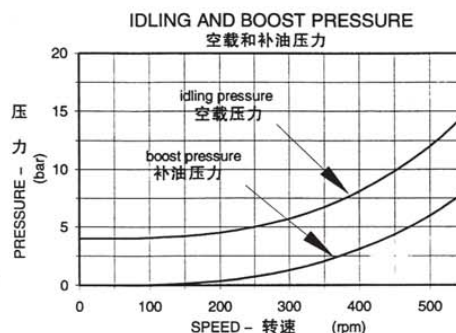
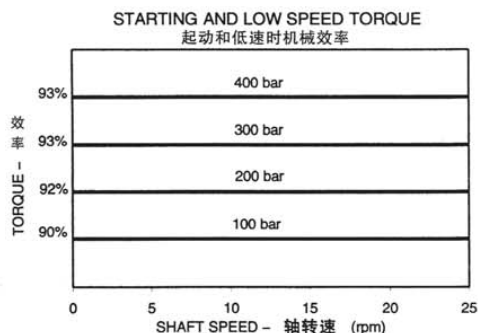
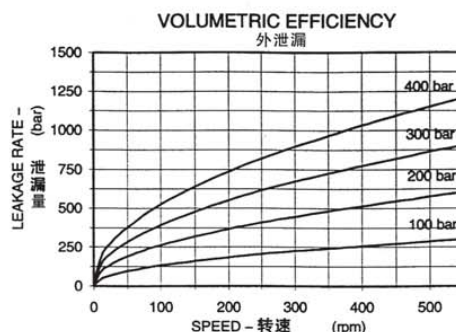
## PERFORMANCE

The graphs indicate the typical performance characteristics of the 1200cc motor operating with mineral oil with viscosity 40 cSt at 50 °C.



## 特性曲线

下列图表为排量1200cc的马达，在工作液采用矿物油，粘度40cSt,油温50℃工作时的典型特性曲线。



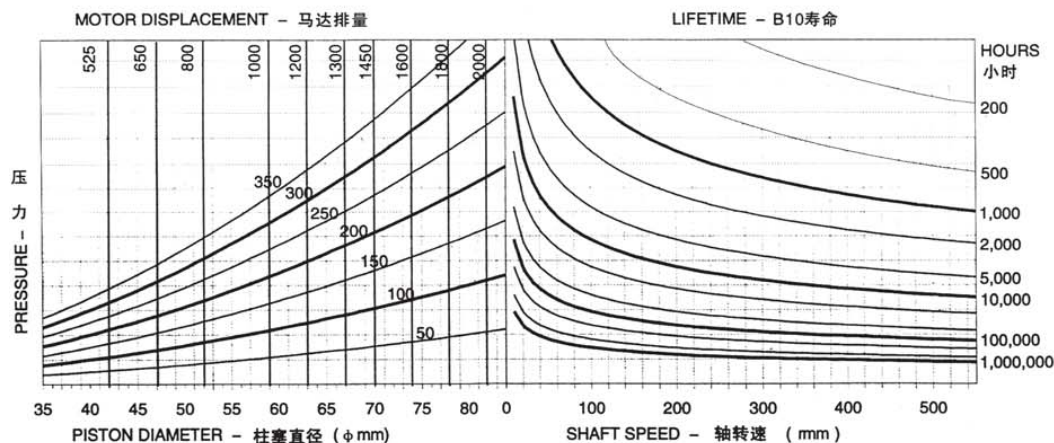
## BEARING LIFETIME

The graph refers to the motor with the standard roller bearings.  
Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

