



Standard Mold Accessories  
Custom Mold Components Manufacture

# CATALOGO

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## Standard mold accessories

### COMPANY PROFILE

#### 公司简介



### FACILITIES

#### 生产车间



### CORE PIN

#### 模具芯子



### FORMED EJECTOR PIN 非标顶针加工 尾部放电成型



### CORE INSERT

#### 模具镶件



### NON-STANDARD BLOCK

#### 垫块、铲基 压条、耐磨板



# 标准件目录

## Standard mold accessories

### DATE STAMPS SERIES™ 日期章系列

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DATE STAMPS



P 022 A02

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DATE STAMPS



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P 025 A05

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P 029 A09

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P 030 A10

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P 037 A18

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P 038 A19/A22

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法式日期章 / 凸字章  
DATE STAMPS / EMBOSSED



P 040 A23/A24

凸字章  
EMBOSSED



P 040 A15

### AIR EJECTOR & GAS VENT SERIES™ 气顶系列

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AIR EJECTOR



P 042 AJV

气顶  
AIR EJECTOR



P 043 VAD

气顶  
AIR EJECTOR



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气顶  
AIR EJECTOR



P 045 Z491/Z4911

气顶  
AIR EJECTOR



P 045 PPV

气顶  
AIR EJECTOR



P 046 PQ

气顶  
AIR EJECTOR



P 046 VD

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P 047 SAS01





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| <p>限位夹<br/>SLIDE RETAINER</p>  <p>P. 067 SZ5135</p>              | <p>限位夹<br/>SLIDE RETAINER</p>  <p>P. 067 SZ189</p>        | <p>定位珠<br/>BALL PLUNGERS</p>  <p>P. 068 SZ36</p>      | <p>定位珠<br/>BALL PLUNGERS</p>  <p>P. 068 SZ37</p>  | <p>定位珠<br/>BALL PLUNGERS</p>  <p>P. 069 SZ372</p>  |
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| <p>氮气弹簧<br/>NITROGEN GAS SPRING</p>  <p>P. 204 TC1500 (GSV1500)</p>                 | <p>氮气弹簧<br/>NITROGEN GAS SPRING</p>  <p>P. 204 TC2400 (GSV2400)</p>                 | <p>氮气弹簧<br/>NITROGEN GAS SPRING</p>  <p>P. 205 TC4200 (GSV4200)</p>                 | <p>氮气弹簧<br/>NITROGEN GAS SPRING</p>  <p>P. 205 TC6600 (GSV6600)</p>                          | <p>氮气弹簧<br/>NITROGEN GAS SPRING</p>  <p>P. 206 TC9500 (GSV9500)</p>                                                   |
| <p>氮气弹簧<br/>NITROGEN GAS SPRING</p>  <p>P. 206 TC20000 (GSV20000)</p>               | <p><b>BALL BEARING GUIDE POST SETS FOR DIE SET</b><br/>SERIES ---<br/>模架用钢珠导柱组件</p>                                                                                  |                                                                                                                                                                      | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 208 GBH / GBL / GEP</p> | <p>模架用钢珠导柱组件/装封型<br/>BALL BEARING GUIDE POST SETS FOR DIE SET / PRESS FIT TYPE</p>  <p>P. 209 22HR2000 / 22HR2000</p> |
| <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 213 MY</p>    | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 213 MYZP</p>  | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 213 MYZ</p>   | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 213 MYP</p>            | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 215 MYA</p>                                     |
| <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 215 MYAP</p> | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 215 MYJ</p>  | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 215 MYJP</p> | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 217 MYAK</p>          | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 217 MYKP</p>                                   |
| <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 217 MYJK</p> | <p>模架用钢珠导柱组件<br/>BALL BEARING GUIDE POST SETS FOR DIE SET</p>  <p>P. 217 MYKP</p> | <p><b>OTHER COMPONENT</b><br/>SERIES ---<br/>其它组件系列</p>                                                                                                              |                                                                                                                                                                               | <p>模具温度计<br/>MOLD THERMOMETER</p>  <p>P. 220 MTA</p>                                                                |
|                                                                                                                                                                      |                                                                                                                                                                      |                                                                                                                                                                      |                                                                                                                                                                               | <p>模具温度计<br/>MOLD THERMOMETER</p>  <p>P. 220 MTB</p>                                                                |

|                                                                                                                                     |                                                                                                                                 |                                                                                                                                |                                                                                                                                           |                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <p>模具温度计<br/>MOLD THERMOMETER</p>  <p>P-220 MTC</p> | <p>计数器<br/>MOLD COUNTER</p>  <p>P-221 CVPL</p> | <p>计数器<br/>MOLD COUNTER</p>  <p>P-221 CVR</p> | <p>智能型电子计数器<br/>TAPERED INTERLOCKS</p>  <p>P-222 CEC</p> | <p>垫片<br/>GASKET</p>  <p>P-222 SRA</p> |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                  |                                                                                                                                   |                                                                                                                                     |                                                                                                                                             |                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <p>隔热板<br/>INSULATION BOARD</p>  <p>P-223 IB</p> | <p>精密开模片<br/>PRECISE SHIMES</p>  <p>P-224 PS</p> | <p>限位开关<br/>LIMIT SWITCHES</p>  <p>P-225 Z7600</p> | <p>限位开关<br/>LIMIT SWITCHES</p>  <p>P-225 TSW2220/HT291</p> | <p>限位开关<br/>LIMIT SWITCHES</p>  <p>P-226 V-1C25</p> |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                               |                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <p>限位开关<br/>LIMIT SWITCHES</p>  <p>P-226 Z-15</p> | <p>油石<br/>FIBER OILSTONES</p>  <p>P-227 FOS</p> | <p>钻石膏<br/>DIAMOND COMPOUND</p>  <p>P-227 DC</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-228 WS</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-229 TF</p> |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                              |                                                                                                                               |                                                                                                                               |                                                                                                                               |                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-230 TL</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-231 TM</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-232 TH</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-233 TB</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-234 TR</p> |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                |                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-234 TY</p> | <p>模具弹簧<br/>MOLD SPRING</p>  <p>P-235 TR</p> |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|

# CORE PIN

## 各类模具芯子



模具型芯包括各种医疗模具芯子，化妆品芯子，各类笔模芯子等，对精密度，同心度，真圆度，粗糙度都有极高的要求，不仅如此，在型芯的材料选择，产品设计上都有着特殊的要求。我们的产品可以达到直径公差 $\pm 0.005\text{mm}$ 、同心度 $0.002\text{mm}$ 、真圆度 $0.003\text{mm}$ 、表面粗糙度 $Ra0.04\mu$ 。更多建议和息敬请与我们联系。

Mold core pin includes all kinds of medical mold core pin, cosmetic core pin, all kinds of pen mold core pin, etc., have high requirements for precision, concentricity, roundness, not only that, in the core pin material selection, product design have special requirements. Our products can reach diameter tolerance  $\pm 0.005\text{mm}$ , concentricity  $0.002\text{mm}$ , true roundness  $0.003\text{mm}$ , surface roughness  $Ra0.04\mu$ . For more advice and information please contact us.



# FORMED EJECTOR PIN

## 顶针非标加工

专注于各类顶针的  
非标定制，顶针头部放电成型

Focus on all kinds of Ejector pin  
non-standard customization,  
Ejector pin EDM processing



❶ 非标件凭图纸报价

Non-standard parts are quoted according to drawings





# MOLD CORE INSERT

## 模具镶件

模具镶件专门指的是用于镶嵌在模具中的不规则模具配件。是单独的用于成型胶位的模具配件。模具由多个工件组成之时，除了主体的钢料外的镶嵌进去的零件就是镶件了。镶件可以是方形、圆形、片型，和所有的模具配件一样。对精密度的要求也非常高。

Mold core insert specifically refers to irregular mold parts used for embedding in the mold. It is a separate mold part used for forming the glue position. When a mold is made up of multiple parts, core inserts are the parts that are inserted in addition to the steel in the body. Core Inserts can be square, round, or slice, and, like all die parts, require a high degree of precision.



### ● 非标件凭图纸报价

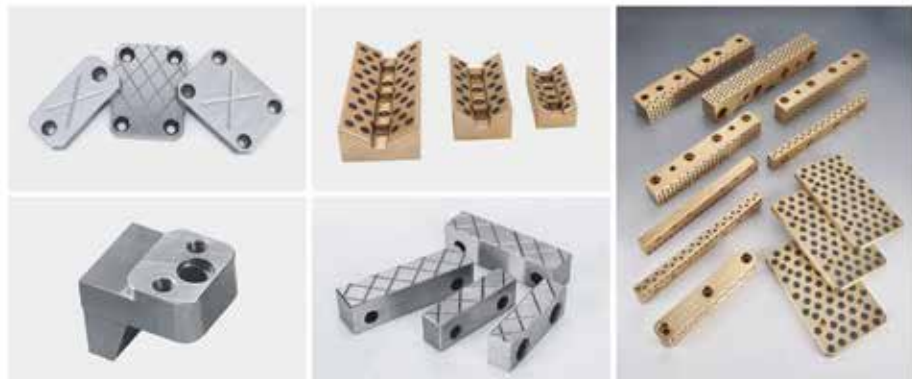
Non-standard parts are quoted according to drawings

镶件的种类：镶针、镶块、镶柱、镶圈等  
材质：SKD61、SKH51、ASP23、SKD11等  
硬度：50HRC以上  
标准精度：±0.01mm

Types of core insert: core pin, insert block, insert cylinder, insert ring, etc  
Material: SKD61, SKH51, ASP23, SKD11, etc  
Hardness: 50HRC  
Standard accuracy: ±0.01mm

# NON-STANDARD BLOCK

垫块 / 铲基 / 压条



## ● 非标准件凭图纸报价

Non-standard parts are quoted according to drawings

各种非标准滑块，垫块，铲机，压条，耐磨块等产品的来图定制加工

All kinds of non-standard slide block, pad block, wear plate and other products customized processing



# DATE STAMPS

SERIES 8000

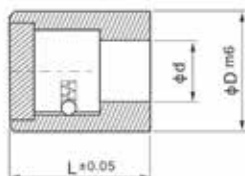
日期章系列



# 整体式日期章

## DATE STAMPS

### A02



YR



MH



YM



DY



0-3



0-9



ABC



A-M



N-Z



Y09



1-3



WK



YZ



BK

其他尺寸和图案，欢迎洽商  
Other engravings available on request

| 材质     | 硬度        |
|--------|-----------|
| SUS420 | HRC 48-52 |

| Type | D(mm) | L(mm)  | d(mm) | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|------|-------|--------|-------|--------------------|---------------------|
| A02  | 3     | 6/8/10 | 1.6   | 0.1                | 0.2                 |
|      | 4     | 6/8/10 | 1.8   | 0.12               | 0.2                 |
|      | 5     | 6/8/10 | 2.5   | 0.18               | 0.25                |
|      | 6     | 8/10   | 3     | 0.18               | 0.4                 |
|      | 8     | 10     | 4     | 0.18               | 0.4                 |
|      | 10    | 10/12  | 5     | 0.2                | 0.4                 |
|      | 12    | 12/14  | 6     | 0.25               | 0.45                |
|      | 16    | 14     | 8     | 0.25               | 0.45                |
|      | 20    | 14/16  | 10    | 0.25               | 0.45                |



Type Pattern D L Year  
A02 - YR - 3 - 6 - 22

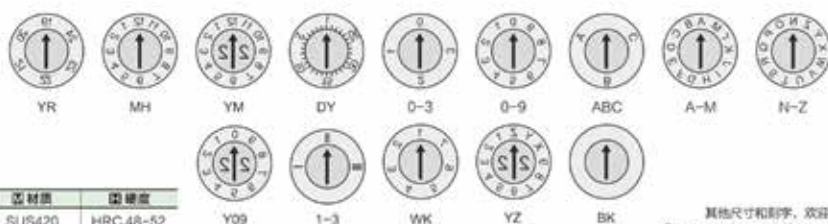
### 产品特点 Precautions

- A02是整体式波珠定位结构，箭头指示准确，容易转动，不易偏位。
- 本款日期章不能更换芯子
- A02 is an integral wave bead positioning structure, the arrow indicates accurate, easy to rotate, not easy to deviate.
- The arrow of this date stamps cannot be replaced.

# 分型面更换型日期章

## DATE STAMPS

## A03



| 原材料    | 硬度        |
|--------|-----------|
| SUS420 | HRC 48-52 |

其他尺寸和图案，欢迎洽询  
Other engravings available on request

| Type | D(mm) | L(mm) | d(mm) | F    | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|------|-------|-------|-------|------|--------------------|---------------------|
| A03  | 4     | 8     | 2.4   | 7.7  | 0.14               | 0.25                |
|      | 5     | 8     | 2.9   | 7.7  | 0.18               | 0.25                |
|      | 6     | 8     | 3.7   | 7.7  | 0.18               | 0.4                 |
|      | 8     | 10    | 5     | 9.7  | 0.18               | 0.4                 |
|      | 10    | 12    | 6.3   | 11.7 | 0.2                | 0.4                 |
|      | 12    | 14    | 7.5   | 13.7 | 0.2                | 0.4                 |
|      | 16    | 14    | 11    | 13.7 | 0.25               | 0.45                |
|      | 20    | 16    | 13.2  | 15.7 | 0.25               | 0.45                |

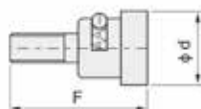
| Type | Pattern | D | L | Year |
|------|---------|---|---|------|
| A03  | YR      | 4 | 8 | 22   |

### 产品特点 Precautions

- 可以和MISUMI的DTBX,DTXS,DTDX, DTEX,DTGX等互换。
- 波珠结构，箭头指示准确，定位效果好；
- 从日期章头部，可快速更换内镶件；
- 内镶件可变更年份，适合长期生产型模具，从而可节约模具成本。
- It can be interchangeable with MISUMI's DTBX,DTXS,DTDX, DTEX,DTGX, etc.
- Wave bead structure, accurate arrow indication, good positioning effect;
- From the head of the date stamp, the inner insert can be quickly replaced;
- The inner inserts can change the year, which is suitable for long-term production molds, which can save mold costs.

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

| Type | Name                    | price          |
|------|-------------------------|----------------|
| AA03 | Arrow of the date stamp | 1/3 of the A03 |
| AB03 | Body of the date stamp  | 2/3 of the A03 |

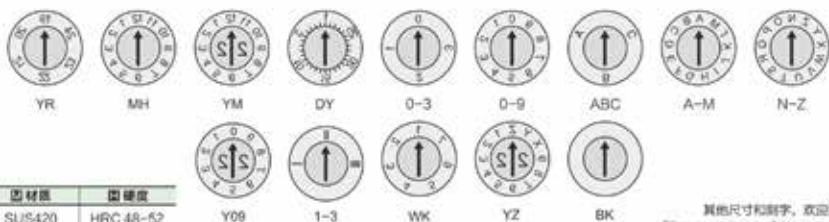




# 高度可调整型日期章

## DATE STAMPS

### A04



其他尺寸和刻字, 欢迎洽询  
Other engravings available on request

#### ■ 内芯

| Type | d   | T   | M        | H    | 文字深度 | 箭头深度 | 文字字高H |
|------|-----|-----|----------|------|------|------|-------|
| A04X | 3.7 | 1.5 | 1.6*0.2  | 7.7  | 0.22 | 0.4  | 0.85  |
|      | 5.0 | 2.0 | 2.3*0.25 | 9.7  |      |      | 1.15  |
|      | 6.3 | 2.5 | 2.5*0.45 | 11.7 |      | 0.5  | 1.4   |
|      | 7.5 | 2.5 | 3*0.5    | 13.7 |      |      | 1.6   |

#### ■ 壳体与连接件

| Type | D <sub>3.2</sub> | d    | g   | M     | L1   | L2  | L    | 文字深度 | 箭头深度 | 文字字高H |
|------|------------------|------|-----|-------|------|-----|------|------|------|-------|
| A04K | 6                | 5.5  | 1.0 | 3*0.5 | 8.0  | 4.0 | 12.0 | 0.22 | 0.4  | 0.85  |
|      | 8                | 7.5  | 1.0 | 4*0.7 | 10.0 | 5.0 | 14.0 |      |      | 1.15  |
|      | 10               | 9.5  | 1.5 | 5*0.8 | 12.0 | 6.0 | 16.0 |      | 0.5  | 1.4   |
|      | 12               | 11.5 | 2.0 | 6*1   | 14.0 | 8.0 | 18.0 |      |      | 1.6   |

#### ■ 底座

| Type | d    | M     | ee  | C    | P    |
|------|------|-------|-----|------|------|
| A04D | 5.5  | 3*0.5 | 3.5 | 9.0  | 5.0  |
|      | 7.5  | 4*0.7 | 4.5 | 11.0 | 7.0  |
|      | 9.5  | 5*0.8 | 5.5 | 15.0 | 9.0  |
|      | 11.5 | 6*1   | 6.5 | 20.0 | 11.0 |

| LR          | X    |      |     |     |
|-------------|------|------|-----|-----|
|             | e6   | e8   | e10 | e12 |
| 10.00-20.00 | 4.0  | 2.0  | 0   | 0   |
| 20.01-30.00 | 14.0 | 12.0 | 10  | 8   |
| 30.01-40.00 | 24.0 | 22.0 | 20  | 18  |
| 40.01-50.00 | 34.0 | 32.0 | 30  | 28  |
| 50.01-60.00 | -    | 42.0 | 40  | 38  |
| 60.01-70.00 | -    | -    | 50  | 48  |

| 原材料    | 硬度       |
|--------|----------|
| SUS420 | 48-52HRC |

| Type | Pattern | D | L  | Year |
|------|---------|---|----|------|
| A04  | - YR -  | 6 | 12 | 22   |

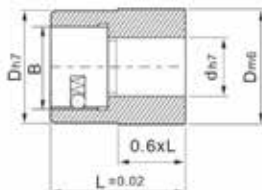
#### ■ 产品特点 Precautions

- 可调整型连续可换式日期章优点, 增加连接螺母与底座。
- 改变底座高度, 可随要求调节所需要的安装高度。
- 由于标准组件组合, 提高模具的排气性能。
- The advantage of the adjustable continuous interchangeable date marked pins is to increase the connection between the nut and base.
- Change the height of base, and adjust the required installation height according to the requirements.
- Due to the standard inserts combination, it improves the exhaust performance of mold.

# 标准式底部换芯日期章

## DATE STAMPS

## A05



YR



MH



YM



DY



0-3



0-9



ABC



A-M



N-Z

| 图例     | 国标准       |
|--------|-----------|
| SUS420 | HRC 48-52 |



Y09



1-3



WK



YZ



BK

其他尺寸和刻字，欢迎洽询  
Other engravings available on request

| Type | D(mm) | B(mm) | d(mm) | L(mm) | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|------|-------|-------|-------|-------|--------------------|---------------------|
| A05  | 3     | 2     | 1.4   | 8     | 0.14               | 0.2                 |
|      | 4     | 2.8   | 1.9   | 8     | 0.14               | 0.25                |
|      | 5     | 3.4   | 2.3   | 8     | 0.18               | 0.25                |
|      | 6     | 4     | 2.8   | 8     | 0.18               | 0.4                 |
|      | 8     | 5.6   | 4     | 10    | 0.18               | 0.4                 |
|      | 10    | 6.5   | 5     | 12    | 0.2                | 0.4                 |
|      | 12    | 8     | 6.5   | 14    | 0.2                | 0.4                 |
|      | 16    | 12    | 10    | 14    | 0.25               | 0.45                |
|      | 20    | 14    | 12    | 16    | 0.25               | 0.45                |



Type Pattern D L Year  
A05 - YR - 4 - 8 - 22

### 产品特点 Precautions

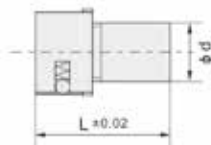
- 可以跟MISUMI的DTBX,DTXS,DTDX, DTEX,DTGX等互换。
- 波珠结构，箭头指示准确，定位效果好。
- 从日期章尾部，可快速更换内镶件。
- 内镶件可变更年份，适合长期生产型模具，从而可节约模具成本。
- It can be interchanged with MISUMI's DTBX, DTXS, DTDX, DTEX, DTGX, etc.
- ToWave bead structure, accurate arrow indication, good positioning effect.
- From the end of the date stamp, the inner insert can be quickly replaced.
- The inner inserts can change the year, which is suitable for long-term production molds, which can save mold costs.

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

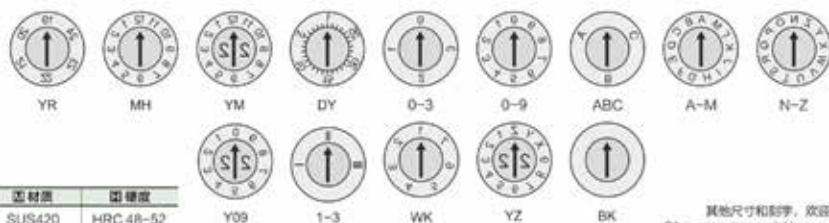
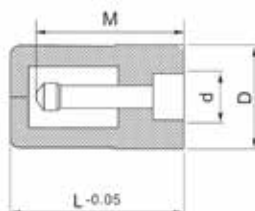
| Type | Name                     | price          |
|------|--------------------------|----------------|
| AA05 | Insert of the date stamp | 1/3 of the A05 |
| AB05 | Body of the date stamp   | 2/3 of the A05 |



年份镶件 箭头镶件



A06



其他尺寸和刻字，欢迎洽商  
Other engravings available on request

| Type         | D(mm) | L(mm) | d(mm) | M   | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|--------------|-------|-------|-------|-----|--------------------|---------------------|
| A06A<br>A06B | 4     | 12    | 2.2   | 7.7 | 0.1                | 0.25                |
|              | 5     | 12    | 3     | 7.7 | 0.12               | 0.25                |
|              | 6     | 20    | 3.2   | 17  | 0.15               | 0.4                 |
|              | 8     | 20    | 4.7   | 17  | 0.18               | 0.4                 |
|              | 10    | 20    | 5.7   | 17  | 0.2                | 0.4                 |
|              | 12    | 20    | 6.7   | 17  | 0.2                | 0.4                 |
|              | 16    | 20    | 8.7   | 17  | 0.25               | 0.45                |
|              | 20    | 20    | 10.7  | 17  | 0.25               | 0.45                |

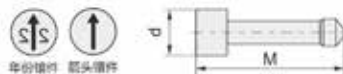
| Type | Pattern | D | L  | Year |
|------|---------|---|----|------|
| A06A | - YR -  | 4 | 12 | 22   |

### 产品特点 Precautions

- 本款日期章可以和CUMSA的FA系列替换
- A06A为整体式结构，内部芯子不可更换。
- A06B为可换芯结构，箭头年份可以更换。
- 顺时针转动内镶件，无凹凸现象；
- 内镶件可正面更换，逆时针转动2-4圈可以将芯子转出，无需拆模，更换方便简单；
- 注意事项：模具在生产过程，调节日期章时严禁逆时针转动，应顺时针调节，避免内镶件松动。
- This date stamp can be replaced with the FA series of CUMSA
- A06A is integral structure, arrow core is not replaceable.
- A06B is a replaceable core structure, arrow core can be replaced.
- Rotate the inserted parts clockwise, and no concavo convex phenomenon appears;
- Inserts can be replaced frontally, and the core can be turned out by 2-4 turns counter-clockwise without removing the mould. The replacement is convenient and simple.
- Note: In the production process, don't rotate anticlockwise when adjusting the date stamp, and you should adjust it clockwise to avoid the inserted parts loose.

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

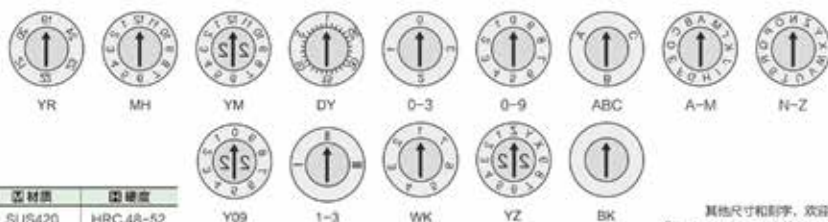
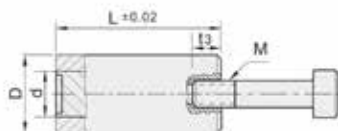
| Type | Name                     | price          |
|------|--------------------------|----------------|
| AA06 | Insert of the date stamp | 1/3 of the A06 |
| AB06 | Body of the date stamp   | 2/3 of the A06 |



# H式标准日期章

## DATE STAMPS

## A07



| 芯材质    | 圆硬度      |
|--------|----------|
| SUS420 | HRC48-52 |

其他尺寸和图案，欢迎洽询  
Other engravings available on request

| Type         | D(mm) | L(mm) | d(mm) | M    | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|--------------|-------|-------|-------|------|--------------------|---------------------|
| A07A<br>A07B | 4     | 12.5  | 2     | M2   | 0.1                | 0.25                |
|              | 5     | 14    | 2.5   | M2.5 | 0.12               | 0.25                |
|              | 6     | 16    | 3     | M3   | 0.15               | 0.4                 |
|              | 8     | 18    | 4     | M3   | 0.18               | 0.4                 |
|              | 10    | 22    | 5     | M3   | 0.2                | 0.4                 |
|              | 12    | 25    | 6.4   | M4   | 0.2                | 0.4                 |



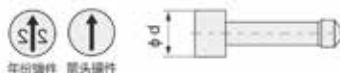
| Type | Pattern | D   | L      | Year |
|------|---------|-----|--------|------|
| A07A | - YR    | - 4 | - 12.5 | - 22 |

### 产品特点 Precautions

- 本款日期章可以和HASCO的Z486系列替换，Z486是旧款，新款请参考Z487 (A09)
- A07A为整体式结构，内部芯子不可更换。
- A07B为可换芯结构，箭头年份可以更换，内镶件需逆时针旋转装入。
- 日期章尾端配有螺纹，方便后端用螺丝固定。
- This date stamp can be replaced with the Z486 series of HASCO, Z486 is the old model, please refer to A09 for the new one.
- A07A is integral structure, arrow core is not replaceable.
- A07B is a replaceable core structure, arrow core can be replaced, When installing internal insert, anticlockwise rotation is required.
- Tail end of date stamp has thread which is convenient for fixing by screw at back end.

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

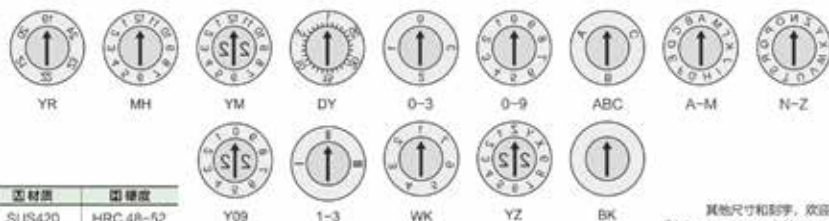
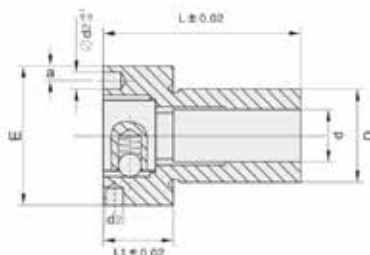
| Type | Name                     | price           |
|------|--------------------------|-----------------|
| AA07 | Insert of the date stamp | 1/3 of the A07B |
| AB07 | Body of the date stamp   | 2/3 of the A07B |



# 台阶可更换式日期章

## DATE STAMPS

### A08



其他尺寸和图案，欢迎洽商  
Other engravings available on request

| Type | D(mm) | L(mm) | d(mm) | E(mm) | L1(mm) | d2(mm) | a(mm) | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|------|-------|-------|-------|-------|--------|--------|-------|--------------------|---------------------|
| A08  | 6     | 14    | 3.5   | 10    | 5      | 1.5    | 0.9   | 0.18               | 0.4                 |
|      | 8     | 17    | 4.5   | 12    | 6      | 1.5    | 0.9   | 0.18               | 0.4                 |
|      | 12    | 22    | 6.5   | 20    | 10     | 2      | 3.5   | 0.2                | 0.4                 |
|      | 16    | 27    | 9     | 23    | 11     | 2      | 3.5   | 0.25               | 0.45                |
|      | 20    | 36    | 10.5  | 28    | 14     | 3      | 4     | 0.25               | 0.45                |



Type Pattern D L Year  
A08 - YR - 6 - 14 - 22

### 产品特点 Precautions

- 可以和HASCO的Z48, Z482, Z483, Z485等互换。
- 本款和OPITZ的DATI 2100外形尺寸一致，但是内部箭头尺寸稍有差别，订购是请注明所需型号。
- 芯子可以底部更换，更换简单方便，节省成本。
- 主体挂台式外形设计，解决注塑生产中日期章以正面粘模脱出。
- 主体侧面配有销钉定位，用于日期章防转。
- 注意事项：更换此内组件需要拆模具，内组件从模板内退出后更换。
- It can be interchangeable with Z48, Z482, Z483, Z485 of the HASCO.
- The size of this model is the same as OPITZ DATI 2100, but the size of the internal arrow is slightly different. Please specify the required model when ordering.
- Insert can be replaced from the bottom, easy replacement and cost savings.
- The main hang desktop form factor design to solve injection molding manufacturing date chapter in a positive die sticking prolapse.
- The main body side is equipped with a positioning pin, used to date chapter anti-rotating.
- Note: Replace the insert need to open mold, insert inside out from within the template for the replacement.

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

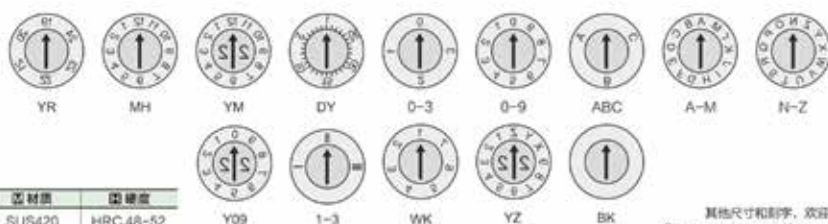
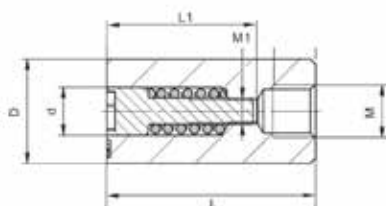
| Type | Name                     | price          |
|------|--------------------------|----------------|
| AA08 | Insert of the date stamp | 1/3 of the A08 |
| AB08 | Body of the date stamp   | 2/3 of the A08 |





O式日期章  
DATE STAMPS

## A09



| 原材料    | 硬度        |
|--------|-----------|
| SUS420 | HRC 48-52 |

其他尺寸和图案，欢迎洽询  
Other engravings available on request

| Type         | D(mm) | L(mm) | L1(mm) | d(mm) | M1        | M  | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|--------------|-------|-------|--------|-------|-----------|----|--------------------|---------------------|
| A09A<br>A09B | 3     | 14    | 9      | 1.6   | M1x0.15   | M2 | 0.1                | 0.2                 |
|              | 4     | 14    | 10.5   | 2.5   | M1.4x0.2  | M2 | 0.12               | 0.2                 |
|              | 5     | 17    | 13     | 3.1   | M1.6x0.2  | M3 | 0.18               | 0.25                |
|              | 6     | 17    | 13     | 3.1   | M1.6x0.2  | M3 | 0.18               | 0.4                 |
|              | 8     | 20    | 14     | 4.6   | M2.5x0.35 | M4 | 0.18               | 0.4                 |
|              | 10    | 20    | 14     | 4.6   | M2.5x0.35 | M5 | 0.2                | 0.4                 |
|              | 12    | 25    | 17     | 6.4   | M3x0.5    | M6 | 0.2                | 0.4                 |
|              | 16    | 33    | 23     | 8.4   | M3.5x0.6  | M8 | 0.25               | 0.45                |
|              | 20    | 33    | 23     | 11    | M3.5x0.6  | M8 | 0.25               | 0.45                |



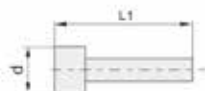
| Type | Pattern | D | L  | Year |
|------|---------|---|----|------|
| A09A | - YR -  | 4 | 14 | 22   |

## ■ 产品特点 Precautions

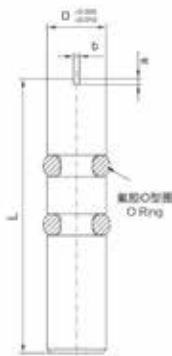
- 可以和HASCO的Z48700,Z48705,Z48706,Z48712等互换。
- 可以和DME的OYN,OMN,YMN,ODN,OSN等互换。
- 可以和OPITZ的DATI 1000系列等互换。
- A09A为整体式结构，内部芯子不可更换。
- A09B为可换芯结构，箭头年份可以更换。
- 可在模具上直接更换零件，无需卸模更换。
- 安装方便、弹簧定位、零件结构简单。
- 由于是细螺牙调节，分型面有一牙螺距(max)的上下浮动。
- 安装时取下芯子，以免芯子的螺牙损伤。
- It can be interchanged with HASCO's Z48700, Z48705, Z48706, Z48712 and DME's OYN, OMN, YMN, ODN, OSN and OPITZ's DATI 1000 series.
- A09A is integral structure, arrow core is not replaceable.
- A09B is a replaceable core structure, arrow core can be replaced.
- Replace the inserts on the mold directly without disassembly for replacement.
- The installation is convenient, the spring positioning and part structure are simple.
- Due to the fine thread adjustment, the sub-surface has the plus or minus of distance of one thread (max).
- In installation, remove the core to damage the thread of core.

## ■ 芯子和外壳都可以单独订购 Insert or body can be ordered separately

| Type | Name                     | price           |
|------|--------------------------|-----------------|
| AA09 | Insert of the date stamp | 1/3 of the A09B |
| AB09 | Body of the date stamp   | 2/3 of the A09B |



A10



| 图材质    | 图硬度       | 图温度    |
|--------|-----------|--------|
| U40    | HRC 38~40 | ≥ 150℃ |
| SUS420 | HRC 47~52 | < 150℃ |

其他尺寸和刻字，欢迎洽商  
Other engravings available on request

| Type | D(mm) | D2(mm) | L(mm) | c(mm) | b(mm) | a(mm) |
|------|-------|--------|-------|-------|-------|-------|
| A10  | 2     | 2.1    | 14    | 1.8   | 0.3   | 0.1   |
|      | 2.5   | 2.6    | 14    | 2.3   | 0.3   | 0.1   |
|      | 3     | 3.2    | 14    | 2.8   | 0.3   | 0.1   |
|      | 4     | 4.2    | 14    | 3.8   | 0.3   | 0.1   |



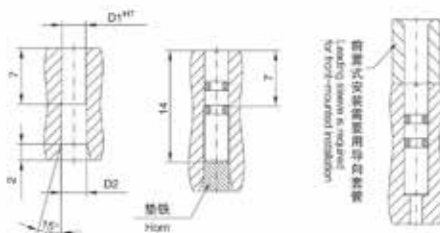
Type Pattern D L Year  
A10 - YR - 2 - 14 - 22

产品特点 Precautions

- 微型日期章采用分型面压入式结构O型圈定位，安装方便，适宜电子小零件的模具日期指示。

The micro data marked pins use the sub-surface pressure structure and O-ring positioning for convenient installation, and it is applied to the data indication of the mold of small electronic parts.

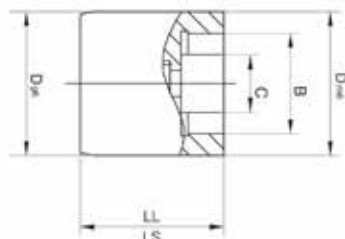
安装方法 Installation diagram



# 整体式三圈日期章

## DATE STAMPS

## A11S / A11L



YMD



YM



WY



BKA



BKB

| 国 材 质  | 国 标 号     |
|--------|-----------|
| SUS420 | HRC 48-52 |

其他尺寸和刻字，敬请洽询  
Other engravings available on request

| Type         | D(mm) | B(mm) | C(mm) | LS(mm) | LL(mm) | 文字深度<br>Text Depth | 箭头深度<br>Arrow Depth |
|--------------|-------|-------|-------|--------|--------|--------------------|---------------------|
| A11S<br>A11L | 5     | 4     | 2     | 10     | 20     | 0.15               | 0.2                 |
|              | 8     | 5.3   | 2.5   | 10     | 20     | 0.18               | 0.25                |
|              | 10    | 6.4   | 3.2   | 12     | 20     | 0.2                | 0.4                 |
|              | 12    | 8     | 4     | 12     | 20     | 0.2                | 0.4                 |
|              | 16    | 10.5  | 5.5   | 14     | 20     | 0.25               | 0.45                |
|              | 20    | 12    | 6     | 16     | 20     | 0.25               | 0.45                |



Type Pattern D L Year  
A11S - YMD - 5 - 10 - 22

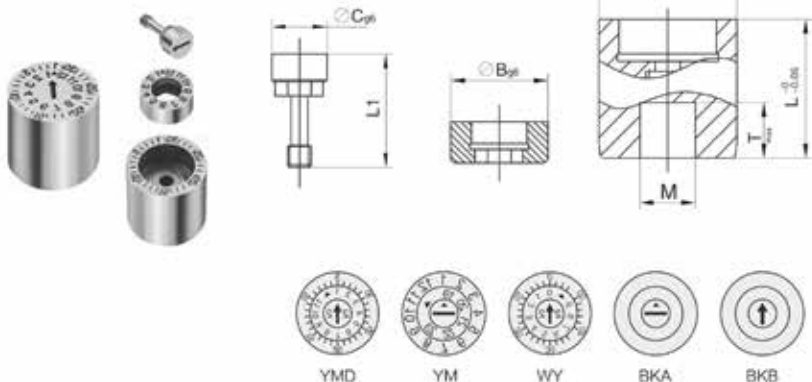
### 产品特点 Precautions

- A11S为短款，等同于米思米的DTBZ型号，我们比8TDZ增加了D12和D20的尺寸。
- A11L为长款，长度统一为20mm。
- 本款日期章为整体结构设计，结构紧凑，节省了模具的空间，钢珠卡位：外圈12位、31位；内圈12位、10位。
- 安装方法与整体型日期章一样。
- A11S is a short model, which is equivalent to Mizumi's DTBZ model. Compared with 8TDZ, we have increased the size of D12 and D20.
- A11L is a long section with a uniform length of 20mm.
- This type date marked pins use the overall structure design, the compact structure saves the space of mold, and the steel ball card bit: 12 bits, 31 bits for external ring; 12 bits, 10 bits for inner ring.
- The installation method is same with the overall data marked pins.

# O式可换芯三圈日期章

## DATE STAMPS

## A12



| 图例     | 图例        |
|--------|-----------|
| SUS420 | HRC 48-52 |

其他尺寸和制字，欢迎洽商  
Other engravings available on request

| Type | A  | B    | C   | L  |
|------|----|------|-----|----|
| A12  | 6  | 4.2  | 2.4 | 17 |
|      | 8  | 5.8  | 3.6 | 20 |
|      | 10 | 7    | 4   | 20 |
|      | 12 | 8.5  | 5   | 25 |
|      | 16 | 11.5 | 7   | 33 |
|      | 20 | 14   | 8   | 33 |

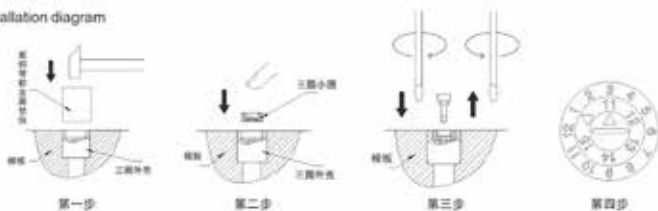


Type Pattern D L Year  
A12 - YMD - 6 - 17 - 22

### 产品特点 Precautions

- 本款同于OPITZ的 DATI 9000系列。
- O式日期章为可更换式设计，可在模具上直接更换插件，无需卸模更换。
- 外圈指示为弹簧定位，可刻制任何数字和图案。
- 内圈为多边角定位，边角位数为12角和10角。
- 结构紧凑，节省了模具的空间，安装方法为尾部螺丝吊装结构。
- A12 is equivalent to OPITZ's DATI 9000 series.
- A12 use the interchangeable design, and you may replace the inserts on the mold without disassembly of mold for replacement.
- The external ring indicates the spring positioning, and you may engrave any number and pattern. The inner ring is the multiple edges angle positioning, and the number of edges and angles is 12 angle and 10 angles.
- Compact structure saves the space of mold, and the installation method is the screw lifting structure at the tail.

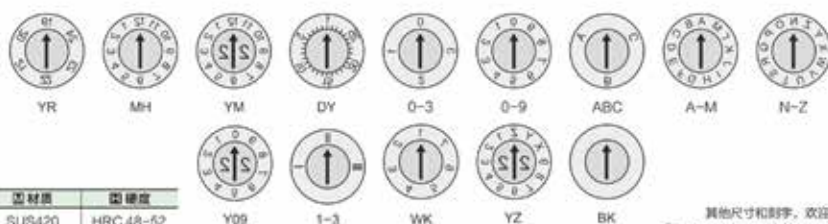
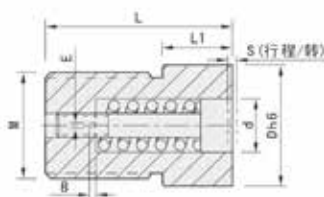
### 安装方法 Installation diagram



# O式可换芯螺纹日期章

## DATE STAMPS

## A13



| 型材质    | 硬度        |
|--------|-----------|
| SUS420 | HRC 48-52 |

其他尺寸和刻字，欢迎洽询  
Other engravings available on request

| Type | D(mm) | L(mm) | d(mm) | M        | L1  | ℓ    | 箭头深度<br>Arrow Depth | 箭头深度<br>Arrow Depth |
|------|-------|-------|-------|----------|-----|------|---------------------|---------------------|
| A13  | 3     | 4     | 1.5   | 2.5X0.35 | 1.8 | 3.9  | 0.12                | 0.2                 |
|      | 3.5   | 5     | 1.5   | 3X0.35   | 2   | 4.8  | 0.12                | 0.2                 |
|      | 4     | 5     | 2.1   | 3.5X0.35 | 2   | 4.8  | 0.18                | 0.25                |
|      | 5     | 8     | 3.1   | 4.5X0.5  | 2   | 7.8  | 0.18                | 0.4                 |
|      | 6     | 8     | 3.1   | 5X0.5    | 2   | 7.8  | 0.18                | 0.4                 |
|      | 8     | 10    | 4.4   | 6X0.5    | 3   | 9.8  | 0.2                 | 0.4                 |
|      | 10    | 12    | 5.2   | 8X0.75   | 3   | 11.8 | 0.2                 | 0.4                 |
|      | 12    | 14    | 6.2   | 10X0.75  | 4   | 13.8 | 0.25                | 0.45                |
|      | 16    | 14    | 8.2   | 12X1     | 5   | 13.8 | 0.25                | 0.45                |



Type Pattern D L Year  
A13 - Y09 - 3 - 4 - 22

### 产品特点 Precautions

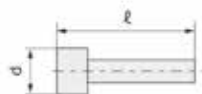
- 凹进指示箭头用作调整和更换零件的螺钉槽。
- 尾部是螺纹方便装配
- The recessed indication arrow is used as a screw slot for the.
- The fitting is done using the random threading of the sleeve

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

| Type | Name                     | price          |
|------|--------------------------|----------------|
| AA13 | Insert of the date stamp | 1/3 of the A13 |
| AB13 | Body of the date stamp   | 2/3 of the A13 |



年份零件 箭头零件

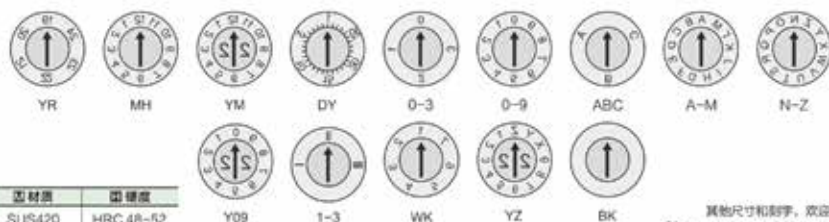
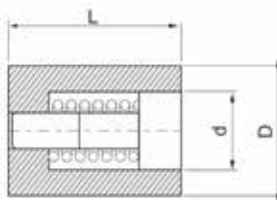




# F式可换芯日期章

## DATE STAMPS

## A14



其他尺寸和刻字, 欢迎洽商  
Other engravings available on request

| Type | D(mm) | L(mm) | d(mm) | M        | ℓ1   | 箭头深度<br>Arrow Depth | 箭头深度<br>Arrow Depth |
|------|-------|-------|-------|----------|------|---------------------|---------------------|
| A14  | 2.6   | 4     | 1.4   | 0.8x0.2  | 3.9  | 0.1                 | 0.2                 |
|      | 3     | 4     | 1.5   | 0.8x0.2  | 3.9  | 0.12                | 0.2                 |
|      | 4     | 5     | 2.1   | 1.1x0.2  | 4.8  | 0.18                | 0.25                |
|      | 5     | 8     | 3.1   | 1.6x0.2  | 7.8  | 0.18                | 0.4                 |
|      | 6     | 8     | 3.1   | 1.6x0.2  | 7.8  | 0.18                | 0.4                 |
|      | 8     | 10    | 4.4   | 2.3x0.25 | 9.8  | 0.2                 | 0.4                 |
|      | 10    | 12    | 5.2   | 2.5x0.35 | 11.8 | 0.2                 | 0.4                 |
|      | 12    | 14    | 6.2   | 3x0.35   | 13.8 | 0.25                | 0.45                |
|      | 16    | 14    | 8.2   | 4x0.35   | 13.8 | 0.25                | 0.45                |
|      | 20    | 16    | 11    | 4x0.35   | 15.8 | 0.3                 | 0.5                 |

| Type | Pattern | D   | L | Year |
|------|---------|-----|---|------|
| A14  | YR      | 2.6 | 4 | 22   |

### 产品特点 Precautions

- 可以和 HASCO 的 Z48715, Z48716, Z48717, Z48718, Z48720, Z48722, Z48723, Z48725, Z48730, Z48731, Z48732, Z48733, Z48734, Z48735 以及 DME 的 FOM, FYM, FOY, FOD, FOS, FAM, FNZ, FOB, FXX 还有 OPITZ 的 DATI 1300 系列互换。
- 可在模具上直接更换零件, 无需卸模更换。
- 安装方便, 弹簧定位, 零件结构简单。
- 由于是细丝调节, 分型面有一牙螺距(max)的上下浮动。
- 安装时取下芯子, 以免芯子的螺牙损伤。
- It can be interchanged with HASCO's Z48715, Z48716, Z48717, Z48718, Z48720, Z48722, Z48723, Z48725, Z48730, Z48731, Z48732, Z48733, Z48734, Z48735 and DME's FOM, FYM, FOY, FOD, FOS, FAM, FNZ, FOB, FXX and OPITZ's DATI 1300 series.
- Replace the inserts on the mold directly without disassembly for replacement.
- The installation is convenient, the spring positioning and part structure are simple.
- Due to the fine thread adjustment, the sub-surface has the plus or minus of distance of one thread (max).
- In installation, remove the core to damage the thread of core.

### 芯子和外壳都可以单独订购 Insert or body can be ordered separately

| Type | Name                     | price          |
|------|--------------------------|----------------|
| AA14 | Insert of the date stamp | 1/3 of the A14 |
| AB14 | Body of the date stamp   | 2/3 of the A14 |



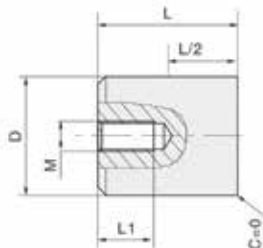
# 环保日期章

## DATE STAMPS

## A16



| 原材料    | 硬度        |
|--------|-----------|
| SUS420 | HRC 48-54 |



其他尺寸和符号，欢迎咨询  
Other engravings available on request

| Type | D  | L        | L1   | A  | M      | 文字深度<br>Text depth |
|------|----|----------|------|----|--------|--------------------|
| A16  | 4  | 6/8      | 4    | 2  | 2x0.4  | 0.2                |
|      | 5  | 8        |      | 3  | 2x0.45 |                    |
|      | 6  | 8/10     | 5    | 4  | 3x0.5  |                    |
|      | 8  | 10/12    | 6    | 5  | 4x0.7  |                    |
|      | 10 | 10/12/14 |      | 6  | 5x0.8  |                    |
|      | 12 | 12/14    | 7    | 7  |        | 0.3                |
|      | 16 | 14/16    |      | 10 | 6x1    |                    |
|      | 20 | 14/16    | B/10 | 12 |        |                    |



Type Pattern D L  
A16 - PET - 4 - 6

### ■ 适用树脂 Applicable resins

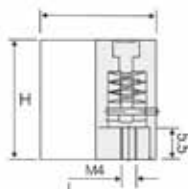
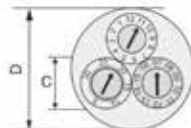
| 聚对苯二甲酸乙二醇酯<br>Polyethylene terephthalate | 高密度聚乙烯<br>High density polyethylene | 聚氯乙烯<br>Polyvinyl chloride | 低密度聚乙烯<br>Low density polyethylene | 聚丙烯<br>Polypropylene | 聚苯乙烯<br>Polystyrene | 其它树脂<br>Other resins |
|------------------------------------------|-------------------------------------|----------------------------|------------------------------------|----------------------|---------------------|----------------------|
|                                          |                                     |                            |                                    |                      |                     |                      |
|                                          |                                     |                            |                                    |                      |                     |                      |

### ■ 产品特点 Precautions

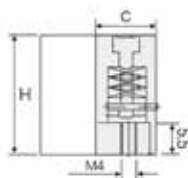
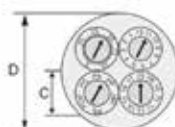
- 环保章指示塑料制品由于老化或品质下降等原因需回收的指示标志。
- 表示塑料的牌号，便于产品环保等原因在回收时分类的指示，或是商标及其它需指示的文字或图案。
- 铜制环保章适合薄壁模具、塑胶产品，其散热好的效果。
- 尾部可选择攻牙，方便安装。
- Environmental protection stamp indicates indication sign to recover plastic products due to those reasons, such as the age and decrease of quality, etc.
- It indicates grade of plastics, which is convenient to classify indications or trademark or other characters or patterns needed to be indicated when recovery is made, due to those reasons, such as environmental protection of products, etc.
- Copper recycling insert is suitable for thin-walled mold plastic products, because the heat dissipation is good.
- Tapping can be selected at the tail for easy installation of date stamps.

### A17

A17-3



A17-4



其他尺寸和刻字，欢迎洽商  
Other engravings available on request

| Type     | 尺寸 Size |    |    |
|----------|---------|----|----|
|          | D       | H  | C  |
| A17-3/28 | 28      | 25 | 12 |
| A17-3/32 | 32      |    | 14 |
| A17-3/36 | 36      |    | 16 |

| Type     | 尺寸 Size |    |    |
|----------|---------|----|----|
|          | D       | H  | C  |
| A17-4/32 | 32      | 25 | 12 |
| A17-4/36 | 36      |    | 14 |
| A17-4/40 | 40      |    | 16 |



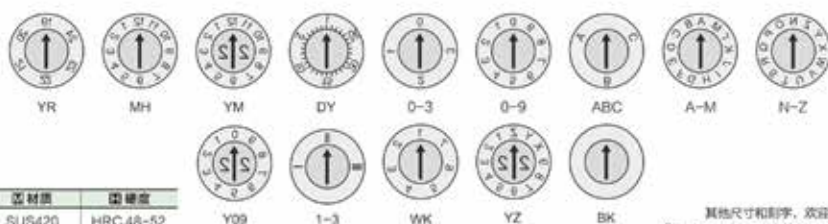
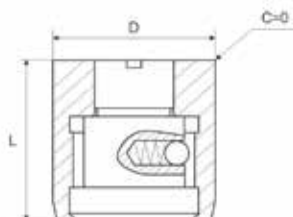
Type Year  
A17 - 22

### 产品特点 Precautions

- 集合了年月日章、年月日班为一体，美化布局。
- 安装方便，简化安装工艺。
- 可根据要求定制三与四个不同组合的文字与图案。
- It integrates the Year/month/day marked pins and Year/month/day shift for landscaping layout.
- The installation is convenient, and the installation process is simplified.
- You may customer three and four combinations of text and pattern according to your requirements.

# 镀铜日期章 DATE STAMPS

## A18



其他尺寸和图案，欢迎洽询  
Other engravings available on request

| Type | D  | L        | 文字深度<br>Text depth | 箭头深度<br>Arrow depth |
|------|----|----------|--------------------|---------------------|
| A18  | 3  | 6, 8, 10 | 0.14               | 0.25                |
|      | 4  |          |                    |                     |
|      | 5  |          |                    |                     |
|      | 6  | 8, 10    | 0.18               | 0.4                 |
|      | 8  |          |                    |                     |
|      | 10 | 10, 12   | 0.2                |                     |
|      | 12 | 12, 14   |                    |                     |
|      | 16 | 14       | 0.25               | 0.45                |
|      | 20 | 14, 16   |                    |                     |



| Type | Pattern | D | L | Year |
|------|---------|---|---|------|
| A18  | YR      | 3 | 6 | 22   |

## 取出 Removal

| 规格<br>Specification      | 3    | 4    | 5    | 6  | 8  | 10   | 12 | 16  | 20  |
|--------------------------|------|------|------|----|----|------|----|-----|-----|
| 取出孔径<br>Removal aperture | ≤1.2 | ≤1.5 | ≤2.5 | ≤3 | ≤4 | ≤4.5 | ≤6 | ≤10 | ≤12 |

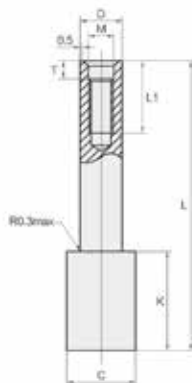
由于日期章、环保章、材料指示标记等的文字和箭头具有一定深度，对于薄壁和精密塑料产品，其散热性有一定影响，且在安装普通日期章后，冷却水道有一定距离，影响冷却效果，新开发的镀铜制作的日期章等系列产品弥补了上述缺陷，适合有精度要求和薄壁塑料上使用。

As the text and arrow of the date marked pins, environmental protection marked pins, material indication mark have a certain depth, for the thin-walled and precision plastic products, the heat dissipation is influenced, and after installation of ordinary date marked pins, there is a certain distance for the cooling water channel, it impacts the cooling effects, the new developed beryllium copper date marked pins and series products make up the above defects, and they are applicable to the products with precision requirements and thin-walled plastic.

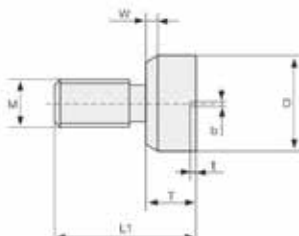
# 螺丝型压铸模日期章

## DATE STAMPS

## A19/A22



底座(A22)  
Base



头部(A19)  
Head



实例: 2022年1, 2, 3月

其他尺寸和刻字, 欢迎洽商  
Other engravings available on request

| 原材料    | 硬度        |
|--------|-----------|
| SKD-61 | HRC 48-54 |

| Type       | D  | L      | K    | C  | T   | M      | L1 | 文字深度<br>Text depth | 箭头深度<br>Arrow depth |
|------------|----|--------|------|----|-----|--------|----|--------------------|---------------------|
| A19<br>A22 | 6  | 30-150 | LQ-5 | 10 | 3.2 | 3x0.5  | 10 | 0.3                | 1.0                 |
|            | 8  |        |      | 12 | 4.2 | 4x0.7  | 12 | 0.3                | 1.0                 |
|            | 10 |        |      | 13 | 4.2 | 5x0.8  | 12 | 0.3                | 1.2                 |
|            | 12 |        |      | 15 | 5.2 | 6x1    | 15 | 0.3                | 1.2                 |
|            | 16 |        |      | 18 | 6.5 | 8x1.25 | 20 | 0.3                | 1.2                 |

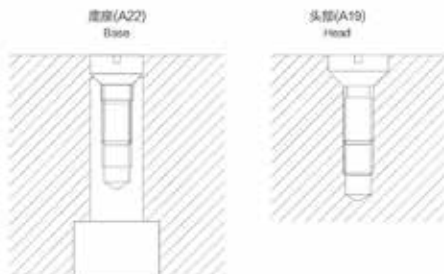


Type   Pattern   D   L1   L   Year  
A19   -   YR   -   6   -   10   -   30   -   22

### 产品特点 Precautions

- 压铸模具专用日期章, 只要在模具上直接加工安装孔即可, 更换方便。
- A19是单独的压铸模具使用的日期章, A22是底座。
- 可以单独购买A19, 直接安装在模具上使用。
- Date stamp of die casting die, only to directly process mounting hole on the die and replacement is convenient.
- A19 is the date stamp used for a separate die-casting mold, and A22 is base.
- A19 can also be purchased separately.

### 安装方法 Installation diagram



# 压铸模日期章

## DATE STAMPS

## A20/A21



A20

A21



年月合并YMA

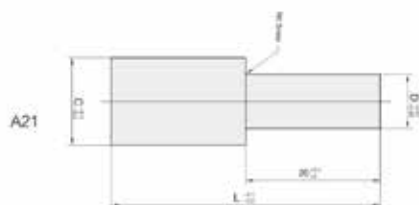
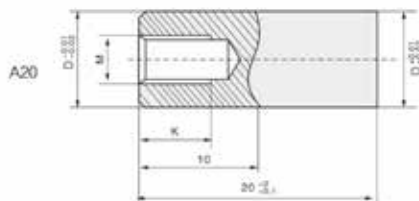


年置YR



年月合并YMB

| 图例     | 图例        |
|--------|-----------|
| SKD-61 | HRC 48-54 |



其他尺寸和刻字，欢迎洽询  
Other engravings available on request

| Type | D $\begin{smallmatrix} +0.02 \\ -0.01 \end{smallmatrix}$ | K   | M       | 文字深度<br>Text depth | 凹槽深度<br>Depth of groove |
|------|----------------------------------------------------------|-----|---------|--------------------|-------------------------|
| A20  | 8                                                        | 6   | 3 x 0.5 | 0.3                | 1                       |
|      | 10                                                       | 7.5 | 4 x 0.7 |                    |                         |
|      | 12                                                       | 9   | 6 x 1   |                    |                         |

| Type | $\phi D \begin{smallmatrix} +0.01 \\ -0.02 \end{smallmatrix}$ | $\phi C \begin{smallmatrix} +0.1 \\ -0.2 \end{smallmatrix}$ | L      | 文字高度<br>Text height | 凹槽深度<br>Groove depth |
|------|---------------------------------------------------------------|-------------------------------------------------------------|--------|---------------------|----------------------|
| A21  | 8                                                             | 13                                                          | 30-100 | 0.3                 | 1                    |
|      | 10                                                            | 15                                                          |        |                     |                      |
|      | 12                                                            | 17                                                          |        |                     |                      |

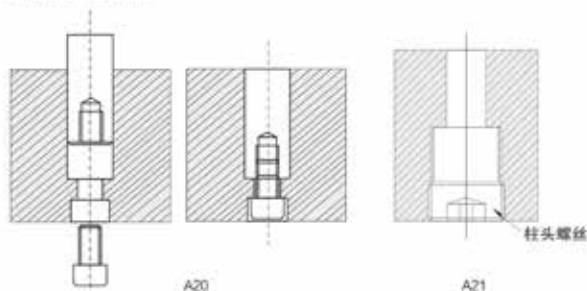


| Type | Pattern | D | L      | Year |
|------|---------|---|--------|------|
| A21  | - YR -  | 8 | - 30 - | 22   |

### 产品特点 Precautions

- 压铸模具专用日期章
- 数字外圈每处空档处以敲冲头触点做为日期标记
- Special date die-casting mould chapter
- The outer ring of a knockout punch each digital gap at point for date marking

### 安装方法 Installation diagram





# 法式日期章 / 凸字章

## DATE STAMPS / EMBOSSED

A23/A24



| 型号  | 材质       | 硬度        |
|-----|----------|-----------|
| A23 | 黄铜 Brass | HB 80~110 |
| A24 | SUS420   | HRC 48~52 |

其他尺寸和刻字，欢迎洽商  
Other engravings available on request

| Type       | D  | L  | 文字深度<br>Text depth | 凹槽深度<br>Depth of groove |
|------------|----|----|--------------------|-------------------------|
| A23<br>A24 | 3  | 20 | 0.5                | 0.3                     |
|            | 4  |    | 0.5                | 0.3                     |
|            | 5  |    | 0.5                | 0.3                     |
|            | 6  |    | 0.5                | 0.3                     |
|            | 8  |    | 0.5                | 0.3                     |
|            | 10 |    | 1                  | 0.5                     |
|            | 12 |    | 1                  | 0.5                     |
|            | 14 |    | 1                  | 0.5                     |
|            | 16 |    | 1                  | 0.5                     |
|            | 20 |    | 1                  | 0.5                     |



Type D Year  
A23 - 3 - 22

A15

凸字章 Embossed



### 产品特点 Precautions

所有直径大于5mm的日期章都可以做成凸字章。

All date stamps with a diameter greater than 5mm can be made into embossed stamps.

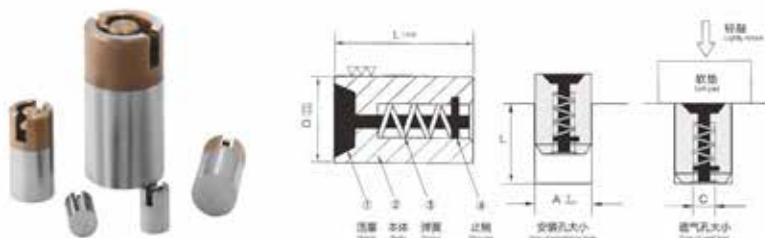
# AIR EJECTOR & GAS VENT

SERIES

气顶、排气系列



AJV



| 图例     | 图例        |
|--------|-----------|
| SUS420 | HRC 48~52 |

| Type | D 外径<br>External dia | L 长度 Length |   |   |   |   |   |   |   | A $\phi$ 孔 | C    |
|------|----------------------|-------------|---|---|---|---|---|---|---|------------|------|
| AJV  | 5                    | ●           |   |   |   |   |   |   |   | 5          | 4    |
|      | 6                    | ●           |   |   |   |   |   |   |   | 6          | 4.2  |
|      | 8                    | ○           | ● |   |   |   |   |   |   | 8          | 4.5  |
|      | 10                   | ○           | ○ | ● |   |   |   |   |   | 10         | 7    |
|      | 12                   | ○           | ○ | ○ | ● |   |   |   |   | 12         | 7.7  |
|      | 16                   |             |   |   |   | ● |   |   |   | 16         | 10.3 |
|      | 18                   |             |   |   |   |   | ● |   |   | 18         | 12   |
|      | 20                   |             |   |   |   | ○ | ● |   |   | 20         | 12.9 |
|      | 25                   |             |   |   |   | ○ |   | ● |   | 25         | 14.9 |
|      | 30                   |             |   |   |   | ○ |   |   | ● | 30         | 18   |

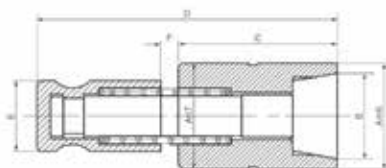
- 表示标准尺寸 Standard  
○ 表示可选尺寸 Non-standard

■ 说明 Details

- 空气枪用在有深度、密闭之真空状态下，顶针顶出困难时之用，且产品面积大，不容易脱落时，亦可采用之。
- 本装置精度高，但装设很简单，且不占空间，而发挥的功能很大，为顶出装置改良之最佳利器。
- 其原理为利用空气阀控制，对封闭型之产品之剥脱，以空气扩散之原理，使产品在瞬间剥脱，达到自动化之效果。
- 本产品材质皆用不锈钢制成，绝不生锈，请安心使用。
- 消除模具在顶针设计上及制作过程之麻烦，以及化解在射出上多故障性，实为模具界一次大突破。
- It is used under the vacuumed condition in the deep and closed molds. Or it can be used for having problems with ejection of ejector pin and for the larger size of final products, which has difficulty leaving the molds.
- Easy installation, high precision and space saver.
- Using air valves to control the operation and the final products can leave the molds instantly.
- Air-jet valves are made from stainless steels and it will never rust.
- Sir-jet valves are one of the most innovated tools for the molding industries. It will improve the problems for molds design and injection troubles.

# 气顶 AIR EJECTOR

## VAD

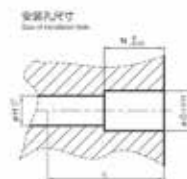
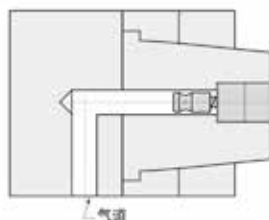


| 原材料    | 硬度        |
|--------|-----------|
| SUS420 | HRC 48-52 |

| Type   | A  | B    | C  | D  | E  | F |
|--------|----|------|----|----|----|---|
| VAD-8  | 8  | 6.6  | 11 | 24 | 6  | 1 |
| VAD-10 | 10 | 8    |    |    |    |   |
| VAD-12 | 12 | 9.7  | 18 | 34 | 8  | 2 |
| VAD-16 | 16 | 13   | 20 | 38 |    |   |
| VAD-18 | 18 | 14.8 | 22 | 46 | 12 | 4 |
| VAD-20 | 20 | 16   | 26 | 50 |    |   |
| VAD-25 | 25 | 20   |    |    |    |   |

| 安装孔尺寸<br>Size of installation hole | G  | N  | φH   | L  |
|------------------------------------|----|----|------|----|
| VAD-8                              | 8  | 11 | 6.75 | 26 |
| VAD-10                             | 10 |    |      |    |
| VAD-12                             | 12 | 18 | 9    | 36 |
| VAD-16                             | 16 | 20 |      | 40 |
| VAD-18                             | 18 | 22 | 14   | 48 |
| VAD-20                             | 20 | 26 |      | 52 |
| VAD-25                             | 25 |    |      |    |

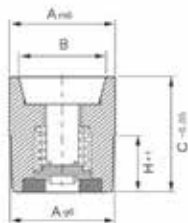
### ■ 安装方法 Installation diagram



VA



| 国材质    | 国硬度       |
|--------|-----------|
| SUS420 | HRC 48-52 |



■ 产品特点 Precautions

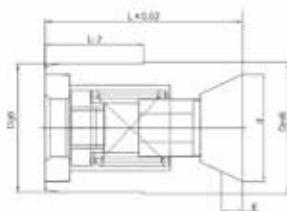
- 欧洲标准气顶;
- 快速成型顶出优点;
- 采用高性能耐高温弹簧, 最高可达250摄氏度;
- 有高气流通特点。
- Gas cap with European standard;
- Advantage of rapid molding ejection;
- Using high temperature spring, up to 250 degrees Celsius;
- Own the characteristic of high-pressure circulation.

| Type      | A  | B    | C  | H  |
|-----------|----|------|----|----|
| VA.050412 | 5  | 4    | 12 | 7  |
| VA.065212 | 6  | 5    | 12 | 7  |
| VA.086512 | 8  | 6.4  | 12 | 7  |
| VA.100812 | 10 | 8    | 12 | 7  |
| VA.121012 | 12 | 10   | 12 | 7  |
| VA.161320 | 16 | 13.5 | 20 | 12 |
| VA.201720 | 20 | 16   | 20 | 12 |

VAN



| 国材质    | 国硬度       |
|--------|-----------|
| SUS420 | HRC 48-52 |



■ 新VA精密气顶改进 New VA precision gas top improvement

- 气顶与外壳60° 斜度配合, 挤压力减小, 不易卡死。
- 芯子与外壳依靠六角止转, 允许5度偏差的弧度使用。
- 锥面同时作为支撑面和配合面, 密封更精密。
- 增加取出用垫片, 可底部敲击取出不崩裂。
- 垫片带过滤功能, 能够有效过滤气道内的杂质, 避免气顶因杂质堵塞而无法顶出。
- When the air ejector is matched with the shell at 60 degree inclination, the extrusion separation decreases and no stuck.
- Core and shell are rotated by hexagonal, and arc surface with 5 degree deviation is allowed to be used.
- Conical surface acts as both supporting and matching surface, so the sealing is more precise.
- Adding a filter for removal, the bottom of the gasket can be knocked out without cracking.
- The gasket has a filtering function, which can effectively filter the impurities in the airway and prevent the Air poppet valve from being blocked due to impurities.

| Type  | D  | L  | d   | Work<br>mpa | L/min(0.8Mpa) |
|-------|----|----|-----|-------------|---------------|
| VAN6  | 6  | 12 | 5   | 0.7-0.8     | 60            |
| VAN8  | 8  | 12 | 6.5 | 0.7-0.8     | 65            |
| VAN10 | 10 | 12 | 8   | 0.7-0.8     | 65            |
| VAN12 | 12 | 12 | 10  | 0.7-0.8     | 70            |
| VAN16 | 16 | 20 | 13  | 0.7-0.8     | 140           |
| VAN20 | 20 | 20 | 17  | 0.7-0.8     | 200           |



六角芯子, 不易转动  
Hexagonal core, not easy to rotate



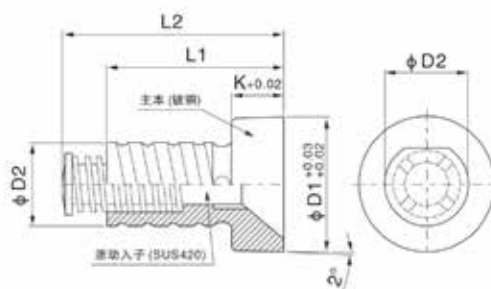
芯子与外壳配合更紧密, 不易卡死  
Core and body fit more closely, not easy to stick

# 气顶 AIR EJECTOR

## Z491/Z4911

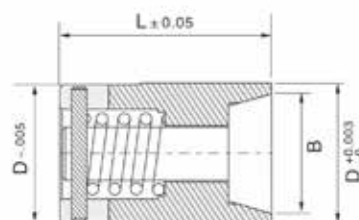


| Type  | 材质     | 硬度        |
|-------|--------|-----------|
| Z4911 | SUS420 | HRC 48~52 |
| Z491  | COPPER | HRC 35~40 |



| Type    | φD1 | φD2 | K | L1 | L2 |
|---------|-----|-----|---|----|----|
| Z491/8  | 8   | 6   | 5 | 8  | 16 |
| Z491/12 | 12  | 8   |   | 13 | 21 |
| Z491/16 | 16  | 10  | 6 | 12 | 22 |

## PPV

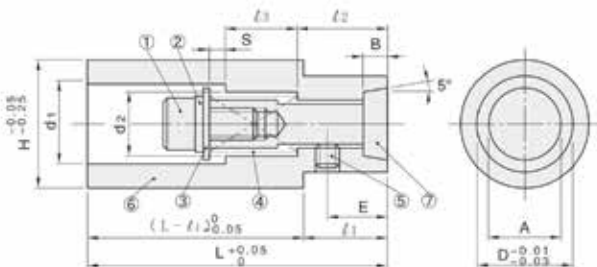


| 材质     | 硬度        |
|--------|-----------|
| SUS420 | HRC 48~52 |

| Type   |        | D <sup>+0.000</sup> <sub>-0</sub> | B ±0.006 | L <sup>+0.003</sup> <sub>-0</sub> |
|--------|--------|-----------------------------------|----------|-----------------------------------|
| PPV-02 | 1/4"   | 0.2504                            | 0.215    | 0.375                             |
| PPV-03 | 3/8"   | 0.3754                            | 0.325    | 0.375                             |
| PPV-05 | 1/2"   | 0.5005                            | 0.437    | 0.5                               |
| PPV-07 | 3/4"   | 0.7505                            | 0.656    | 0.75                              |
| PPV-10 | 1"     | 1.0006                            | 0.875    | 1                                 |
| PPV-15 | 1-1/2" | 1.5006                            | 1.312    | 1.5                               |



PQ



| No. | Type  | PQE           |               | PQ            |               |
|-----|-------|---------------|---------------|---------------|---------------|
|     |       | ☑ 材质 Material | ☑ 硬度 Hardness | ☑ 材质 Material | ☑ 硬度 Hardness |
| 1   | 内六角螺栓 | SCM435        | HRC 38~43     | SUS304        | -             |
| 2   | 弹黄垫圈  | SWRH52        | HRC 42~50     |               |               |
| 3   | 平垫圈   | SK5           | -             |               |               |
| 4   | 弹黄    | SUS304        |               |               |               |
| 5   | 内六角螺母 | SCM435        | HRC 34~43     | SCM435        | HRC 34~43     |
| 6   | 气缸筒   | S45C          | HRC 33~38     | NAK101        | HRC 35        |
| 7   | 活塞杆   |               |               |               |               |

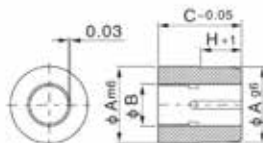
| D  | 推力<br>N(kgf)   | 弹黄压缩力<br>N(kgf) | 构成部品    |      |
|----|----------------|-----------------|---------|------|
|    |                |                 | 1       | 2    |
| 10 | 9.61 (0.98)    | 4.81 (0.49)     | M3-L6   | MSW3 |
| 13 | 16.67 (1.70)   | 8.34 (0.85)     | M4-L8   | MSW3 |
| 16 | 24.51 (2.50)   | 12.26 (1.25)    | M5-L10  | MSW4 |
| 20 | 38.25 (3.90)   | 19.61 (2.00)    | M6-L12  |      |
| 25 | 64.72 (6.60)   | 32.36 (3.30)    | M8-L15  | MSW5 |
| 32 | 124.54 (12.70) | 63.74 (6.50)    | M10-L20 | MSW6 |

| Type                | L                  |                                 | S   | E  | φ1 | φ2   | φ3  | d1   | d2   | H  | B | A   |
|---------------------|--------------------|---------------------------------|-----|----|----|------|-----|------|------|----|---|-----|
|                     | PQE<br>(选择 Select) | PQ<br>(指定单位 Designated unit:mm) |     |    |    |      |     |      |      |    |   |     |
| PQE(铜型)<br>PQ(不锈钢型) | 10 20 25           | 19~35                           | 1.5 | 7  | 12 | 10.5 | 8.5 | 8.5  | 6.5  | 15 | 3 | 7.5 |
|                     | 13 25 30 30        | 25~40                           |     | 8  | 15 | 14   | 11  | 10.5 | 8.5  | 18 | 4 | 9   |
|                     | 16 30 40 35 35     | 28~50                           | 2.5 | 10 |    | 16   | 12  | 12.5 | 10.5 | 21 |   | 11  |
|                     | 20 40 50 50 40     | 35~60                           |     |    |    | 21   | 15  | 16   | 13   | 25 | 6 | 14  |
|                     | 25 50 60 60        | 44~70                           | 3.0 | 12 | 20 | 26   | 18  | 19   | 16   | 32 |   | 18  |
|                     | 32 70 80 70        | 55~80                           |     | 15 | 25 | 35   | 20  | 25   | 22   | 40 | 8 | 25  |

流动性比较高的树脂成形时，请选择A JV(不锈钢型)；流动性较低的树脂成形时，请选择A JVE(铜型)。

注：使用时空气压力应高于49N/cm<sup>2</sup>(500kpa)

VD 排气阀



| Type | φA | φB | C  | φE | H  |
|------|----|----|----|----|----|
| VD08 | 8  | 5  | 12 | 4  | 7  |
| VD10 | 10 | 6  |    | 5  |    |
| VD12 | 12 | 8  |    | 7  | -  |
| VD16 | 16 | 10 | 20 | 9  | 12 |

# 氮气嘴 AIR SPIGOT

SAS01



SAS02



SAS03



SAS04



SAS05



SAS06



SAS07 非标



SAS08 非标

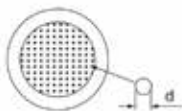
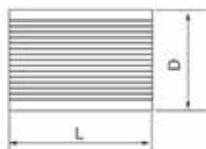




# 排气栓 GAS VENT

## GSV

直孔排气栓 Straight hole gas vent



| 材质 Material | 硬度 Hardness |
|-------------|-------------|
| SUS304      | HRC 130-190 |

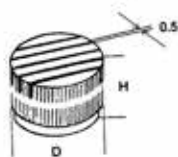
- d 0.3 适用低压铸造模具  
Diameter of 0.3 is suitable for low-pressure casting mould
- d 0.5 适用低压铸造模具  
与适用重力铸造模具  
Diameter of 0.5 is suitable for low-pressure casting mould and suitable for gravity casting mould

| Type | d   | D 直径 | L = 0.2 | 孔数<br>Hole count | 空孔率(%)<br>Punching rate | 适用产品<br>Applicable product                                                |
|------|-----|------|---------|------------------|-------------------------|---------------------------------------------------------------------------|
| GSV  | 0.3 | 5    | 10/15   | 89               | 30                      | 低压铸造模具<br>Low-pressure casting mould                                      |
|      |     | 6    |         |                  | 29                      |                                                                           |
|      |     | 8    |         | 200              | 28                      |                                                                           |
|      |     | 10   |         | 340              | 31                      |                                                                           |
|      |     | 12   |         |                  | 28                      |                                                                           |
|      |     | 14   | 15.0    | 550              | 27                      |                                                                           |
|      | 0.5 | 4    | 10.0    | 39               | 55                      | 重力铸造模具<br>低压力铸造模具<br>low-pressure casting mould and gravity casting mould |
|      |     | 6    | 10/15   | 61               | 40                      |                                                                           |
|      |     | 8    |         | 89               | 35                      |                                                                           |
|      |     | 10   |         | 200              | 34                      |                                                                           |
|      |     | 12   | 10.0    |                  | 31                      |                                                                           |
|      |     | 14   | 15.0    |                  | 35                      |                                                                           |
|      |     | 16   | 340     | 32               |                         |                                                                           |

发泡模用排气栓 Foam mold gas vent

## GBSV

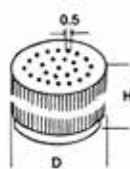
条状孔式 Strip hole



| Type    | D  |
|---------|----|
| GBSV-4  | 4  |
| GBSV-6  | 6  |
| GBSV-8  | 8  |
| GBSV-10 | 10 |
| GBSV-12 | 12 |

## GBHV

圆孔式 Round hole



| Type    | D  |
|---------|----|
| GBHV-4  | 4  |
| GBHV-6  | 6  |
| GBHV-8  | 8  |
| GBHV-10 | 10 |
| GBHV-12 | 12 |

GVC

中空模具专用 Hollow mold dedicated



| Code | 材质 Material | 硬度 Hardness | 孔径 Hole diameter |
|------|-------------|-------------|------------------|
| GVC  | 铜 Copper    | RV 20       | 0.04             |

GVS

射出模具专用 Shooting mold dedicated



| Code | 材质 Material         | 硬度 Hardness | 孔径 Hole diameter |
|------|---------------------|-------------|------------------|
| GVS  | 不锈钢 Stainless steel | RV 50       | 0.04             |

极微细的排气孔，能将模具内的瓦斯或空气立即排出於模具外，简单而最有效果的产品为提升塑胶成型生产性能发挥威力。

有效解决下列之问题：

烧焦

树脂的填充较排气快时，空气受瞬间压缩，前端部变成高温，依情形而定，会引起变色、烧焦等问题。

溢料

在结合部前端的树脂温度上升，粘度下降，而易发生溢料，另外，空气造成填充障碍，则射出压力上升，结果模具膨胀，而全体发生溢料。

填充不足

虽然没有烧焦、溢料发生，但因空气造成的阻力，减缓了填充不足的现象。

气泡银线

空气与树脂界面造成气泡、银线、污点等外观不良问题。

循环时间延长

若提高树脂温度，模具温度，降低射出速度，虽然这些不良现象不会发生，但使循环时间延长。

节省能源、节省时间、节省成本

若从设计阶段开始考虑TX排气栓的话，模具的试模次数、时间、材料均可减少。装入排气栓的费用与时间约以往的1/3~1/10。

排气栓使用方法

- 1、排气栓在压入模具时，表面请勿直接打击。
- 2、排气栓在压入模具时，请使用JIS规格H7/S6之差。

| Type       | 外径D<br>External dia | 长度 L<br>Length |
|------------|---------------------|----------------|
| GVC<br>(铜) | 3                   | 10             |
|            | 4                   |                |
|            | 5                   |                |
|            | 6                   |                |
|            | 8                   |                |
|            | 10                  |                |
|            | 12                  | 12             |
|            | 15                  | 10             |
|            | 16                  | 16             |

In order to achieve its maximum molding productivities, simply using its ultra micro breathing cell to exhale gas and air from molds.

Common questions:

Burnt

When aberration and burnt issues occurred, it is because resin is filling faster than air exhaling which will result gas vent to overheat.

Overflow

There are 2 possible conditions:

- When temperature of resin gets higher at the tip of seaming, it weakens its bonding strength.
- Air can fill up the path and blocks resin to flow functionally which will cause ejection pressure to rise and materials to overflow.

Not enough fillings

Due to air pressure, it reduces the ratio of the filling speed, even there is no any sign of burnt or overflow.

Cell streak

If there are some cells, streaks and mottles occurred, it is because the cells have not been vaporized completely between air and resin.

Extensive cycling time

The higher temperature of resin, molds and slower speed of injection cause extensive cycling time, however, it will not affect the quality of final products.

Energy, time and cost saver

1. It will reduce the trial die time and materials if users consider to use TX gas vent the beginning of the design.

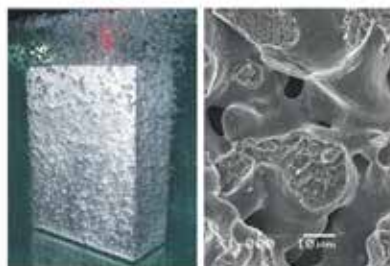
2. It will save up to 1/3 to 1/10 of the total cost and time if installing gas vent installation.

1. Do not touch the surface when gas vent is in use.

2. Use H7/s6 from JIS reference chart.

| Type         | 外径D<br>External dia | 长度 L<br>Length |
|--------------|---------------------|----------------|
| GVS<br>(不锈钢) | 3                   | 4.5            |
|              | 4                   | 4.5 / 10       |
|              | 5                   | 10             |
|              | 6                   |                |
|              | 8                   |                |
|              | 10                  |                |
|              | 12                  | 12             |
|              | 16                  | 15             |
|              | 20                  |                |

# 透气钢 POROUS STEEL



## ■ 化学成分表 Chemical element:

| C   | Mn | Si | S     | P     | Cr    | Ni  | Cu  |
|-----|----|----|-------|-------|-------|-----|-----|
| 0.1 | ≤1 | ≤1 | ≤0.03 | ≤0.03 | 15-17 | 3-4 | 2-3 |

① 化学成分近似于SUS431  
Chemical components are similar with SUS431.

## ■ 主要性能 Main performance:

|                                       |                                    |                                   |
|---------------------------------------|------------------------------------|-----------------------------------|
| 规格 Spec.                              | PMS-40-20 μm                       |                                   |
| 平均孔径 Mean pore radius                 | 20 μm                              |                                   |
| 面孔率 Facial porosity                   | 26~32%                             |                                   |
| 密度 Density                            | 6.0~6.2g/cm <sup>3</sup>           |                                   |
| 冲击韧性 Impact toughness                 | 7~8J/cm <sup>2</sup>               |                                   |
| 抗拉强度 Tensile strength                 | 450~480Mpa                         |                                   |
| 弯曲强度 Bending strength                 | 700~720Mpa                         |                                   |
| 硬度 Hardness                           | 400~450HV0.05                      |                                   |
| 透气性能 Air permeability                 | EDM                                | 1.5L/min · cm <sup>2</sup> (3Bar) |
|                                       | CNC                                | 0.3L/min · cm <sup>2</sup> (3Bar) |
| 表面光滑度 Surface smoothness              | EDM                                | Ra6.30                            |
|                                       | CNC                                | Ra0.80                            |
| 导热系数 Thermal conductivity             | 10~11 W/(m · K)                    |                                   |
| 线膨胀系数 Coefficient of linear expansion | 12~12.5x10 <sup>-6</sup> (20~150℃) |                                   |

## ■ 产品特点 Product characteristics:

透气钢是一种新型多孔金属材料，具有高强、高韧、耐腐蚀和可透气等优点。在模具上使用能迅速将模腔内空气和塑料挥发气体的排除，消除因排气不良造成的缺陷，诸如：烧焦、流痕、缺料、飞边等。

Porous steel is a new type metal material, with high strength, high toughness, corrosion resistance and good permeability. This material application in mold can exhaust gases in mold cavity and eliminate gases in plastics. Eliminate defects caused by poor exhaust, such as burning, flow marks, short shot, edge fin, etc.

### 透气钢还具有以下经济效益

- 降低注射压力，减少成型和保压时间，降低单位能耗和延长模具寿命；
- 降低内应力，防止产品的变形和翘曲，减少后续去应力工序。
- 快速成型，提高生产效率，降低废品率。

### Porous steel also has following economic advantages:

- Reduce injection pressure, molding and holding time, unit energy consumption and prolonged mold shelf life.
- Reduce internal forces to prevent deformation of product. Reduce following de-stressing procedure.
- Rapid prototyping, improving production efficiency and reducing scrap rate.



普通钢材制作，模具排气，中心位置积料。  
Made of ordinary steel, the mold is air trapped, and the center position is short of material.



透气钢制作，模具排气良好，网格清晰，成型完美。  
Made of porous steel, the mold is well vented, the grid is clear, and the shape is perfect.



普通钢材制作，排气时候很难根据需求形成喷皮纹效果  
Made of porous steel, the mold is well vented, the grid is clear, and the shape is perfect.



透气钢制作，排气优良，可以根据自己需要来做出不同纹样效果  
Made of porous steel, excellent exhaust, you can make different texture effects according to your needs.

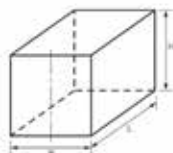


上面未使用透气钢以前，塑料盒边缘弯曲。  
下面使用透气钢以后，排气良好，塑料盒边缘平整。  
Before the porous steel is used in the above picture, the edge of the plastic box is bent. After the porous steel is used in the picture below, the air exhaust is good and the edge of the plastic box is flat.



### PSP

#### 透气钢板材 Porous steel plate

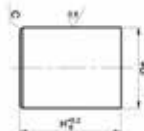


其他规格尺寸可以定制  
Other size available on request

| Type   | L   | W   | H   |
|--------|-----|-----|-----|
| PSP50  | 50  | 50  | 50  |
| PSP75  | 75  | 75  | 30  |
| PSP100 | 100 | 100 | 50  |
| PSP200 | 300 | 200 | 100 |
| PSP300 |     |     |     |
| PSP600 | 600 | 450 | 125 |

### PSC

#### 透气钢圆柱 Porous steel cylinder



整体式透气钢圆柱  
Integral cylindrical porous steel

| Type  | D  | H  | C        |
|-------|----|----|----------|
| PSC4  | 4  | 10 | 0.3 x 45 |
| PSC6  | 6  |    |          |
| PSC8  | 8  |    |          |
| PSC10 | 10 | 12 | 0.5 x 45 |
| PSC12 | 12 |    |          |
| PSC16 | 16 | 14 | 1.0 x 45 |
| PSC20 | 20 | 15 |          |
| PSC28 | 28 |    |          |

### PSU

#### U型透气钢圆柱 U Porous steel cylinder



U型透气钢圆柱  
U shape cylindrical porous steel

| Type  | D  | H  | h  | d  | SR  |
|-------|----|----|----|----|-----|
| PSU4  | 4  | 10 | 7  | 2  | 1   |
| PSU5  | 5  |    |    | 3  | 1.5 |
| PSU6  | 6  |    |    | 4  | 2   |
| PSU8  | 8  |    |    | 6  | 3   |
| PSU10 | 10 | 12 | 8  | 8  | 4   |
| PSU12 | 12 |    |    | 10 | 5   |
| PSU16 | 16 |    |    |    |     |
| PSU18 | 18 |    |    |    |     |
| PSU20 | 20 | 16 | 11 |    |     |

# 透气钢 POROUS STEEL

## 透气钢设计、加工、维护指南

Guidelines for design, processing, maintenance of porous steel

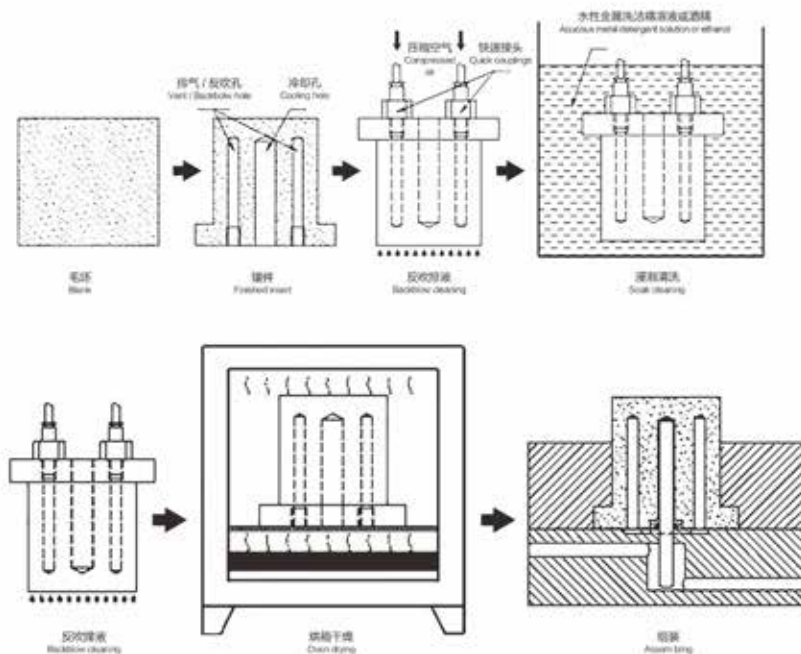
### ■ 透气钢特性 Attentions:

- 加工时液体会渗入孔洞中，因此必须进行规范的清洗和干燥。
- 设计冷却水道时应注意不能直接通入冷却水。
- 注塑产生的油污和颗粒物可能堵塞透气钢，需要反向通入压缩空气将表面的油污和颗粒物清理掉，配合使用“透气钢流量监测器”将大幅降低堵塞几率。
- The liquid will seep into the holes during processing, so the material should be cleaned and dried before processing.
- The cooling water can't be connected directly when design cooling channels.
- Porous steel maybe blocked up by greasy dirt and particulates during injection, so compressed air of back blow needed to clean external greasy dirt and particulates. In addition, with the use of porous steel flow monitor can reduce block rate substantially.

### ■ 加工、清洗和安装 Processing, cleaning and assembling:

加工、清洗和安装流程应参考下图所示:

Processing, cleaning and assembling flow chart refer to the picture as follows.



加工、清洗和安装流程示意图 processing, cleaning and assembling flow chart

# 透气钢

## POROUS STEEL

### ■ 加工方法 Processing method:

透气钢可选用的加工方法与致密钢完全相同，但应注意不同加工方式可能对孔洞造成的不同程度堵塞，根据对透气的影响将加工方法分为：

#### 接触性加工

接触性加工为传统机械加工，会发生堵塞降低透气性：

#### 非接触加工

一般为放电加工和激光加工，不会降低透气性，EDM加工一般会扩大表面孔洞

Processing method of porous steel is the same with dense steel but should attention that different processing method will result in block at different degrees. Processing method can be divided into two methods according to the effect on the permeability.

#### Contact processing

contact processing is a traditional machining, will result in block and reduce air permeability.

#### Non-contact processing

Usually means electro discharge machining and laser machining, and will not reduce air permeability, EDM process will enlarge surface holes.

#### CNC精加工

选用适用M系材质加工的圆弧铣刀或球头铣刀（有PVD涂层更佳）。

Choose arc milling cutter or ball headed milling cutter made from M series material.(if the knife coated with PVC will be better.

#### 线切割加工 / WEDM

中速丝加工后建议进行抛光处理，避免粘模。

慢走丝切割后可直接使用，但慢走丝会出现微细跳丝现象，属于正常现象。

Polishing treatment needed After middle-speed WEDM process to avoid sticking.