## 轴承寿命

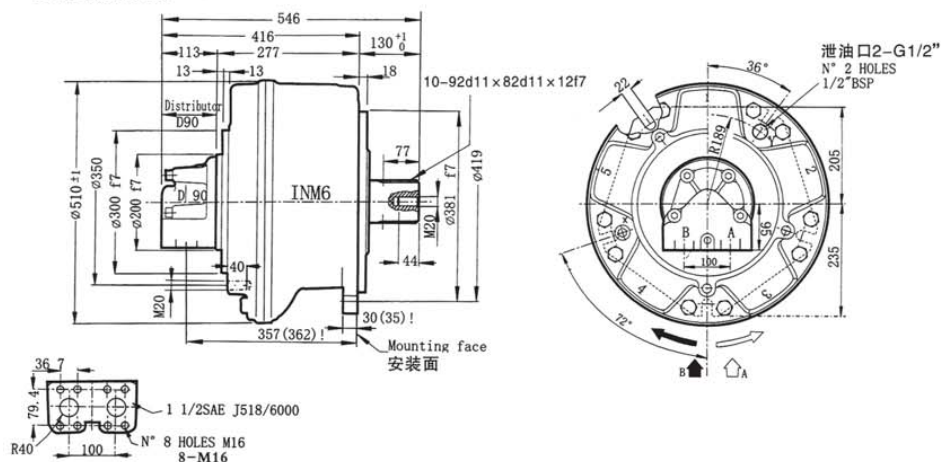
该图表适用配置滚柱轴承的马达。

注意轴承平均寿命 ( $B_{50}$  寿命) 大约是  $B_{10}$  寿命的5倍。



## 11. INM 6系列液压马达 INM6 Series Hydraulic Motors

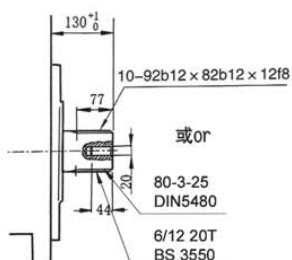
## DIMENSIONS



### SHAFTS 轴伸型式

Splined

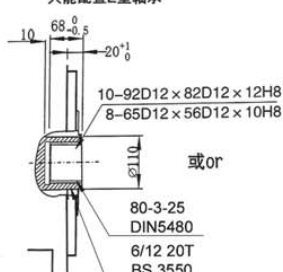
矩形外花键、渐开线外花键 A



Internal spline I, IA

内花键 I、IA

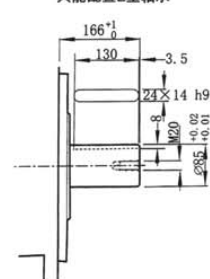
BEARING OPTION E ONLY  
只能配置E型轴承



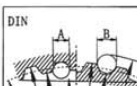
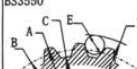
## Cylindrical B

圆柱平键 B

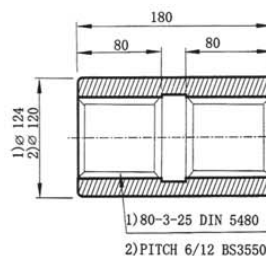
BEARING OPTION E ONLY  
只能配置E型轴承



### SPLINE DATA - 花键参数

| DIN  | 80-3-25 DIN 5480 |                        | pitch 6/12 BS 3550 |                           |                            |
|--|------------------|------------------------|--------------------|---------------------------|----------------------------|
| <br> | d0               | Ø 75.0                 | A                  | Ø 88.0<br>-0.047<br>-0.17 |                            |
|  | d1               | Ø 80.0<br>+0.870<br>+0 | H14                | B                         | Ø 84.6                     |
|  | d2               | Ø 74.0<br>+0.190<br>+0 | H11                | C                         | Ø 80.0<br>-0.480<br>-0.070 |
|  | A                | Ø 5.25                 |                    | D                         | Ø 97.0<br>+0.082<br>+0.030 |
|  | da               | Ø 68.9                 | H9                 | E                         | Ø 8.12                     |
|  | d3               | Ø 79.4<br>-0.190<br>-0 | h11                |                           |                            |
|  | d4               | Ø 73.4<br>-0.870<br>-0 | h14                |                           |                            |
|  | B                | Ø 6-0                  |                    |                           |                            |
|  | db               | Ø 85.9                 | f8                 |                           |                            |