It can be used directly after WEDM-LS process. Slightly steel wire skipping can be accepted.

#### EDM加工 / EDM processing

EDM加工时电流会扩大表面孔洞，EDM加工后应进行抛光处理。

During EDM processing the current will enlarge surface holes. So polishing treatment needed after EDM processing.

#### 激光刻蚀 / Laser engraving

功率：9W (Power:9W) / 频率：30KHz(Frequency:30KHz)

线宽：0.01mm(line width:0.01mm) / 速度：800mm/sec (Speed:800mm/sec)

① 激光功率越大表面氧化越严重，应先大功率刻蚀，后小功率去氧化层。

Surface oxidation will be worse with higher laser power. So high-power etching first, low-power deoxidization followed.

#### 抛光 / Polishing

不同方式的加工后均可进行抛光，除慢走丝和EDM加工后应从1000#纤维油石开始抛光外，其它应从800#纤维油石开始抛光。

The mould can be polished after different machining. Except the method of wire cutting and EDM, it should be polished from 1000# fiber stone, the others can be started from 800# fiber stone.

## 维护和清洗

## Maintenance and cleaning

### ■ 堵塞原因分析 Blockage reason analysis:

在注塑过程中，树脂产生的油污和颗粒物可能导致透气钢表面堵塞，堵塞物主要有：

- 树脂残留：塑料本身残留，增塑剂、抗静电剂、阻燃剂等
- 颗粒物：包括各种矿物质颜料、炭黑等填料、空气中粉尘等
- 油脂物：脱模剂、防锈剂、润滑剂等

The first problem of solving blockage: Back blow liquid grease and particulates in time to prevent high temperature consolidation on porous steel surface.

- Resin residues: Plastic residues, plasticizer, antistatic agent and flame retardant.
- Particulates: including different kind of mineral pigments, carbon black and dust in air.
- Grease: releasing agent, anti-rust agent and lubricant.

### ■ 维护和清洗 Maintenance and cleaning:

如轻度堵塞会触发监测器报警，报警后可参考图6所示，使用喷壶喷洒丙酮或酒精在透气钢表面，油污溶解后用棉布或脱脂棉擦拭干净，重复2-3次，再打开吹气气体用棉布或脱脂棉一边反吹一边擦拭即可。

If slightly blocked caused monitor alarming, reactions refer to picture 6. Using watering can spraying alcohol or acetone on the surface of porous steel. Clean the surface with cotton cloth or absorbent cotton after the grease dissolved and repeat 2-3 times. Then blow the surface with back blow gas and wipe with cotton cloth or absorbent cotton at the same time.

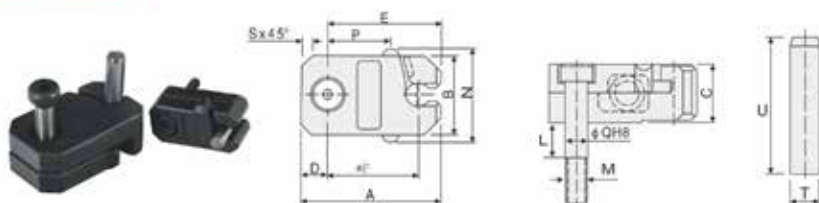
透气钢的设计、使用、维护都是比较专业的，如果你想对这个产品做更进一步的了解，请及时和我们联系，我们会给你提供更加详细和专业的指导。

The design, use and maintenance of porous steel are more professional, if you want to further understand this product, please contact us in time, we will provide you with more detailed and professional guidance.

**SLIDE RETAINER**  
SERIES  
限位夹系列



## SPSL/SPSM



| M 材质          | H 硬度      |
|---------------|-----------|
| 合金钢 8620steel | HRC 58-62 |

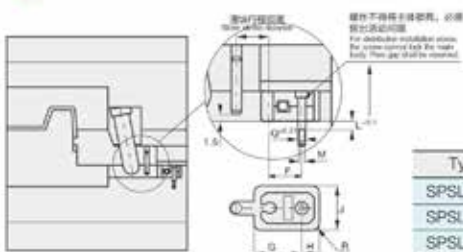
| Type      | 尺寸 Size |      |      |      |      |       |      |      |       |      |       |      |      |         | 荷重<br>Loading<br>weight<br>Kgf |
|-----------|---------|------|------|------|------|-------|------|------|-------|------|-------|------|------|---------|--------------------------------|
|           | A       | B    | C    | D    | E    | *F    | N    | H    | Q     | S    | T     | U    | L    | M       |                                |
|           |         |      |      |      |      |       |      |      |       |      |       |      |      |         |                                |
| SPSL 0001 | 1.50    | 0.76 | 0.63 | 0.27 | 1.23 | 0.980 | 0.94 | 0.61 | 0.250 | 0.14 | 0.250 | 1.25 | 0.31 | #10-24  | 10                             |
| SPSL 0002 | 2.13    | 1.26 | 0.79 | 0.44 | 1.69 | 1.375 | 1.44 | 0.88 | 0.312 | 0.25 | 0.312 | 1.50 | 0.43 | 1/4-20  | 20                             |
| SPSL 0003 | 3.38    | 1.76 | 1.18 | 0.75 | 2.63 | 2.125 | 1.94 | 1.57 | 0.375 | 0.38 | 0.375 | 2.25 | 0.58 | 5/16-18 | 40                             |

| Type      | 尺寸 Size |    |    |    |      |       |      |    |    |    |    |    |      |    | 荷重<br>Loading<br>weight<br>Kgf | 限位螺丝<br>Limit screw |
|-----------|---------|----|----|----|------|-------|------|----|----|----|----|----|------|----|--------------------------------|---------------------|
|           | A       | B  | C  | D  | E    | *F    | P    | Q  | M  | T  | U  | L  | S    |    |                                |                     |
|           |         |    |    |    |      |       |      |    |    |    |    |    |      |    |                                |                     |
| SPSM 0001 | 38      | 19 | 16 | 7  | 31.5 | 24.89 | 15.5 | 6  | M5 | 6  | 32 | 9  | 3.5  | 10 |                                | PM 5X20             |
| SPSM 0002 | 54      | 32 | 20 | 11 | 43.0 | 34.93 | 22.5 | 8  | M6 | 8  | 40 | 11 | 6.35 | 20 |                                | PM 6X25             |
| SPSM 0003 | 86      | 45 | 30 | 19 | 67.0 | 53.98 | 40.0 | 10 | M8 | 10 | 60 | 17 | 9.65 | 40 |                                | PM 8X40             |

### 产品特点 Precautions

- 简单经济、坚固耐用。能使用单个或多个限位夹，以达到更大的荷重。
- It is simple and economic, sturdy and durable. Single or multiple position limiting clips can be used so as to reach greater load.

### EX Exaple

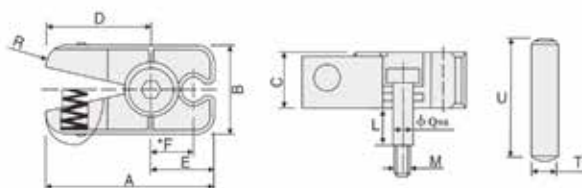


| Type      | G    | H    | J    | R    | Q     | L       | L     |
|-----------|------|------|------|------|-------|---------|-------|
| SPSL 0001 | 1.35 | 0.39 | 1.00 | 0.31 | 0.249 | #10-24  | 0.310 |
| SPSL 0002 | 1.81 | 0.56 | 1.50 | 0.37 | 0.312 | 1/4-20  | 0.430 |
| SPSL 0003 | 2.75 | 0.88 | 2.00 | 0.50 | 0.374 | 5/16-18 | 0.580 |

# 限位夹

## SLIDE RETAINER

## SMRT



| M 材质          | H 硬度      |
|---------------|-----------|
| 合金钢 8620steel | HRC 58-62 |

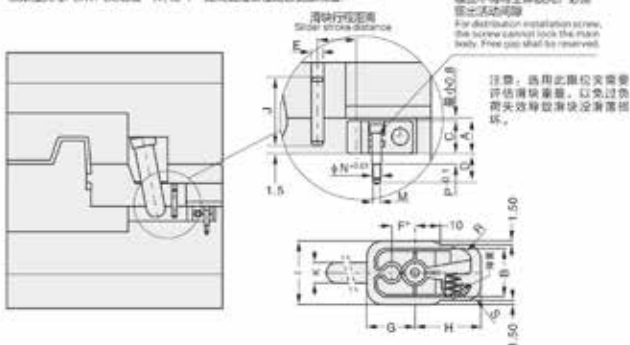
| Type    | 尺寸 Size |    |    |    |    |      |    |    |    |    |    |    |    |    | 荷重<br>Loading weight<br>Kgf | 限位螺丝<br>Limit screw |
|---------|---------|----|----|----|----|------|----|----|----|----|----|----|----|----|-----------------------------|---------------------|
|         | A       | B  | C  | D  | E  | *F   | Q  | R  | M  | N  | T  | L  | U  |    |                             |                     |
|         |         |    |    |    |    |      |    |    |    |    |    |    |    |    |                             |                     |
| SMRT10M | 38      | 19 | 16 | 22 | 16 | 9.15 | 6  | 5  | M5 | 6  | 6  | 6  | 30 | 10 | PM 5X16                     |                     |
| SMRT20M | 54      | 32 | 20 | 33 | 21 | 12.7 | 8  | 6  | M6 | 8  | 8  | 8  | 40 | 20 | PM 6X20                     |                     |
| SMRT40M | 86      | 45 | 30 | 53 | 33 | 20.3 | 10 | 10 | M8 | 10 | 10 | 10 | 60 | 40 | PM 8X30                     |                     |

### 产品特点 Precautions

- 该限位夹与PSL功能一样，但“F”距离更短，锁住的配合更加精密。
- This position limiting clip has the same function as that of PSL. However, "F" has shorter distance and locked coordination is more precise.

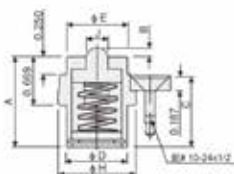
### EX Example

该限位夹与PSL功能一样，但“F”距离更短锁住配合更加精密。



| Type    | I  | K  | G  | H  | B  | S  | R  | *F   | E  | J  | C  | A  | P   | D    | N  | M  |
|---------|----|----|----|----|----|----|----|------|----|----|----|----|-----|------|----|----|
| SMRT10M | 25 | 8  | 19 | 26 | 19 | 6  | 5  | 9.15 | 6  | 30 | 16 | 17 | 6   | 15.5 | 6  | M5 |
| SMRT20M | 38 | 10 | 24 | 36 | 32 | 8  | 6  | 12.7 | 8  | 40 | 20 | 21 | 8.1 | 20.5 | 8  | M6 |
| SMRT40M | 51 | 12 | 36 | 56 | 45 | 11 | 10 | 20.3 | 10 | 60 | 30 | 31 | 10  | 25   | 10 | M8 |





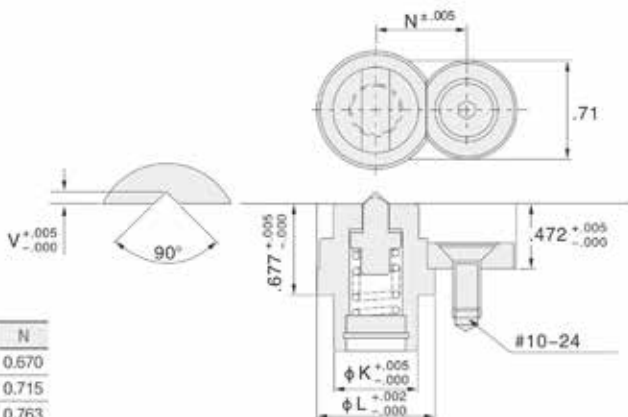
|                                                                                      |                                                                                      |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  材質 |  硬度 |
| H-13steel                                                                            | HRC 48-52                                                                            |

| Type     | 尺寸 Size |       |       |       |       |       |       |       |       | 荷重<br>Loading weight |
|----------|---------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
|          | A       | B     | C     | CD    | CE    | F     | CH    | J     | V     | Kgf                  |
| SPSR1000 | 1.08    | 0.072 | 0.795 | 0.620 | 0.630 | 0.375 | 0.866 | 0.188 | 0.091 | 4.5                  |
| SPSR2000 | 1.32    | 0.121 | 1.035 | 0.740 | 0.748 | 0.420 | 0.984 | 0.250 | 0.153 | 9                    |
| SPSR4000 | 1.26    | 0.149 | 0.975 | 0.870 | 0.866 | 0.468 | 1.102 | 0.312 | 0.194 | 18                   |

独立的设计、一体化的装置、安装简单。外形虽小,但是具有一定的荷重。



### Example

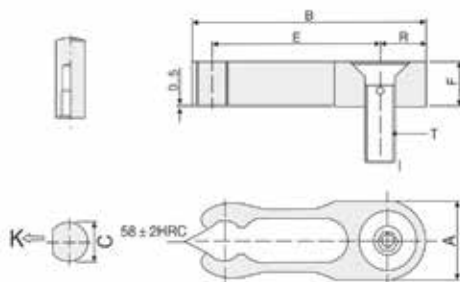


| Type     | $\phi K$ | $\phi L$ | V     | N     |
|----------|----------|----------|-------|-------|
| SPSR1000 | 0.625    | 0.869    | 0.091 | 0.670 |
| SPSR2000 | 0.750    | 0.987    | 0.153 | 0.715 |
| SPSR4000 | 0.875    | 1.105    | 0.194 | 0.763 |

# 限位夹

## SLIDE RETAINER

## SRC



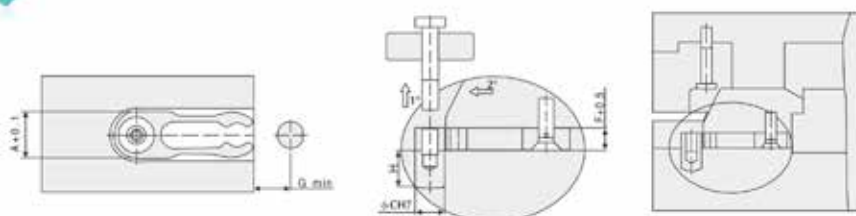
| 材料     | 硬度       |
|--------|----------|
| 1.8159 | HRC 45±3 |

| Type       | 尺寸 Size |    |       |    |    |   |    |    |        | 荷重<br>Loading weight<br>K(kgf) |
|------------|---------|----|-------|----|----|---|----|----|--------|--------------------------------|
|            | A       | B  | C     | E  | F  | G | H  | R  | J      |                                |
| SRC.123006 | 12      | 30 | 6X20  | 21 | 5  | 4 | 16 | 6  | M5X16  | 5                              |
| SRC.164008 | 16      | 40 | 8X20  | 28 | 6  | 5 | 15 | 8  | M6X25  | 7                              |
| SRC.205010 | 20      | 50 | 10X24 | 34 | 8  | 6 | 17 | 10 | M8X30  | 14                             |
| SRC.246012 | 24      | 60 | 12X32 | 42 | 10 | 7 | 23 | 12 | M10X40 | 21                             |
| SRC.328012 | 32      | 80 | 16X40 | 56 | 12 | 9 | 27 | 16 | M12X50 | 28                             |
| SRC.328016 |         |    |       |    | 16 |   | 25 |    |        | 38                             |

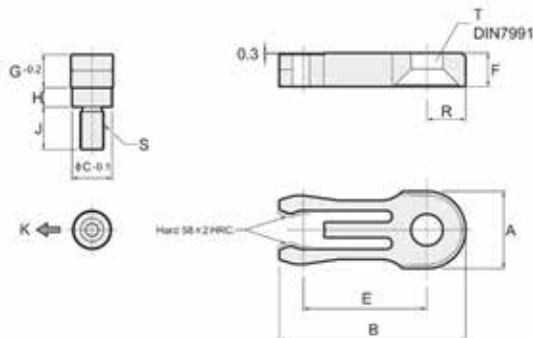
### 产品特点 Precautions

- 非常简单实用，只需要很小的空间就可以安装固定。
- It is very simple and practical, and can be fixed in a very small space.

### EX Example



### SRCM



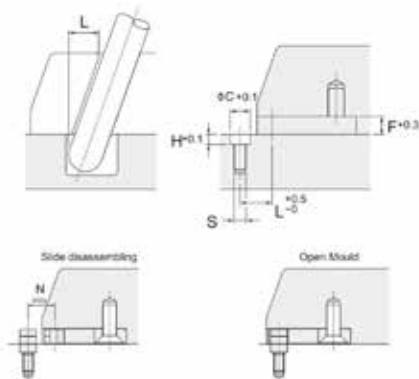
| 材料     | 硬度              |
|--------|-----------------|
| 1.8159 | HRCF 45 $\pm$ 3 |

| Type        | A  | B  | C  | E    | F   | G   | H | J  | K    | N | R  | S  | T   |
|-------------|----|----|----|------|-----|-----|---|----|------|---|----|----|-----|
| SRCM.163808 | 16 | 38 | 8  | 25   | 7.7 | 7.6 | 4 | 10 | 10kg | 7 | 8  | M5 | M6  |
| SRCM.204810 | 20 | 48 | 10 | 32   | 8.7 | 8.6 | 5 | 11 | 14kg | 8 | 10 | M6 | M8  |
| SRCM.245712 | 24 | 57 | 12 | 37.5 | 9.7 | 9.6 | 6 | 12 | 18kg | 9 | 12 | M8 | M10 |

### 产品特点 Precautions

- 在SRC基础上改良型。
- It is an improved type on the basis of SRC.

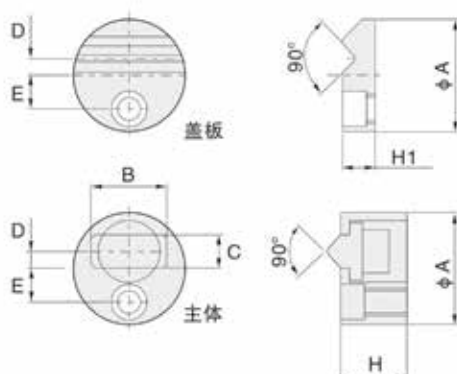
### EX Example



# 限位夹

## SLIDE RETAINER

## SSLK8A



| 材料    | 硬度     |
|-------|--------|
| SKH51 | HRC 58 |

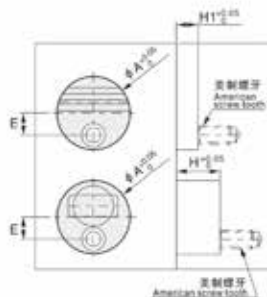
| Type   | A                    | B    | C    | D     | E    | H                    | H1                   | 安装螺丝<br>Mounting screws        | 荷重 (kgf)<br>Max. holding weight |
|--------|----------------------|------|------|-------|------|----------------------|----------------------|--------------------------------|---------------------------------|
| SSLK8A | $\pm 0.001$<br>0.498 | 0.34 | 0.15 | 0.075 | 0.15 | $\pm 0.002$<br>0.295 | $\pm 0.002$<br>0.145 | #2-56x3/8(主体)<br>#2-56x1/4(盖板) | 3.6                             |
|        | 12.65                | 8.61 | 3.81 | 1.91  | 3.81 | 7.49                 | 3.68                 |                                |                                 |

### 产品特点 Precautions

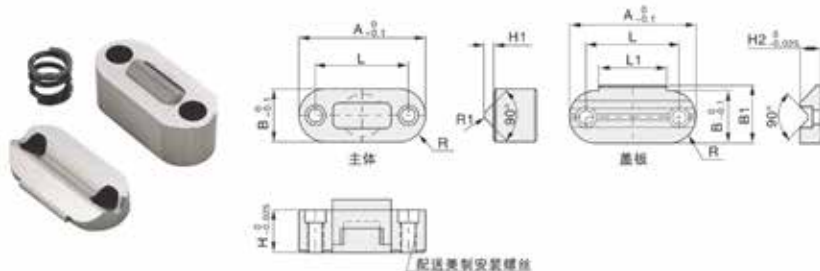
- 限位夹的设计，能有效的预防模座滑块逐渐松动的问题，此款限位夹外形小巧，合理的利用了有限的空间。
- Design of position limiting clip can effectively prevent slider die holder from gradually loosening.

Appearance of this type of position limiting clip is small and exquisite and it applies limited space reasonably.

### EX Example



### SSLK25A/50A



| 材料    | 硬度     |
|-------|--------|
| SKH51 | HRC 58 |

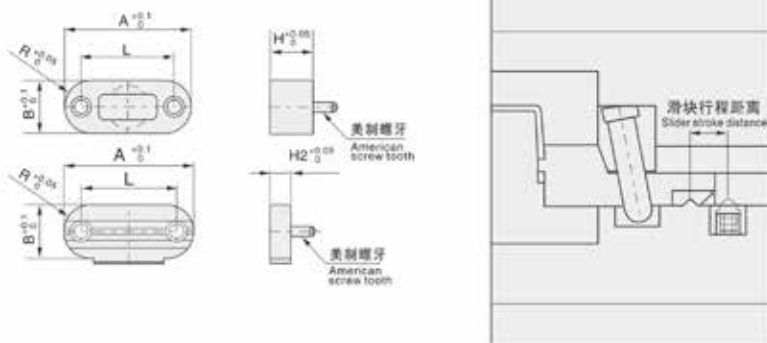
| Type    | A     | B     | H     | H1    | H2    | L     | L1    | R     | R1    | B1    | 安装螺丝<br>Mounting screws | 荷重 (kgf)<br>Max. holding weight |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|---------------------------------|
| SSLK25A | 1.494 | 620   | 0.499 | 0.117 | 0.249 | 1.1   | 0.80  | 0.312 | 0.062 | 0.68  | #6-32x1/2               | 11.25                           |
|         | 37.95 | 15.75 | 12.67 | 2.97  | 6.32  | 27.94 | 20.32 | 7.92  | 1.57  | 17.27 | #6-32x1/4               |                                 |
| SSLK50A | 2.292 | 0.996 | 0.86  | 0.171 | 0.385 | 1.65  | 1.10  | 0.498 | 0.098 | 1.058 | 1/4-20x1"               | 22.5                            |
|         | 58.22 | 25.30 | 21.84 | 4.34  | 9.78  | 41.91 | 20.32 | 12.65 | 2.49  | 26.87 | 1/4-20x3/8              |                                 |

### 产品特点 Precautions

- 容易安装进入模座滑块中，巧妙的隐藏在限位装置中。
- It is easy to install it into slider of mold base, cleverly hidden in the caging device.



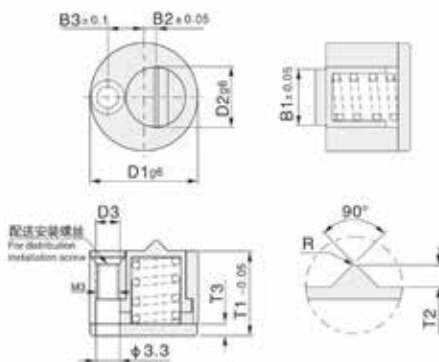
### Example



# 限位夹

## SLIDE RETAINER

## SZ5130



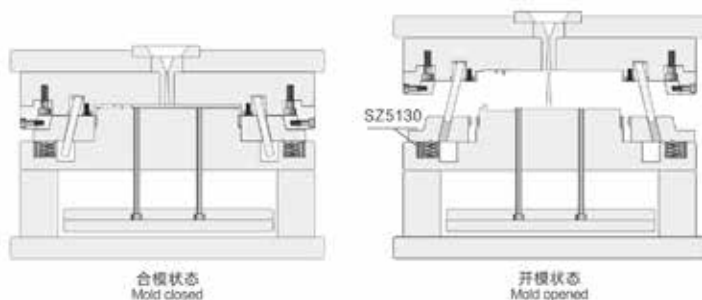
| M 材质   | H 硬度      |
|--------|-----------|
| 1.2343 | HRC 48-53 |

| Type   | D1 | D2 | B1   | B2  | B3  | T1 | T2  | T3  | R    | D3 | 安装螺丝<br>Mounting screws | 荷重 (kgf)<br>Max. holding weight |
|--------|----|----|------|-----|-----|----|-----|-----|------|----|-------------------------|---------------------------------|
| SZ5130 | 13 | 7  | 6.6  | 1.4 | 4.3 | 10 | 1.0 | 1.6 | 0.35 | M3 | M2 x 16                 | 3.4                             |
|        | 18 | 10 | 9.6  | 2.0 | 6.0 | 14 | 1.8 | 2.0 | 0.50 | M4 | M3 x 20                 | 4.2                             |
|        | 27 | 15 | 14.4 | 3.0 | 9.0 | 21 | 2.8 | 3.0 | 0.50 | M5 | M4 x 25                 | 9.2                             |

### 产品特点 Precautions

- SZ5130定位珠外形设计小巧，占用安装空间小；
- SZ5130定位珠是定位珠系列中安装最为方便的产品之一；
- 此款精密版定位珠采用机械精密加工而成，定位更精准。
- SZ5130 Slide holding devices with outside small shape and occupy the small space.
- SZ5130 Slide holding devices is the best convenient installment of the slide retainer series.
- SZ5130 Slide holding devices adopts precision machining to make location more accurate.

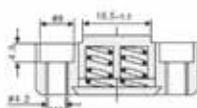
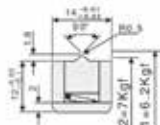
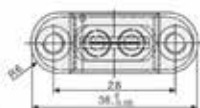
### EX Example



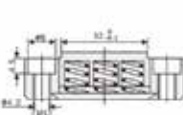
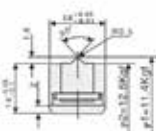
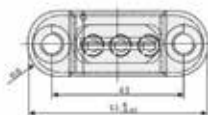




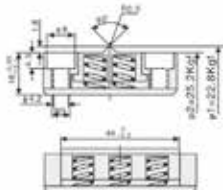
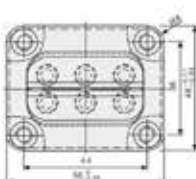
|              |              |
|--------------|--------------|
| <b>M</b> 材质: | <b>H</b> 硬度: |
| 1.2343       | HRC 48-53    |



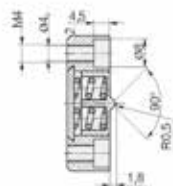
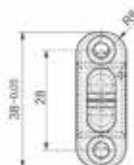
|                                                                                    |                                                                                      |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  材质 |  硬度 |
| 1.2343                                                                             | HRC 48-53                                                                            |



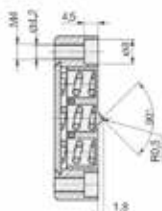
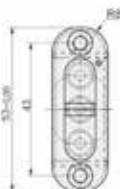
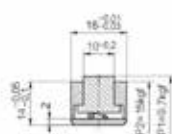
|                                                                                    |                                                                                      |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  材质 |  硬度 |
| 1.2343                                                                             | HRC 48-53                                                                            |



|             |             |
|-------------|-------------|
| <b>M</b> 材质 | <b>H</b> 硬度 |
| 1.2343      | HRC 48-53   |



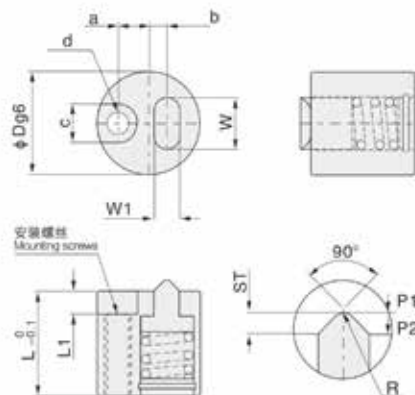
|             |             |
|-------------|-------------|
| <b>M</b> 材質 | <b>H</b> 硬度 |
| 1.2343      | HRC 48-53   |



# 限位夹

## SLIDE RETAINER

## SSLLK



| M 材质   | H 硬度      |
|--------|-----------|
| 1.2343 | HRC 48-52 |

| Type  | D  | P 弹簧 Spring | ST  | L  | L1  | a | b   | c   | d   | W  | W1 | R   | N  | 安装螺丝 Mounting screws | 荷重 (kgf) Max. holding weight |
|-------|----|-------------|-----|----|-----|---|-----|-----|-----|----|----|-----|----|----------------------|------------------------------|
| SSLLK | 16 | C(SWC8-15)  | 1.6 | 15 | 3.3 | 5 | 2.5 | 6   | 3.2 | 8  | 4  | 1   | M4 | M3x20                | 28.6                         |
|       | 16 | F(SWF8-15)  | 1.6 | 15 | 3.3 | 5 | 2.5 | 6   | 3.2 | 8  | 4  | 1   | M4 | M3x20                | 78.8                         |
|       | 20 | F(SWF10-15) | 2.0 | 20 | 4.5 | 6 | 3.5 | 7.5 | 4.3 | 10 | 5  | 1.1 | M5 | M4x25                | 62.9                         |
|       | 20 | L(SWF10-15) | 2.0 | 20 | 4.5 | 6 | 3.5 | 7.5 | 4.3 | 10 | 5  | 1.1 | M5 | M4x25                | 110.0                        |

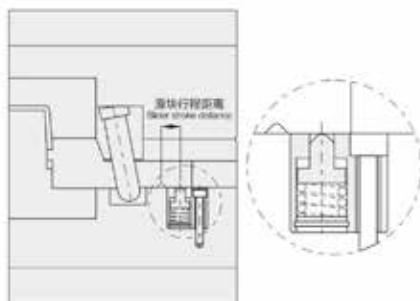
### 产品特点 Precautions

- 采用面接触，降低了接触面的单位压强，可有效防止侧抽芯滑块损伤，可适用于较重部件的锁紧。
- It adopts surface contact which reduces unit pressure of contact surface so that it can effectively prevent damage of side core-pulling slider. It applies to locking of much heavier component.

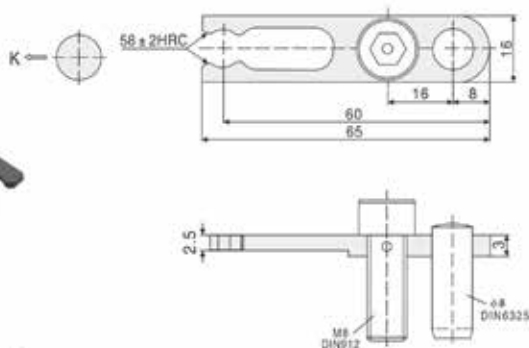
### EX Example

注意事项：锁紧负载过大，可能会使斜导柱和束块承受过多负载，导致烧结现象，建议减少滑动阻力、润滑、加强刚性。

Precautions: Locking load is too big, so it may make slanted guide pillar and bundle block bear too much load leading to sintering phenomenon. It is advised to reduce sliding resistance, implement lubrication and strengthen rigidity.



### SRRM



#### 注意

下表中的荷重值是通过安装一、二、三或更多的夹子而得来的，它是一组近似值，仅供参考。

Note: The load values are from installed clamps, they are approximation, just for reference.

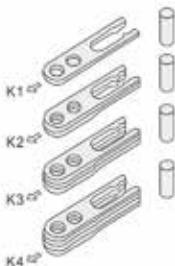
| 材料     | 硬度       |
|--------|----------|
| 1.8159 | HRC 45±3 |

| Type        | 荷重 Loading weight (Kgf) |    |      |    |
|-------------|-------------------------|----|------|----|
|             | K1                      | K2 | K3   | K4 |
| SRRM.651608 | 7.5                     | 15 | 22.5 | 30 |

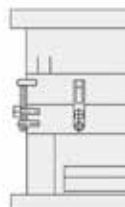
#### 产品特点 Precautions

- 标准限位夹，对延迟模具的分开和闭合是非常有用的，它能够通过增加夹子的数量来增大限位夹的荷重。
- The standard limiting location chip is very useful to delay the dividing and closing of mould, and it can increase the load of limiting location chip by increasing the number of chips.

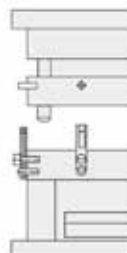
#### EX Example



合模状态  
Mold closed



第一次开模  
The first time  
open mold

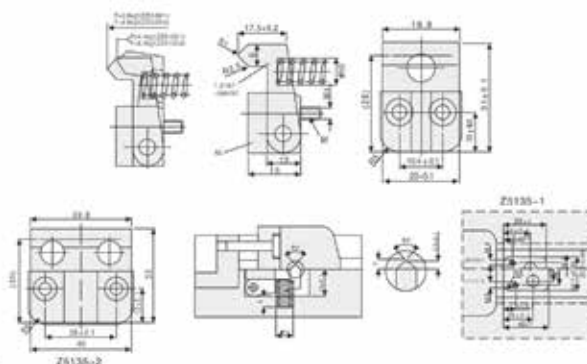


第二次开模  
The second time  
open mold

# 限位夹

## SLIDE RETAINER

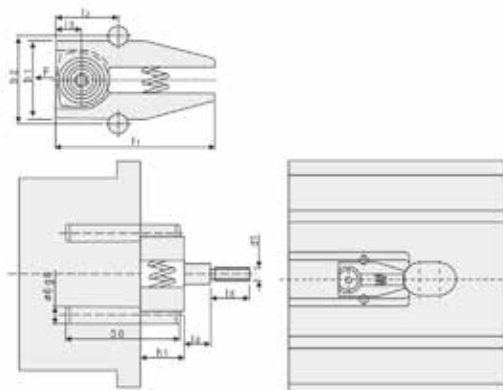
## SZ5135



| M 材质   | H 硬度      |
|--------|-----------|
| 1.2162 | HRC 58-60 |

| Type     | M螺丝 Screw | 荷重 Loading weight (kgf) |
|----------|-----------|-------------------------|
| SZ5135-1 | 4         | 2.0~4.4                 |
| SZ5135-2 | 5         | 4.0~8.8                 |

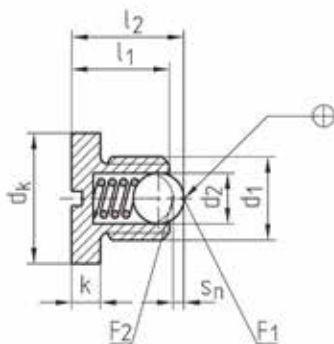
## SZ189



| M 材质   | H 硬度     |
|--------|----------|
| 1.7131 | HRC 54±2 |

| Type     | 尺寸 Size |    |      |     |     |     |    |    |      | 荷重 Loading weight (kgf) |
|----------|---------|----|------|-----|-----|-----|----|----|------|-------------------------|
|          | h1      | l1 | l2   | l3  | l4  | l5  | d1 | b1 | b2   |                         |
| SZ189/10 | 10      | 40 | 17.5 | 7   | 5.1 | 9.5 | M5 | 18 | 21.5 | 10                      |
| SZ189/12 | 12      | 43 | 18   | 7.5 | 6.1 | 11  | M6 | 22 | 25.5 | 15                      |
| SZ189/16 | 16      | 50 | 20.5 | 9.5 | 3.1 |     |    | 28 | 31.5 | 25                      |

SZ36

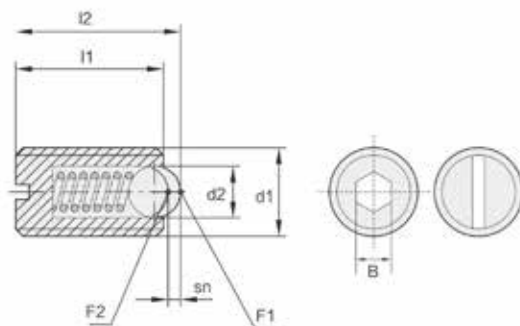


材質

1.0718

| Type         | max. °C | d2  | dk | K   | Sn   | F1 [N] | F2 [N] | l2   | d1  | l1 |
|--------------|---------|-----|----|-----|------|--------|--------|------|-----|----|
| SZ36/4 x 9   | 250     | 2.5 | 6  | 2.5 | 0.64 | 6      | 11.6   | 9.8  | M4  | 9  |
| SZ36/5 x 12  |         | 3   | 8  | 3.5 | 0.72 | 8.8    | 13.3   | 12.9 | M5  | 12 |
| SZ36/6 x 14  |         | 3.5 | 10 | 5   | 0.8  | 11.2   | 15.1   | 15   | M6  | 14 |
| SZ36/8 x 15  |         | 5   | 13 | 5   | 1.2  | 18.5   | 29.5   | 17.5 | M8  | 16 |
| SZ36/10 x 20 |         | 6   | 16 | 6   | 1.6  | 23.9   | 43     | 22   | M10 | 20 |
| SZ36/12 x 22 |         | 8   | 18 | 7   | 2    | 35.9   | 59.8   | 24.5 | M12 | 22 |

SZ37



材質

SUS304

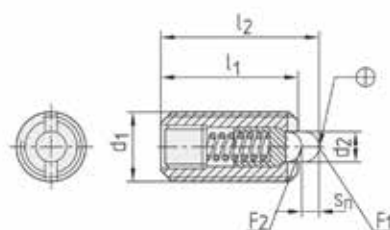
S45C

| Type           | max. °C | d2  | sn   | F1 [N] | F2 [N] | l2   | d1  | l1 |
|----------------|---------|-----|------|--------|--------|------|-----|----|
| SZ37 / 4 x 9   | 250     | 2.5 | 0.64 | 6      | 11.6   | 9.8  | M4  | 9  |
| SZ37 / 5 x 12  |         | 3   | 0.72 | 8.8    | 13.3   | 12.9 | M5  | 12 |
| SZ37 / 6 x 14  |         | 3.5 | 0.8  | 11.2   | 15.1   | 15   | M6  | 14 |
| SZ37 / 8 x 16  |         | 5   | 1.2  | 18.5   | 29.5   | 17.5 | M8  | 16 |
| SZ37 / 10 x 19 |         | 6   | 1.6  | 23.9   | 43     | 21   | M10 | 19 |
| SZ37 / 12 x 22 |         | 8   | 2    | 35.9   | 59.8   | 24.5 | M12 | 22 |
| SZ37 / 16 x 24 |         | 10  | 2.4  | 74     | 101.6  | 27.5 | M16 | 24 |

# 定位珠

## BALL PLUNGERS

## SZ372

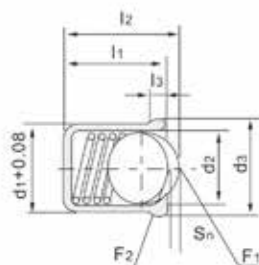


M 材质

1.0718

| Type          | max. °C | d2   | Sn  | F1 [N] | F2 [N] | l2   | d1  | l1 |
|---------------|---------|------|-----|--------|--------|------|-----|----|
| SZ372/3 x 12  | 250     | 1.0  | 0.8 | 1.7    | 2.8    | 13.0 | M3  | 12 |
| SZ372/4 x 15  |         | 1.5  | 1.2 | 5.0    | 12.0   | 16.5 | M4  | 15 |
| SZ372/5 x 18  |         | 2.4  | 1.8 | 7.0    | 16.0   | 20.3 | M5  | 18 |
| SZ372/6 x 20  |         | 2.7  | 2.0 |        |        | 22.5 | M6  | 20 |
| SZ372/8 x 22  |         | 3.5  | 2.4 | 9.0    | 28.0   | 25.0 | M8  | 22 |
| SZ372/10 x 22 |         | 4.0  |     |        |        |      | M10 | 22 |
| SZ372/12 x 28 |         | 6.0  | 3.2 | 15.0   | 44.0   | 32.0 | M12 | 28 |
| SZ372/16 x 32 |         | 7.5  | 4.0 | 45.0   | 80.0   | 37.0 | M16 | 32 |
| SZ372/20 x 40 |         | 10.0 | 5.6 | 70.0   | 112.0  | 47.0 | M20 | 40 |
| SZ372/24 x 52 |         | 12.0 | 8.0 | 80.0   | 144.0  | 62.0 | M24 | 52 |

## SZ374



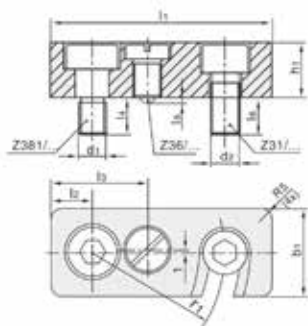
M 材质

1.4305

| Type       | max. °C | d3  | l3 | d2  | Sn  | F1 [N] | F2 [N] | l2   | d1 | l1 |
|------------|---------|-----|----|-----|-----|--------|--------|------|----|----|
| SZ374/ 4x5 | 250     | 4.6 | 1  | 3   | 0.7 | 2      | 4      | 5.9  | 4  | 5  |
| SZ374/ 5x6 |         | 5.6 |    | 4   | 0.8 | 4      | 5.6    | 7    | 5  | 6  |
| SZ374/ 6x7 |         | 6.5 |    | 5   | 1.2 | 6      | 9.6    | 8.5  | 6  | 7  |
| SZ374/ 8x9 |         | 8.5 |    | 6.5 | 1.4 |        |        | 10.8 | 8  | 9  |



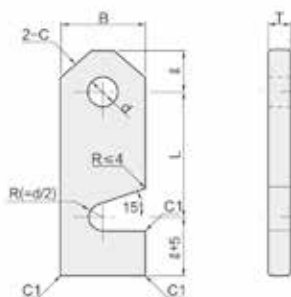
SZ73



材料  
S45C

| Type            | Z381/...     | Z31/...     | Z36/...     | d1  | d2  | r1 | l2 | l3 | l4 | l5  | l6 | h1 | b1 | l1 |
|-----------------|--------------|-------------|-------------|-----|-----|----|----|----|----|-----|----|----|----|----|
| SZ73 / 12x20x50 | Z381 / 6x6   | Z31 / 6x14  | Z36 / 5x12  | M6  | M6  | 30 | 10 | 24 | 9  | 0.9 | 8  | 12 | 20 | 50 |
| SZ73 / 16x25x63 | Z381 / 8x10  | Z31 / 8x18  | Z36 / 8x16  | M8  | M8  | 38 | 13 | 30 | 11 | 1.5 | 11 | 16 | 25 | 63 |
| SZ73 / 20x32x80 | Z381 / 10x12 | Z31 / 10x22 | Z36 / 10x20 | M10 | M10 | 48 | 15 | 35 | 13 | 2   | 13 | 20 | 32 | 80 |

SOPP



材料  
S45C

| Type | B  | L   | Color<br>安全色                      | T  | d  | ℓ  | C  |
|------|----|-----|-----------------------------------|----|----|----|----|
| SOPP | 25 | 30  | R<br>(红)<br>Y<br>(黄)<br>N<br>(发蓝) | 12 | 9  | 10 | 10 |
|      |    | 40  |                                   |    |    |    |    |
|      |    | 50  |                                   |    |    |    |    |
|      |    | 60  |                                   |    |    |    |    |
|      |    | 70  |                                   |    |    |    |    |
|      |    | 80  |                                   |    |    |    |    |
|      | 38 | 50  |                                   | 12 | 14 | 15 | 15 |
|      |    | 60  |                                   |    |    |    |    |
|      |    | 70  |                                   |    |    |    |    |
|      |    | 80  |                                   |    |    |    |    |
|      |    | 90  |                                   |    |    |    |    |
|      |    | 100 |                                   |    |    |    |    |
|      | 50 | 60  |                                   | 20 | 22 | 25 | 15 |
|      |    | 90  |                                   |    |    |    |    |
|      |    | 120 |                                   |    |    |    |    |
|      |    | 120 |                                   |    |    |    |    |

# LATCH LOCK COMPONENT

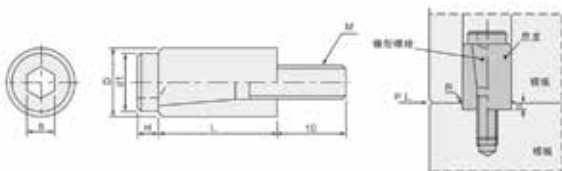
SERIES 8800

锁模组件系列



# 尼龙扣 PARTING LOCK

## PO 尼龙扣



| Type | 材料               | 温度   |
|------|------------------|------|
| PO   | Nylon S45C       | 120℃ |
| POH  | Nylon Resin S45C | 250℃ |

通过对锁形槽的锁紧，能够调整模板与尼龙套之间的摩擦力。产品使用了特殊的尼龙材料，因此具有良好的耐磨性和耐热性。高温模具请选择POH。

It can adjust friction between template and nylon sleeve through locking taper bolt. Special nylon material is used for the product. Thus, the product has good abrasion resistance and heat resistance. Select poH for high temperature mold.

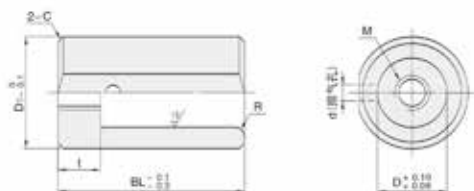
| Type | 尺寸 Size |      |     |   |    |     | Colour                                                                                                                                                                                                                                                                                                                                           |
|------|---------|------|-----|---|----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | D       | d1   | M   | B | L  | H   |                                                                                                                                                                                                                                                                                                                                                  |
| PO   | 10      | 8.5  | M5  | 4 | 18 | 3   | <br><br>                                                                                      |
|      | 12      | 11.5 | M6  | 5 | 20 | 3.2 |                                                                                                                                                                                                                                                                                                                                                  |
|      | 13      |      |     |   |    |     |                                                                                                                                                                                                                                                                                                                                                  |
|      | 16      | 14   | M8  | 6 | 25 | 4   |                                                                                                                                                                                                                                                                                                                                                  |
|      | 20      | 16   | M10 | 8 | 30 | 5   |                                                                                                                                                                                                                                                                                                                                                  |
| 25   |         |      |     |   |    |     |                                                                                                                                                                                                                                                                                                                                                  |
| POH  | 10      | 8.5  | M5  | 4 | 18 | 3   | <br><br><br> |
|      | 12      | 11.5 | M6  | 5 | 20 | 3.2 |                                                                                                                                                                                                                                                                                                                                                  |
|      | 13      |      |     |   |    |     |                                                                                                                                                                                                                                                                                                                                                  |
|      | 16      | 14   | M8  | 6 | 25 | 4   |                                                                                                                                                                                                                                                                                                                                                  |
|      | 20      | 16   | M10 | 8 | 30 | 5   |                                                                                                                                                                                                                                                                                                                                                  |

### ■ 安装方法 Installation diagram

将尼龙套埋入到动模板中3mm左右。将定模板孔的内表面进行粗磨精加工对模板面插入口进行倒圆角R，如果进行C倒角，其耐用性会降低。

Installation method: Embed nylon sleeve in template of moving die about 3mm. Implement rough finishing on inner surface of template hole of fixed die and implement filleting R of insertion mouth of template surface. If chamfer C is implemented, its durability will reduce.