## ADAPTORS 联轴器

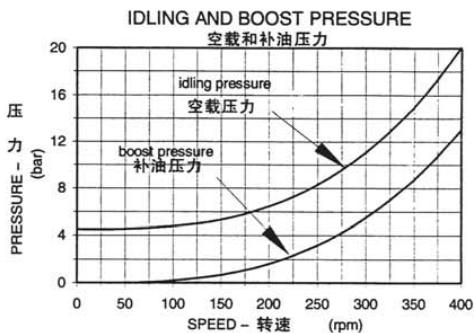
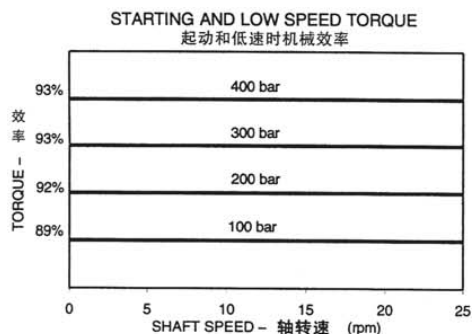
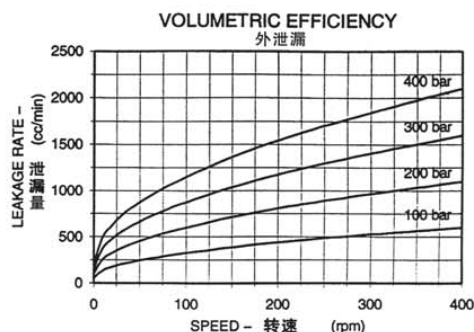
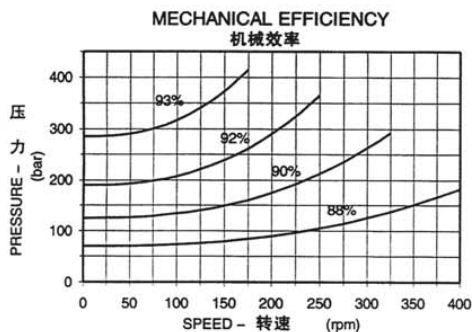


## PERFORMANCE

The graphs indicate the typical performance characteristics of the **2500cc** motor operating with mineral oil with viscosity 40 cSt at 50 °C.

## 特性曲线

下列图表为排量**2500cc**的马达，在工作液采用矿物油，粘度40cSt,油温50℃工作时的典型特性曲线。



## BEARING LIFETIME

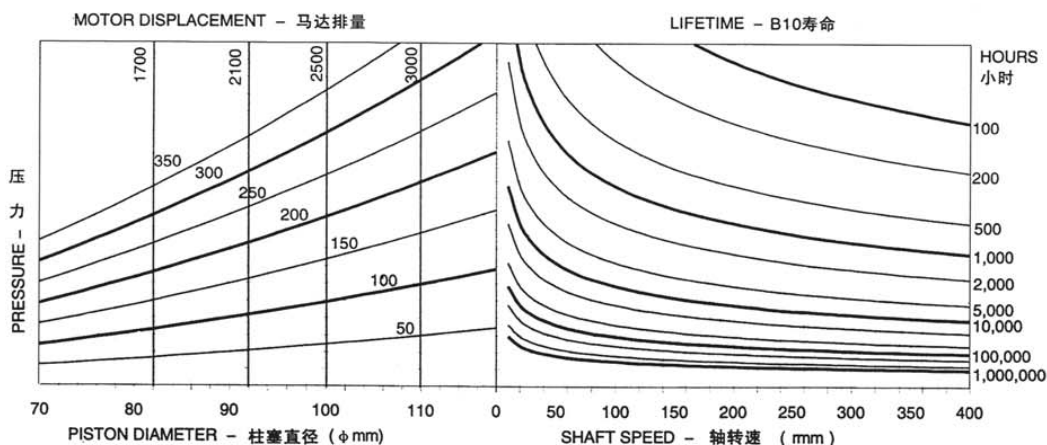
The graph refers to the motor with the standard spherical roller bearings.