## PLBS 尼龙扣专用衬套



| M    | 材料 | S | 表面处理                                |
|------|----|---|-------------------------------------|
| S45C |    |   | 发蓝(Fe <sub>3</sub> O <sub>4</sub> ) |

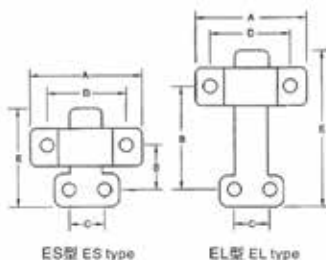
| Type | D  | D1 | BL | t  | R   | d   | C   | M  |
|------|----|----|----|----|-----|-----|-----|----|
| PLBS | 10 | 16 | 26 | 6  | 2   | 2.3 | 0.8 | 6  |
|      | 13 | 20 | 30 | 8  | 2.5 | 2.8 | 1.0 | 8  |
|      | 16 | 25 | 37 | 10 | 3   | 3   | 1.0 | 10 |
|      | 20 | 30 | 42 | 10 | 3   | 3   | 1.0 | 10 |

# 锁模扣 LATCH LOCK

## SE



| M 材质 | H 硬度      |
|------|-----------|
| SK-2 | HRC 58-60 |

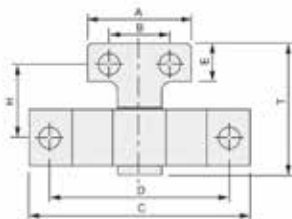


| Type | A  | B  | C  | D  | E  | 拉力<br>Clamping force | 螺丝<br>Screw |
|------|----|----|----|----|----|----------------------|-------------|
| SES  | 62 | 28 | 20 | 45 | 54 | 400kg                | M8          |
| SEL  | 62 | 62 | 20 | 45 | 88 | 400kg                | M8          |

## SL



| M 材质  | H 硬度      |
|-------|-----------|
| SCM21 | HRC 58-60 |



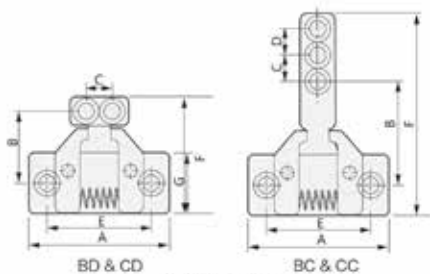
| Type | A  | B  | C   | D  | E  | F  | H   | T   | 螺丝<br>Screw | 拉力<br>Clamping force |
|------|----|----|-----|----|----|----|-----|-----|-------------|----------------------|
| SL2  | 40 | 26 | 72  | 60 | 20 | 20 | 23  | 48  | M8          | 150                  |
| SL2T |    | 22 |     |    |    |    | 66  | 96  |             |                      |
| SL3  | 50 | 30 | 113 | 90 | 22 | 30 | 38  | 72  | M10         | 250                  |
| SL3T |    |    |     |    |    |    | 79  | 114 |             |                      |
| SL4  | 50 | 30 | 113 | 90 | 22 | 30 | 38  | 75  | M12         | 350                  |
| SL4T |    |    |     |    | 25 |    | 103 | 139 |             |                      |

### 产品特点 Precautions

- 利用简单之构造，可使模具完全打开与闭合，且装置简单互换性高。
- 本装置适合三板板之针点射出，有拉断料头与脱模一次完全之功能。
- 本装置有四种型：SL—2型适合小型之模具，SL—3型适合中型模具，SL—4型适合大型模具。
- 本装置采用高强度合金钢热处理后研磨而成，采用进口弹簧，品质可靠。
- Based on its simple and easy design, the slide lock makes molds open and close complete, and it also makes installation and interchanging seem effortless.
- Excellent for 3-plates mold plates for its precision injection (for example: needle-point injection). It will cut off the excessive materials and leave the mold at the time of finishing.
- 4 different styles to choose from: SL-2: good for molds less than 5 oz, SL-3: good for medium size molds, SL-4: good for large size molds.
- It is well-known for its exceptional quality. It was made by imported springs, heat-treated and grinded alloy steels.

# 锁模扣 LATCH LOCK

## BC



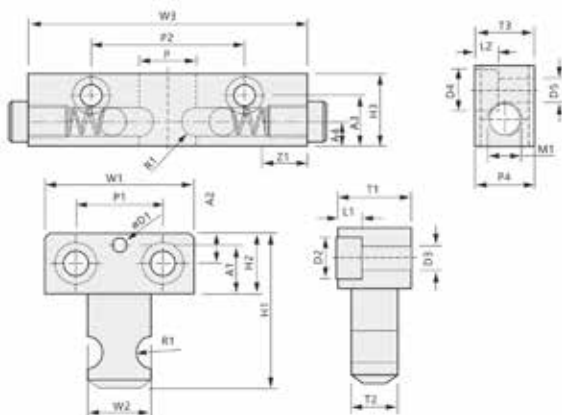
超荷重黄色扁弹簧

Over-load heavy yellow flat spring

| M 材质 | H 硬度      |
|------|-----------|
| SK-2 | HRC 58-60 |

| Type | A  | B  | C  | D  | E  | F   | G  | 拉力<br>Clamping force | 螺丝<br>Screw |
|------|----|----|----|----|----|-----|----|----------------------|-------------|
| BD   | 78 | 40 | 15 | -  | 60 | 68  | 38 | 500kg                | M8          |
| BC   | 78 | 58 | 15 | 15 | 60 | 116 |    |                      |             |
| CD   | 93 | 58 | 17 | -  | 72 | 102 | 51 | 900kg                | M10         |
| CC   | 93 | 73 | 17 | 17 | 72 | 142 |    |                      |             |

## SLPL



| M 材质 | S 表面处理 |
|------|--------|
| SS0C | 黄色烤漆   |

| Type  | 尺寸 Size |      |    |    |    |      |     |    |     |      |    |    |     |     |
|-------|---------|------|----|----|----|------|-----|----|-----|------|----|----|-----|-----|
|       | A1      | A2   | A3 | A4 | D1 | D2   | D3  | D4 | D5  | H1   | H2 | H3 | L1  | L2  |
| SLPLA | 20      | 12.5 | 23 | 11 | 5  | 17   | 10  | 17 | 10  | 62.5 | 25 | 33 | 10  | 10  |
| SLPLB | 6       | 12   | 21 | 10 | 5  | 10.5 | 6.5 | 11 | 6.5 | 48   | 20 | 28 | 6.5 | 6.5 |

| Type  | 尺寸 Size |    |    |      |       |      |      |      |    |      |       |    |          |
|-------|---------|----|----|------|-------|------|------|------|----|------|-------|----|----------|
|       | P1      | P2 | P3 | P4   | R1    | T1   | T2   | T3   | W1 | W2   | W3    | Z1 | M1       |
| SLPLA | 35      | 70 | 26 | 20   | R6.5  | 30   | 19.5 | 30   | 60 | 25.5 | 127.5 | 21 | M14x2.0  |
| SLPLB | 25      | 60 | 18 | 12.5 | R4.25 | 20.5 | 12   | 20.5 | 40 | 17.5 | 86    | 20 | M12x1.75 |

# 锁模扣 LATCH LOCK

## SMPLK 卡轮式



板形弹簧，内部滚轮以及卡轮的组合，能使模具的开合具有良好的平衡性，滚轮的旋转能较好的防止偏心磨损的发生。锁紧套为上下对称式，所以若有磨损也可倒置安装以再次使用。因为锁紧座的背面有避让位，所以模板上有台阶时也可以使用。

Disc spring, and a combination of internal roller card wheel, can make the opening and closing of the mold has good balance. Wheel rotation can better prevent eccentric wear occurs. The locking sleeve is symmetric, so if the wear can also be installed to use again. Because the back of the locking seat is avoiding vacancy, can also use so the template has the steps.

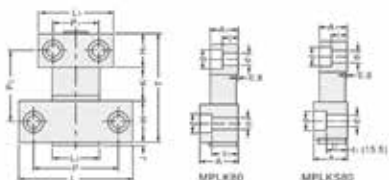


SK3(前) + S50C (后)

## SMPLK (标准型锁紧套)



## SMPLKS (紧贴型锁紧套)



### 标准型:

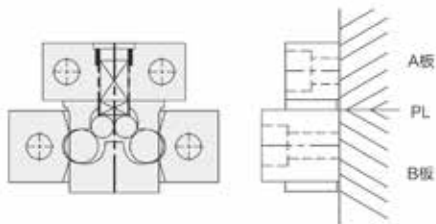
| Type                 |     | 尺寸 Size |    |    |      |    |    |     |     |      |      |    |    |    |     |      |    |     | 拉力(kgf)  |     |     |
|----------------------|-----|---------|----|----|------|----|----|-----|-----|------|------|----|----|----|-----|------|----|-----|----------|-----|-----|
|                      |     | L       | L1 | L2 | T    | H  | H1 | J   | K   | P    | P1   | P2 | A  | A1 | t   | t1   | d  | d1  | 1套(常温状态) |     |     |
| SMPLK<br>标准型<br>锁紧套  | 10  | 48      | 36 | 25 | 42   | 22 | 18 | 2   | 2   | 36   | 24   | 22 | 24 | 16 | 9.5 | 18   | 11 | 6.5 | 50       |     |     |
|                      | 20  | 54      | 42 |    |      |    |    |     |     | 40   | 28   |    |    |    | 9   | 16   |    |     | 100      |     |     |
|                      | 30  | 65      | 46 | 35 | 48.5 | 25 | 20 | 3.5 | 3.5 | 50   | 31   | 26 | 27 | 19 | 9.5 | 17   | 7  | 150 |          |     |     |
|                      | 60  | 73      | 50 |    |      |    |    |     |     | 56.5 | 52   |    |    |    |     |      | 33 | 34  | 14       | 9   | 300 |
|                      | 80S | 73      | 50 |    |      |    |    |     |     | 56.5 | 11.5 |    |    |    |     |      | 34 | 14  | 9        | 400 |     |
| SMPLKS<br>紧贴型<br>锁紧套 | 100 | 103     | 65 | 48 | 58   | 30 | 24 | 4   | 4   | 76   | 42   | 31 | 34 | 25 | 13  | 19   | 17 | 11  | 500      |     |     |
|                      | 30  | 65      | 46 | 35 | 48.5 | 25 | 20 | 3.5 | 3.5 | 50   | 31   | 26 | 24 | 19 | 9.5 | 15.5 | 11 | 7   | 150      |     |     |
|                      | 60  | 73      | 50 |    |      |    |    |     |     | 56.5 | 52   |    |    |    |     |      | 33 | 14  | 9        | 300 |     |
|                      | 80S | 73      | 50 |    |      |    |    |     |     | 56.5 | 11.5 |    |    |    |     |      | 34 | 14  | 9        | 400 |     |

### 加长型:

| Type                 | 尺寸 Size |     |    |    |      |    |    |     |      |    |    |    |    |    |     |      |    | 拉力(kgf)  |      |
|----------------------|---------|-----|----|----|------|----|----|-----|------|----|----|----|----|----|-----|------|----|----------|------|
|                      | L       | L1  | L2 | T  | H    | H1 | J  | K   | P    | P1 | P2 | A  | A1 | t  | t1  | d    | d1 | 1套(常温状态) |      |
| SMPLK<br>标准型<br>锁紧套  | 60      |     |    |    | 79.5 | 25 | 20 | 3.5 | 34.5 | 52 | 33 | 57 | 27 | 19 | 3.5 | 17   | 14 | 9        | 600  |
|                      | 80      | 73  | 50 | 35 | 87.5 |    |    |     | 42.5 |    |    | 65 |    |    |     |      |    |          | 800  |
| SMPLKS<br>紧贴型<br>锁紧套 | 100     | 103 | 65 | 48 | 89   | 30 | 24 | 4   | 35   | 76 | 42 | 65 | 34 | 25 | 13  | 19   | 17 | 11       | 1000 |
|                      | 80      | 73  | 50 | 35 | 87.5 | 25 | 20 | 3.5 | 42.5 | 52 | 33 | 65 | 24 | 19 | 9.5 | 15.5 | 14 | 9        | 800  |

① 高温模具可选择耐热型SMPLKH。 High temperature mold can choose heat resistant SMPLKH.

### ■ 安装方法 Installation diagram

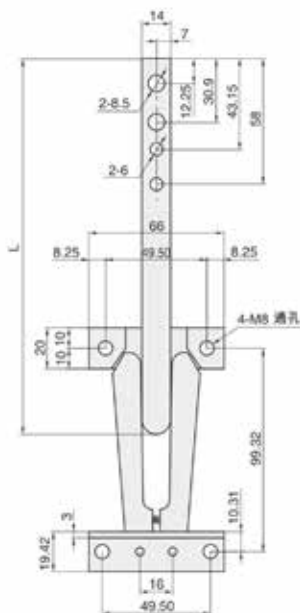




# 强制回位装置

## FORCED RETURN SET

### FRET



### 特性 Characteristic

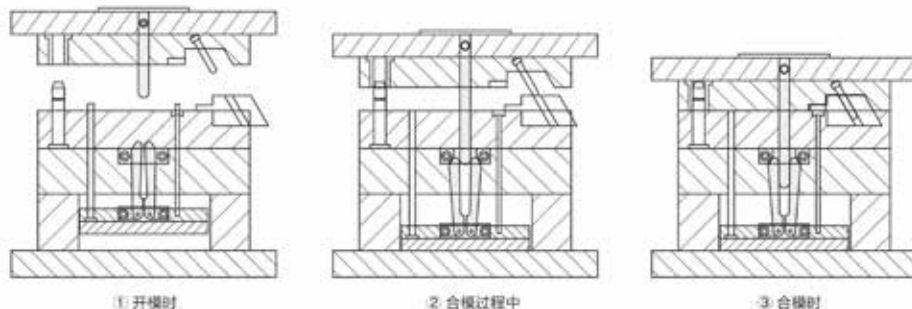
固定侧与可动侧在开、合模动作中同步进行压回顶出机构。确保顶出机构强制回位，有效防止斜顶块与斜导柱在回位过程中因不平衡而卡死，导致损伤模穴表面。

The fixed side and the movable side are open, and the pressure returning and ejector mechanism is synchronously performed during the clamping operation to ensure the forced returning of the ejector mechanism, thereby effectively preventing the oblique top block and the oblique guide column from being stuck due to unbalance during the returning process. Causes damage to the surface of the cavity.

| Type |       | 材质    | 硬度       | 表面处理            |
|------|-------|-------|----------|-----------------|
| 固定型  | 预定型   | SCM21 | 50~52HRC | 发蓝( $Fe_3O_4$ ) |
| FRET | FRETL |       |          |                 |

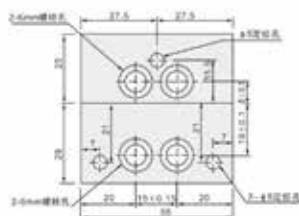
| Type  | L       |
|-------|---------|
| FRET  | 220     |
| FRETL | 200~400 |

### 功能示意图 Functional chart

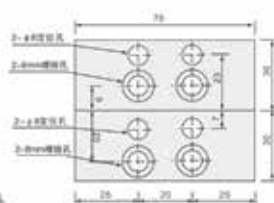


# 锁模扣 LATCH LOCK

## SBL



SBL100 / SBL200 / SBL300



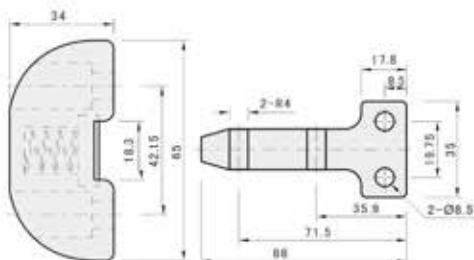
SBL600

适用于三板模之针点射出模，有拉料头与脱模一次完成之功能。精密铸造而成，精度高，拉钩采用高级合金钢经热处理研磨而成，内力特强，两侧采用耐热弹簧片，弹性佳，耐热力强，有数十万次之开模能力。本锁模装置作用力向外侧，故不伤模具，装设时两边对称，固定销孔用5mm之铰刀绞过后，再以固定销固定之，以增加稳定性。

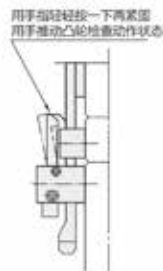
Applicable to the three template needle injection mold, has the function of breaking the head and release is completed. Precision casting, precision, hook adopts advanced alloy steel by heat treatment and grinding, ditch is particularly strong, on both sides of the use of heat-resistant spring sheet, good elasticity, heat tolerance, several die one hundred thousand times capacity. The locking device to the outside force, not to hurt the mold, after the device has symmetrical sides, fixed pin hole of 5mm outer knife, and fixed by the fixing pin, to increase the fixed.

| Type   | 拉力(Kgf) |
|--------|---------|
| SBL100 | 100     |
| SBL200 | 200     |
| SBL300 | 300     |
| SBL600 | 600     |

## SLD



| 材料    | 硬度        |
|-------|-----------|
| SCM21 | HRC 55-60 |



# 锁模扣 LATCH LOCK

## SMLK

## 磁力锁模扣

① 耐温度在80℃以下 ② 如耐高温(200℃以下)，需另行订购

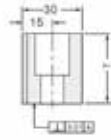
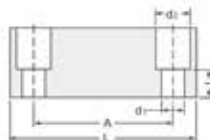
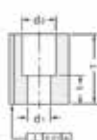
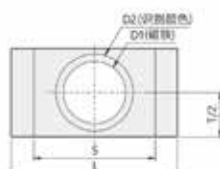
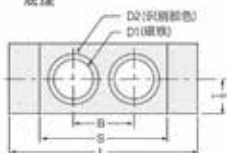


材料

SS400+强力磁铁



底座



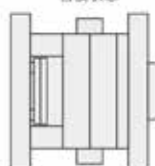
方铁

| Type      | 拉力(kgf)<br>20℃ | A   | B  | S  | L   | T  | t  | D1   | D2 | d1  | d2 |
|-----------|----------------|-----|----|----|-----|----|----|------|----|-----|----|
| SMLK-40   | 40kgf          | 63  | 25 | 60 | 80  | 25 | 12 | 18   | 22 | 9   | 14 |
| SMLK-80   | 80kgf          |     |    |    |     | 40 | 15 | 30   | 34 | 11  | 18 |
| SMLK-100  | 100kgf         | 100 | 39 | 79 | 126 | 50 | 30 | 20   | 35 | 13  | 20 |
| SMLK-200  | 200kgf         | 100 | 39 | 79 | 126 | 60 | 30 | 20   | 35 | 13  | 20 |
| SMLK-400  | 400kgf         | 100 | 39 | 79 | 126 | 60 | 30 | 20   | 35 | 13  | 20 |
| SMLK-600  | 600kgf         | 100 | 39 | 79 | 126 | 60 | 30 | 20   | 35 | 13  | 20 |
| SMLK-800  | 800kgf         | 124 | 39 | 79 | 150 | 60 | 30 | 20   | 35 | 13  | 20 |
| SMLKC-20  | 20kgf          | 36  | -  | 36 | 50  | 25 | -  | 17.5 | 22 | 6.6 | 11 |
| SMLKC-40  | 40kgf          | 36  | -  | 36 | 50  | 25 | -  | 17.5 | 22 | 6.6 | 11 |
| SMLKC-50  | 50kgf          | 52  | -  | 52 | 70  | 40 | -  | 29.5 | 34 | 9   | 14 |
| SMLKC-100 | 100kgf         | 52  | -  | 52 | 70  | 40 | -  | 29.5 | 34 | 9   | 14 |

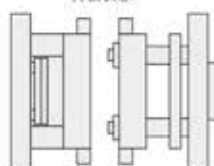
## 产品特点 Precautions

- 与其他锁模扣相比，更容易于安装。
- 基本不需要在合模时减速。
- 从而缩短了成形周期。
- SMLKC与SMLK型号相比，外形缩小了约50%~60%。
- Comparing with other MOLD locking buckle, it is much easier to install.
- Deceleration is basically not needed
- During die assembly so that it shortens shaping cycle.
- Compared with SMLK,SMLKC overall dimensions is reduced 50%~60%.

合模状态

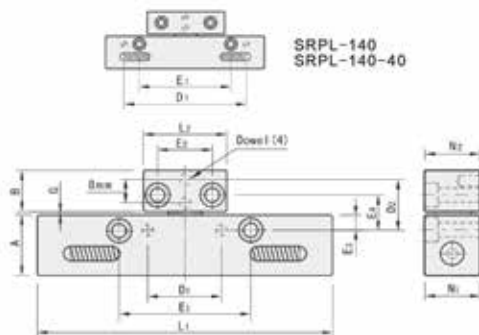


开模状态



## SRPL-P

## 锁模扣



SRPL-140  
SRPL-140-40



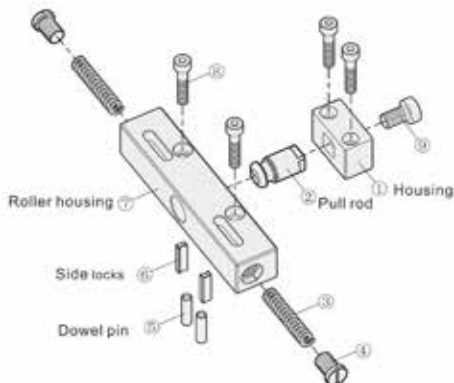
P20 & SKD61

| Type   | L1  | L2 | N1 | N2 | A  | B  | G       | 定位销<br>Dowel pin |
|--------|-----|----|----|----|----|----|---------|------------------|
| SRPL-P | 135 | 38 | 25 | 25 | 28 | 19 | 1<br>40 | φ5               |
|        | 140 | 64 | 32 |    | 32 | 22 | 2<br>38 | φ6               |
|        |     |    |    |    |    |    |         |                  |

| Type   | E1 | E2 | E3 | E4           | D1  | D2           | 安装螺丝<br>Mounting screws | 拉力(kgf) |
|--------|----|----|----|--------------|-----|--------------|-------------------------|---------|
| SRPL-P | 60 | 25 | 7  | 15.6<br>54.6 | 30  | 22.1<br>61.1 | M6 × 25                 | 10      |
|        | 70 | 35 | 10 | 23.1<br>59.3 | 100 | 28.1<br>64.3 | M10 × 35                | 150     |
|        |    |    |    |              |     |              |                         |         |

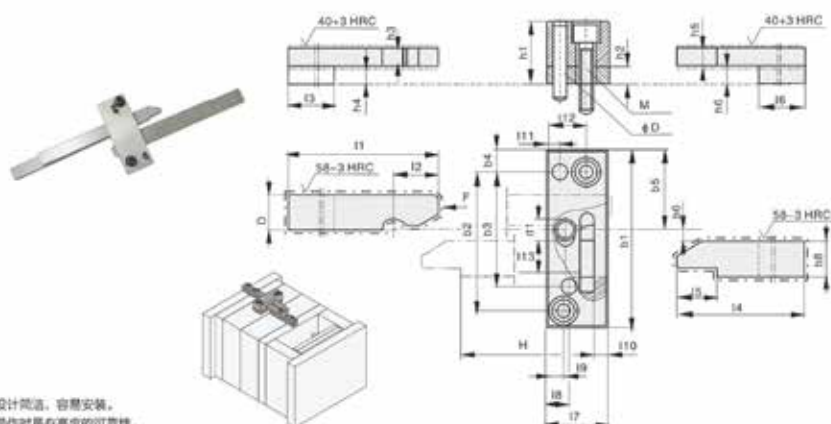
### 产品特点 Precautions

- 锁模扣为精密装置，须对称安装，否则将可能致使单套锁模扣受力不平衡而导致锁模扣断裂。
- 锁模扣组件间精密配合，请勿与其他自行加工的零件配合使用。
- 如模具需要维修改动，请先拆除锁模装置后再进行后续操作。
- The clamping buckle is a precision device and must be installed symmetrically, otherwise it may cause the unbalanced force of the single set of clamping buckle and cause the clamping buckle to break.
- Precise coordination between the clamping components, please do not use it with other self-processed parts;
- If the mold needs to be repaired and changed, please remove the clamping device before proceeding with subsequent operations.



# 锁模扣 LATCH LOCK

## SZ170

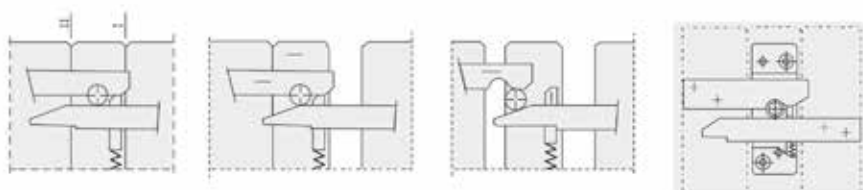


设计简洁，容易安装。  
操作时具有高度的可靠性。  
经试验和测试与Z171可以两选一使用。  
Designed simple, easy to install.  
the height is adjustable when operating.  
test proved that you can choose one from Z170 and Z171.

| Type    | b1  | l7 | b4 | l11 | l9 | l8 | l12 | b5   | l13 | h2  | l1  | b7   | h3   | l4  | b8   | h5   | d1 | l6  |
|---------|-----|----|----|-----|----|----|-----|------|-----|-----|-----|------|------|-----|------|------|----|-----|
| SZ170/1 | 63  | 22 | 8  | 5   | 6  | 8  | 14  | 28.5 | 7   | 6   | 100 | 12.5 | 6    | 125 | 12.5 | 6    | 8  | 80  |
| SZ170/2 | 90  | 34 | 13 | 8   | 8  | 18 | 24  | 45   | 16  | 7.5 | 140 | 20   | 12.5 | 160 | 16   | 12.5 | 12 | 117 |
| SZ170/3 | 110 | 42 | 15 | 9   | 9  | 22 | 31  | 55   | 20  | 12  | 200 | 25   | 16   | 250 | 20   | 16   | 14 | 125 |

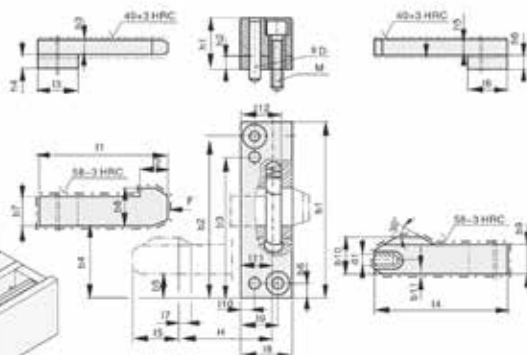
| Type    | h6   | l3  | h4   | l5    | l2   | l10 | F [N] | H min | H max | h1   | h6 | b2 | b3   | φD    | M     |
|---------|------|-----|------|-------|------|-----|-------|-------|-------|------|----|----|------|-------|-------|
| SZ170/1 | 6.5  | 63  | 6.5  | 14.1  | 16   | 5   | 8000  | 5.5   | 80    | 22   | 4  | 49 | 40.5 | φ5x30 | M5x25 |
| SZ170/2 | 8    | 98  | 8    | 17.86 | 22.5 | 5   | 14000 | 9.5   | 110   | 32.5 | 6  | 69 | 62   | φ6x50 | M6x40 |
| SZ170/3 | 12.5 | 100 | 12.5 | 18    | 25   | 7   | 24000 | 10.5  | 190   | 44   | 7  | 80 | 80   | φ8x60 | M8x45 |

### 功能示意图 Functional chart





### SZ171

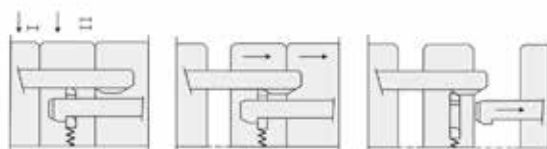


设计简洁，容易安装。  
操作时具有高度的可靠性。  
经试验和测试与SZ170可以两选一使用。  
Designed simple, easy to install.  
the height is adjustable when operating.  
test proved that you can choose one from SZ171 and SZ170.

| Type    | b1  | l8   | l9 | l10 | b6 | b3 | b2  | h2  | l1  | b7   | b8   | h3   | l4  | b9   | b10  | l5 | l2 | l3  | h4   |
|---------|-----|------|----|-----|----|----|-----|-----|-----|------|------|------|-----|------|------|----|----|-----|------|
| SZ171/1 | 75  | 22   | 16 | 6   | 6  | 60 | 69  | 6   | 140 | 12.5 | 16   | 6    | 140 | 12.5 | 15.5 | 20 | 12 | 63  | 6.5  |
| SZ171/2 | 90  | 31.5 | 24 | 8   | 7  | 73 | 83  | 7.5 | 180 | 16   | 20.5 | 12.5 | 180 | 16   | 20   | 27 | 16 | 100 | 8    |
| SZ171/3 | 112 | 40   | 30 | 10  | 9  | 88 | 103 | 12  | 250 | 20   | 25.5 | 16   | 250 | 20   | 25   | 36 | 20 | 125 | 12.5 |

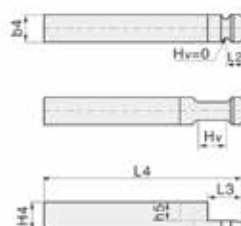
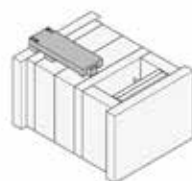
| Type    | h5   | b11 | d1 | F [N] | H min | H max | h1   | h6   | l6  | l7   | l11  | l12  | b4l  | l12 | φD    | M     |
|---------|------|-----|----|-------|-------|-------|------|------|-----|------|------|------|------|-----|-------|-------|
| SZ171/1 | 6    | 6   | 4  | 6500  | 5.5   | 80    | 22   | 6.5  | 63  | 5.2  | 13.5 | 17.5 | 30.5 | 10  | φ5x30 | M5x25 |
| SZ171/2 | 12.5 | 7.5 | 8  | 15500 | 7     | 110   | 32.5 | 8    | 100 | 9.65 | 19   | 25   | 38   | 12  | φ6x50 | M6x40 |
| SZ171/3 | 16   | 9.5 | 10 | 22000 | 9     | 160   | 43.5 | 12.5 | 125 | 8.7  | 25   | 32   | 48   | 16  | φ8x60 | M8x45 |

### 功能示意图 Functional chart

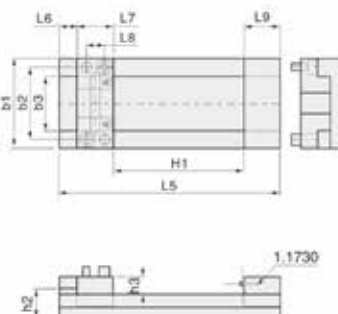


# 锁模扣 LATCH LOCK

## SZ174

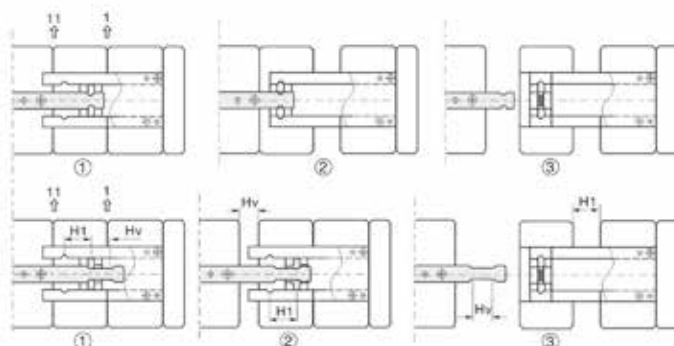


特点：安装加工简单，机械互锁设计，安全可靠。连接方式为定位，使产品更精准。  
可吸取模具重量选择对应产品。在模板上至少装2套并对称使用。使用温度范围120℃。  
Characteristics: Installation and processing are simple. Design of mechanical interlock is safe and reliable. Connecting body and square positioning make product more accurate. People can select corresponding product according to de load. There shall be at least 2 sets on template for symmetrical use. Operating temperature range is 120℃.



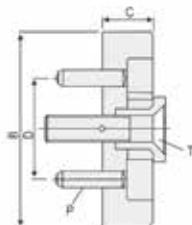
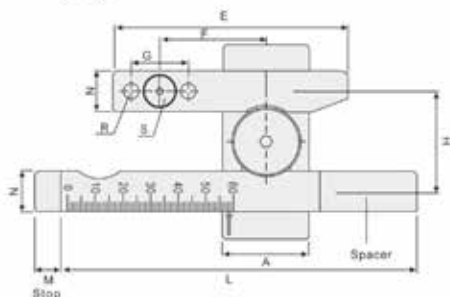
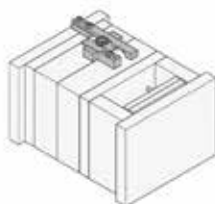
| Type      | b1  | H1  | Hv | L5  | L4  | L3 | L2    | h5 | h4 | h3   | h2 | h6   | b4 | b3    | b2 | L9 | L8 | L7 | L6 | 安装螺丝  | 定位销  | F(N)  |
|-----------|-----|-----|----|-----|-----|----|-------|----|----|------|----|------|----|-------|----|----|----|----|----|-------|------|-------|
| SZ174/50  | 50  | 90  | 0  | 140 | 140 | 20 | 9.75  | 10 | 16 | 9.3  | 16 | 22.3 | 15 | 30.05 | 40 | 20 | 10 | 20 | 10 | M4×12 | 6×20 | 16000 |
|           |     | 130 | 0  | 180 | 180 | 20 |       |    |    |      |    |      |    |       |    |    |    |    |    |       |      |       |
| SZ174/80  | 80  | 117 | 0  | 200 | 200 | 34 | 16.75 | 13 | 21 | 12.3 | 22 | 30.3 | 20 | 45.05 | 60 | 34 | 16 | 34 | 15 | M6×16 | 6×20 | 27000 |
|           |     | 167 | 0  | 250 | 250 | 34 |       |    |    |      |    |      |    |       |    |    |    |    |    |       |      |       |
| SZ174/100 | 100 | 145 | 0  | 250 | 250 | 45 | 22.25 | 16 | 27 | 15.5 | 27 | 37.5 | 25 | 60.05 | 80 | 45 | 22 | 45 | 15 | M8×18 | 8×24 | 48000 |
|           |     | 195 | 0  | 300 | 300 | 45 |       |    |    |      |    |      |    |       |    |    |    |    |    |       |      |       |

## 功能示意图 Functional chart



# 锁模扣 LATCH LOCK

SGS



独特的设计与精确的刻度尺保证了在第一次开模具有很高的精度。  
比传统模式更节约成本，优化模具结构。

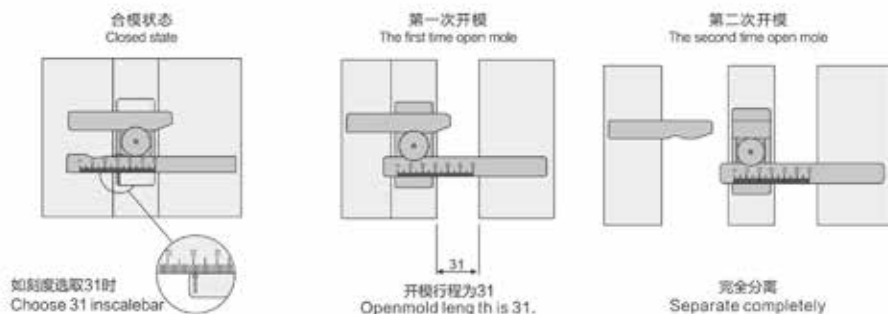
More accurate first plate opening compared to other conventional systems.  
Scale lever indicates opening of the first plate. Reduces costs compared to conventional mechanisms.

| M 材质   | H 硬度         |
|--------|--------------|
| 1.0503 | HRC 55° ± 3° |

| Type       | 尺寸 Size |     |    |    |     |    |    |      |     |    |      |        |        |        |        | sca |
|------------|---------|-----|----|----|-----|----|----|------|-----|----|------|--------|--------|--------|--------|-----|
|            | A       | B   | C  | D  | E   | F  | G  | H    | L   | M  | N    | P(x2)  | R(x4)  | S(x2)  | T      |     |
| SGS.226616 | 22      | 66  | 16 | 38 | 75  | 30 | 25 | 32   | 105 | 10 | 15   | φ6x20  | φ6x30  | M6x30  | M6x35  | 40  |
| SGS.368619 | 36      | 86  | 19 | 46 | 102 | 43 | 32 | 42.7 | 153 | 12 | 20   | φ8x24  | φ8x36  | M8x36  | M8x40  | 60  |
| SGS.421024 | 42      | 106 | 24 | 56 | 124 | 51 | 40 | 50.2 | 190 | 15 | 24.5 | φ10x30 | φ10x40 | M10x40 | M10x45 | 80  |

注意：选择所需的行程后，再固定垫板上的刻度杆。  
Note: Fixup the scale bar in cushion plate before choose the length.

## 功能示意图 Functional chart



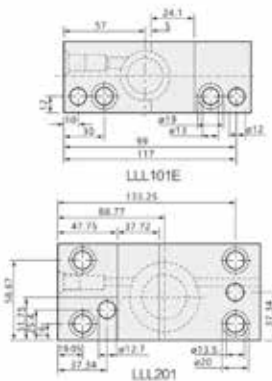
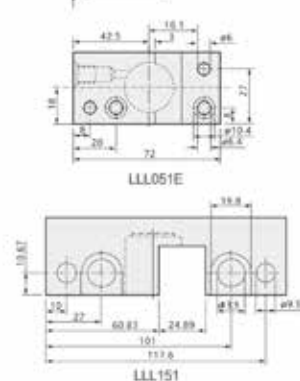
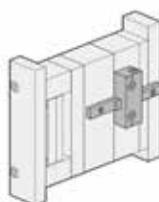
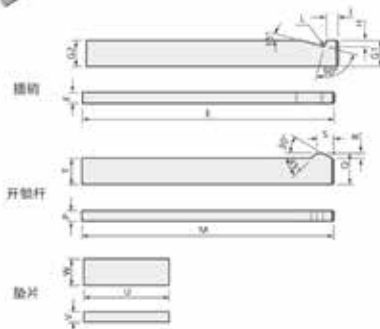
# 锁模扣 LATCH LOCK

## LLL



消除了打碎模具的可能性，因为不需要任何可以改变的调整或需要可能意外碰掉的连接。适用于一般的或重型的模具，每副模具最少需要四个锁模扣。

Eliminate the possibility of breaking the mold, as there is no need for any adjustments that can be changed or connections that may be accidentally knocked out. Suitable for general or heavy duty molds, requiring a minimum of four clamping clasps per pair of molds.



| Type     | 尺寸 Size |      |      |        |     |       |         |         |      |        |        |
|----------|---------|------|------|--------|-----|-------|---------|---------|------|--------|--------|
|          | A       | B    | C    | D NOM. | E   | F     | G1 NOM. | G2 NOM. | H    | I NOM. | L RAD. |
| LLL 051E | 80      | 35   | 25   | 16.2   | 180 | 7.9   | 16      | 16      | 3.4  | 6      | 1      |
| LLL 101E | 127     | 47   | 37   | 22.2   | 254 | 11.9  | 24      | 24      | 3.5  | 12     | 1      |
| LLL 151  |         | 49.2 | 36.5 |        |     | 12.07 | 24.56   | 24.81   | 2.92 | 12.7   | 0.75   |
| LLL 201  | 152.5   | 74.6 | 61.9 | 38.1   | 406 | 24.77 | 37.21   | 37.46   | 4.75 | 15.9   | 1      |

| Type     | 尺寸 Size |       |       |       |       |       |       |       |       |
|----------|---------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | M       | P     | Q     | R NOM | S     | T     | U     | V     | W     |
| LLL 051E | 180     | 7.9   | 16    | 3     | 3.5   | 12.5  | 55    | 8     | 12    |
| LLL 101E | 254     | 9.9   | 24    | 4     | 16    | 20    | 75    | 12    | 20    |
| LLL 151  |         | 9     | 24.81 | 4.76  | 15.87 | 20.95 | 76.2  | 12.39 | 22.22 |
| LLL 201  | 406     | 12.07 | 37.46 | 6.58  | 22.22 | 31.87 | 114.3 | 25.27 | 38.1  |

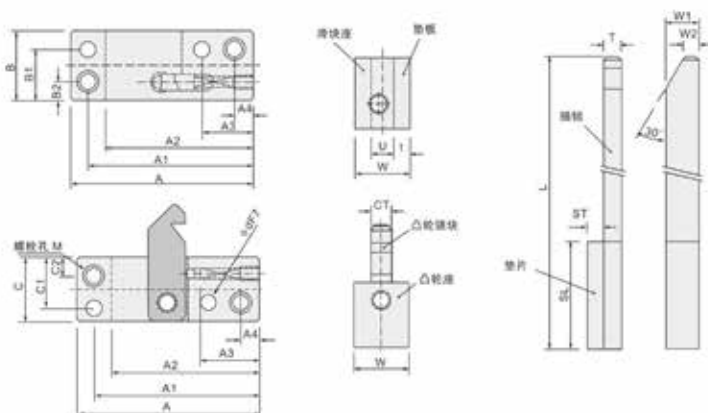
# 锁模扣 LATCH LOCK

## SPL



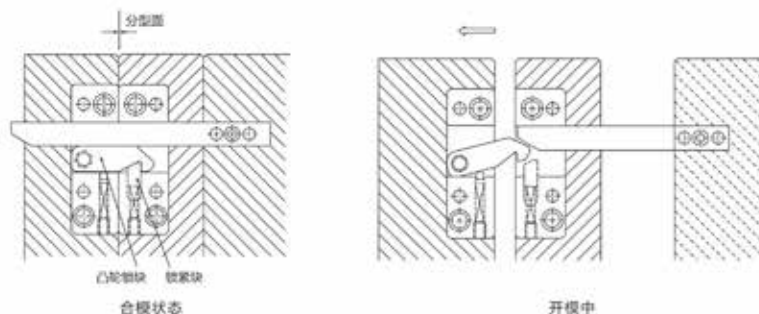
此款产品结构小，正确开模，无反作用力。完全没有锁模负载，可用于低压锁模成形。其动作与合模顺序无关。流道板先于分型面闭合时，锁紧块起到后道功能。

It with small frame, but open mold exactly and no counteractive. no lock load, apply to low pressure lock molding. its action irrespective of compound molding sequence. locking blocks have back function when hot runner plate close before devide face.



| Type           | 滑块座・凸轮座 |      |    |    |    |    |    |    |    |    |    | 垫板 |    | 插销   |     | 垫片 |    |     |      |     |      |    |
|----------------|---------|------|----|----|----|----|----|----|----|----|----|----|----|------|-----|----|----|-----|------|-----|------|----|
|                | A       | A1   | A2 | A3 | A4 | B  | B1 | B2 | C  | C1 | C2 | W  | U  | 螺栓孔M | d   | t  | w1 | w2  | T    | L   | ST   | SL |
| SPLS<br>(短合板用) | 68      | 61.5 | 55 | 19 | 7  | 26 | 19 | 7  | 24 | 17 | 7  | 20 | 8  | M6   | φ6  | 6  | 13 | 5.9 | 7    | 250 | 6.5  | 40 |
| SPLM<br>(中合板用) | 88      | 79   | 70 | 24 | 9  | 38 | 29 | 9  | 30 | 21 | 9  | 30 | 12 | M8   | φ8  | 7  | 16 | 8   | 10   | 300 | 8    | 50 |
| SPLL<br>(重合板用) | 104     | 93   | 82 | 27 | 11 | 48 | 37 | 11 | 38 | 27 | 11 | 45 | 20 | M10  | φ10 | 8  | 20 | 9.5 | 15.5 | 350 | 10.2 | 55 |

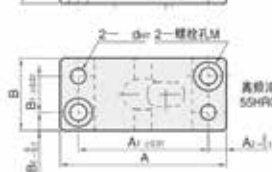
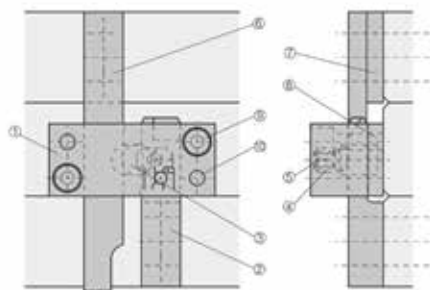
## 功能示意图 Functional chart







## PLSZ / PLMZ



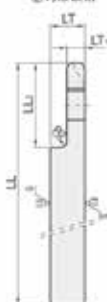
⑤ 插销



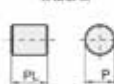
⑦ 插销垫块



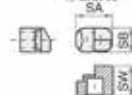
⑧ 钩形锁销



③ 锁紧销



④ 锁紧块



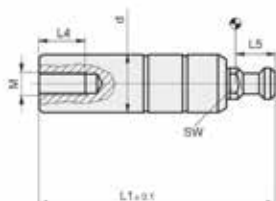
| No. | Type  | ② 材料   | ② 硬度      |
|-----|-------|--------|-----------|
| ①   | 锁紧座   | 合金工具钢  | HRC 50-55 |
| ②   | 钩形锁销  |        | HRC 58~   |
| ③   | 锁紧销   |        | HRC 58-60 |
| ④   | 锁紧块   |        | HRC 58-60 |
| ⑤   | 插销    | SUS631 |           |
| ⑥   | 插销    | 合金工具钢  | HRC 55~   |
| ⑦   | 插销垫块  | S45C   |           |
| ⑧   | 锁紧座底板 | 合金工具钢  | HRC 50~   |
| ⑨   | 内六角螺栓 | SCM435 | HRC 43    |
| ⑩   | 定位销   | SUJ2   | HRC 50    |

- 由于钩形锁销较长，也可适用于流道推板的顶出。
- 有效控制开、合模顺序，无反作用力。
- Because the hook lock pin is longer, it can also be applied to the ejection of the runner push plate.
- Effectively control the order of opening and closing MOLD without reaction force.

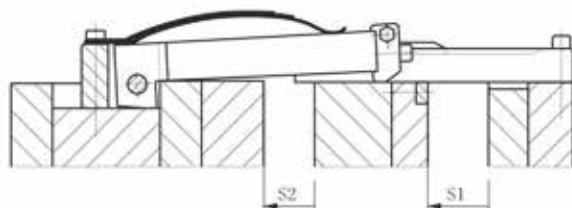
| Type | ① 锁紧座 ⑧ 锁紧座底板 |    |    |    |    |    |   |   |      |   | ② 钩形锁销 |     |    |     |     |     |      |     |
|------|---------------|----|----|----|----|----|---|---|------|---|--------|-----|----|-----|-----|-----|------|-----|
|      | A             | A1 | A2 | B  | B1 | B2 | d | M | W    | T | LW     | LW1 | LR | LL  | LL1 | LL2 | LT   | LT1 |
| PLSZ | 55            | 43 | 6  | 24 | 12 | 6  | 5 | 5 | 24   | 5 | 13     | 4   | 5  | 100 | 14  | 28  | 11.5 | 6   |
| PLMZ | 67            | 53 | 7  | 32 | 16 | 8  | 6 | 6 | 32.5 | 6 | 18     | 5   | 6  | 150 | 18  | 36  | 16.5 | 10  |

| 3 锁紧销 |    | 4 锁紧块 |    |    | 5 弹簧     | 6 插销 |     |    |     |     |    | 7 插销垫块 |    |     | 附件     |          |
|-------|----|-------|----|----|----------|------|-----|----|-----|-----|----|--------|----|-----|--------|----------|
| P     | PL | SA    | SB | SW |          | RW   | RW1 | RR | RL  | RL1 | RT | SW     | SL | ST  | 9 螺栓   | 10 定位销   |
| 10    | 12 | 12    | 8  | 10 | WLH5- 15 | 13   | 4   | 5  | 150 | 12  | 6  | 13     | 40 | 5.5 | CB5 25 | MSTM5 30 |
| 12    | 17 | 16    | 10 | 13 | WLH6- 20 | 16   | 5   | 6  | 200 | 16  | 10 | 16     | 50 | 6.6 | CB6 35 | MSTM6 35 |

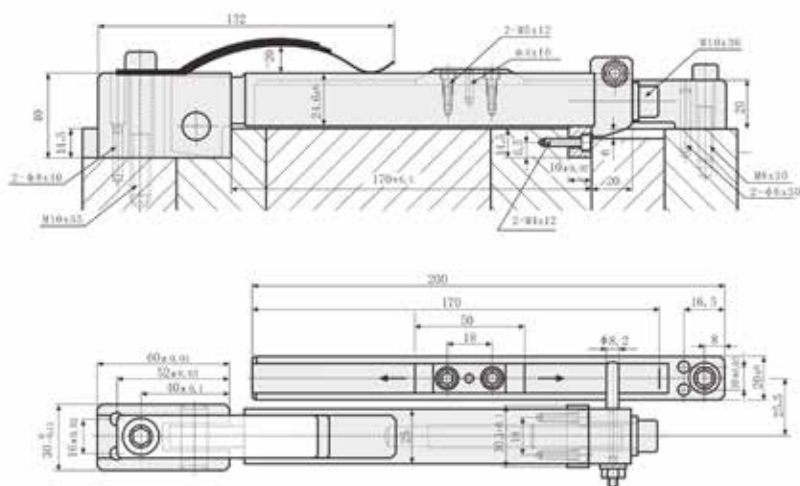
## SZ3

[illegible]

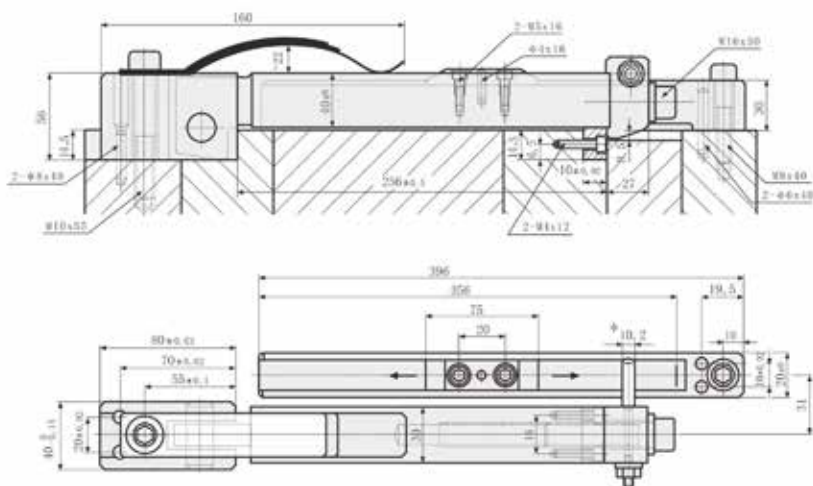




SZ5-1

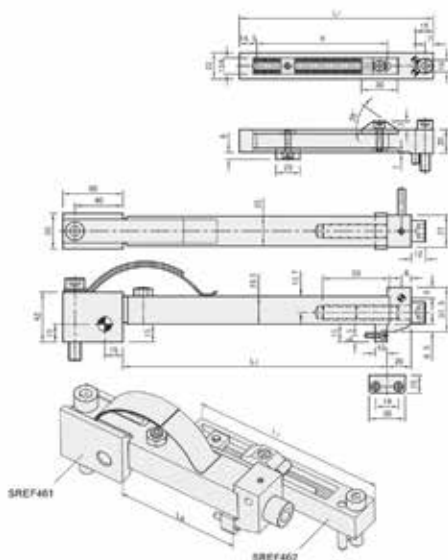


SZ5-2



# 锁模扣 LATCH LOCK

## SREF



### 产品特点 Precautions

- 行程调节部份做弧形设计，省去销子L的加工繁琐，同时，简化了行程调整；
- 独特薄片设计，安全可靠，安装方便；
- 建议将锁模扣安装在模具的左右两个侧面，由于产品自身重量问题，安装在模具上下两侧面可能会影响产品锁模力度；
- 多套锁模扣开模行程必须完全相同，否则会因受力不平衡而损坏，安装方向应垂直于分型面；
- 使用时，时常检查各安装螺丝是否紧固，如模具需维修时，请先拆除机构后再进行后续加工。
- The part of stroke adjustable adopt dental saw design, save dowel pin holes process, at the same simplify stroke adjustable.
- Unique shrapnel design, safety and reliable, and easy to install.
- Suggest install latch lock on left and right two sides of mould. Due to weight problem of products, if install on top and low two sides will impact locking force.
- More sets latch lock mechanism install must be sure same stroke, otherwise will cause latch lock break due to imbalance force.
- When use it, frequently to check up various installed screw whether fastening or not, if need maintenance and change. Please first remove latch lock device to follow-up operation.

| Type    | L1  | L2  | H    |
|---------|-----|-----|------|
| SREF400 | 140 | 90  | 83.5 |
|         | 204 | 170 | 152  |
|         | 254 | 220 | 254  |

| Type    | L1  | H     |
|---------|-----|-------|
| SREF402 | 140 | 83.5  |
|         | 204 | 152   |
|         | 254 | 194.5 |

| Type    | L1  |
|---------|-----|
| SREF401 | 90  |
|         | 170 |
|         | 220 |

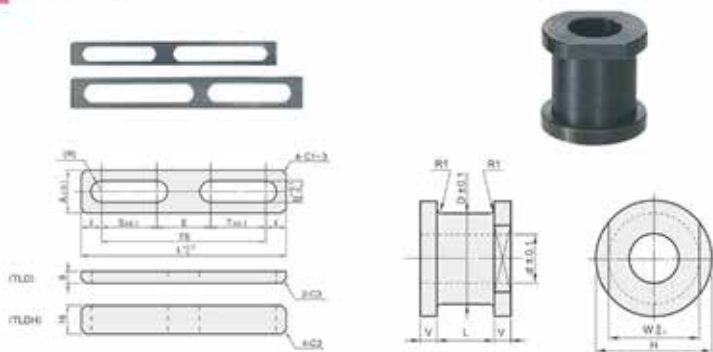
| Pos | 1        | 2        | 4        | 10      | 13       | 14       |
|-----|----------|----------|----------|---------|----------|----------|
| 品牌  | 拉杆固定座    | 拉杆       | 垫块       | 衝钩      | 钢件       | 主体       |
| 材质  | Cr12MoV  | P20      | Cr12MoV  | SKD61   | SKD11    | P20      |
| 硬度  | 58-62HRC | 26-33HRC | 55-58HRC | 52±2HRC | 55-58HRC | 26-33HRC |



# 定距拉板 TENSION LINKS

## TLD / LKT

## 定距拉板 / 挡圈



| Type | A  | D  | L    | Ls    | 指定单位 5mm |        |        |         |
|------|----|----|------|-------|----------|--------|--------|---------|
|      |    |    |      |       | S        | E      | T      | TS      |
| TLD  | 19 | 11 | 15   | TS+30 | 15~130   | 25~235 | 40~140 | 70~290  |
|      | 25 | 14 | 17.5 | TS+35 | 15~135   | 25~245 | 40~140 | 80~300  |
|      | 32 | 17 | 17.5 | TS+35 | 25~140   | 25~275 | 50~180 | 105~350 |
|      | 38 | 21 | 20   | TS+45 | 25~150   | 30~295 | 50~185 | 115~375 |

| Type | No.   | 拉板 (A尺寸) | d   | D-W | H  | L  | V |
|------|-------|----------|-----|-----|----|----|---|
| LKT  | 10    | 19       | 6.5 | 10  | 13 | 11 | 3 |
|      | 10-18 |          |     |     |    | 18 | 4 |
|      | 13    |          |     |     |    | 11 | 3 |
|      | 13-18 | 25       | 9   | 13  | 19 | 18 | 4 |
|      | 16    |          |     |     |    | 11 | 3 |
|      | 16-18 |          |     |     |    | 18 | 4 |
|      | 20    | 38       | 13  | 20  | 26 | 11 | 3 |
|      | 20-18 |          |     |     |    | 18 | 4 |

## Z38

## 公制塞打螺柱

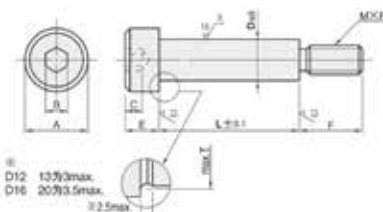


| M 材质   | H 硬度      | S 表面处理                         |
|--------|-----------|--------------------------------|
| SCM435 | HRC 30~35 | Fe <sub>2</sub> O <sub>3</sub> |

| Type    | D      |        | A     |       | H   |       | MxP      | F     |     | C  | B |
|---------|--------|--------|-------|-------|-----|-------|----------|-------|-----|----|---|
|         | Max    | Min    | Max   | Min   | Max | Min   |          | Max   | Min |    |   |
| Z38-6   | 5.987  | 5.951  | 10    | 9.78  | 4.5 | 4.32  | M5X0.8   | 9.75  | 2.4 | 3  |   |
| Z38-6.5 | 6.487  | 6.451  | 10.22 | 9.78  | 4.5 | 4.32  | M5X0.8   | 9.75  | 2.4 | 4  |   |
| Z38-8   | 7.987  | 7.951  | 13.27 | 12.73 | 5.5 | 5.32  | M6X1     | 11.25 | 3.3 | 4  |   |
| Z38-10  | 9.987  | 9.951  | 16.27 | 15.73 | 7   | 6.78  | M8X1.25  | 13.25 | 4.2 | 5  |   |
| Z38-12  | 11.984 | 11.941 | 18    | 17.73 | 9   | 8.78  | M10X1.5  | 16.4  | 4.9 | 6  |   |
| Z38-13  | 12.984 | 12.941 | 18.27 | 17.73 | 9   | 8.78  | M10X1.5  | 16.4  | 4.9 | 6  |   |
| Z38-16  | 15.984 | 15.941 | 24.83 | 23.67 | 11  | 10.73 | M12X1.75 | 18.4  | 6.6 | 8  |   |
| Z38-20  | 19.980 | 19.928 | 30.33 | 29.67 | 14  | 1.73  | M16X2    | 22.4  | 8.8 | 10 |   |
| Z38-24  | 23.98  | 23.928 | 36    | 35.61 | 16  | 15.73 | M20X2.5  | 27.4  | 10  | 12 |   |
| Z38-25  | 24.98  | 24.928 | 36.39 | 35.61 | 16  | 15.73 | M20X2.5  | 27.4  | 10  | 12 |   |

# 止动螺栓 STOP BOLTS

## MSB

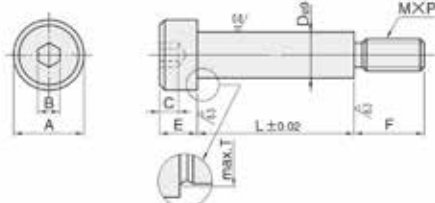


| M      | H         | S                              |
|--------|-----------|--------------------------------|
| 材质     | 硬度        | 表面处理                           |
| SCM435 | HRC 30~35 | Fe <sub>2</sub> O <sub>3</sub> |

| Type | D   |                  | A   | B   | C   | E   | F  | MXP      | T    | L                           |
|------|-----|------------------|-----|-----|-----|-----|----|----------|------|-----------------------------|
| MSB  | 4   | -0.02<br>-0.05   | 6.5 | 2.5 | 1.6 | 3   | 5  | 2.5X0.45 | 4.5  | 10~45 (+5mm)                |
|      | 4.5 |                  | 7   |     |     |     | 6  | 3x0.5    | 5    | 10~50 (+5mm)                |
|      | 5   |                  | 8   |     |     | 3.5 | 7  | 4X0.7    | 5.5  | 10~50 (+5mm)                |
|      | 5.5 |                  | 9   | 3   | 2.2 | 4   | 7  | 5X0.8    | 6    | 10~55 (+5mm)                |
|      | 6   |                  |     |     |     |     |    |          | 6.5  | 10~70 (+5mm)                |
|      | 6.5 | -0.025<br>-0.061 | 10  | 4   | 2.5 | 5   | 9  | 6X1.0    | 7    | 10~80 (+5mm)                |
|      | 8   |                  | 13  | 5   | 3   | 6   | 12 | 8X1.25   | 8.7  | 10~120 (+5mm) (+10mm)>100mm |
|      | 10  |                  | 16  | 6   | 4   | 8   | 16 | 10X1.5   | 10.8 | 10~100 (+5mm)               |
|      | 12  | -0.032<br>-0.075 | 17  | 8   | 5   | 10  | 18 | 12X1.75  | 12.8 | 10~130 (+5mm) (+10mm)>100mm |
|      | 13  |                  | 18  |     |     |     |    |          | 14   | 15~150 (+5mm) (+10mm)>100mm |
|      | 16  | -0.04<br>-0.092  | 24  | 10  | 7   | 14  | 24 | 16X2.0   | 17   | 40~150 (+10mm)              |
|      | 20  |                  | 27  | 14  | 9   | 18  |    |          | 21   |                             |

## MSBL

长度精密型

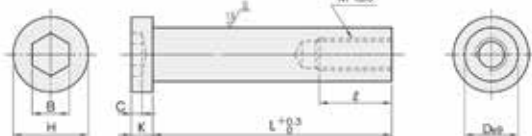


| M      | H         | S                              |
|--------|-----------|--------------------------------|
| 材质     | 硬度        | 表面处理                           |
| SCM435 | HRC 30~35 | Fe <sub>2</sub> O <sub>3</sub> |

| Type | D   |                  | A  | B  | C   | E  | F  | MXP     | T    | L                          |
|------|-----|------------------|----|----|-----|----|----|---------|------|----------------------------|
| MSBL | 6.5 | -0.025<br>-0.061 | 10 | 4  | 2.5 | 5  | 9  | 5X0.8   | 7    | 10 15 20 25 30 40          |
|      | 8   |                  | 13 | 5  | 3   | 6  | 12 | 6X1.0   | 8.7  | 10 15 20 25 30 35 40 45    |
|      | 10  |                  | 16 | 6  | 4   | 8  | 16 | 8X1.25  | 10.8 | 10 15 20 25 30 35 40 45 50 |
|      | 13  | -0.032<br>-0.075 | 18 | 8  | 5   | 10 | 18 | 10X1.5  | 14   | 15 20 25 30 35 45 50       |
|      | 16  |                  | 24 | 10 | 7   | 14 | 24 | 12X1.75 | 17   | 20 25 30                   |
|      | 20  | -0.04<br>-0.092  | 27 | 14 | 9   | 18 |    | 16X2.0  | 21   | 20 25 30                   |

# 螺栓拉杆 PULLER BOLTS

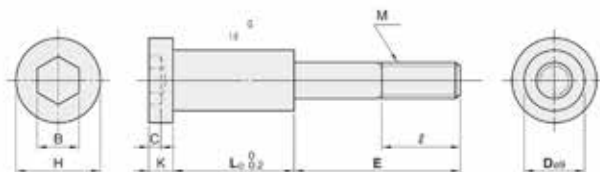
## PBTN



| M 材质   | H 硬度     |
|--------|----------|
| SCM435 | HRC33~38 |

| Type | D  |            | H  |            | K  |            | C  |            | M   | L  | B       | L       |
|------|----|------------|----|------------|----|------------|----|------------|-----|----|---------|---------|
| PBTN | 10 | 0<br>-0.15 | 16 | 0<br>-0.43 | 8  | 0<br>-0.36 | 4  | 0<br>-0.36 | M6  | 17 | 6       | 40-180  |
|      | 13 |            | 18 |            |    | 4          |    | M8         | 20  | 8  | 60-280  |         |
|      | 16 |            | 24 |            |    | 7          |    | M10        | 23  | 10 | 100-300 |         |
|      | 20 | 0<br>-0.20 | 27 | 0<br>-0.52 | 13 | 0<br>-0.43 | 9  | 0<br>-0.43 | M12 | 26 | 14      | 120-400 |
|      | 25 |            | 33 | 0<br>-0.62 |    |            | 18 | 10         | M16 | 32 | 17      | 170-400 |

## STBG



| M 材质   | H 硬度     |
|--------|----------|
| SCM435 | HRC33~38 |

| Type | D  | C  | K  | H  | B  | M  | ℓ  | L  | E  |    |    |    |    |    |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| STBG | 10 | 4  | 8  | 16 | 6  | 6  | 17 | 10 | 19 | 24 |    |    |    |    |
|      |    |    |    |    |    |    |    | 15 | 19 | 24 | 29 |    |    |    |
|      |    |    |    |    |    |    |    | 20 | 19 | 24 | 29 | 34 |    |    |
|      |    |    |    |    |    |    |    | 10 | 22 | 27 |    |    |    |    |
|      |    |    |    |    |    |    |    | 15 | 22 | 27 | 32 | 37 |    |    |
|      | 13 | 4  | 8  | 18 | 8  | 8  | 20 | 20 | 22 | 27 | 32 | 37 | 42 |    |
|      |    |    |    |    |    |    |    | 25 | 27 | 32 | 37 | 42 |    |    |
|      |    |    |    |    |    |    |    | 30 | 27 | 32 | 37 | 42 | 47 |    |
|      |    |    |    |    |    |    |    | 35 |    |    | 37 | 42 | 47 |    |
|      |    |    |    |    |    |    |    | 10 | 30 | 35 |    |    |    |    |
|      | 16 | 7  | 13 | 24 | 10 | 10 | 23 | 15 | 30 | 35 | 40 |    |    |    |
|      |    |    |    |    |    |    |    | 20 | 30 | 35 | 40 | 45 |    |    |
|      |    |    |    |    |    |    |    | 25 | 30 | 35 | 40 | 45 | 50 |    |
|      |    |    |    |    |    |    |    | 30 | 35 | 40 | 45 | 50 | 55 |    |
|      |    |    |    |    |    |    |    | 35 |    |    | 45 | 50 | 55 |    |
|      | 20 | 9  | 13 | 27 | 14 | 12 | 26 | 15 | 38 | 43 |    |    |    |    |
|      |    |    |    |    |    |    |    | 20 | 38 | 43 | 48 |    |    |    |
|      |    |    |    |    |    |    |    | 25 | 38 | 43 | 48 | 53 |    |    |
|      |    |    |    |    |    |    |    | 30 |    |    | 48 | 53 | 58 |    |
|      |    |    |    |    |    |    |    | 35 |    |    | 48 | 53 | 58 |    |
|      | 25 | 10 | 18 | 33 | 17 | 16 | 32 | 45 |    |    | 53 | 58 |    |    |
|      |    |    |    |    |    |    |    | 15 | 44 | 49 |    |    |    |    |
|      |    |    |    |    |    |    |    | 20 | 49 | 54 | 59 |    |    |    |
|      |    |    |    |    |    |    |    | 25 | 49 | 54 | 59 |    |    |    |
|      |    |    |    |    |    |    |    | 30 | 49 | 54 | 59 | 64 |    |    |
|      |    |    |    |    |    |    |    | 40 |    |    | 54 | 59 | 64 | 69 |

# RESET EJECTION

SERIES

复位顶出系列

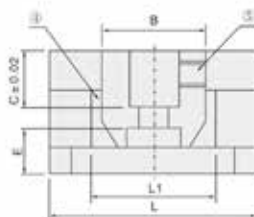
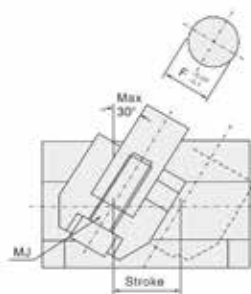
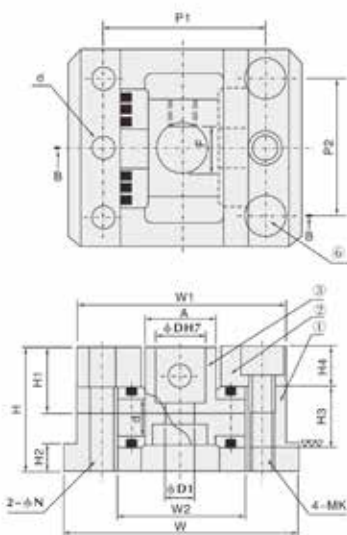


### KOCUS



Table of components

| Item | 构成零件   | Part name           | Material             | Quantity |
|------|--------|---------------------|----------------------|----------|
| 1    | 滑芯底座   | Slide base          | S45c                 | 1        |
| 2    | 顶板     | Upper plate         | S45c                 | 2        |
| 3    | 斜顶杆固定座 | Inclined pin holder | S45c                 | 1        |
| 4    | 导板     | Slide plate         | Bronze with graphite | 2        |
| 5    | 内六角螺栓  | Socket head screws  | Scm435               | 1        |
| 6    |        |                     | Scm435               | 4        |



公制: mm

| Type     | D  | d  | D1  | A  | B  | C  | E    | F    | MJ  | H  | H1   | H2 | H3 | H4 | L   | L1 | W   | W1  | W2 | P1  | P2  | MK  | φN | Stroke |
|----------|----|----|-----|----|----|----|------|------|-----|----|------|----|----|----|-----|----|-----|-----|----|-----|-----|-----|----|--------|
| KOCUS-8  | 8  | 7  | 4.5 | 11 | 20 | 8  | 10   | 7    | M4  | 22 | 12.5 | 5  | 11 | 7  | 32  | 20 | 33  | 30  | 19 | 24  | 20  | M3  | 3  | 10     |
| KOCUS-10 | 10 | 7  | 5.5 | 15 |    | 10 | 12.5 | 9    | M5  | 27 | 15.5 | 15 | 15 | 8  | 45  | 25 | 45  | 40  | 25 | 32  | 30  | M4  | 4  | 18     |
| KOCUS-12 | 12 | 10 | 7   | 17 | 25 | 12 |      | 11   | M6  | 32 | 18   | 7  | 16 |    | 50  | 30 | 57  | 51  | 31 | 39  | 35  | M6  | 6  | 20     |
| KOCUS-16 | 16 | 12 | 9   | 22 | 30 | 16 | 15   | 14.5 | M8  | 36 | 20   | 8  | 20 | 10 | 65  | 40 | 65  | 58  | 38 | 46  | 40  | M8  | 8  | 25     |
| KOCUS-20 | 20 | 14 | 11  | 26 | 40 | 20 | 16   | 18   | M10 | 42 | 23   | 11 | 22 | 12 | 80  | 50 | 80  | 72  | 44 | 56  | 55  | M8  | 8  | 30     |
| KOCUS-25 | 25 | 16 |     | 32 | 45 | 25 |      | 22.5 |     | 50 | 28   |    | 26 | 15 | 90  | 55 | 93  | 85  | 52 | 66  | 65  | M10 |    | 35     |
| KOCUS-30 | 30 | 18 | 14  | 38 | 50 | 30 |      | 27   | M12 | 55 | 30   |    | 30 |    | 100 | 60 | 101 | 93  | 60 | 74  | 70  |     |    | 40     |
| KOCUS-35 | 35 | 20 |     | 45 | 60 | 35 | 18   | 32   |     | 62 | 35   | 15 | 34 | 18 | 120 | 75 | 120 | 110 | 70 | 85  | 80  |     | 10 | 45     |
| KOCUS-40 | 40 | 25 | 18  | 55 | 70 | 40 | 19   | 36   |     | 70 | 40   |    | 44 |    | 135 | 85 | 130 | 120 | 80 | 95  | 90  | M12 |    | 50     |
| KOCUS-45 | 45 | 30 | 18  | 60 | 80 | 45 | 24   | 40   | M16 | 80 | 45   |    | 50 | 20 | 150 | 95 | 140 | 130 | 90 | 105 | 110 |     |    | 55     |

# 斜顶座 SLIDE CORE UNITS

## RCSUF

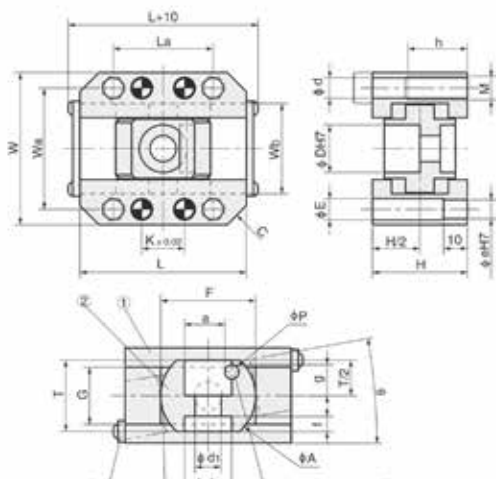


Table of components

| Item | 构成零件   | Part name           | Material             | Quantity |
|------|--------|---------------------|----------------------|----------|
| 1    | 滑动顶座   | Slide Base          | S45C                 | 2        |
| 2    | 斜顶杆固定座 | Inclined Pin Holder | S45C                 | 1        |
| 3    | 滑板     | Slide Plate         | Bronze with Graphite | 2        |
| 4    | 平行键    | Key                 | S45C                 | 1        |
| 5    | 挡板     | Stopper             | S45C                 | 2        |
| 6    | 圆头螺丝   | Round Head Screw    | SCM435               | 4        |

| Type  | D  | $\theta^\circ$          | W   | Wa | L   | K  | La | Wb | C  | d    | M   | h  | e  | E   | H  |
|-------|----|-------------------------|-----|----|-----|----|----|----|----|------|-----|----|----|-----|----|
| RCSUF | 10 | $0^\circ \sim 5^\circ$  | 45  | 36 | 50  | 16 | 30 | 26 | 3  | 3.5  | M5  | 14 | 5  | 6   | 28 |
|       | 12 |                         | 51  | 40 | 60  | 20 | 40 | 29 | 4  | 6.6  | M8  | 20 | 6  | 6.6 | 35 |
|       | 16 | $0^\circ \sim 20^\circ$ | 54  | 44 | 65  | 18 | 38 | 33 | 8  | 6.6  | M10 | 25 | 8  | 9   | 40 |
|       | 20 |                         | 64  | 51 | 70  |    | 42 | 38 |    | 8.6  |     |    |    |     |    |
|       | 25 |                         | 70  | 58 | 80  | 20 | 45 | 45 | 10 | 8.6  |     |    |    |     | 44 |
|       | 30 |                         | 78  | 64 | 100 | 40 | 70 | 51 | 8  | 8.6  |     |    |    |     | 54 |
|       | 35 |                         | 92  | 75 | 115 | 50 | 85 | 58 |    | 10.6 | M12 | 30 | 10 | 11  | 60 |
|       | 40 |                         | 100 | 82 | 125 | 50 |    | 66 |    | 10.6 |     |    |    |     | 65 |

H Dimension ( $11^\circ \leq \theta \leq 20^\circ$ )

| D  | T  | G  | F  | A  | p | a   | g   | d1 | d2 | f    |
|----|----|----|----|----|---|-----|-----|----|----|------|
| 10 | 16 | 17 | 28 | 20 | 3 | 8.5 | 6.5 | 6  | 10 | 3    |
| 12 | 20 | 20 | 36 | 25 | 4 | 10  | 8   | 7  | 12 | 5    |
| 16 | 24 |    | 40 | 30 | 6 | 13  | 10  | 9  | 16 | 6    |
| 20 | 30 | 24 | 40 | 40 |   | 17  | 13  | 11 | 20 | 7    |
| 25 | 35 | 26 | 45 | 45 |   | 22  | 14  | 14 | 25 | 9.5  |
| 30 | 38 | 30 | 55 | 50 |   | 27  | 15  |    |    | 9    |
| 35 | 40 | 34 | 70 | 55 | 8 | 31  |     |    |    | 10   |
| 40 | 43 | 38 |    | 60 |   | 36  | 16  | 18 | 32 | 11.5 |

| D  | $11^\circ \sim 15^\circ$ | $16^\circ \sim 20^\circ$ |
|----|--------------------------|--------------------------|
| 10 | -                        | -                        |
| 12 | -                        | -                        |
| 16 | 41                       | 48                       |
| 20 | 47                       | 55                       |
| 25 | 52                       | 61                       |
| 30 | 62                       | 72                       |
| 35 | 70                       | 82                       |
| 40 | 78                       | 90                       |



RCSUM

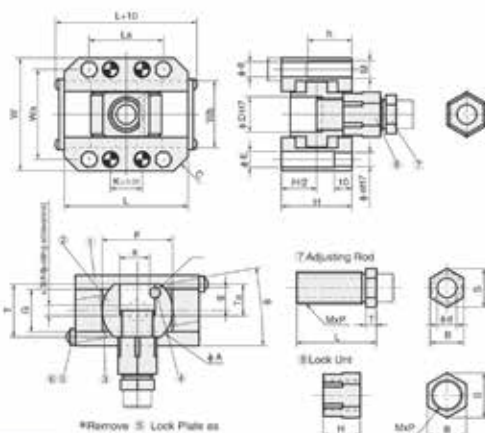


Table of components

| Item | 构成零件   | Part name           | Material             | Quantity |
|------|--------|---------------------|----------------------|----------|
| 1    | 滑动底座   | Slide Base          | S45C                 | 2        |
| 2    | 斜顶杆固定座 | Inclined Pin Holder | S45C                 | 1        |
| 3    | 滑板     | Slide Plate         | Bronze with Graphite | 2        |
| 4    | 平行键    | Key                 | S45C                 | 1        |
| 5    | 挡板     | Stopper             | S45C                 | 2        |
| 6    | 圆头螺丝   | Round Head Screw    | SCM435               | 4        |
| 7    | 调整螺母   | Adjust Rod          | S45C                 | 1        |
| 8    | 锁紧螺母   | Lock Nut            | S45C                 | 1        |

\*Remove ⑧ Lock Nut as required for operation.

| Type  | D  | θ°     | W   | Wa | L   | K  | La | Wb | C  | d    | M   | h  | e  | E   | H  | T  | G  | F  | A  | p | a  | g  | Ta   |
|-------|----|--------|-----|----|-----|----|----|----|----|------|-----|----|----|-----|----|----|----|----|----|---|----|----|------|
| RCSUM | 16 | 0°~10° | 54  | 44 | 65  | 18 | 38 | 33 | 8  | 6.6  | M 8 | 20 | 6  | 6.6 | 35 | 24 | 20 |    | 30 |   | 13 | 10 | 15   |
|       | 20 |        | 64  | 51 | 70  | 18 | 42 | 38 |    |      |     |    |    |     | 40 | 30 | 24 | 40 | 40 | 6 | 17 | 13 | 18   |
|       | 25 |        | 70  | 58 | 80  | 20 | 45 | 45 | 10 | 8.5  | M10 | 25 | 8  | 9   | 44 | 35 | 26 | 45 | 45 |   | 22 | 14 | 20.5 |
|       | 30 |        | 78  | 64 | 100 | 40 | 70 | 51 |    |      |     |    |    |     | 54 | 38 | 30 | 55 | 50 |   | 27 |    | 22   |
|       | 35 |        | 92  | 75 | 115 | 50 | 85 | 58 | 8  | 10.6 | M12 | 30 | 10 | 11  | 60 | 40 | 34 | 70 | 55 | 8 | 31 | 15 | 23   |
|       | 40 |        | 100 | 82 | 125 |    |    | 66 |    |      | M12 | 30 | 10 | 11  | 65 | 43 | 38 |    | 60 |   | 36 | 16 | 24.5 |

H Dimension (11° ≤ θ ≤ 20°)

| D  | 11°~15° | 16°~20° |
|----|---------|---------|
| 16 | 41      | 48      |
| 20 | 47      | 55      |
| 25 | 52      | 61      |
| 30 | 62      | 72      |
| 35 | 70      | 82      |
| 40 | 78      | 90      |

| M x P     | ⑦ Adjusting Rod |   |    |      |    | ⑧ Lock Unit |      |    |
|-----------|-----------------|---|----|------|----|-------------|------|----|
|           | L               | T | d  | S    | B  | H           | S    | B  |
| M14 x 1.5 | 42(50)          | 6 | 9  | 16.2 | 14 | 21(28)      | 19.6 | 17 |
| M18 x 1.5 | 45(54)          |   | 11 | 21.9 | 19 | 21(29)      | 25.4 | 22 |
| M22 x 1.5 | 49(59)          | 7 | 13 | 25.4 | 22 | 21.5(30.5)  | 31.2 | 27 |
| M27 x 1.5 | 54(64)          |   |    | 31.2 | 27 | 25(35)      | 37   | 32 |
| M30 x 1.5 | 58(68)          |   |    | 37   | 32 | 28(38)      | 41.6 | 36 |
| M36 x 1.5 | 60.5(70.5)      |   |    | 43.9 | 38 | 29(39)      | 47.3 | 41 |

# 斜頂座 SLIDE CORE UNITS

## KOCUF

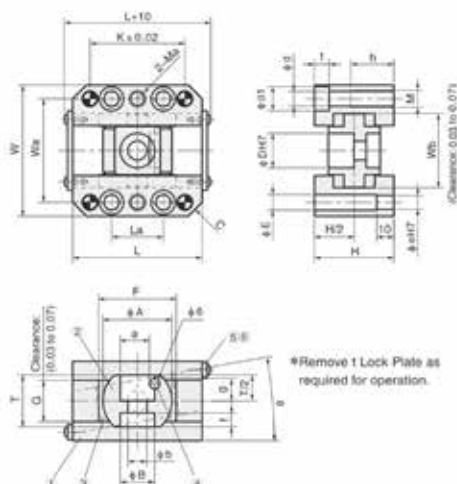


Table of components

| Item | 构成零件   | Part name           | Material             | Quantity |
|------|--------|---------------------|----------------------|----------|
| 1    | 滑动底座   | Slide Base          | S45C                 | 2        |
| 2    | 斜顶杆固定座 | Indirect Pin Holder | S45C                 | 1        |
| 3    | 滑板     | Slide Plate         | Bronze with Graphite | 2        |
| 4    | 平行键    | Key                 | S45C                 | 1        |
| 5    | 挡板     | Stopper             | S45C                 | 2        |
| 6    | 圆头螺丝   | Round Head Screw    | SCM435               | 4        |

| Type  | D  | W   | Wa | L   | La | K   | Ma  | C | H   | e  | E   | d   | d1 | t   |   |  |
|-------|----|-----|----|-----|----|-----|-----|---|-----|----|-----|-----|----|-----|---|--|
| KOCUF | 8  | 41  | 33 | 44  | 12 | 25  | M4  | 3 | 24  | 4  | 5   | 3.4 | 6  | 3.4 |   |  |
|       | 10 | 47  | 38 | 50  | 16 | 30  | M5  |   | 28  | 5  | 5.5 | 4.5 | 8  | 5   |   |  |
|       | 12 | 53  | 42 | 60  | 20 | 40  | M8  | 4 | 36  | 6  | 7   | 6.6 | 11 | 4.8 |   |  |
|       | 16 | 64  | 50 | 70  | 25 | 50  |     | 6 | 40  |    | 6.6 |     |    | 6.5 |   |  |
|       | 20 | 76  | 60 | 75  | 30 | 55  | M10 | 8 | 46  | 8  | 9   | 8.6 | 14 | 8.5 |   |  |
|       | 25 | 81  | 65 | 85  | 40 | 65  |     |   | 48  |    |     |     |    |     |   |  |
|       | 30 | 88  | 72 | 100 | 50 | 80  |     |   | 54  |    |     |     |    |     |   |  |
|       | 35 | 100 | 80 | 115 |    | M12 |     |   | 60  | 10 | 11  | 11  | 18 | 6.5 |   |  |
|       | 40 | 108 | 88 | 125 |    | 85  |     |   | M12 | 65 |     |     |    | 10  | 7 |  |

| D  | h  | M   | Wb | A  | a   | B  | b  | g   | F  | f    | G  | T  | 指定斜度 |
|----|----|-----|----|----|-----|----|----|-----|----|------|----|----|------|
| 8  | 10 | M4  | 24 | 20 | 7.5 | 10 | 5  | 6.5 | 25 | 5    | 13 | 16 | 1~5° |
| 10 | 15 | M5  | 28 |    | 8.5 | 12 | 6  |     | 32 | 4    | 17 |    | -    |
| 12 | 20 | M8  | 31 | 25 | 10  | 13 | 7  | 8.5 | 40 | 5    | 20 | 20 | -    |
| 16 |    | M8  | 36 | 30 | 13  | 16 | 9  | 10  | 45 | 6    | 24 | 24 | 1~5° |
| 20 | 25 | M10 | 43 | 40 | 17  | 20 | 11 | 13  | 8  | 24   | 30 | 30 | -    |
| 25 |    |     | 48 | 45 | 22  | 25 | 14 | 14  | 50 | 9.5  | 26 | 35 | -    |
| 30 |    |     | 55 | 50 | 27  |    |    | 15  | 60 | 9    | 30 | 38 | 1~5° |
| 35 | 30 | M12 | 64 | 55 | 31  | 25 | 18 | 16  | 70 | 10   | 34 | 40 | -    |
| 40 |    |     | 72 | 60 | 36  | 32 |    |     | 80 | 11.5 | 38 | 43 | 1~5° |

KOCUM

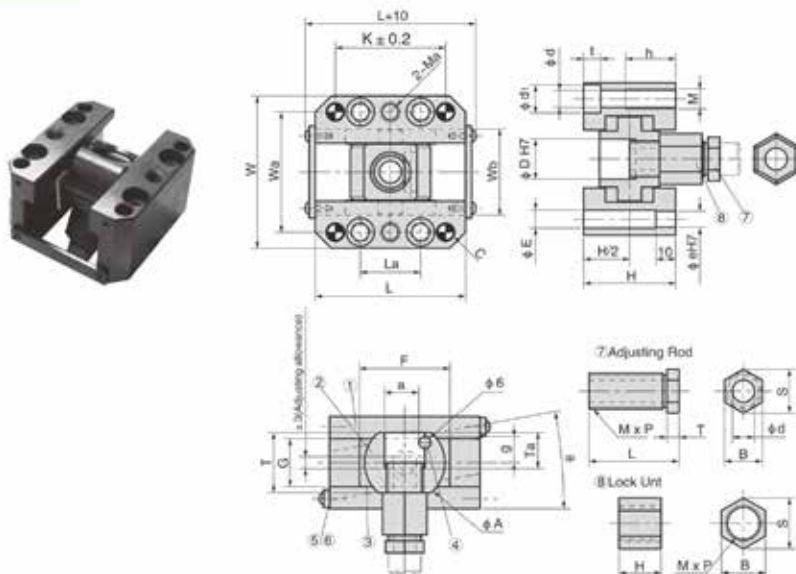


Table of components

| Item | 构成零件   | Part name           | Material             | Quantity |
|------|--------|---------------------|----------------------|----------|
| 1    | 滑动底座   | Slide Base          | S45C                 | 2        |
| 2    | 斜顶杆固定座 | Inclined Pin Holder | S45C                 | 1        |
| 3    | 滑板     | Slide Plate         | Bronze with Graphite | 2        |
| 4    | 平行键    | Key                 | S45C                 | 1        |
| 5    | 挡块     | Stopper             | S45C                 | 2        |
| 6    | 圆头螺钉   | Round Head Screw    | SCM435               | 4        |
| 7    | 调整螺母   | Adjust Rod          | S45C                 | 1        |
| 8    | 锁紧螺母   | Lock Nut            | S45C                 | 1        |

| Type  | D  | $\theta^\circ$          | W   | Wa | L   | La | K  | Ma  | Wb | C | d   | H  | e | E   | d1 | t   | h  |    |
|-------|----|-------------------------|-----|----|-----|----|----|-----|----|---|-----|----|---|-----|----|-----|----|----|
| KOCUM | 16 | $0^\circ \sim 10^\circ$ | 64  | 50 | 70  | 25 | 50 | M8  | 36 | 6 | 6.6 | 40 | 6 | 6.6 | 11 | 6.5 | 20 |    |
|       | 20 |                         | 76  | 60 | 75  | 30 | 55 |     | 43 | 8 |     | 46 | 8 | 9   | 14 | 8.5 | 25 |    |
|       | 25 |                         | 81  | 65 | 85  | 40 | 65 | M10 | 48 |   |     | 48 |   |     |    |     |    |    |
|       | 30 |                         | 88  | 72 | 100 |    | 80 |     | 55 |   |     | 54 |   |     |    |     |    |    |
|       | 35 |                         | 100 | 80 | 115 | 50 |    | 64  |    |   | 60  |    |   |     |    |     |    | 65 |
|       | 40 |                         | 108 | 88 | 125 |    | 85 | M12 | 72 |   | 11  |    |   |     |    |     |    | 10 |

| M   | A  | a  | g  | F  | G  | T  | Ta   |
|-----|----|----|----|----|----|----|------|
| M8  | 30 | 13 | 10 | 45 | 24 | 24 | 15   |
| M10 | 40 | 17 | 13 | 50 | 26 | 30 | 18   |
|     | 45 | 22 | 14 |    |    | 35 | 20.5 |
|     | 50 | 27 | 15 |    |    | 38 | 22   |
| M12 | 55 | 31 | 16 | 80 | 38 | 40 | 23   |
|     | 60 | 36 |    |    |    | 43 | 24.5 |

| M x P     | 7 Adjusting Rod |   |    |      | 8 Lock Nut |      |      |    |
|-----------|-----------------|---|----|------|------------|------|------|----|
|           | L               | T | d  | S    | B          | H    | S    | B  |
| M14 x 1.5 | 42              | 6 | 9  | 16.2 | 14         | 21   | 19.6 | 17 |
| M18 x 1.5 | 45              |   | 11 | 21.9 | 19         |      | 25.4 | 22 |
| M22 x 1.5 | 49              | 7 | 13 | 25.4 | 22         | 21.5 | 21.2 | 27 |
| M27 x 1.5 | 55              |   |    | 31.2 | 27         | 26   | 37.0 | 32 |
| M30 x 1.5 | 58              |   |    | 37   | 32         | 28   | 41.6 | 36 |
| M36 x 1.5 | 60.5            |   |    | 43.9 | 38         | 29   | 47.4 | 41 |

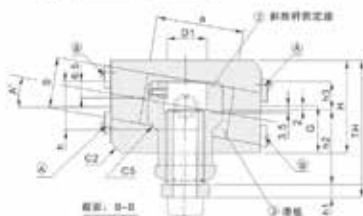
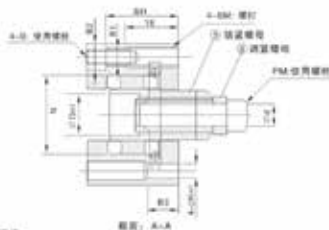
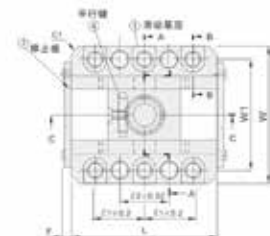
| 编号   |    | 安装孔尺寸 |    |      |      |      |     |     |      |      |    | 斜撑杆安装尺寸 |      | 带卡板安装位置   |   |
|------|----|-------|----|------|------|------|-----|-----|------|------|----|---------|------|-----------|---|
| Type | D  | H     | I2 | W1   | B1   | B2   | B3  | B   | BM   | BH   | K  | h4      | PM   | △         | Φ |
| SCZN | 12 | 42    | 21 | 45   | 6.6  | 11   | 15  | M6  | M8   | 28.5 | 6  | 13      | M5   | 0°~3°5'   | - |
|      | 16 | 46    | 48 | 29.5 |      |      |     |     |      | 14   |    | M8      |      |           |   |
|      | 20 | 50    | 25 | 55   | 34.5 | 16   |     |     |      |      |    |         |      |           |   |
|      | 25 | 60    | 35 | 62   | 8.6  | 13.5 | 20  | M8  | M10  | B    | 18 | M10     | 5°   | 0°~1°     |   |
|      | 30 | 75    | 50 | 68   |      |      |     |     |      |      |    |         | 20   | 0°~1°3'5' | - |
|      | 35 | 85    | 50 | 81   |      |      |     |     |      |      |    |         | -    | -         |   |
|      | 40 | 95    | 60 | 88   | 10.6 | 16.5 | M10 | M12 | 49.5 | 10   | 25 | M12     | -    | -         |   |
|      |    |       |    |      |      |      |     |     |      |      |    |         | 53.5 |           |   |