Note that the average lifetime of a bearing ( $B_{50}$  lifetime) is approximately 5 times the  $B_{10}$  lifetime.

## 轴承寿命

该图表适用配置滚柱轴承的马达。

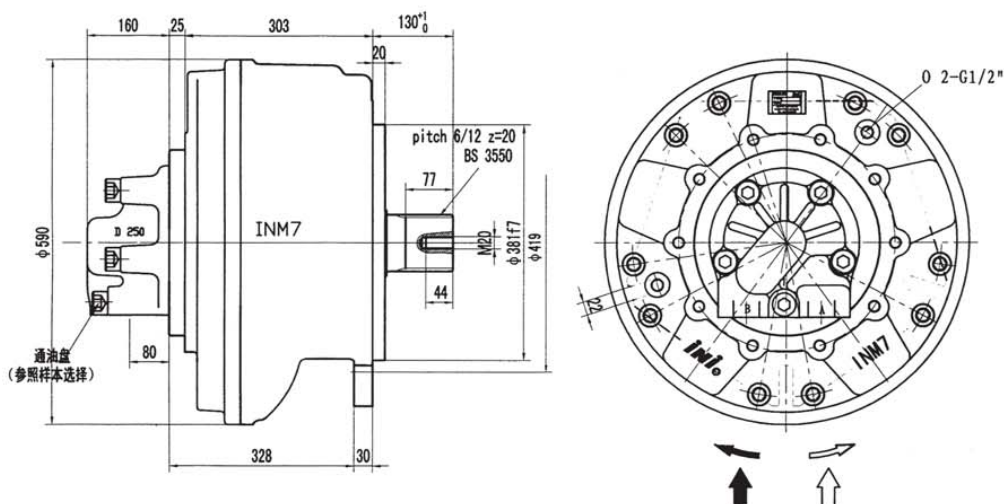
注意轴承平均寿命 ( $B_{50}$  寿命) 大约是  $B_{10}$  寿命的5倍。



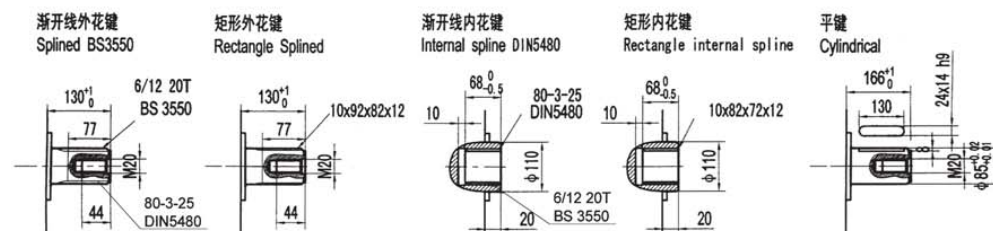


## 12. INM7系列液压马达安装连接尺寸图

### INM7 SERIES HYDRAULIC DIMENSIONS OF CONNECTION



## 输出轴样式 SHAFTS



## 花键参数 SPLINE DATA

|  | 80-3-25 DIN 5480 |            |  | pitch 6/12 BS 3550 |  |
|--|------------------|------------|--|--------------------|--|
|  | do               | φ 75.0     |  | A                  | φ 88.0 <sup>+0.047</sup> <sub>-0.17</sub>  |
|  | di               | φ 80.0 H14 |  | B                  | φ 84.6                                     |
|  | d2               | φ 74.0 H11 |  | C                  | φ 80.0 <sup>+0.480</sup> <sub>-0.070</sub> |
|  | A                | φ 5.25     |  | D                  | φ 97.0 <sup>+0.082</sup> <sub>-0.030</sub> |
|  | da               | φ 68.9 H9  |  | E                  | φ 8.12                                     |
|  | d3               | φ 79.4 h11 |  |                    |  |
|  | d4               | φ 73.4 h14 |  |                    |  |
|  | B                | φ 6.0      |  |                    |  |
|  | db               | φ 85.9 f8  |  |                    |  |
|  |                  |            |  |                    |  |
|  |                  |            |  |                    |  |