### SCZA



Table of components

| Item | 构成零件   | Part name           | Material             | Quantity |
|------|--------|---------------------|----------------------|----------|
| 1    | 滑动底座   | Slide Base          | SS90C                | 2        |
| 2    | 斜顶杆固定座 | Inclined Pin Holder | SCM440               | 1        |
| 3    | 滑板     | Slide Plate         | Bronze with Graphite | 2        |
| 4    | 平行键    | Key                 | S45C                 | 1        |
| 5    | 锁紧螺母   | Lock Nut            | S45C                 | 1        |
| 6    | 调整螺母   | Adjust Rod          | S45C                 | 1        |
| 7    | 停止板    | Stopper             | SS400                | 2        |



- ① ② 表示停止板安装位置，请参考A°角度  
③ 可根据成形产品的凹凸形状来选择滑板的安装角度

#### 特性:

- 有自行准线校正功能，凹斜制斜组件的配置，配合著具旋转功能的斜制做各不同凹斜角度之校对。
- 有滑面增进其耐磨性，使用无给油在滑板中，具防磨及防粘性。
- 有系列的坚固性，水平角度回转，斜制全长不需调整，全系列具其坚固性。

单位: mm

| 编号   |    | 滑板安装角度           | 1.滑板底座 |     |    |    |      | 2.斜撑杆固定座 |     |    |    |    |    |    |    | 3.滑板 |      | TH   | G    | F |
|------|----|------------------|--------|-----|----|----|------|----------|-----|----|----|----|----|----|----|------|------|------|------|---|
| Type | D  | A°               | W      | L   | H  | C1 | C2   | D1       | d   | h  | h1 | h2 | h3 | N  | S  | a    |      |      |      |   |
| SCZA | 12 | 0<br>1<br>3<br>5 | 56     | 55  | 35 | 5  | —    | 11       | 5.5 | 16 | 6  | 33 | 10 | 30 | 20 | 35   | 58.5 | 17.5 | 4.65 |   |
|      | 16 |                  | 60     | 65  | 36 | —  | 15   | 9        | 18  | 36 |    | 11 | 33 | —  | 40 | 59   | 18   |      |      |   |
|      | 20 |                  | 68     | 70  | 43 | —  | 18   | —        | 22  | 36 |    | 13 | 38 | 24 | —  | 65.5 | 21.5 |      |      |   |
|      | 25 |                  | 75     | 80  | 45 | 6  | 5    | 22       | 11  | 26 |    | 39 | 15 | 45 | 26 | 45   | 69.5 | 22.5 |      |   |
|      | 30 |                  | 81     | 95  | 54 | —  | 27.5 | —        | 30  | 41 |    | 17 | 55 | 30 | 55 | 76   | 27   |      |      |   |
|      | 35 |                  | 98     | 110 | 60 | —  | 32.5 | —        | 36  | 50 |    | 20 | 60 | 34 | 70 | 88   | 30   |      |      |   |
|      | 40 |                  | 105    | 120 | 64 | —  | 37.5 | 13       | 40  | 52 |    | 22 | 67 | 38 | 80 | 92   | 32   | 5.2  |      |   |

| 编号   |    | 安装孔尺寸 |    |    |      |      |     |     |      |      |    | 5 锁紧螺母 |      | 6 调整螺母 |      | 斜撑杆<br>安装尺寸 |    | 停卡板安装位置    |     |      |   |
|------|----|-------|----|----|------|------|-----|-----|------|------|----|--------|------|--------|------|-------------|----|------------|-----|------|---|
| Type | D  | I1    | I2 | W1 | B1   | B2   | B3  | B   | BM   | BH   | K  | S1     | e1   | S2     | e2   | h4          | PM | (A)        | (B) |      |   |
| SCZA | 12 | 42    | 21 | 45 | 6.6  | 11   | 15  | M6  | M8   | 28.5 | 6  | 17     | 19.6 | 12     | 13.9 | 13          | M5 | 0°1' 3' 5" | -   |      |   |
|      | 16 | 46    | 25 | 48 |      |      |     |     |      | 29.5 |    | 21     | 24.2 | 16     | 18.5 | 14          | M8 | -          | -   |      |   |
|      | 20 | 50    |    | 55 | 8.6  | 13.5 | 20  | M8  | M10  | 34.5 | 8  | 24     | 27.7 | 19     | 21.9 | 16          | 18 | M10        | 5°  | 0°1' |   |
|      | 25 | 60    | 35 | 62 |      |      |     |     |      | 45.5 |    |        |      |        |      |             |    |            | 20  | -    | - |
|      | 30 | 75    | 50 | 68 |      |      |     |     |      | 23   |    |        |      |        |      |             |    |            | -   | -    |   |
|      | 35 | 85    |    | 81 |      |      |     |     |      | 25   |    |        |      |        |      |             |    |            | -   | -    |   |
|      | 40 | 95    | 60 | 88 | 10.6 | 16.5 | M10 | M12 | 49.5 | 10   | 27 | 31.2   | 21   | 24.2   | 23   | M12         | -  | -          | -   |      |   |
|      |    |       |    |    |      |      |     |     |      | 53.5 |    |        |      |        |      | 25          |    | -          | -   |      |   |

# 斜顶座 SLIDE CORE UNITS

## MTGL / MTGR

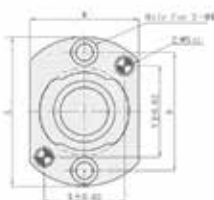
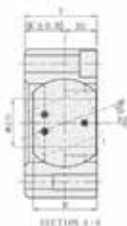


Table of components

| Item | 构成零件 | Part name   | Material                 |
|------|------|-------------|--------------------------|
| 1    | 内芯材料 | Inner shell | Copper alloy ofless type |
| 2    | 外部材料 | Outer shell | S45C                     |

| Type         | d  | L  | W  | T  | HC | HU | B  | Mounting hole |    | Dowel pin hole |    |    | Hexagon socket bolt | Dowel pin |
|--------------|----|----|----|----|----|----|----|---------------|----|----------------|----|----|---------------------|-----------|
|              |    |    |    |    |    |    |    | MM            | P  | N              | X  | Y  |                     |           |
| MTGL<br>MTGR | 8  | 44 | 28 | 17 | 9  | 8  | 14 | M5            | 32 | 5              | 20 | 28 | M5 × 20             | φ5 × 20   |
|              | 10 | 46 | 30 | 20 | 11 | 9  | 16 |               | 34 |                |    |    | M5 × 25             |           |
|              | 12 | 50 | 32 | 22 | 12 | 10 | 18 |               | 36 |                |    |    | M6 × 25             |           |
|              | 16 | 58 | 45 | 29 | 16 | 13 | 25 | M6            | 45 | 6              | 30 | 35 | M6 × 35             | φ6 × 25   |
|              | 20 | 65 | 50 | 33 | 18 | 15 | 28 |               | 52 |                |    |    | M6 × 40             |           |
|              | 25 | 78 | 57 | 38 | 21 | 17 | 33 |               | 62 |                |    |    | M5 × 45             |           |
|              | 30 | 86 | 65 | 43 | 24 | 19 | 37 | M8            | 70 | 8              | 40 | 50 | M5 × 50             | φ8 × 30   |
|              |    |    |    |    |    |    |    |               |    |                |    |    |                     |           |

## MTGHL / MTGHR

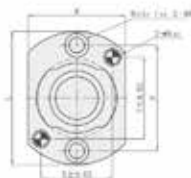
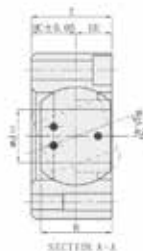


Table of components

| Item | 构成零件 | Part name   | Material                 |
|------|------|-------------|--------------------------|
| 1    | 内芯材料 | Inner shell | Copper alloy ofless type |
| 2    | 外部材料 | Outer shell | S45C                     |

| Type           | d  | L   | W  | T  | HC | HU | B | Mounting hole |     | Dowel pin hole |    |    | Hexagon socket bolt | Dowel pin |
|----------------|----|-----|----|----|----|----|---|---------------|-----|----------------|----|----|---------------------|-----------|
|                |    |     |    |    |    |    |   | MM            | P   | N              | X  | Y  |                     |           |
| MTGHL<br>MTGHR | 25 | 85  | 57 | 42 | 21 | 33 |   | M10           | 64  | 8              | 42 | 50 | M10 × 45            | φ8 × 30   |
|                | 30 | 94  | 65 | 48 | 24 | 37 |   |               | 72  |                |    |    | M10 × 55            |           |
|                | 35 | 98  | 72 | 54 | 27 | 40 |   |               | 78  |                |    |    | M10 × 60            |           |
|                | 40 | 106 | 77 | 58 | 29 | 44 |   |               | 84  |                |    |    | M10 × 65            |           |
|                | 50 | 124 | 88 | 66 | 33 | 48 |   | M12           | 102 | 10             | 65 | 78 | M12 × 65            | φ10 × 40  |



KPHF / RCPHF

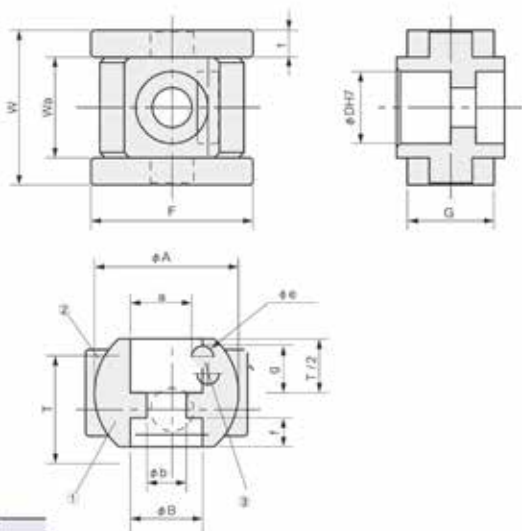


Table of components

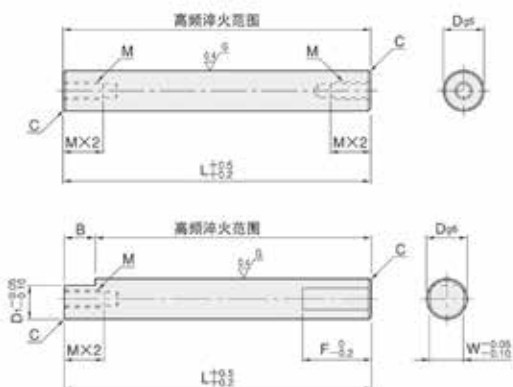
| Item | 构成零件   | Part name           | Material             |
|------|--------|---------------------|----------------------|
| 1    | 斜顶杆固定座 | Inclined pin holder | S45C                 |
| 2    | 滑板     | Slide plate         | Bronze with Graphite |
| 3    | 平行键    | Key                 | S45C                 |

| Type | D  | W  | Wa | F  | t   | G  | A  | a   | T  | g   | f    | B  | b  | e |
|------|----|----|----|----|-----|----|----|-----|----|-----|------|----|----|---|
| KPHF | 8  | 24 | 12 | 25 | 6   | 13 | 20 | 7.5 | 16 | 6.5 | 5    | 10 | 5  | 3 |
|      | 10 | 28 | 14 | 32 | 7   | 17 |    | 8.5 |    |     | 4    | 12 | 6  |   |
|      | 12 | 31 | 17 | 40 |     | 20 | 25 | 10  | 20 | 8.5 | 5    | 13 | 7  | 4 |
|      | 16 | 36 | 21 | 45 | 7.5 | 24 | 30 | 13  | 24 | 10  | 6    | 16 | 9  | 6 |
|      | 20 | 43 | 28 |    |     |    | 40 | 17  | 30 | 13  | 8    | 20 | 11 |   |
|      | 25 | 48 | 33 | 50 |     | 26 | 45 | 22  | 35 | 14  | 9.5  | 25 | 14 | 8 |
|      | 30 | 55 | 38 | 60 | 8.5 | 30 | 50 | 27  | 38 | 15  | 9    |    |    |   |
|      | 35 | 64 | 44 | 70 | 10  | 34 | 55 | 31  | 40 |     | 10   |    |    |   |
|      | 40 | 72 | 50 | 80 | 11  | 38 | 60 | 36  | 43 | 16  | 11.5 | 32 | 18 |   |

| Type  | D  | W  | Wa | F  | t   | G  | A  | a   | T  | g   | e  | b  | B  | f    |
|-------|----|----|----|----|-----|----|----|-----|----|-----|----|----|----|------|
| RCPHF | 10 | 26 | 14 | 28 | 6   | 20 | 20 | 8.5 | 16 | 6.5 | 3  | 6  | 10 | 3    |
|       | 12 | 29 | 17 | 36 |     |    | 25 | 10  | 20 | 8   | 4  | 7  | 12 | 5    |
|       | 16 | 33 | 20 | 40 | 6.5 | 24 | 30 | 13  | 24 | 10  | 6  | 9  | 16 | 6    |
|       | 20 | 38 | 25 |    |     |    | 40 | 17  | 30 | 13  |    | 11 | 20 | 7    |
|       | 25 | 45 | 30 | 45 | 7.5 | 26 | 45 | 22  | 35 | 14  | 15 | 14 | 25 | 9.5  |
|       | 30 | 51 | 36 | 55 |     | 30 | 50 | 27  | 38 | 9   |    |    |    |      |
|       | 35 | 58 | 42 | 70 | 8   | 34 | 55 | 31  | 40 | 16  | 8  | 18 | 32 | 10   |
|       | 40 | 66 | 48 |    |     | 38 | 60 | 36  | 43 |     |    |    |    | 11.5 |

# 斜导杆 HINGE PINS

## HP



| 材质   | 硬度     | 表面处理 |
|------|--------|------|
| SUJ2 | 58HRC~ | 高频淬火 |

更多顶杆产品，请提供图纸定制  
For more hinge pin, please provide drawings for customization

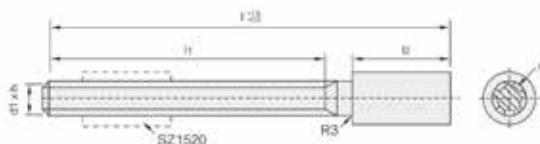
| Type | D  | Dg     | L<br>● 1 | M   | C   |
|------|----|--------|----------|-----|-----|
| HP   | 12 | -0.006 | 100-800  | M5  | 0.5 |
|      | 16 | -0.017 |          | M8  |     |
|      | 20 | -0.027 |          | M10 | 1.0 |
|      | 25 | -0.039 |          |     |     |
|      | 30 | -0.059 |          |     |     |
|      | 35 | -0.059 |          |     |     |
|      | 40 | -0.025 |          | M12 |     |

## 接受各种规格的斜顶杆定制

All kinds of specifications can be customized



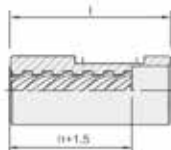
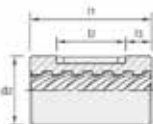
SZ1500



| M   | 材质 | H          | 硬度   |
|-----|----|------------|------|
| 718 |    | HV900-1100 | 表面氮化 |

| Type               | n  | dr  | ds | l   | d1 x h    | Q     | fr  | Nr./NO.               |
|--------------------|----|-----|----|-----|-----------|-------|-----|-----------------------|
| SZ1500L<br>SZ1500R | 5  | 80  | 28 | 240 | Tr 16x50  | L (R) | 160 | Z1500/16x50L (R)/160  |
|                    |    |     |    | 330 | Tr 16x50  |       | 250 |                       |
|                    |    |     |    | 240 | Tr 16x63  |       | 160 | Z1500/16x63L (R)/160  |
|                    | 6  | 80  | 36 | 330 | Tr 16x63  |       | 250 |                       |
|                    |    |     |    | 240 | Tr 20x63  |       | 250 | Z1500/20x63L (R)/250  |
|                    |    |     |    | 410 | Tr 20x63  |       | 315 |                       |
|                    | 7  | 80  | 36 | 345 | Tr 20x80  |       | 250 | Z1500/20x80L (R)/250  |
|                    |    |     |    | 410 | Tr 20x80  |       | 315 |                       |
|                    |    |     |    | 345 | Tr 20x100 |       | 250 | Z1500/20x100L (R)/250 |
|                    | 8  | 80  | 45 | 410 | Tr 20x100 |       | 315 |                       |
|                    |    |     |    | 430 | Tr 25x80  |       | 315 | Z1500/25x80L (R)/315  |
|                    |    |     |    | 515 | Tr 25x80  |       | 400 |                       |
|                    | 9  | 80  | 45 | 430 | Tr 25x100 |       | 315 | Z1500/25x100L (R)/315 |
|                    |    |     |    | 515 | Tr 25x100 |       | 400 |                       |
|                    |    |     |    | 430 | Tr 25x125 |       | 315 | Z1500/25x125L (R)/315 |
|                    | 10 | 80  | 45 | 515 | Tr 25x125 |       | 400 |                       |
|                    |    |     |    | 430 | Tr 25x160 |       | 315 | Z1500/25x160L (R)/315 |
|                    |    |     |    | 515 | Tr 25x160 |       | 400 |                       |
|                    | 9  | 100 | 56 | 490 | Tr 32x100 |       | 355 | Z1500/32x100L (R)/355 |
|                    |    |     |    | 585 | Tr 32x100 |       | 450 |                       |
|                    |    |     |    | 490 | Tr 32x125 |       | 355 | Z1500/32x125L (R)/355 |
|                    | 10 | 100 | 56 | 585 | Tr 32x125 |       | 450 |                       |
|                    |    |     |    | 490 | Tr 32x160 |       | 355 | Z1500/32x160L (R)/355 |
|                    |    |     |    | 585 | Tr 32x160 |       | 450 |                       |
|                    | 11 | 100 | 56 | 490 | Tr 32x200 |       | 355 | Z1500/32x200L (R)/355 |
|                    |    |     |    | 585 | Tr 32x200 |       | 450 |                       |

SZ1520



| M | 材质                  |
|---|---------------------|
|   | 铝青铜 Aluminum bronze |

C-C

| Type               | n  | fr  | ds | l    | dr | d1 x h    | Q     | fr  | l   | Nr./NO.               |
|--------------------|----|-----|----|------|----|-----------|-------|-----|-----|-----------------------|
| SZ1520L<br>SZ1520R | 5  | 2.8 | 6  | 11   | 28 | Tr 16x50  | L (R) | 50  | 50  | Z1520/16x50L (R)/50   |
|                    |    |     |    | 15   | 40 | Tr 16x50  |       | 80  | 80  |                       |
|                    |    |     |    | 11   | 28 | Tr 16x63  |       | 50  | 50  | Z1520/16x63L (R)/50   |
|                    | 6  | 3.8 | 8  | 15   | 40 | Tr 16x63  |       | 80  | 80  |                       |
|                    |    |     |    | 13.5 | 36 | Tr 20x63  |       | 63  | 63  | Z1520/20x63L (R)/63   |
|                    |    |     |    | 18   | 50 | Tr 20x63  |       | 100 | 100 |                       |
|                    | 7  | 3.8 | 8  | 13.5 | 36 | Tr 20x80  |       | 63  | 63  | Z1520/20x80L (R)/63   |
|                    |    |     |    | 18   | 50 | Tr 20x80  |       | 100 | 100 |                       |
|                    |    |     |    | 13.5 | 36 | Tr 20x100 |       | 63  | 63  | Z1520/20x100L (R)/63  |
|                    | 8  | 4.8 | 12 | 18   | 50 | Tr 20x100 |       | 100 | 100 |                       |
|                    |    |     |    | 15   | 40 | Tr 25x80  |       | 80  | 80  | Z1520/25x80L (R)/80   |
|                    |    |     |    | 20   | 63 | Tr 25x80  |       | 125 | 125 |                       |
|                    | 9  | 4.8 | 12 | 15   | 40 | Tr 25x100 |       | 80  | 80  | Z1520/25x100L (R)/80  |
|                    |    |     |    | 20   | 63 | Tr 25x100 |       | 125 | 125 |                       |
|                    |    |     |    | 15   | 40 | Tr 25x125 |       | 80  | 80  | Z1520/25x125L (R)/80  |
|                    | 10 | 5.5 | 14 | 20   | 63 | Tr 25x125 |       | 125 | 125 |                       |
|                    |    |     |    | 15   | 40 | Tr 25x160 |       | 80  | 80  | Z1520/25x160L (R)/80  |
|                    |    |     |    | 20   | 63 | Tr 25x160 |       | 125 | 125 |                       |
|                    | 9  | 5.5 | 14 | 18.5 | 63 | Tr 32x100 |       | 100 | 100 | Z1520/32x100L (R)/100 |
|                    |    |     |    | 25   | 80 | Tr 32x100 |       | 160 | 160 |                       |
|                    |    |     |    | 18.5 | 63 | Tr 32x125 |       | 100 | 100 | Z1520/32x125L (R)/100 |
|                    | 10 | 5.5 | 14 | 25   | 80 | Tr 32x125 |       | 160 | 160 |                       |
|                    |    |     |    | 18.5 | 63 | Tr 32x160 |       | 100 | 100 | Z1520/32x160L (R)/100 |
|                    |    |     |    | 25   | 80 | Tr 32x160 |       | 160 | 160 |                       |
|                    | 11 | 5.5 | 14 | 18.5 | 63 | Tr 32x200 |       | 100 | 100 | Z1520/32x200L (R)/100 |
|                    |    |     |    | 25   | 80 | Tr 32x200 |       | 160 | 160 |                       |

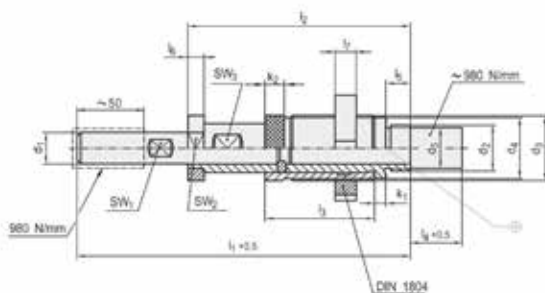
## 二次顶出 TWO-STAGE EJECTORS

SZ169



方便安装加工机械互锁设计，安全可靠。安装行程计算请精确，否则产品易损坏，请根据模具重量要求选择合适的规格。

It is convenient for installing processing machinery interlocking design so that it is safe and reliable. The installation stroke needs to be calculated accurately. Otherwise, the product is likely to be damaged. Select appropriate specification according to load requirement of the die.



| Type     | Sw <sub>1</sub> | Sw <sub>2</sub> | Sw <sub>3</sub> | k <sub>1</sub> | k <sub>2</sub> | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | d <sub>4</sub> | d <sub>5</sub> | H <sub>1</sub> |      | H <sub>2</sub> |      | d <sub>6</sub> |
|----------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|----------------|------|----------------|
|          |                 |                 |                 |                |                |                |                |                |                |                |                |                |                |                |                |                | min.           | max. | min.           | max. |                |
| SZ169/16 | 20              | 28              | 13              | 8              | 5              | 30             | 20             | 11             | 9              | 11             | 26             | 56             | 112            | 164            | M22 × 1        | M32 × 1,5      | 5              | 30   | 3              | 50   | 16             |
| SZ169/22 | 27              | 38              | 17              | 10             | 6              | 40             | 28             | 12             |                | 16             | 36             | 75             | 148            | 220            | M30 × 1,5      | M42 × 1,5      | 6              | 40   | 4              | 70   | 22             |
| SZ169/30 | 38              | 55              | 24              |                | 7              | 50             | 38             | 13             | 21             | 45             | 80             | 170            | 255            | M40 × 1,5      | M60 × 1,5      | 7              | 50             |      |                |      |                |
| SZ169/40 | 46              | 65              | 32              | 14             | 8              | 65             | 50             | 14             | 22             | 45             | 98             | 200            | 270            | M52 × 1,5      | M70 × 1,5      | 7,5            | 60             | 5    | 80             | 40   |                |

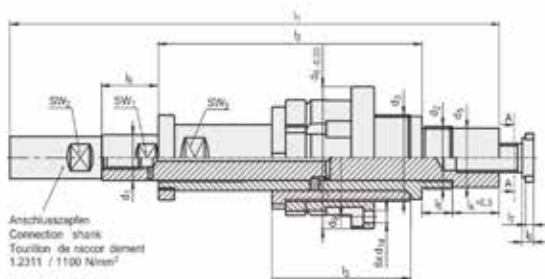
SZ1691



"A-A"

方便安装加工机械互锁设计，安全可靠。安装行程计算请精确，否则产品易损坏，请根据模具重量要求选择合适的规格。

It is convenient for installing processing machinery interlocking design so that it is safe and reliable. The installation stroke needs to be calculated accurately. Otherwise, the product is likely to be damaged. Select appropriate specification according to load requirement of the die.



Anschlussschäpfen  
Connection shank  
Tourillon de raccordement  
1.2311 / 1190 N/mm<sup>2</sup>

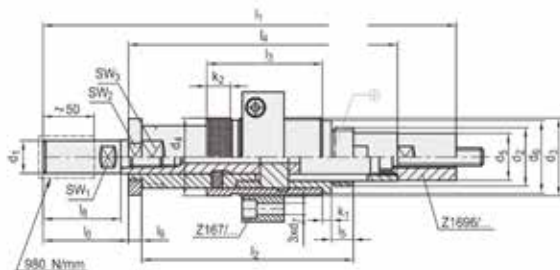
| Type      | Sw <sub>1</sub> | Sw <sub>2</sub> | Sw <sub>3</sub> | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | d <sub>4</sub> | d <sub>5</sub> | d <sub>6</sub> | d <sub>7</sub> | d <sub>8</sub> | d <sub>9</sub> | d <sub>10</sub> | b <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | l <sub>10</sub> | H <sub>1</sub> | H <sub>2</sub> | d <sub>max</sub> |
|-----------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|------------------|
| SZ1691/13 | 10              | 10              | 17              | M20 × 1        | M28 × 1.5      | 18.5           | 50             | 41.6           | M8 × 0.75      | 13.4           | 17.6           | 4.3            | 3.2             | 164            | 72             | 38.8           | 21             | 9              | 4              | 2.6            | 22             | 3-20           | 44             | 13              |                |                |                  |
| SZ1691/17 | 13              | 12              | 21              | M24 × 1.5      | M35 × 1.25     | 22             | 60             | 48             | M11 × 1        | 17.4           | 22             | 5.4            | 4               | 228            | 110            | 63             |                | 12             | 5              | 3.5            | 25             | 4-30           | 65             | 17              |                |                |                  |
| SZ1691/22 | 17              | 17              | 27              | M30 × 1.5      | M45 × 1.5      | 28             | 75             | 61             | M14 × 1        | 21             | 27             | 6.5            | 5               | 270            | 131            | 74             | 17             | 17             | 6              | 4              | 30             | 6-42           | 80             | 22              |                |                |                  |
| SZ1691/30 | 24              | 22              | 36              | M40 × 1.5      | M60 × 1.5      | 38             | 100            | 82             | M18 × 1        | 26             | 33             | 8.8            | 6               | 340            | 166            | 89             | 27             | 17             | 7              | 5              | 38             | 10-60          | 95             | 30              |                |                |                  |
| SZ1691/40 | 32              | 32              | 46              | M55 × 1.5      | M75 × 1.5      | 52             | 125            | 104            | M25 × 1.5      | 35             | 43             | 11             | 8               | 470            | 232            | 122            | 41             | 27             | 10             | 7              | 50             | 14-85          | 130            | 40              |                |                |                  |
| SZ1691/52 | 41              | 41              | 65              | M72 × 1.5      | M98 × 2        | 69             | 150            | 128            | M34 × 1.5      | 48             | 58             | 11             | 9               | 583            | 295            | 155            | 51             | 27             | 15             | 11             | 60             | 18-110         | 180            | 52              |                |                |                  |

### SZ1695



方便安装加工机械互锁设计，安全可靠。安装行程计算请准确，否则产品  
是损坏。请根据模具需求要求选择合适的规格。

It is convenient for installing processing machinery interlocking design so that it is safe and  
reliable. The installation stroke needs to be calculated accurately. Otherwise, the product is  
likely to be damaged. Select appropriate specification according to load requirement of the die.

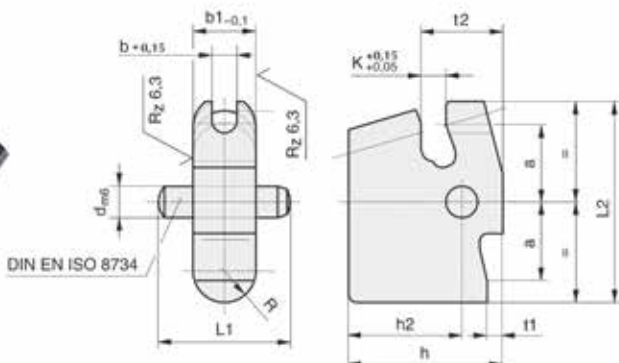


| Type      | $k_1$ | $k_2$ | $Sw_1$ | $Sw_2$ | $Sw_3$ | $l_1$ | $l_2$ | $l_3$ | $l_4$ | $l_5$ | $l_6$ | $l_7$ | $l_8$ | $l_9$ | $H_2$ |      | $H_1$ |      | $d_1$ | $d_2$ | $d_3$     | $d_4$     | $d_5$ | $d_6$ | $d_7$ |
|-----------|-------|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-----------|-----------|-------|-------|-------|
|           |       |       |        |        |        |       |       |       |       |       |       |       |       |       | min.  | max. | min.  | max. |       |       |           |           |       |       |       |
| SZ1695/22 | 18    | 6     | 36     | 46     | 17     | 52    | 56    | 17    | 175   | 82    | 141   | 278   | 6     | 48    | 4     | 36   | 9     | 50   | 31.5  | 52    | M52 × 1.5 | M40 × 1.5 | 22    |       |       |
| SZ1695/25 |       | 7     | 41     | 55     | 19     | 60    | 66    |       | 207   | 89    | 163   | 329   | 8     | 60    | 5     | 50   |       | 56   | 36    | 60    | M60 × 1.5 | M45 × 1.5 | 25    |       |       |
| SZ1695/32 | 16    | 8     | 50     | 65     | 27     | 12    | 82    | 102   | 22    | 257   | 106   | 196   | 430   | 10    | 86    | 6    | 110   | 70   | 44    | 72    | M72 × 1.5 | M55 × 1.5 | 32    |       |       |

# 模板加速顶出器

## PLATE ACCELERATOR

SZ141

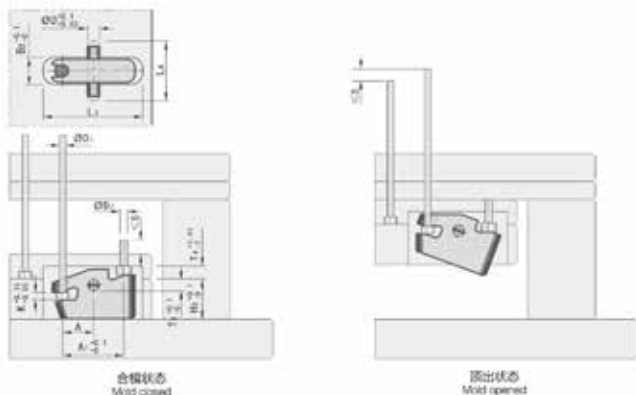


| Type  | d1 | b | b1 | b2   | b3 | a  | a1 | d | d2 | h  | k | h2 | h3 | L1 | L2 | L3 | L4 | t1 | t2 | t3 | t4 | R | S   |
|-------|----|---|----|------|----|----|----|---|----|----|---|----|----|----|----|----|----|----|----|----|----|---|-----|
| SZ141 | 3  | 3 | 8  | 8.5  | 4  | 10 | 20 | 4 | 4  | 19 | 3 | 14 | 16 | 16 | 26 | 31 | 23 | 2  | 10 | 4  | 4  | 4 | 2.5 |
|       | 6  | 6 | 16 | 16.5 | 8  | 21 | 42 | 8 | 8  | 34 | 5 | 23 | 27 | 36 | 56 | 63 | 45 | 4  | 21 | 8  | 8  | 8 | 7.6 |
|       | 8  | 8 |    |      |    |    |    |   |    |    |   |    |    |    |    |    |    |    |    |    |    |   |     |

### 产品特点 Precautions

- 可安装一只顶针，顶出过程中能够相对增加额外顶出行程。
- 安装空间小，节约成本。
- Mount 1pcs ejector pin can enlarge the stroke during ejecting.
- save space and cost.

### 功能示意图 Functional chart

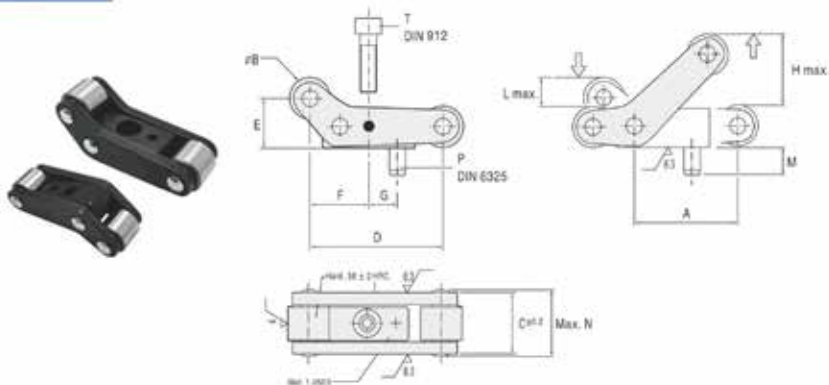




# 模板加速顶出器

## PLATE ACCELERATOR

## SEP



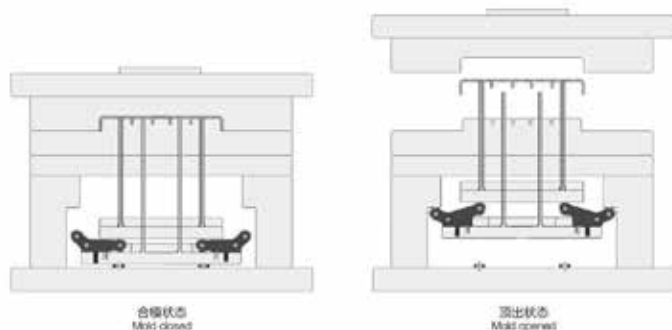
- 简易装配便能达到良好的加速效果。 Simple assembly will be able to achieve a good speedup.
- 安装空间小, 优化模具结构。 Small installation space, optimization of mold structure.

| Type       | A    | B  | C    | D    | E    | F    | G    | H max. | L max. | M  | N    | P        | T     | Max. Force |
|------------|------|----|------|------|------|------|------|--------|--------|----|------|----------|-------|------------|
| SEP.200813 | 20   | 8  | 13.2 | 25.8 | 9.4  | 11.4 | 6    | 13.6   | 5.5    | 5  | 15   | ± 2.5x10 | M3x12 | 125kg.     |
| SEP.251016 | 25   | 10 | 16   | 32.3 | 11.8 | 14.3 | 7    | 17     | 6.8    | 6  | 18.5 | ± 3x12   | M4x16 | 250kg.     |
| SEP.371522 | 37.5 | 15 | 22   | 48.5 | 17.7 | 21.5 | 10.5 | 25.5   | 10.2   | 8  | 25   | ± 4x16   | M6x25 | 350kg.     |
| SEP.502030 | 50   | 20 | 30   | 64.6 | 23.6 | 28.6 | 14   | 34     | 13.6   | 10 | 34   | ± 5x20   | M8x30 | 800kg.     |

### 产品特点 Precautions

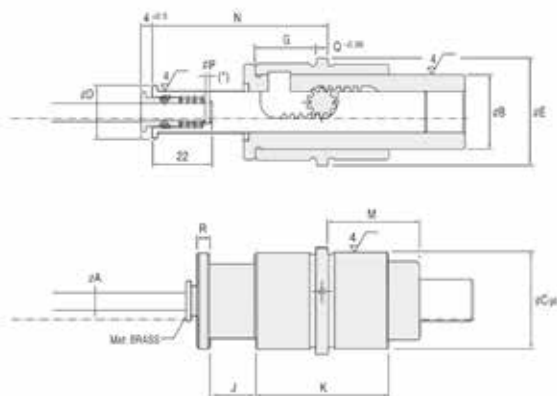
- 安装空间小, 简单的安装可以实现加速顶出的效果。
- 安装于顶针B板上, 顶出过程中实现顶针A板加速顶出效果。
- 每套模具至少使用2套或者以上。
- Installation space is small, simple installation can achieve the effect of accelerated ejection.
- Installed on Ejector B Plate, Accelerate Ejection of Ejector A Plate in Ejection Process.
- At least 2 sets or more of this product are used for each set of each mold.

### 功能示意图 Functional chart



# 模板加速顶出器 PLATE ACCELERATOR

## SAE

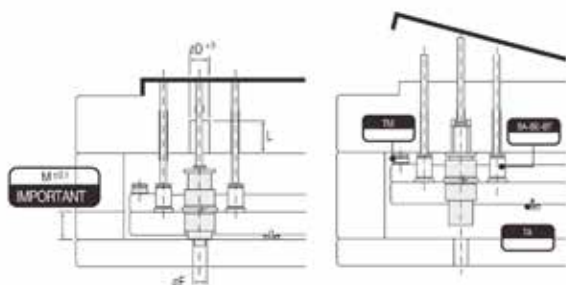


| Type       | A  | B  | C  | D    | E  | F  | G  | J  | K  | L  | M  | N  | P | Q | R |
|------------|----|----|----|------|----|----|----|----|----|----|----|----|---|---|---|
| SAE.031620 | 3  | 16 | 20 | 12.5 | 22 | 13 | 14 | 8  | 32 | 22 | 17 | 37 | - | 4 | 3 |
| SAE.041620 | 4  | 16 |    |      |    |    |    |    |    |    |    |    |   |   |   |
| SAE.052430 | 5  | 24 | 30 | 16   | 34 | 16 | 20 | 15 | 44 | 36 | 27 | 57 | 2 | 6 | 4 |
| SAE.062430 | 6  | 24 |    | 17   | 17 |    |    |    |    |    | 27 |    |   |   |   |
| SAE.082430 | 8  | 24 | 36 |      |    |    |    |    |    |    |    |    | 2 | 6 | 4 |
| SAE.103036 | 10 | 30 |    | 21.5 | 40 | 21 | 28 | 20 | 62 | 46 | 34 | 78 |   |   |   |
| SAE.123036 | 12 | 30 |    |      |    |    |    |    |    |    |    |    |   |   |   |

## 产品特点 Precautions

- 可夹持固定一枚顶针，能增加相对行程的额外8mm或15mm的二次顶出。帮助塑件脱落。
- 头部有一小孔，可内镶一枚固定针，防止顶针转动。
- 安装空间较小，节约成本。
- 只需做简单的垂直孔位加工便能简易装配。优化模具结构。
- Enables 8mm or 15mm, additional stroke on one ejector pin.
- Only round pockets needed to install the part.
- Save space and cost.
- Enables quick replacement of the ejector.

## 功能示意图 Functional chart



# 模板加速顶出器 PLATE ACCELERATOR

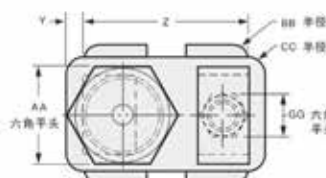
## SAEP / SAEB



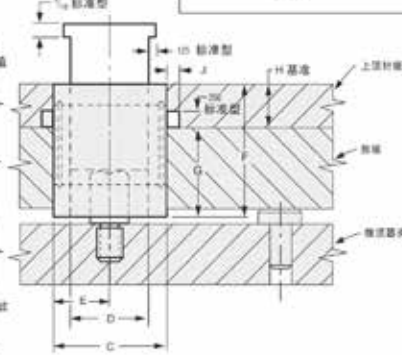
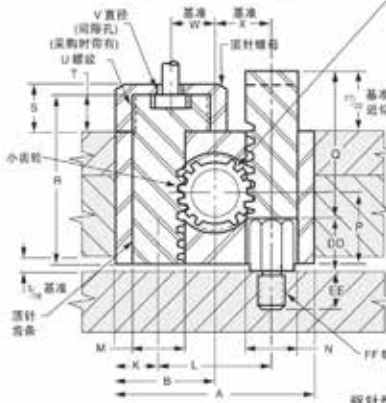
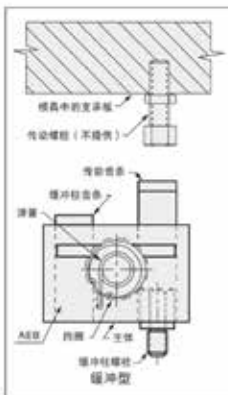
SAEP

SAEB

- 所有装置的最大行程为5/8" Stroke for all units 5/8" maximum
- 齿轮保持润滑 Kee pinion lubricated
- 不要利用弹簧反压力 Do not use with opposing spring pressure



| 图            |
|--------------|
| SAEP-10 顶针型  |
| SAEB-10 缓冲型  |
| 小齿轮-18齿度     |
| 1.0000 0-18齿 |
| 20° 齿角       |
| 顶针 AEP-10 型  |
| AEB-10 缓冲型   |
| 小齿轮-20齿度     |
| 1.0000 0-20齿 |
| 20° 齿角       |



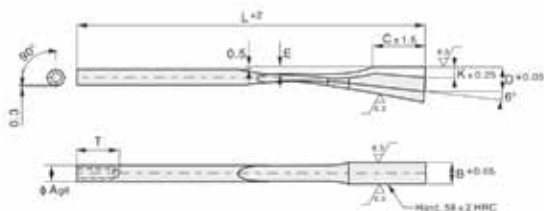
## 加速顶出器尺寸 Accelerated ejector dimensions

| Type        | A                | B                | C                | D     | E     | F     | G     | H   | J              | K    | L      | M   | N   | P     | Q     |
|-------------|------------------|------------------|------------------|-------|-------|-------|-------|-----|----------------|------|--------|-----|-----|-------|-------|
| SAEP-10 顶针型 | +0.000<br>-0.002 | +0.000<br>-0.002 | +0.000<br>-0.002 | 5/8   | 9/16  | 1.600 | 1.100 | 1/2 | ±0.002<br>.125 | .510 | 1.1030 | 1/2 | 1/2 | 1.030 | 1.783 |
| SAEB-10 缓冲型 | 2.125            | 1.062            | 1.125            |       |       |       |       |     |                |      |        |     |     |       |       |
| SAEP-20 顶针型 | +0.000<br>-0.004 | +0.000<br>-0.002 | +0.000<br>-0.002 | 1 1/8 | 13/16 | 1 7/8 | 1 1/4 | 5/8 | ±0.002<br>.187 | 5/8  | 1 5/8  | 3/4 | 3/4 | 1.016 | 21/16 |
| SAEB-20 缓冲型 | 2.875            | 1.437            | 1.625            |       |       |       |       |     |                |      |        |     |     |       |       |

| Type        | R     | S    | T    | U        | V   | W    | X     | Y    | Z     | AA    | BB   | CC  | DD  | EE  | FF      | GG   |
|-------------|-------|------|------|----------|-----|------|-------|------|-------|-------|------|-----|-----|-----|---------|------|
| SAEP-10 顶针型 | 2.025 | .550 | .425 | 5/8-18   | 1/8 | .491 | .551  | .250 | 1.625 | 15/16 |      |     |     |     |         |      |
| SAEB-10 缓冲型 | -     | -    | -    | -        | -   | -    |       |      |       | -     | 1/4  | 1/4 | 3/4 | 3/8 | 5/16-18 | 3/8  |
| SAEP-20 顶针型 | 2 3/8 | .680 | 1/2  | 1 1/8-12 | 1/4 | 5/8  | 13/16 | .250 | 2.375 | 1 3/8 |      |     |     |     |         |      |
| SAEB-20 缓冲型 | -     | -    | -    | -        | -   | -    |       |      |       | -     | 3/16 | 1/4 | .72 | 1/2 | 3/8-16  | 9/16 |

弹弓顶针  
SPRUNG CORE

## SPW



| 材料     | 硬度      |
|--------|---------|
| 1.8159 | 45±3HRC |
| SKD61  | 50±2HRC |

| Type       | φA | B    | C    | D    | E    | K   | L   | T       |         |
|------------|----|------|------|------|------|-----|-----|---------|---------|
| SPW.060622 | 6  | 6.2  | 22   | 9    | 3.5  | 4   | 125 | M4 × 15 |         |
| SPW.060822 |    | 8.2  |      |      |      |     |     |         |         |
| SPW.080825 | 8  |      | 10.2 | 25   | 11.5 | 4.5 | 5   | 140     | M5 × 20 |
| SPW.081025 |    | 12.2 |      |      |      |     |     |         |         |
| SPW.081225 |    |      |      |      |      |     |     |         |         |
| SPW.101430 | 10 | 14.2 | 30   | 13.6 | 5.5  | 5.8 | 175 | M6 × 25 |         |
| SPW.101630 |    | 16.2 |      |      |      |     |     |         |         |
| SPW.101830 |    | 18.2 |      |      |      |     |     |         |         |

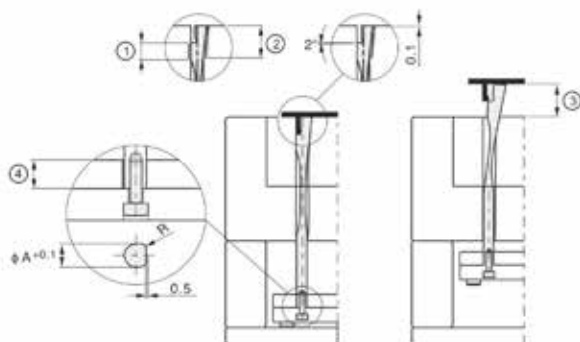
### ■ 产品特点 Precautions

- 结构简单, 安装空间更小, 如同一根顶针大小。
- 安装方便, 简化加工工序, 节约成本。
- 可以单独使用, 也可以两支配合使用。

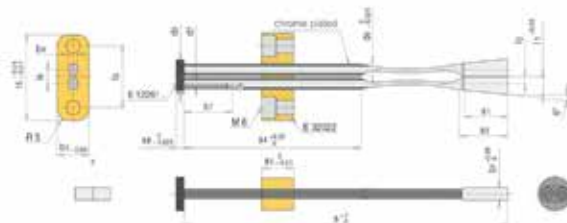
■ 功能示意图 Functional chart

注意事项:

- 弹弓顶针支撑部件的长度必须与“H”尺寸一致。
- 调节部位的长度最少是“C”尺寸的1/3。
- 弹弓顶针伸出部位的尺寸必须等于或小于尺寸“C”。
- 任何时候，固定弹弓顶针的固定板的厚度不得低于15MM。



## SE3202



| 材料     | 硬度      |
|--------|---------|
| 1.8159 | 45±3HRC |
| SKD61  | 50±2HRC |

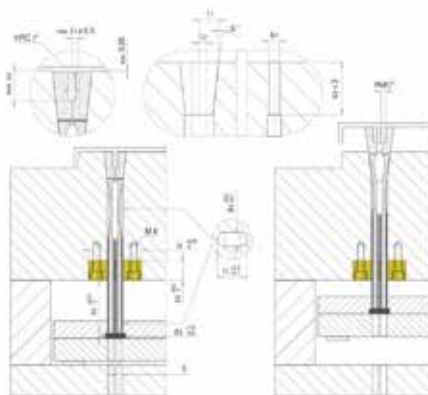
t max. = 120°C

| Type               | l8   | d8 | s8 | l7 | d7 | s7 | b5 | b5   | s5   | d4 | b4   | s4   | s3  | s2   | l2   | s1  | max. Hub | b1   | l1   | s   |
|--------------------|------|----|----|----|----|----|----|------|------|----|------|------|-----|------|------|-----|----------|------|------|-----|
| SE3202/6/9.0/162   | 32.3 | 20 |    | 13 | M4 | 7  | 45 | 5.94 | 4.83 | 88 | 24.3 | 12.5 | 3.5 | 22   | 3.5  | 6.2 | 9.0      | 162  |      |     |
| SE3202/12/11.5/200 |      |    | 6  | 17 | M5 | 19 | 9  | 16   | 48   | 20 | 7.92 | 7.37 | 111 | 30.0 | 16.5 | 26  | 12.2     | 11.5 |      |     |
| SE3202/14/12.5/200 | 34.3 | 22 |    |    |    |    |    |      |      |    |      |      |     |      |      | 30  | 4.5      | 14.2 | 12.5 | 200 |
| SE3202/16/12.5/200 |      |    |    |    |    |    |    |      |      |    |      |      |     |      |      |     |          | 16.2 |      |     |

### 产品特点 Precautions

- 结构最简单的倒钩脱模机构，相对斜顶滑座，安装空间更小。
- 安装方便，简化加工工序，节约成本。
- 此款产品配有垫块、钢套以及安装螺丝。
- 两支配合使用，可实现双面或者多面倒钩脱模。
- Simple structure, small installation space, only same as ejector pin size.
- Easy to install, simplify processing procedure and save cost.
- Each code of the sprung core have pad and installed screw.
- Two pieces use together can come true double face or more faces barb release mould.

### 功能示意图 Functional chart

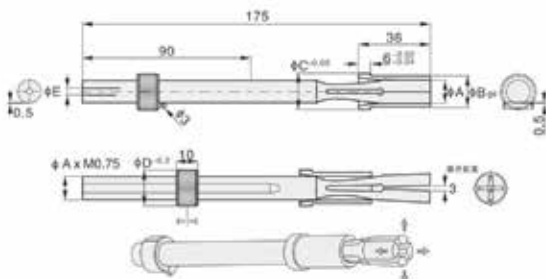


HRC 7° Subsequent coating at max. temp. 120°C

Hub 7° The stroke is reduced by 6° on the inner side

# 弹弓顶针 SPRUNG CORE

SEE



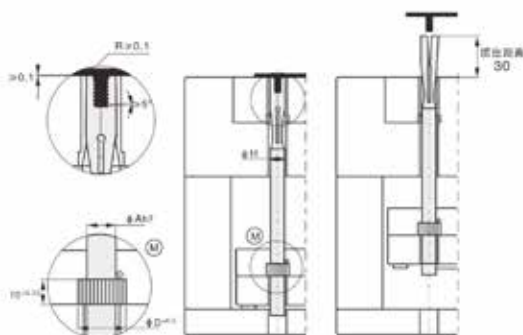
| 材料     | 硬度      |
|--------|---------|
| 1.8159 | 45±3HRC |

| Type       | φA | φB | φC | φD | φE | φH |
|------------|----|----|----|----|----|----|
| SEE.060175 | 6  | 10 | 12 | 12 | -  | 9  |
| SEE.082175 | 8  | 12 | 14 | 14 | 2  | 11 |
| SEE.103175 | 10 | 14 | 16 | 16 | 3  | 13 |
| SEE.124175 | 12 | 16 | 18 | 18 | 4  | 15 |
| SEE.168175 | 16 | 20 | 22 | 22 | 8  | 19 |

## 产品特点 Precautions

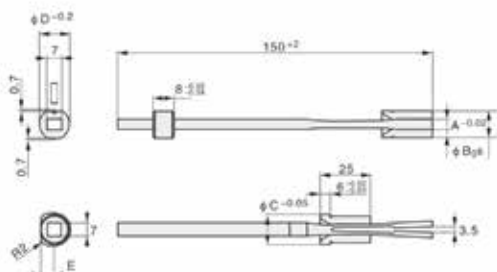
- 整合四瓣自动弹开机构于一体，可调节式设计，安装简单。
- 可简易做出多面塑胶倒钩件，垂直顶出，保证塑胶件倒钩成型更精确。
- 自带套筒，定位更精确。
- 自带可调节固定环，稳定可靠。
- 安装与分体面成90度，加工简单，简化工序。
- Integrated four-lobe automatic pop-up mechanism, adjustable design, simple installation.
- It can easily make multi-sided plastic barb parts, vertical ejection, to ensure more accurate shaping of plastic barb parts.
- With sleeve, more accurate positioning.
- With adjustable fixed ring, stable and reliable.
- Installation and split surface into 90 degrees, simple processing, simplified process.

## 功能示意图 Functional chart





## SMD



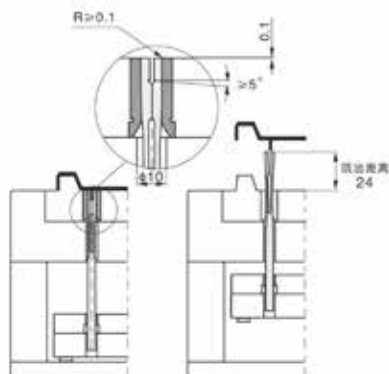
| 材料     | 硬度      |
|--------|---------|
| 1.8159 | 45±3HRC |

| Type       | A | φB | φC | φD | E |
|------------|---|----|----|----|---|
| SMD.047150 | 4 | 10 | 12 | 12 | 5 |
| SMD.057150 | 5 |    |    |    |   |
| SMD.067150 | 6 | 12 | 14 | 14 | 6 |
| SMD.077150 | 7 |    |    |    |   |

### 产品特点 Precautions

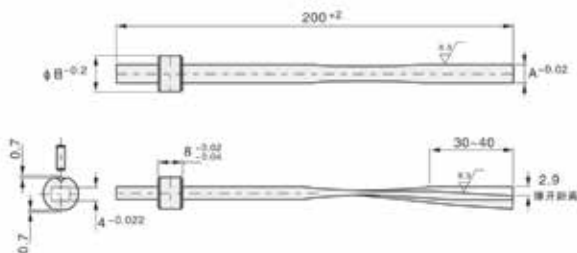
- 应用于底部释放较小的弹性，顶出高度能预先调节，产品容易安装，安装与分型面成90度。
- Apply to release elasticity from bottom, the ejector device can adjust to required eject height in advance, easy to install, and keep 90° with the divided surface when install it.

### 功能示意图 Functional chart



# 弹弓顶针 SPRUNG CORE

## SPF



| 材料     | 硬度      |
|--------|---------|
| 1.8159 | 45±3HRC |
| SKD61  | 50±2HRC |

由于接触面与顶出板平行，因而从底部释放弹性的最小区域的厚度仅为4mm。另此产品的一个新的特点是：先顶出然后从底部释放弹性。

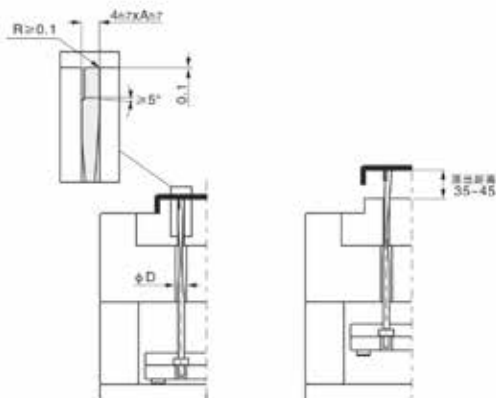
Because the contact surface is parallel with ejector plate, the thickness of release elasticity from bottom's smallest area is just 4mm, and a new characteristic of this product: first eject then elasticity from the bottom.

| Type       | A  | B  | D   |
|------------|----|----|-----|
| SPF.064200 | 6  | 12 | 7.5 |
| SPF.084200 | 8  | 14 | 9.5 |
| SPF.104200 | 10 | 16 | 11  |
| SPF.124200 | 12 | 18 | 13  |

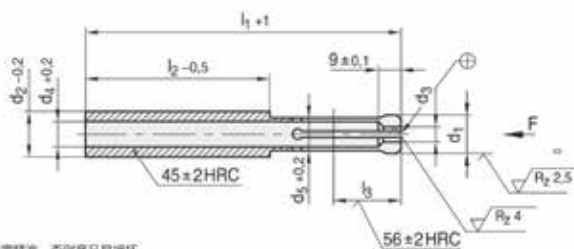
### 产品特点 Precautions

- 结构简单，安装空间更小，如同一顶针大小。
- 安装方便，简化加工工序，节约成本。
- 可以单独使用，也可以两支配合使用。
- Simple structure, small installation space, only same as ejector pin size.
- easy to install, simplify processing procedure and save cost.
- Can use it lonely or two pcs use together.

### 功能示意图 Functional chart



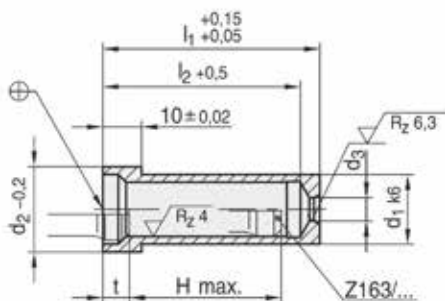
### SZ163



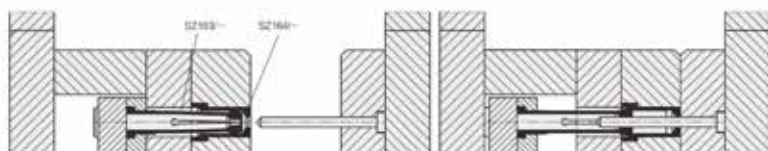
用于顶针板早期装置也可作为二次顶出使用，安装需精准，否则产品易损坏。  
It is used for return device of thimble board. Besides, it can also be used for second ejection.  
The installation shall be accurate. Otherwise, the product is likely to be damaged.

| Type           | max.F [N] | $l_2$ | $l_3$ | $d_1$ | $d_5$ | $d_3$ | $d_4$ | $d_2$ | $l_1$ |
|----------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| SZ163/6 × 125  | 12000     | 20    | 73    | 16    | 18    | 10    | 13    | 6     | 125   |
| SZ163/10 × 160 | 20000     | 25    | 100   | 20    | 24    | 12.5  | 17    | 10    | 160   |

### SZ164



| Type          | max.H | t   | $l_2$ | $d_3$ | $d_1$ | $d_2$ | $l_1$ |
|---------------|-------|-----|-------|-------|-------|-------|-------|
| SZ164/6 × 36  | 24    | 6.7 | 31    | 22    | 18    | 6     | 36    |
| SZ164/6 × 46  | 34    |     | 41    |       |       |       | 46    |
| SZ164/6 × 56  | 44    |     | 51    |       |       |       | 56    |
| SZ164/10 × 36 | 23    | 6.7 | 30    | 29    | 24    | 10    | 36    |
| SZ164/10 × 46 | 33    |     | 40    |       |       |       | 46    |
| SZ164/10 × 56 | 43    |     | 50    |       |       |       | 56    |
| SZ164/10 × 76 | 63    |     | 70    |       |       |       | 76    |



# LOCATING COMPONENT

SERIES

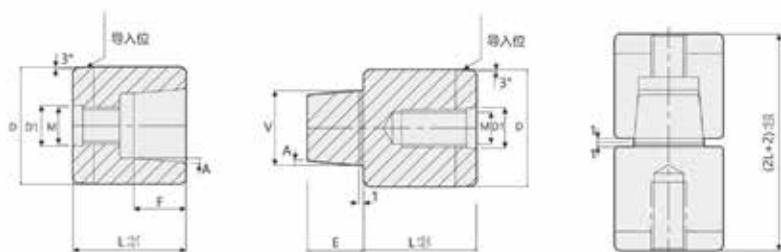
定位组件系列



# 定位柱

## ROUND LOCATING UNITS

### TPN



| 材料    | 硬度        |
|-------|-----------|
| SKD11 | HRC 58-62 |
| SUJ2  | HRC 58-62 |

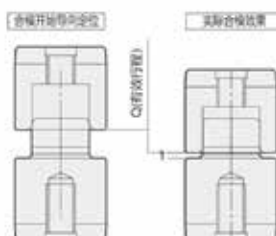
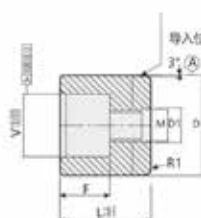
| Type        | D  | D公差            | A              | L              | V  | E  | F  | M  | D1  |
|-------------|----|----------------|----------------|----------------|----|----|----|----|-----|
| TPN<br>TPNV | 12 | 0.012<br>0.002 | 1°<br>3°<br>5° | 14             | 7  | 6  | 5  | M4 | 4.5 |
|             | 13 |                |                |                | 10 |    |    | M5 | 5.5 |
|             | 16 |                |                | 19             | 13 | 9  | 8  | M6 | 6.5 |
|             | 20 |                |                |                | 24 | 16 | 12 | 11 | M8  |
|             | 25 |                |                | 0.015<br>0.002 | 29 | 20 | 15 | 14 | M10 |
|             | 30 | 34             |                |                |    |    |    |    |     |
|             | 32 |                |                |                |    |    |    |    |     |
|             | 35 |                |                |                |    |    |    |    |     |

| Grope | Type | D公差             | 同轴度/Concentricity        |                        | M材质           | H硬度                    |
|-------|------|-----------------|--------------------------|------------------------|---------------|------------------------|
| 普通级   | TPN  | Dk6             | 不可互换/Not interchangeable |                        | SKD11<br>SUJ2 | HRC 58-62<br>HRC 58-62 |
| 标准级   | TPNV |                 | 0.01                     | 可互换<br>Interchangeable |               |                        |
| 精密级   | VTPN | $D_{+0.0005}^0$ |                          |                        |               |                        |
| 超级精密  | ZTPN | 0.003           |                          |                        |               |                        |

# 定位柱

## ROUND LOCATING UNITS

## TPNF



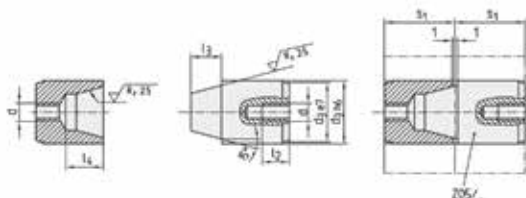
| 材料 (Material) | 硬度 (Hardness) |
|---------------|---------------|
| SKD11         | HRC 58-62     |
| SUJ2          | HRC 58-62     |

| Type | D  | D公差   | L    | V  | E  | F  | D1   | M  |
|------|----|-------|------|----|----|----|------|----|
| TPNF | 10 | 0.005 | 14.5 | 5  | 7  | 5  | 4.5  | M4 |
|      | 13 |       | 24.5 | 7  | 13 | 11 | 10.5 |    |
|      | 16 |       | 14.5 | 10 | 7  | 5  | 4.5  | M5 |
|      |    |       | 24.5 |    | 13 | 11 | 10.5 |    |
|      | 20 |       | 14.5 | 13 | 8  | 6  | 5.5  | M6 |
|      |    |       | 19.5 |    | 11 | 9  | 8.5  |    |
|      |    |       | 29   |    | 16 | 14 | 12   |    |
|      | 25 |       | 19.5 | 16 | 11 | 9  | 8.5  | M8 |
|      |    |       | 24.5 |    | 13 | 11 | 10.5 |    |
|      |    |       | 34   |    | 20 | 18 | 16   |    |
| 30   |    | 39    | 20   | 25 | 23 | 21 | M10  |    |



# 定位柱 ROUND LOCATING UNITS

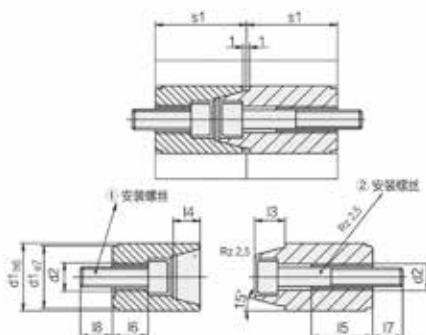
## Z05



| 材料    | 硬度        |
|-------|-----------|
| SKD11 | HRC 58-62 |
| SUJ2  | HRC 58-62 |

| Type     | d3 | l3 | l4 | l2 | s1 | d   |
|----------|----|----|----|----|----|-----|
| Z05 / 12 | 12 | 5  | 8  | 10 | 17 | M4  |
| Z05 / 14 | 14 | 7  |    | 11 |    | M5  |
| Z05 / 16 | 16 |    |    |    |    |     |
| Z05 / 20 | 20 | 10 | 13 | 15 | 27 | M8  |
| Z05 / 25 | 25 | 11 |    |    |    |     |
| Z05 / 26 | 26 | 10 |    |    |    |     |
| Z05 / 30 | 30 | 14 | 20 | 18 | 36 | M10 |
| Z05 / 32 | 32 |    |    |    |    |     |
| Z05 / 42 | 42 |    |    |    |    |     |

## Z051



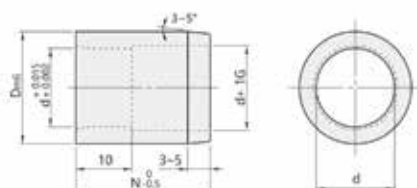
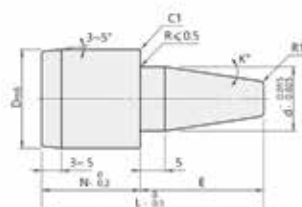
| 材料    | 硬度        |
|-------|-----------|
| SKD11 | HRC 58-62 |
| S136  | HRC 58-62 |

| Type      | d1 | 1 安装螺丝  | 2 安装螺丝  | l8  | l7   | l6   | l5   | l4 | l3  | d2  | s1 |
|-----------|----|---------|---------|-----|------|------|------|----|-----|-----|----|
| Z051 / 12 | 12 | M3 x 16 | M3 x 25 | 7,5 | 8    | 8,5  | 9,6  | 5  | 4,5 | M4  | 17 |
| Z051 / 14 | 14 | M4 x 14 | M4 x 25 | 8   | 7,5  | 6    | 12,4 | 7  | 6   | M5  |    |
| Z051 / 16 | 16 |         |         |     |      | 5,8  |      |    |     |     |    |
| Z051 / 20 | 20 | M6 x 20 | M6 x 40 | 9,5 | 12   | 10,6 | 19,7 | 10 | 9   | M8  | 27 |
| Z051 / 25 | 25 |         |         | 11  | 11   | 9,2  |      | 11 | 10  |     |    |
| Z051 / 26 | 26 |         |         |     |      |      |      | 16 | 14  | M10 |    |
| Z051 / 30 | 30 | M8 x 25 | M8 x 55 | 13  | 15   | 12,2 | 25   |    |     |     | 36 |
| Z051 / 32 | 32 |         |         |     |      |      | 20   | 18 |     |     |    |
| Z051 / 42 | 42 | M8 x 30 | M8 x 70 | 16  | 16,8 | 27   |      | 27 |     |     |    |

# 定位柱

## ROUND LOCATING UNITS

## GMT

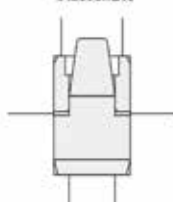


| 材料    | 硬度        |
|-------|-----------|
| SKD11 | HRC 58-62 |
| SUJ2  | HRC 58-62 |

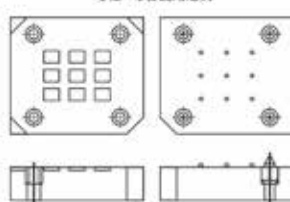
| Type | D              | d          | N  | E  |    |    |    |    |    |    |    |    |    |    |
|------|----------------|------------|----|----|----|----|----|----|----|----|----|----|----|----|
|      | +0.05<br>+0.04 | +0.01<br>0 |    | 11 | 14 | 17 | 20 | 23 | 26 | 30 | 35 | 40 | 45 | 50 |
| GMT  | 12             | 8          | 15 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 18 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 21 |    |    |    |    |    |    |    |    |    |    |    |
|      | 16             | 10         | 23 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 18 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 21 |    |    |    |    |    |    |    |    |    |    |    |
|      | 18             | 12         | 23 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 18 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 21 |    |    |    |    |    |    |    |    |    |    |    |
|      | 20             | 12         | 23 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 18 |    |    |    |    |    |    |    |    |    |    |    |
|      |                |            | 21 |    |    |    |    |    |    |    |    |    |    |    |

## ■ 功能示意图 Functional chart

导柱安装范例



导柱·导套使用范例

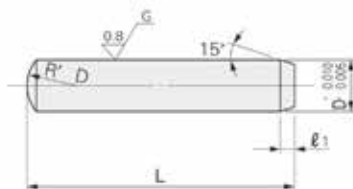


## MS

### 无牙定位销



|             |             |
|-------------|-------------|
| <b>M</b> 材質 | <b>H</b> 硬度 |
| SUJ2        | HRC 60 ± 2  |



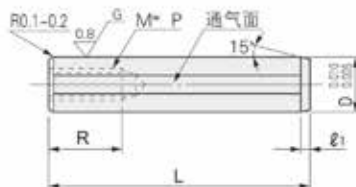
| Type | $\ell_1$ | d   | L |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|----------|-----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      |          |     | 6 | 8 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 80 |
| MS   | 0.4      | 1   |   |   |    | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
|      | 0.6      | 1.5 |   |   |    | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
|      | 1        | 2   |   |   |    |    |    | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
|      | 1        | 2.5 |   |   |    |    |    |    |    | -  | -  | -  | -  | -  | -  | -  | -  | -  |
|      | 1        | 3   |   |   |    |    |    |    |    |    |    | -  | -  | -  | -  | -  | -  | -  |
|      | 1.5      | 4   | - |   |    |    |    |    |    |    |    |    |    | -  | -  | -  | -  | -  |
|      | 1.5      | 5   | - |   |    |    |    |    |    |    |    |    |    | -  | -  | -  | -  | -  |
|      | 2        | 6   | - |   |    |    |    |    |    |    |    |    |    |    |    | -  | -  | -  |
|      | 2.5      | 8   | - | - |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 3        | 10  | - | - | -  |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 3.5      | 12  | - | - | -  | -  |    |    |    |    |    |    |    |    |    |    | -  |    |
|      | 3.5      | 13  | - | - | -  | -  | -  | -  |    | -  |    | -  |    | -  |    | -  |    |    |

## MSTP

### 攻牙定位销



|      |            |
|------|------------|
| 材料   | 硬度         |
| SUJ2 | HRC 60 ± 2 |

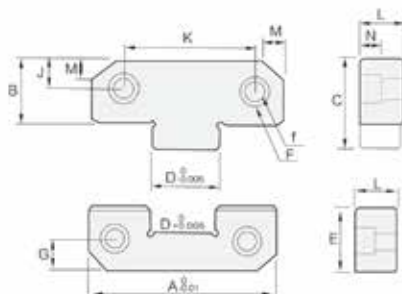


| Type | D  | MxP    | R  | $\xi_1$ | L  |    |    |    |    |    |    |    |    |    |    |    |
|------|----|--------|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|
|      |    |        |    |         | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | 70 | 80 |
| MSTP | 5  | 3x0.5  | 6  | 1.5     | -  | -  | -  | -  | -  | -  |    |    |    |    |    |    |
|      | 6  | 4x0.7  | 8  | 2.0     | -  | -  | -  | -  | -  | -  | -  |    |    |    |    |    |
|      | 8  | 5x0.8  | 8  | 2.0     |    | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
|      | 10 | 6x1.0  | 10 | 2.5     |    | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
|      | 12 | 6x1.0  | 10 | 2.5     |    | -  | -  |    | -  |    | -  | -  | -  | -  | -  | -  |
|      | 13 | 8x1.25 | 15 | 2.5     |    |    |    |    |    |    | -  | -  | -  | -  | -  | -  |
|      | 16 | 8x1.25 | 15 | 3.0     |    |    |    |    |    |    |    | -  | -  | -  | -  |    |

# 定位块

## SQUARE INTERLOCKS

PL



使用例



| M      | 材质 | H         | 硬度 | 热处理  |
|--------|----|-----------|----|------|
| 1.2510 |    | HRC 55-58 |    | 真空处理 |

| Type  | A   | B    | C  | D  | E    | F    | f    | G  | J  | K  | L  | M  | N  |
|-------|-----|------|----|----|------|------|------|----|----|----|----|----|----|
| PL38  | 38  | 22   | 30 | 12 | 22   | 10.5 | 6.5  | 7  | 7  | 22 | 13 | 5  | 8  |
| PL50  | 50  | 21.5 |    | 17 | 21.5 |      |      | 11 | 11 | 34 | 16 |    |    |
| PL75  | 75  | 36   | 50 | 25 | 36   | 16.5 | 10.5 | 18 | 18 | 50 | 19 | 8  | 12 |
| PL100 | 100 | 45   | 65 | 35 | 45   |      |      | 22 | 22 | 70 |    | 10 |    |
| PL125 | 125 |      |    | 45 |      |      |      |    |    | 84 | 25 |    |    |

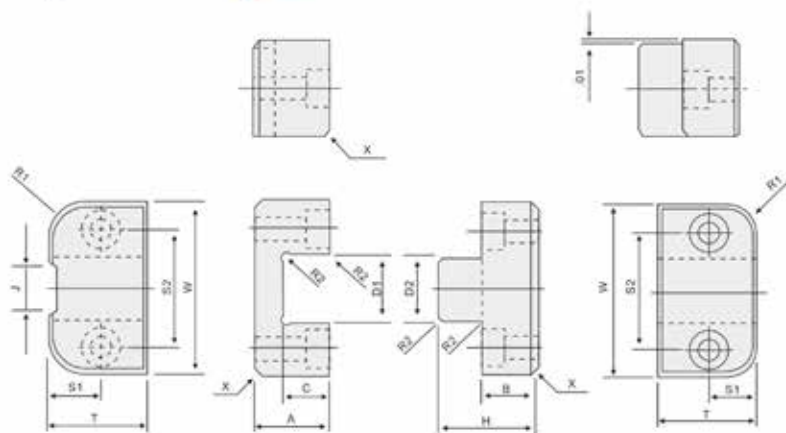
| Type  | A   | B    | C    | D     | E    | F     | f     | G     | J     | K     | L     | M    | N    |
|-------|-----|------|------|-------|------|-------|-------|-------|-------|-------|-------|------|------|
| PL1.5 | 1.5 | 0.87 | 1.18 | 0.50  | 0.87 | 0.433 | 0.276 | 0.281 | 0.437 | 0.938 | 0.620 | 0.19 | 0.3  |
| PL2.0 | 2.0 |      |      | 0.68  |      |       |       | 0.375 |       | 1.250 |       |      |      |
| PL3.0 | 3.0 | 1.36 | 1.91 | 1.00  | 1.37 | 0.590 | 0.413 | 0.688 | 0.688 | 2.250 | 0.745 | 0.38 | 0.45 |
| PL4.0 | 4.0 | 1.87 | 2.64 | 1.375 | 1.87 |       |       | 0.875 | 0.875 | 2.750 |       | 0.50 |      |
| PL5.0 | 5.0 |      |      | 1.75  |      | 0.788 | 0.555 |       |       | 3.500 | 1.120 |      |      |

# 定位块 SQUARE INTERLOCKS

TLK



| 序号    | 材质 | 硬度          |
|-------|----|-------------|
| TLK   | 公件 | 1.2510      |
|       | 母件 | 1.2510      |
| TLK-T | 公件 | SKD11 Black |
|       | 母件 | SKD11 DLC   |

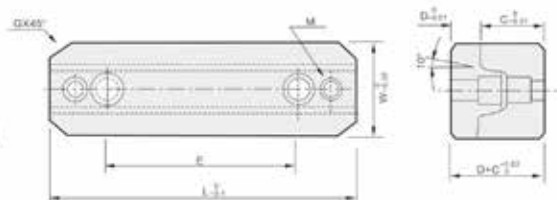


| Type  | W   | T     | A     | B     | C     | D1   | D2    | H     | J        | R1   | R2    | S1    | S2    | X      | SHCS   |
|-------|-----|-------|-------|-------|-------|------|-------|-------|----------|------|-------|-------|-------|--------|--------|
| TLK15 | 1.5 | 1     | 0.875 | 0.375 | 0.5   | 0.5  | 0.5   | 0.843 | 3/8x1/16 | 0.28 | 0.06  | 0.5   | 1     | 0.04   | #10-32 |
| TLK20 | 2   | 1.125 |       | 0.625 |       | 0.75 | 0.75  | 1.110 | 1/2x1/16 | 0.40 |       | .5625 | 1.375 |        | 1/4-20 |
| TLK25 | 2.5 | 1.5   |       |       | 1.375 | 0.75 | 1     | 1     |          |      | 1.344 | 0.08  | 0.75  | 1.75   | 0.06   |
| TLK30 | 3   | 1.75  | 1.25  | 0.875 | 1.125 |      | 1.125 | 1.61  | 3/4x3/32 | 0.53 | 0.09  | 0.875 | 2.25  | 3/8-16 |        |
| TLK35 | 3.5 | 2     | 1.75  | 0.75  | 1     | 1.5  | 1.5   | 1.718 |          |      |       | 1     | 2.5   |        |        |

# 定位块

## SQUARE INTERLOCKS

KY



| 材料     | 硬度        |
|--------|-----------|
| 1.2510 | HRC 55-58 |

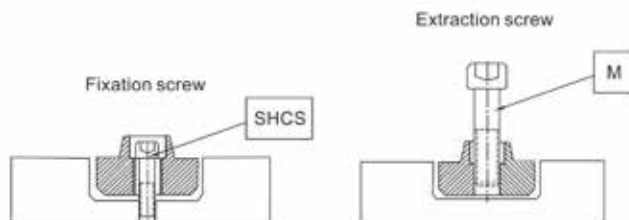
MM (公制)

| Type  | W  | L   | C    | D  | E   | G | M  |
|-------|----|-----|------|----|-----|---|----|
| KY50  | 25 | 50  | 17.5 | 8  | 36  | S | M5 |
| KY100 | 30 | 100 | 22   | 10 | 60  |   | M6 |
| KY150 | 40 | 150 | 25   | 13 | 100 |   | M8 |

INCH (英制)

| Type  | W     | L    | C    | D     | E      | G   | M        |
|-------|-------|------|------|-------|--------|-----|----------|
| KY2.0 | 1.00  | 1.98 | 0.69 | 0.312 | 1.4173 | 0.2 | 3/16"-24 |
| KY4.0 | 1.25  | 3.98 | 0.87 | 0.375 | 2.5    |     | 1/4"-20  |
| KY6.0 | 1.500 | 5.98 | 1.00 | 0.500 | 4.0    |     | 5/16"-18 |

### 功能示意图 Functional chart

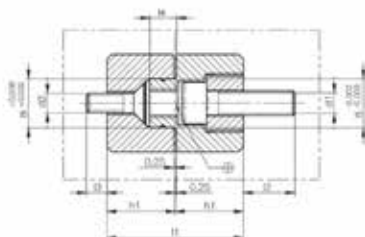
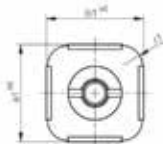




# 定位块

## SQUARE INTERLOCKS

### Z080

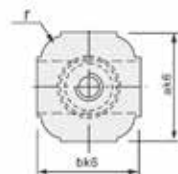
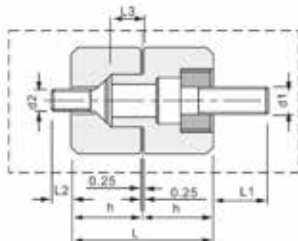


| M 材质   | H 硬度      |
|--------|-----------|
| SKD11  | HRC 56-58 |
| 1.2510 | HRC 55-58 |

| Type       | r1 | d1  | d2 | h1   | l1 | l2 | l3 | l4   | l5 | a1 | b1 |
|------------|----|-----|----|------|----|----|----|------|----|----|----|
| Z080/20x20 | 4  | M5  | M4 | 14   | 28 | 12 | 4  | 5.5  | 10 | 20 | 20 |
| 25x25      | 5  | M6  | M5 | 16   | 32 | 13 | 8  | 7.5  | 12 | 25 | 25 |
| 32x32      | 6  | M8  | M6 | 18   | 36 | 15 | 12 | 9.5  | 16 | 32 | 32 |
| 40x40      |    | M10 | M8 | 22.5 | 45 | 17 | 10 | 11.5 | 20 | 40 | 40 |

| Type       | r1 | d1  | d2 | h1   | Tol. a1/b1    | a1 | b1 |
|------------|----|-----|----|------|---------------|----|----|
| Z080/20x20 | 4  | M5  | M4 | 14   | +0.011/+0.017 | 20 | 20 |
| 25x25      | 5  | M6  | M5 | 16   |               | 25 | 25 |
| 32x32      | 6  | M8  | M6 | 18   |               | 32 | 32 |
| 40x40      |    | M10 | M8 | 22.5 | +0.014/+0.022 | 40 | 40 |

### Z08



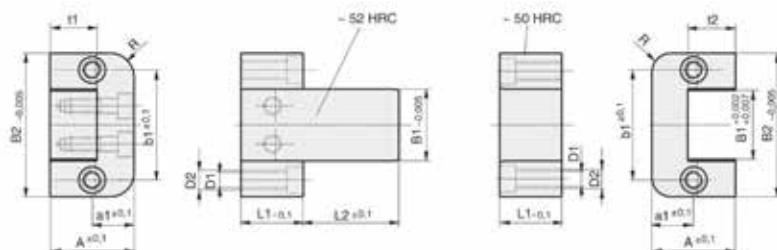
| M 材质   | H 硬度      |
|--------|-----------|
| SKD11  | HRC 56-58 |
| 1.2510 | HRC 55-58 |

| Type      | r | d1  | d2 | l1 | l2 | l3  | l  | h    | a  | b  |
|-----------|---|-----|----|----|----|-----|----|------|----|----|
| Z08/20x20 | 4 | M5  | M4 | 12 | 4  | 3.5 | 28 | 14   | 20 | 20 |
| Z08/25x25 | 5 | M6  | M5 | 13 | 8  | 5.5 | 32 | 16   | 25 | 25 |
| Z08/32x32 | 6 | M8  | M6 | 15 | 12 | 7.5 | 36 | 18   | 32 | 32 |
| Z08/40x40 |   | M10 | M8 | 17 | 10 | 9.5 | 45 | 22.5 | 40 | 40 |

# 定位块

## SQUARE INTERLOCKS

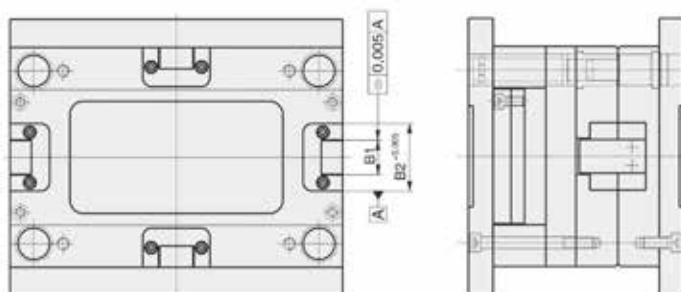
Z46



| 材料     | 硬度        |
|--------|-----------|
| SKD11  | HRC 56-58 |
| 1.2510 | HRC 55-58 |

| Type | B1 | L1 | L2  | A  | B2  | D1   | D2  | a1   | b1  | t1   | t2 | R    |
|------|----|----|-----|----|-----|------|-----|------|-----|------|----|------|
| Z46  | 16 | 20 | 20  | 22 | 45  | 6.8  | M8  | 11   | 30  | 11.5 | 12 | 8    |
|      |    |    | 40  |    |     |      |     |      |     |      |    |      |
|      | 30 | 26 | 40  | 35 | 60  | 6.8  | M8  | 17.5 | 46  | 19.5 | 20 | 10   |
|      |    |    | 63  |    |     |      |     |      |     |      |    |      |
|      | 48 | 36 | 32  | 46 | 100 | 10.3 | M12 | 23   | 74  | 25.5 | 26 | 12.5 |
|      |    |    | 50  |    |     |      |     |      |     |      |    |      |
|      |    |    | 63  |    |     |      |     |      |     |      |    |      |
|      |    |    | 80  |    |     |      |     |      |     |      |    |      |
|      | 77 | 56 | 50  | 60 | 150 | 14   | M16 | 30   | 114 | 35.5 | 36 | 16   |
|      |    |    | 71  |    |     |      |     |      |     |      |    |      |
|      |    |    | 100 |    |     |      |     |      |     |      |    |      |

### 功能示意图 Functional chart

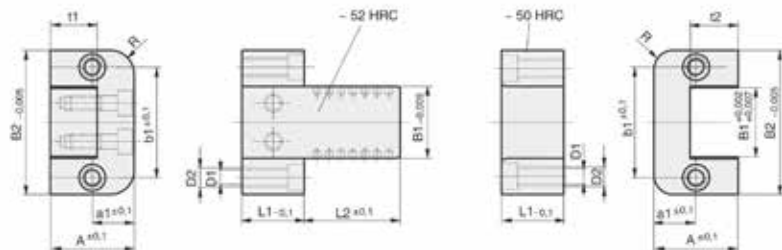


# 定位块 SQUARE INTERLOCKS

## Z48

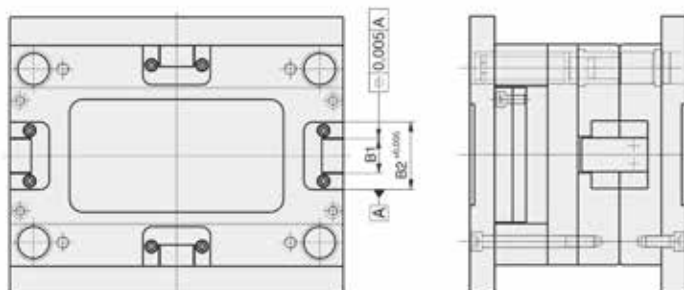


| 材料     | 硬度        |
|--------|-----------|
| SKD11  | HRC 56-58 |
| 1.2510 | HRC 55-58 |



| Type | B1 | L1 | L2  | A  | B2  | D1   | D2  | a1   | b1  | t1   | t2 | R    |
|------|----|----|-----|----|-----|------|-----|------|-----|------|----|------|
| Z48  | 16 | 20 | 20  | 22 | 45  | 6.8  | M8  | 11   | 30  | 11.5 | 12 | 8    |
|      | 30 | 26 | 40  | 35 | 60  |      |     | 17.5 | 46  | 19.5 | 20 | 10   |
|      |    |    | 63  |    |     |      |     |      |     |      |    |      |
|      | 48 | 36 | 32  | 46 | 100 | 10.3 | M12 | 23   | 74  | 25.5 | 26 | 12.5 |
|      |    |    | 50  |    |     |      |     |      |     |      |    |      |
|      |    |    | 63  |    |     |      |     |      |     |      |    |      |
|      |    |    | 80  |    |     |      |     |      |     |      |    |      |
|      | 77 | 56 | 50  | 60 | 150 | 14   | M16 | 30   | 114 | 35.5 | 36 | 16   |
|      |    |    | 71  |    |     |      |     |      |     |      |    |      |
|      |    |    | 100 |    |     |      |     |      |     |      |    |      |

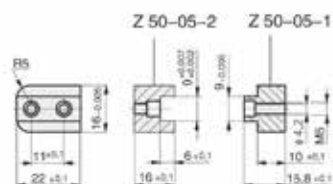
## 功能示意图 Functional chart



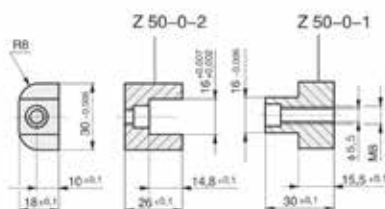
# 定位块

## SQUARE INTERLOCKS

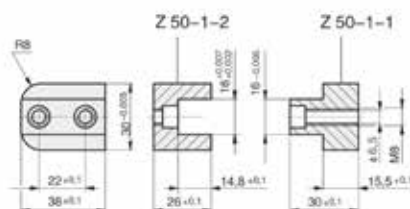
## Z50



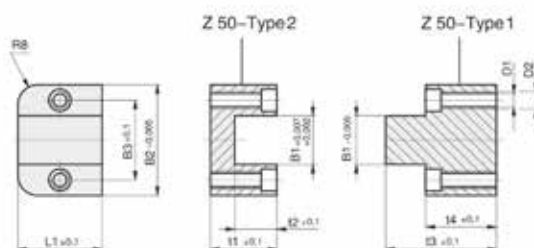
Z 50-5



Z 50-0



Z 50-1



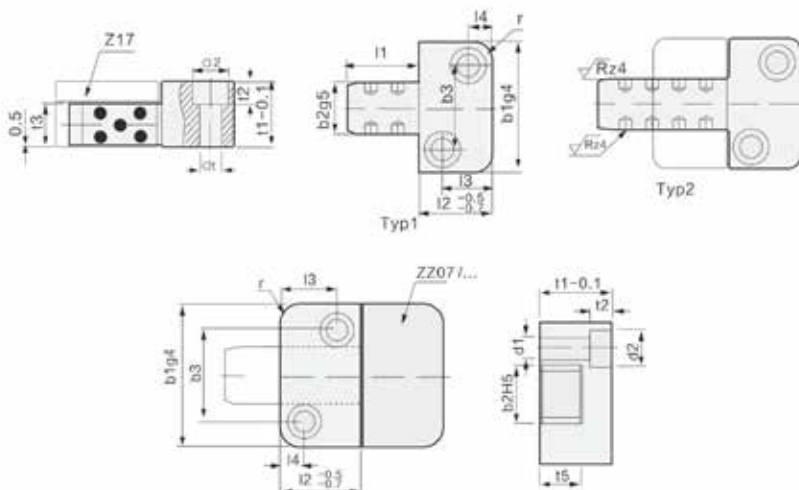
Z 50-

| M 材质   | H 硬度      |
|--------|-----------|
| SKD11  | HRC 56-58 |
| 1.2510 | HRC 55-58 |

| Type | B1 | B2 | B3 | t1   | t2 | t3   | t4   | L1 | D1  | D2  |
|------|----|----|----|------|----|------|------|----|-----|-----|
| 2    | 20 | 50 | 35 | 29.8 | 20 | 48.8 | 29.8 | 38 | 6.5 | M8  |
| 3    | 30 | 75 | 52 | 39.8 | 25 | 63.8 | 39.8 | 38 | 8.3 | M10 |

# 定位块 SQUARE INTERLOCKS

Z07 / Z17



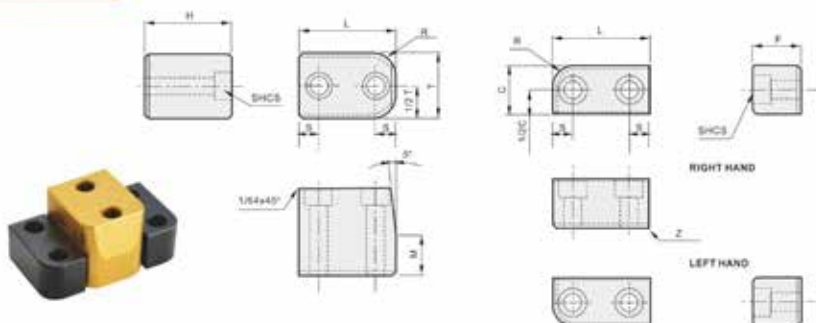
| 材料        | 硬度        |
|-----------|-----------|
| SKD11+石墨  | HRC 56-58 |
| 1.2510+石墨 | HRC 55-58 |

| Type              | 尺寸 Size |     |     |    |     |    |    |     |    |    |    |    |    |    |    |    |     |    |    |     |
|-------------------|---------|-----|-----|----|-----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|-----|
|                   | r       | t5  | t4  | t3 | t2  | t1 | d2 | d1  | t4 | t3 | b3 | b1 | t2 | b2 | t1 |    |     |    |    |     |
| Z07/Z17/22x16x20  | 6       | 12  | 6.2 | 11 | 6.9 | 20 | 11 | 6.6 | 7  | 15 | 26 | 40 | 22 | 16 | 20 |    |     |    |    |     |
| Z07/Z17/22x16x40  |         | 14  |     | 13 |     | 22 |    |     |    | 19 | 31 | 45 | 27 | 20 | 40 |    |     |    |    |     |
| Z07/Z17/27x20x25  |         |     |     |    |     |    |    |     |    |    |    |    |    |    | 25 |    |     |    |    |     |
| Z07/Z17/27x20x50  |         | 50  |     |    |     |    |    |     |    |    |    |    |    |    |    |    |     |    |    |     |
| Z07/Z17/36x25x32  | 8       | 15  | 9   | 14 | 9   | 25 | 15 | 9   | 11 | 27 | 35 | 50 | 36 | 25 | 32 |    |     |    |    |     |
| Z07/Z17/36x25x63  |         | 20  |     | 19 |     | 32 |    |     |    | 35 | 45 | 63 | 46 | 32 | 63 |    |     |    |    |     |
| Z07/Z17/46x32x40  |         |     |     |    |     |    |    |     |    |    |    |    |    |    | 40 |    |     |    |    |     |
| Z07/Z17/46x32x80  |         | 80  |     |    |     |    |    |     |    |    |    |    |    |    |    |    |     |    |    |     |
| Z07/Z17/56x40x50  | 10      | 23  | 11  | 22 | 11  | 36 | 18 | 11  | 15 | 40 | 60 | 85 | 56 | 40 | 50 |    |     |    |    |     |
| Z07/Z17/56x40x100 |         | 25  |     | 13 |     | 24 |    |     |    | 13 | 4  | 20 | 14 | 18 | 48 | 74 | 100 | 66 | 50 | 100 |
| Z07/Z17/66x50x56  |         |     |     |    |     |    |    |     |    |    |    |    |    |    |    |    |     |    |    | 56  |
| Z07/Z17/66x50x112 |         | 112 |     |    |     |    |    |     |    |    |    |    |    |    |    |    |     |    |    |     |

# 定位块

## SQUARE INTERLOCKS

## YLM



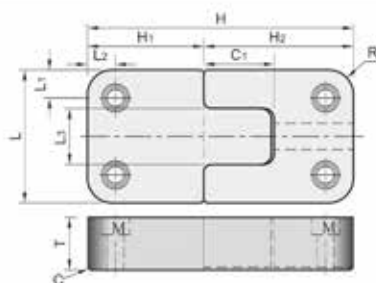
| 材质          | 硬度        |
|-------------|-----------|
| SKD11 Black | HRC 56-58 |
| SKD11 DLC   | HRC 56-58 |

| Type     | L  | W  | C  | F  | T  | M  | H  | S  | R | Z   | SHCS       |            |
|----------|----|----|----|----|----|----|----|----|---|-----|------------|------------|
| YLM25x45 | 25 | 45 | 15 | 15 | 15 | 10 | 24 | 7  | 4 | 1   | M: M4 x 25 | M: M4 x 14 |
| YLM40x65 | 40 | 65 | 20 | 20 | 25 | 15 | 34 | 10 | 9 | 1.5 | M: M5 x 35 | M: M5 x 22 |
| YLM50x90 | 50 | 90 | 25 | 25 | 40 | 20 | 44 |    |   |     | M: M6 x 45 | M: M6 x 30 |

## SL / SLM



| 材质          | 硬度        |
|-------------|-----------|
| SKD11 Black | HRC 56-58 |
| SKD11 DLC   | HRC 56-58 |



| Type       | T <sup>+.000</sup> <sub>-.002</sub> | L <sup>+.000</sup> <sub>-.004</sub> | H2 <sup>+.002</sup> <sub>-.002</sub> | H1 <sup>+.001</sup> <sub>-.002</sub> | C1   | L3 <sup>+.001</sup> <sub>-.002</sub> | H <sup>+.000</sup> <sub>-.004</sub> | R Pocket Radius | L1/L2 ±.01 | C Chamfer | 安装螺丝          |
|------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|------|--------------------------------------|-------------------------------------|-----------------|------------|-----------|---------------|
| SL-37-100  | 0.375                               | 1.000                               | 1.125                                | 0.875                                | 0.63 | 0.500                                | 2.000                               | 0.187           | 0.250      | 0.015     | #10-32x1/2"   |
| SL-50-125  | 0.490                               | 1.250                               |                                      |                                      | 0.68 |                                      |                                     |                 |            |           | # 8-32x5/8"   |
| SL-50-150  |                                     | 1.500                               | 0.875                                |                                      | 0.56 | 0.563                                | 1.750                               |                 |            |           | # 8-32x5/8"   |
| SL-50-200  | 0.500                               | 2.000                               | 1.375                                |                                      | 0.66 | 0.750                                | 2.250                               |                 | 0.312      |           | #10-32x5/8"   |
| SL-75-300  | 0.750                               | 3.000                               | 1.875                                | 1.375                                | 1.18 | 1.250                                | 2.750                               | 0.250           | 0.375      | 0.03      | 1/4-20x3/4"   |
| SL-100-400 | 1.000                               | 4.000                               | 2.375                                |                                      | 1.43 | 1.500                                | 3.750                               |                 | 0.500      |           | 3/8-16x1"     |
| SL-125-500 | 1.250                               | 5.000                               |                                      |                                      | 1.75 | 2.000                                |                                     |                 |            |           | 1/2-13x1-1/4" |
| SL-160-600 | 1.500                               | 6.000                               | 2.875                                |                                      | 1.87 | 2.500                                | 4.250                               |                 | 0.625      |           | 1/2-13x1-1/2" |

| Type       | T <sup>+.00</sup> <sub>-.00</sub> | L <sup>+.00</sup> <sub>-.01</sub> | H2 <sup>+.00</sup> <sub>-.00</sub> | H <sup>+.00</sup> <sub>-.00</sub> | C1   | L2 <sup>+.002</sup> <sub>-.005</sub> | H <sup>+.00</sup> <sub>-.01</sub> | C    | R Pocket Radius | L1x.25 | L2x.25 | C   |
|------------|-----------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------|--------------------------------------|-----------------------------------|------|-----------------|--------|--------|-----|
| SLM-16-50  | 16                                | 50                                | 21.5                               | 21.5                              | 13   | 17                                   | 43                                | 6.5  | 5               | 8      | 11     | 0.8 |
| SLM-19-75  | 19                                | 75                                | 39                                 | 39                                | 22.5 | 25                                   | 72                                |      |                 | 12.5   | 18     |     |
| SLM-19-100 |                                   | 100                               |                                    |                                   | 30   |                                      |                                   | 10.5 |                 | 15     |        |     |
| SLM-25-125 | 25                                | 125                               | 45                                 | 45                                | 28.7 | 35                                   | 90                                |      |                 | 20.5   | 22     |     |





# 定位块

## SQUARE INTERLOCKS

## TBSF



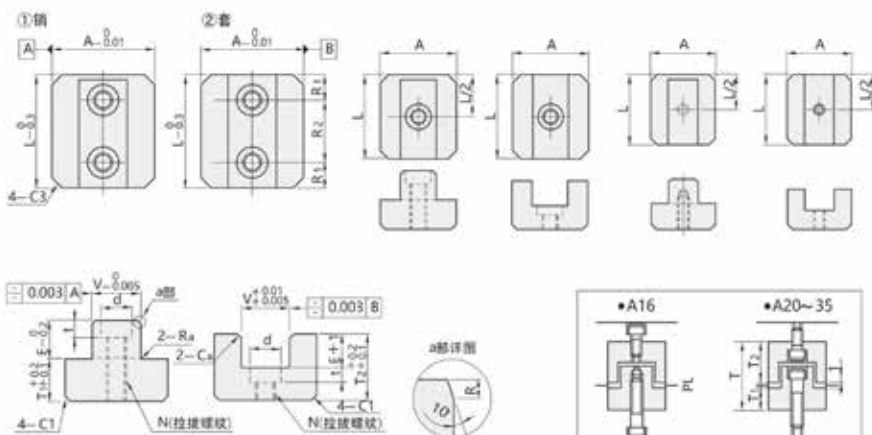
2个螺栓安装孔(L30~50)



1个螺栓安装孔(L25)



1个螺栓安装孔(L16~20)



| ④ 材质   | ⑤ 硬度      |
|--------|-----------|
| SKD11  | HRC 56-58 |
| T.2510 | HRC 55-58 |

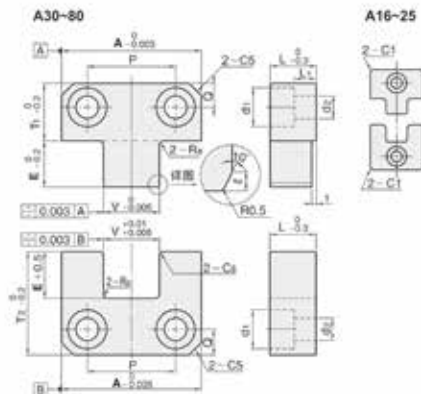
| Type | A  | V  | T  | T1 | T2 | R | Ra  | Ca  | 螺孔  |    | 安装螺栓 | 拉紧螺钉 | 螺孔数量 | L 选择 | E  |
|------|----|----|----|----|----|---|-----|-----|-----|----|------|------|------|------|----|
| TBSF | 16 | 9  | 26 | 8  | 17 | 1 | 0.5 | 0.5 | R1  | R2 | M4   | M4   | 1    | 16   | 8  |
|      |    |    |    |    | 21 |   |     |     | -   | -  |      |      |      | 20   |    |
|      |    |    |    |    | 17 |   |     |     | -   | -  |      |      |      | 25   |    |
|      | 20 | 12 | 26 | 8  | 21 | 1 | 0.5 | 0.5 | 7.5 | 15 | M3   | M4   | 2    | 30   | 12 |
|      |    |    |    |    | 21 |   |     |     | -   | -  |      |      |      | 30   | 8  |
|      |    |    |    |    | 21 |   |     |     | -   | -  |      |      |      | 25   | 12 |
|      | 25 | 15 | 32 | 10 | 26 | 2 | 1   | 1   | 7.5 | 15 | M4   | M5   | 1    | 25   | 10 |
|      |    |    |    |    | 23 |   |     |     | -   | -  |      |      |      | 30   | 15 |
|      |    |    |    |    | 31 |   |     |     | -   | -  |      |      |      | 30   | 12 |
|      | 30 | 17 | 36 | 12 | 23 | 1 | 0.5 | 0.5 | 10  | 20 | M5   | M5   | 2    | 20   | 20 |
|      |    |    |    |    | 31 |   |     |     | -   | -  |      |      |      | 20   | 12 |
|      |    |    |    |    | 31 |   |     |     | -   | -  |      |      |      | 20   | 20 |
|      | 35 | 20 | 41 |    | 28 | 2 | 1   | 1   | -   | -  | M6   | M8   |      | 40   | 15 |



# 定位块

## SQUARE INTERLOCKS

### TSSB / VTSSB



| Group | Type  | V公差    |        | 定位精度<br>(间隔) | 格子A-B面,<br>V尺寸对精度 | M 材质  | H 硬度      |
|-------|-------|--------|--------|--------------|-------------------|-------|-----------|
|       |       | ① 精    | ② 粗    |              |                   |       |           |
| 精密级   | TSSB  | ±0.005 | ±0.010 | 0.003~0.015  | 0.003以下           | SKD11 | HRC 56-58 |
| 超精密级  | VTSSB | ±0.002 | ±0.005 | 0.002~0.009  | 0.003以下           | SKD11 | HRC 56-58 |

| Type  | A  | E  | V  | T   | T1 | T2 | Ra | Ca  | 螺孔孔 |    |     |     | 安装螺柱 | L  | L1 |
|-------|----|----|----|-----|----|----|----|-----|-----|----|-----|-----|------|----|----|
|       |    |    |    |     |    |    |    |     | P   | Q  | d1  | d2  |      |    |    |
| TSSB  | 16 | 6  | 7  | 29  | 11 | 17 | 1  | 0.5 | -   | 5  | 8   | 4.5 | M4   | 8  | 3  |
|       | 20 | 6  | 8  | 29  |    | 19 |    |     |     |    |     |     |      |    |    |
|       | 25 | 8  | 10 | 31  |    | 22 |    |     |     |    |     |     |      |    |    |
|       | 30 | 8  | 12 | 37  | 14 | 24 | 2  | 1   | 16  | 6  | 9.5 | 5.5 | M5   | 10 | 4  |
|       |    | 20 |    | 49  |    | 34 |    |     |     |    |     |     |      |    |    |
|       | 40 | 10 | 15 | 47  | 18 | 28 | 1  | 0.5 | 22  | 7  | 11  | 6.6 | M6   | 13 | 6  |
|       |    | 25 |    | 62  |    | 43 |    |     |     |    |     |     |      |    |    |
|       | 60 | 20 | 25 | 81  | 30 | 50 | 2  | 1   | 36  | 12 | 14  | 8.6 | M8   | 20 | 11 |
|       |    | 35 |    | 96  |    | 65 |    |     |     |    |     |     |      |    |    |
|       | 80 | 30 | 30 | 111 | 40 | 70 |    |     | 52  | 14 | 18  | 11  | M10  | 25 | 14 |
|       |    | 45 |    | 126 |    | 85 |    |     |     |    |     |     |      |    |    |
| VTSSB | 16 | 6  | 7  | 29  | 11 | 17 | 1  | 0.5 | -   | 5  | 8   | 4.5 | M4   | 8  | 3  |
|       | 20 | 6  | 8  | 29  |    | 19 |    |     |     |    |     |     |      |    |    |
|       | 25 | 8  | 10 | 31  |    | 22 |    |     |     |    |     |     |      |    |    |
|       | 30 | 8  | 12 | 37  | 14 | 22 |    |     | 16  | 6  | 9.5 | 5.5 | M5   | 10 | 4  |
|       | 40 | 10 | 15 | 47  | 18 | 28 |    |     | 22  | 7  | 11  | 6.6 | M6   | 13 | 6  |

#### 产品特点 Precautions

- 适用于接插件和电子元件等精密模具的定位。
- 在型芯等嵌入型腔之前即进行定位，可防止型芯的磨损和破坏。
- 因配合间隙狭小，建议配套使用精密级导柱。
- It is suitable for the positioning of precision mould such as connectors and electronic components.
- Locating the core before it is embedded in the cavity can prevent wear and tear of the core.
- Because of the narrow fit clearance, it is recommended to use precision round locating units.

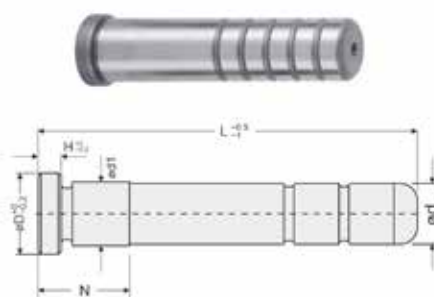
| Type          | A  | E  | V  | T  | T1 | T2 | I   | C  | P  | 螺栓孔 |     | 安装螺栓 | N拉拔螺栓 |
|---------------|----|----|----|----|----|----|-----|----|----|-----|-----|------|-------|
|               |    |    |    |    |    |    |     |    |    | d   | t   |      |       |
| VTTSB<br>TTSB | 20 | 6  | 10 | 23 | 8  | 14 | 0.5 | 4  | -  | 6.5 | 3.5 | M3   | M4    |
|               | 25 | 8  | 12 | 28 | 10 | 17 | 1   |    |    | 8   | 4.5 | M4   | M5    |
|               | 30 | 8  |    | 15 | 32 | 12 |     | 19 | 6  |     |     |      |       |
|               | 40 | 10 | 43 |    | 25 | 2  |     |    |    |     |     |      |       |
| TTSB          | 50 | 15 | 20 | 46 |    | 28 |     |    | 35 | 9.5 | 5.5 | M5   | M6    |

# 导柱

## GUIDE PIN

GP

带屑导柱 (带油槽型)

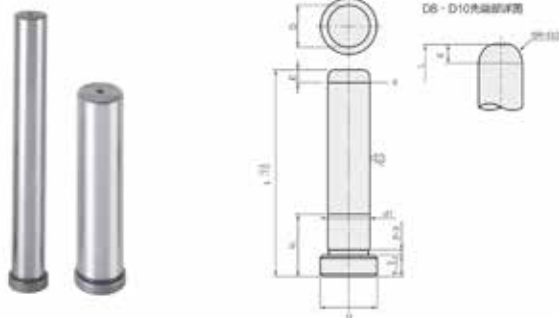


| M | 材质   | H | 硬度         |
|---|------|---|------------|
|   | SUI2 |   | HRC 60 ± 2 |
|   | 20Cr |   | HRC 60 ± 2 |

| Type | d       |                 | d1      |                 | D  | H  | L       |
|------|---------|-----------------|---------|-----------------|----|----|---------|
|      | 尺寸 Size | 公差 Tolerance    | 尺寸 Size | 公差 Tolerance    |    |    |         |
| GP   | 12      | -0.016          | 12      | +0.018          | 17 | 5  | 50-140  |
|      | 16      | -0.027          | 16      | +0.007          | 20 | 6  | 50-250  |
|      | 20      | -0.020          | 20      | +0.021          | 25 |    | 50-300  |
|      | 25      | -0.033          | 25      | +0.008          | 30 | 8  | 50-340  |
|      | 30      |                 | 30      |                 | 35 |    | 70-410  |
|      | 35      |                 | 35      |                 | 40 |    | 70-480  |
|      | 40      | -0.025          | 40      | +0.025          | 45 | 10 | 80-490  |
|      | 50      | -0.040          | 50      | +0.009          | 55 | 12 | 120-520 |
|      | 60      | -0.030 / -0.049 | 60      | +0.030 / +0.011 | 66 | 15 | 180-620 |

GPH

带屑导柱 (无油槽型)

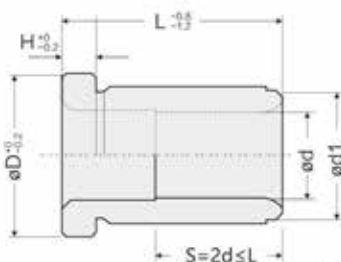


| M | 材质   | H | 硬度         |
|---|------|---|------------|
|   | SUI2 |   | HRC 60 ± 2 |

| Type | d       |              | d1      |              | D  | T  | L       |
|------|---------|--------------|---------|--------------|----|----|---------|
|      | 尺寸 Size | 公差 Tolerance | 尺寸 Size | 公差 Tolerance |    |    |         |
| GPH  | 8       | -0.015       | 8       | +0.012       | 11 | 5  | 30-70   |
|      | 10      | -0.020       | 10      | +0.006       | 13 | 5  | 30-70   |
|      | 12      | -0.020       | 12      | +0.015       | 17 | 5  | 30-200  |
|      | 13      | -0.025       | 13      | +0.007       | 18 | 5  | 30-200  |
|      | 16      |              | 16      |              | 21 | 8  | 30-250  |
|      | 20      |              | 20      |              | 25 | 8  | 30-300  |
|      | 25      | -0.025       | 25      | +0.017       | 30 | 8  | 40-350  |
|      | 28      | -0.030       | 28      | +0.008       | 32 | 8  | 50-300  |
|      | 30      |              | 30      |              | 35 | 8  | 50-400  |
|      | 32      | -0.030       | 32      | +0.020       | 37 | 8  | 50-350  |
|      | 35      | -0.035       | 35      | +0.009       | 40 | 8  | 60-450  |
|      | 40      | -0.030       | 40      | +0.020       | 45 | 10 | 80-500  |
|      | 50      | -0.040       | 50      | +0.009       | 55 | 12 | 100-550 |
|      | 60      | -0.030       | 60      | +0.024       | 65 | 15 | 200-550 |
|      |         | -0.050       |         | +0.011       |    |    |         |

### GBA

带肩导套



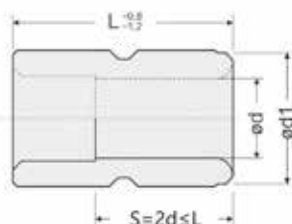
S为内孔有效长

| M 材质 | H 硬度       |
|------|------------|
| SUJ2 | HRC 60 ± 2 |
| 20Cr | HRC 60 ± 2 |

| Type | d       |              | H | d1      |              | D  | L  |    |    |    |    |    |  |
|------|---------|--------------|---|---------|--------------|----|----|----|----|----|----|----|--|
|      | 尺寸 Size | 公差 Tolerance |   | 尺寸 Size | 公差 Tolerance |    | 15 | 20 | 25 | 30 | 35 | 40 |  |
| GBA  | 8       | +0.014       | 5 | 12      | +0.015       | 14 |    |    |    |    |    |    |  |
|      | 10      | +0.005       |   | 14      | +0.007       | 16 |    |    |    |    |    |    |  |
|      | 12      | +0.017       |   | 18      |              | 22 |    |    |    |    |    |    |  |
|      | 13      | +0.006       |   | 20      | +0.017       | 25 |    |    |    |    |    |    |  |
|      | 16      |              | 6 | 25      | +0.008       | 30 |    |    |    |    |    |    |  |
|      | 20      |              |   | 30      |              | 35 | -  |    |    |    |    |    |  |
|      | 25      | +0.02        |   | 35      |              | 40 | -  |    |    |    |    |    |  |
|      | 30      | +0.007       |   | 42      | +0.02        | 47 | -  | -  |    |    |    |    |  |
|      | 35      |              | 8 | 48      | +0.009       | 54 | -  | -  | -  |    |    |    |  |
|      | 40      | +0.025       |   | 55      |              | 60 | -  | -  | -  | -  |    |    |  |
|      | 50      | +0.009       |   | 70      | +0.024       | 75 | -  | -  | -  | -  | -  |    |  |
|      | 60      | +0.029 +0.01 |   | 80      | +0.011       | 86 | -  | -  | -  | -  | -  | -  |  |

### GBB

直导套



S为内孔有效长

| M 材质 | H 硬度       |
|------|------------|
| SUJ2 | HRC 60 ± 2 |
| 20Cr | HRC 60 ± 2 |

| Type | d       |              | d1      |              | L  |
|------|---------|--------------|---------|--------------|----|
|      | 尺寸 Size | 公差 Tolerance | 尺寸 Size | 公差 Tolerance |    |
| GBB  | 10      | +0.009 0     | 14      | +0.018       | 10 |
|      | 12      | +0.017       | 18      | +0.007       | 13 |
|      | 16      | +0.006       | 25      | +0.021       | 16 |
|      | 20      |              | 30      | +0.008       | 20 |
|      | 25      | +0.02        | 35      |              | 25 |
|      | 30      | +0.007       | 42      | +0.025       | 20 |
|      | 35      |              | 48      | +0.009       |    |
|      | 40      | +0.025       | 55      |              |    |
|      | 50      | +0.009       | 70      | +0.03        |    |
|      | 60      | +0.003 +0.01 | 880     | +0.011       |    |

GBC



[illegible]

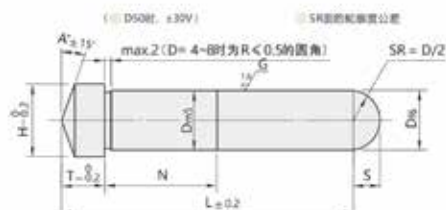
# 斜导柱

## ANGLE GUIDE PIN

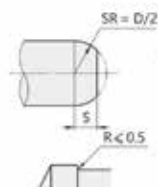


| M 材质 | H 硬度       |
|------|------------|
| SUJ2 | HRC 60 ± 2 |
| 20Cr | HRC 60 ± 2 |

## AP



0.3

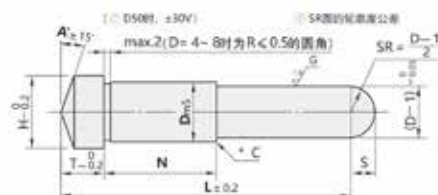


① D > 25时  
球面端以左图为准。

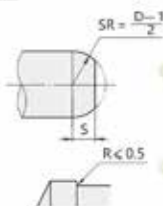
② D = 4~8时  
肩部根部为R < 0.5的  
圆角。

① D = 20~25 时, 有时一端带有中心孔。此时斜导柱的各尺寸为中心孔加工前的尺寸。D > 30 时, 两端带中心孔。

## APS



0.3



① D > 25时  
球面端以左图为准。

② D = 4~8时  
肩部根部为R < 0.5的  
圆角。

\* D4~25的台阶周边作了倒角C加工。(倒角C约0.3)

① D = 20~25 时, 有时一端带有中心孔。此时斜导柱的各尺寸为中心孔加工前的尺寸。D > 30 时, 两端带中心孔。

# 斜导柱

## ANGLE GUIDE PIN

| Type             | D  | m5                 | t6               | T  | H  | S   |                                           | 指定単位0.1mm                                                              |                                      | 指定単位1<br>A |                                                                         |  |
|------------------|----|--------------------|------------------|----|----|-----|-------------------------------------------|------------------------------------------------------------------------|--------------------------------------|------------|-------------------------------------------------------------------------|--|
|                  |    |                    | (AP)             |    |    | AP  | APS                                       | L                                                                      | N                                    |            |                                                                         |  |
| AP<br>APS<br>台阶型 | 4  | + 0.009<br>+ 0.004 | -0.010<br>-0.018 | 5  | 7  | 2   | 1.5                                       | 15.0~70.0<br>70.1~90.0<br>15.0~70.0<br>70.1~90.0<br>90.1~100.0         | 2≦N<br>N≦L-T-1<br>或<br>N=0<br>(无压入部) | 0~30       |                                                                         |  |
|                  | 5  |                    |                  |    | 8  | 2.5 | 2                                         | 15.0~70.0<br>70.1~90.0<br>90.1~100.0                                   |                                      |            |                                                                         |  |
|                  | 6  |                    |                  |    | 9  | 3   | 2.5                                       | 15.0~70.0<br>70.1~90.0<br>90.1~110.0<br>15.0~80.0                      |                                      |            |                                                                         |  |
|                  | 8  | + 0.012<br>+ 0.006 | -0.013<br>-0.022 |    | 11 | 4   | 3.5                                       | 80.1~110.0<br>110.1~130.0<br>20.0~110.0                                |                                      |            |                                                                         |  |
|                  | 10 |                    |                  |    | 13 | 5   | 4.5                                       | 110.1~160.0<br>160.1~200.0<br>20.0~110.0                               |                                      |            |                                                                         |  |
|                  | 12 | + 0.015<br>+ 0.007 | -0.016<br>-0.027 | 10 | 15 | 6   | 5.5                                       | 110.1~160.0<br>160.1~200.0<br>200.1~250.0<br>20.0~110.0                |                                      |            |                                                                         |  |
|                  | 13 |                    |                  |    | 16 | 6.5 | 6                                         | 110.1~160.0<br>160.1~200.0<br>200.1~250.0<br>20.0~110.0                |                                      |            |                                                                         |  |
|                  | 15 |                    |                  | 13 | 18 | 7.5 | 7                                         | 110.1~160.0<br>160.1~200.0<br>200.1~250.0<br>20.0~110.0                |                                      |            |                                                                         |  |
|                  | 16 |                    |                  |    | 19 | 8   | 7.5                                       | 110.1~160.0<br>160.1~200.0<br>200.1~250.0<br>40.0~130.0                |                                      |            |                                                                         |  |
|                  | 20 |                    |                  |    | 23 | 9.5 | 10                                        | 130.1~200.0<br>200.1~300.0<br>300.1~350.0<br>40.0~130.0                |                                      |            |                                                                         |  |
|                  | 25 | + 0.017<br>+ 0.008 | -0.020<br>-0.033 | 28 | 35 |     |                                           | 130.1~200.0<br>200.1~300.0<br>300.1~350.0<br>350.1~400.0<br>60.0~160.0 |                                      |            |                                                                         |  |
|                  | 30 |                    |                  |    | 10 | 10  | 35                                        |                                                                        |                                      |            | 160.1~220.0<br>220.1~300.0<br>300.1~400.0<br>400.1~500.0<br>100.0~160.0 |  |
|                  | 35 | + 0.020<br>+ 0.009 | -0.025<br>-0.041 | 15 |    |     | 40                                        |                                                                        |                                      |            | 160.1~220.0<br>220.1~300.0<br>300.1~400.0<br>400.1~500.0<br>100.0~160.0 |  |
|                  | 40 |                    |                  |    |    |     |                                           |                                                                        |                                      |            | 160.1~220.0<br>220.1~300.0<br>300.1~400.0<br>400.1~500.0<br>200.0~260.0 |  |
|                  | 50 |                    |                  |    |    |     |                                           |                                                                        |                                      |            | 260.1~320.0<br>320.1~400.0<br>400.1~500.0                               |  |
|                  | 20 |                    |                  | 55 |    |     | 260.1~320.0<br>320.1~400.0<br>400.1~500.0 |                                                                        |                                      |            |                                                                         |  |
|                  |    |                    |                  |    |    |     | 260.1~320.0<br>320.1~400.0<br>400.1~500.0 |                                                                        |                                      |            |                                                                         |  |

# EJECTOR PIN & SHOULDER PUNCHES

SERIES ▶▶▶

顶针、冲头系列



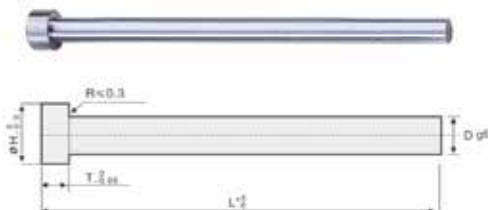
Technical drawing of a standard pin (销). The drawing includes a side view and two cross-sectional views (labeled '标准' for standard and '超精密' for ultra-precision). The side view shows a pin with a diameter of  $\phi H \pm \frac{0.01}{0.03}$ , a length of  $L \pm \frac{0.03}{0.1}$ , and a fillet radius of  $R \leq 0.3$ . The cross-sectional views show the pin's profile with dimensions  $D \pm \frac{0.01}{0.03}$  for the standard version and  $D \pm \frac{0.005}{0.01}$  for the ultra-precision version. The pin is shown with a central hole of diameter  $T \pm \frac{0.01}{0.03}$ .

# 顶针

## EJECTOR PIN

EPG

德规标准



| 材料             | 内部硬度     | 表面硬度        | 热处理           |
|----------------|----------|-------------|---------------|
| 1.2343 (SKD61) | HRC 40±3 | HV 1000±100 | 氮化处理 Nitrided |
| 1.2510 (SKH51) | HRC 50±2 | HV 1000±100 | 真空处理 Vacuumed |
| 1.2510 (SKH51) | HRC 60±2 |             |               |

| 杆径范围     | 外径公差  |
|----------|-------|
| 0.5-3    | +0.00 |
|          | -0.08 |
| 3.01-6   | +0.04 |
|          | -0.12 |
| 6.01-10  | +0.05 |
|          | -0.14 |
| 10.0-18  | +0.06 |
|          | -0.17 |
| 18.01-30 | +0.07 |
|          | -0.20 |

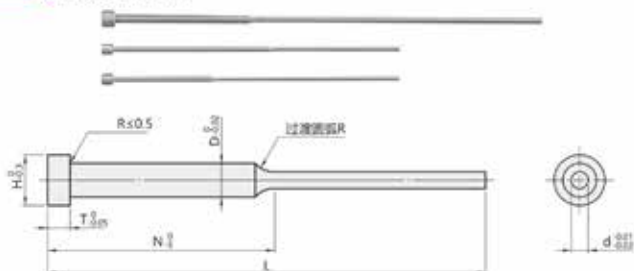
| Type | 外径<br>D<br>g6 | 头径<br>H<br>0<br>-0.3 | 头厚<br>T<br>0<br>-0.05 | L   |     |     |     |     |     |     |     |     |     |  |
|------|---------------|----------------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      |               |                      |                       | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 |  |
| EPG  | 0.8           | 2.5                  | 1.2                   |     |     |     |     |     | -   |     | -   | -   | -   |  |
|      | 1.0           |                      |                       |     |     |     |     |     | -   | -   | -   | -   |     |  |
|      | 1.2           |                      |                       |     |     |     |     |     |     |     |     | -   |     |  |
|      | 1.5           | 3                    | 1.5                   |     |     |     |     |     |     |     |     |     |     |  |
|      | 2.0           | 4                    | 2                     |     |     |     |     |     |     |     |     |     |     |  |
|      | 2.2           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 2.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 2.7           | 5                    |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 3.0           | 6                    | 3                     |     |     |     |     |     |     |     |     |     |     |  |
|      | 3.2           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 3.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 3.7           | 7                    |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 4.0           | 8                    | 5                     |     |     |     |     |     |     |     |     |     |     |  |
|      | 4.2           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 4.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 5.0           | 10                   | 7                     |     |     |     |     |     |     |     |     |     |     |  |
|      | 5.2           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 5.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 6.0           | 12                   | 8                     |     |     |     |     |     |     |     |     |     |     |  |
|      | 6.2           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 6.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 7.0           | 14                   | 10                    |     |     |     |     |     |     |     |     |     |     |  |
|      | 7.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 8.0           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 8.2           | 16                   | 12                    |     |     |     |     |     |     |     |     |     |     |  |
|      | 9.0           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 9.5           |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 10.0          | 20                   | 14                    |     |     |     |     |     |     |     |     |     |     |  |
|      | 11.0          |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 12.0          |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 14.0          | 22                   | 16                    |     |     |     |     |     |     |     |     |     |     |  |
|      | 16.0          |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 18.0          |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 20.0          | 24                   | 18                    |     |     |     |     |     |     |     |     |     |     |  |
|      | 25.0          |                      |                       |     |     |     |     |     |     |     |     |     |     |  |
|      | 32.0          |                      |                       |     |     |     |     |     |     |     |     |     |     |  |





## SEP

### 标准规格指定长度



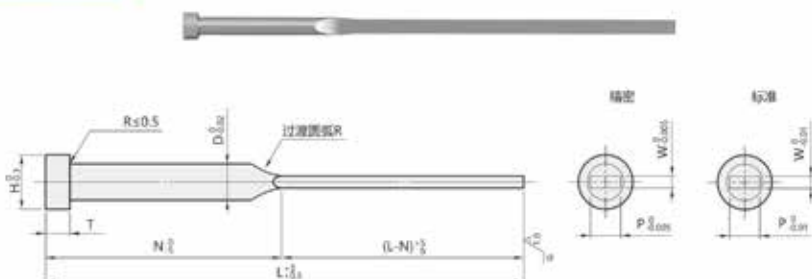
| 材料             | 内部硬度     | 表面硬度        | 热处理           |
|----------------|----------|-------------|---------------|
| 1.2343 (SKD61) | HRC 40±3 | HV 1000±100 | 氮化处理 Nitrided |
|                | HRC 50±2 | HV 1000±100 | 真空处理 Vacuumed |
| 1.2510 (SKH51) | HRC 60±2 |             |               |

[illegible]

# 台阶扁推杆 FLAT EJECTOR PIN

## FEP

## 指定尺寸



| 材料             | 内部硬度     | 表面硬度        | 热处理           |
|----------------|----------|-------------|---------------|
| 1.2343 (SKD61) | HRC 40±3 | HV 1000±100 | 氮化处理 Nitrided |
|                | HRC 50±2 | HV 1000±100 | 真空处理 Vacuumed |
| 1.2510 (SKH51) | HRC 60±2 |             |               |

1. 肩位0.8以下建议用SKH51材质
2. N部尺寸应大于等于30mm.
3. 托径尺寸D应该大于等于 $\sqrt{P^2 + W^2}$

| Type  |       | 头部厚度4mm |         | 标准头部   |          |         | L                    | P                    | W                    | N                    |
|-------|-------|---------|---------|--------|----------|---------|----------------------|----------------------|----------------------|----------------------|
| 头厚4mm | 标准头部  | D       | H       | T      | H        | T       | 指定单位 <sup>(mm)</sup> | 指定单位 <sup>(mm)</sup> | 指定单位 <sup>(mm)</sup> | 指定单位 <sup>(mm)</sup> |
| FEP-A | FEP-B | 2       | 4       | 4      | 6        | 4       | 40-300               | 0.8-1.8              | 0.3~                 | N≥30                 |
|       |       | 2.5     | 5       |        |          |         |                      | 0.8-2.3              |                      |                      |
|       |       | 3       | 6       |        |          |         |                      | 0.8-2.8              |                      |                      |
|       |       | 3.5     | 7       | 7      | 40-359   | 1-3.3   |                      |                      |                      |                      |
|       |       | 4       |         | 8      |          | 1-3.8   |                      |                      |                      |                      |
|       |       | 4.5     | 9       | 4(6)   |          | 9       | 1.2-4.3              |                      |                      |                      |
|       |       | 5       |         |        | 10       | 7       | 1.5-4.8              | 0.4~                 |                      |                      |
|       |       | 5.5     | 1.8-5.3 |        |          |         |                      |                      |                      |                      |
|       |       | 6       | 2-5.8   |        |          |         |                      |                      |                      |                      |
|       |       | 6.5     | 11      | 4(8)   |          |         | 2-6.3                | 0.5~                 |                      |                      |
|       |       | 7       |         |        | 11       | 2.3-6.8 |                      |                      |                      |                      |
|       |       | 8       |         |        | 13       | 2.3-7.8 |                      |                      |                      |                      |
|       |       | 9       | 14      |        | 2.3-8.3  |         |                      |                      |                      |                      |
|       |       | 10      | 15      | 9      | 3-9.8    |         |                      |                      |                      |                      |
|       |       | 11      | 16      | 3-10.3 |          |         |                      |                      |                      |                      |
|       |       | 12      | 17      | 17     | 3.5-11.8 | 1~      |                      |                      |                      |                      |

# 司筒

## SLEEVE PIN

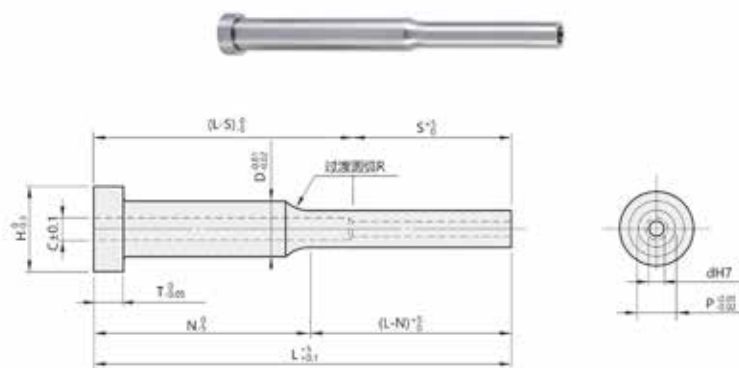
ES

直司筒



ESS

托司筒



| M 材质              | LH 内部硬度  | SH 表面硬度    | 热处理           |
|-------------------|----------|------------|---------------|
| 1.2343<br>(SKD61) | HRC 40±3 | HV1000±100 | 氮化处理 Nitrided |
|                   | HRC 50±2 | HV1000±100 | 真空处理 Vacuumed |
| 1.2510<br>(SKH51) | HRC 60±2 |            |               |

1. C为避空尺寸,  $d+1 \leq C < D$
2. S为内孔有效长尺寸  $20 \leq S \leq 50$ .
3. 内外径同心度  $\leq 0.06$ .
4. 适用司筒内针公差 -0.01到 -0.02.
5. 长度方向S有效长初期应  $\leq 10\text{mm}$ .
6. 如需配内针, 请指定内针长度和杯头尺寸.
7. 特殊规格和公差要求可依来图加工订制.

# 顶针非标加工

## EJECTOR PIN NON-STANDARD PROCESSING

我司常用顶针规格都有大量库存，在此基础上，我们可以为客户进行各种类型的顶针非标定制，各种尺寸扁顶针、托针加工（包括尾部磨边，头部R角成型），各种顶针头部放电成型，控长，磨边，异形加工等。我们的非标加工交期快，价格优，品质好，更多细节欢迎和我们联系。

We provide Step ejector and Flat ejector pin non-standard processing, including R Angle processing, EDM processing, edge cutting and other special-shaped ejector pin processing. Our products are of good material, high precision, fast delivery, low price, welcome to contact us.



各种规格扁顶针加工，头部R角最小可达0.2  
All kinds of flat ejector pin processing,  
head minimum R=0.2



各种规格托针加工，最细部分0.2mm  
All kinds of step ejector pin processing,  
the latest diameter 0.2mm



顶针头部放电加工成型，无需二次加工  
Ejector pin head EDM processing,  
save cost and time



顶针本体异形加工，头部异形加工  
Ejector pin non-standard processing,  
save cost and time



尾部磨平磨边，头部线割加工  
Ejector pin non-standard processing,  
save cost and time



顶针本体加工托针，头部放电成型  
Ejector pin non-standard processing,  
save cost and time



尾部磨边，头部异形放电加工  
Ejector pin non-standard processing,  
save cost and time



托针非标加工  
Ejector pin non-standard processing,  
save cost and time

**COOLING**  
SERIES  
冷却系列



# 快速接头

## QUICK RELEASE CONNECTOR PLUGS

### Z80 / ...



Z802/...  
Z81/...  
Z811/...  
Z83/...  
Z830/...  
Z831/...  
Z90/...



Z85/...  
Z851/...  
Z852/...  
Z853/...  
Z854/...

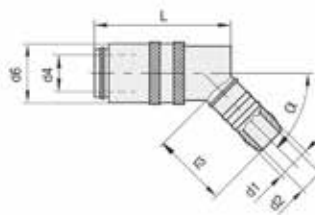
| M 材质  | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   | 120     |
| Water | 100     |

| Type   | p [bar] | L  | l2 | d6 | d2 | d1/d4 |
|--------|---------|----|----|----|----|-------|
| Z80/9  | 25      | 31 | 22 | 17 | 6  | 9     |
| Z80/13 |         | 37 | 25 | 22 | 9  | 13    |
| Z80/19 |         | 58 | 32 | 31 | 13 | 19    |

### Z80 /.../45°



Z802/...  
Z81/...  
Z811/...  
Z83/...  
Z830/...  
Z831/...  
Z90/...



Z85/...  
Z851/...  
Z852/...  
Z853/...  
Z854/...

| M 材质  | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   | 120     |
| Water | 100     |

| Type      | p [bar] | L  | l2 | d6 | d2 | d1/d4 | α   |
|-----------|---------|----|----|----|----|-------|-----|
| Z80/9/45  | 25      | 41 | 28 | 17 | 6  | 9     | 90° |
| Z80/13/45 |         | 51 |    | 22 | 9  | 13    |     |
| Z80/19/45 |         | 78 |    | 31 | 13 | 19    |     |

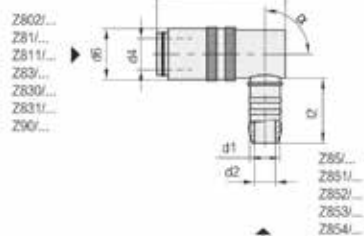
# 快速接头

## QUICK RELEASE CONNECTOR PLUG

### Z80 /.../ 90°

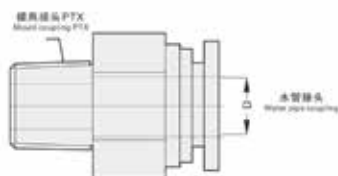


| 温度    | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   |         |
| Water | 160     |



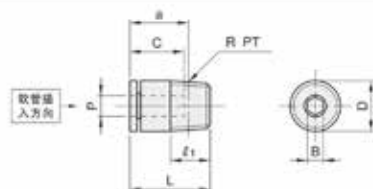
| Type      | p [bar] | L  | l2 | d6 | d2 | d1/d4 | α   |
|-----------|---------|----|----|----|----|-------|-----|
| Z80/9/90  | 25      | 41 | 24 | 17 | 6  | 9     | 90° |
| Z80/13/90 |         | 51 | 28 | 22 | 9  | 13    |     |
| Z80/19/90 |         | 78 | 31 | 31 | 13 | 19    |     |

### PTX



| Type  | PT  | D(φ)         |
|-------|-----|--------------|
| PTX-1 | 1/8 | 6, 8, 10, 12 |
| PTX-2 | 1/4 |              |
| PTX-3 | 3/8 |              |
| PTX-4 | 1/2 | 8, 10, 12    |

### M-POC



| Type  | PT  | D(φ)    |
|-------|-----|---------|
| M-POC | 1/8 | 4/6/8   |
|       | 1/4 | 6/8/10  |
|       | 3/8 | 8/10/12 |



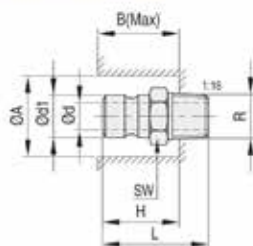
Type PT D  
M-POC - 1/8 - 4



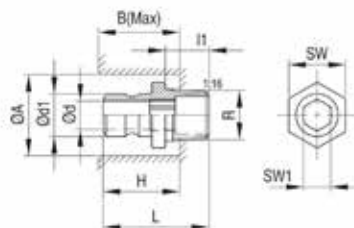
# 快速接头

## QUICK RELEASE CONNECTOR PLUGS

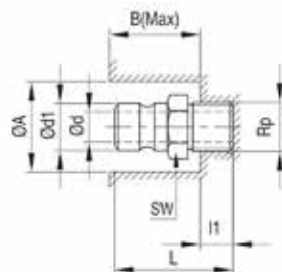
### FSVK



| Type      | R        | d1   | d  | L    | A  | B  | H  | SW | Series |
|-----------|----------|------|----|------|----|----|----|----|--------|
| N6-1/8"A  | 1/8"BSPT | 9,4  | 6  | 24,0 | 22 | 18 | 17 | 13 | N6     |
| N6-MA     | M10x1    |      |    | 23,0 |    |    |    |    |        |
| N6-1/4"A  | 1/4"BSPT |      |    | 29,0 | 26 | 20 | 19 | 16 |        |
| N6-3/8"A  | 3/8"BSPT |      |    | 30,0 | 30 | 22 | 21 | 19 |        |
| N9-1/8"A  | 1/8"BSPT | 13,5 | 9  | 34,0 | 26 | 26 | 25 | 14 | N9     |
| N9-1/4"A  | 1/4"BSPT |      |    |      |    |    |    | 16 |        |
| N9-3/8"A  | 3/8"BSPT |      |    |      | 30 | 28 | 26 | 19 |        |
| N9-MA     | M10x1    |      |    |      |    |    |    |    |        |
| N9-1/2"A  | 1/2"BSPT | 19,9 | 16 | 29,5 | 26 | 26 | 25 | 16 | N16    |
| N16-1/2"A | 1/2"BSPT |      |    | 39,0 | 37 | 28 | 26 | 24 |        |
| N16-1/2"A | 1/2"BSPT |      |    | 44,0 | 32 | 38 | 37 | 22 |        |
| N16-3/4"A | 3/4"BSPT |      |    | 45,0 | 38 | 40 | 38 | 29 |        |



| Type          | R        | d   | d1   | L  | I1 | A  | B  | H  | SW | SW1 | Series |
|---------------|----------|-----|------|----|----|----|----|----|----|-----|--------|
| N6-1/8"AHN    | 1/8"BSPT | 6   | 9,4  | 23 | 9  | 22 |    |    | 11 |     | N6     |
| N6-M10x1AHN   | M10x1    |     |      |    |    |    | 16 | 14 |    | 5   |        |
| N6-1/4"AHN    | 1/4"BSPT |     |      | 28 |    |    |    |    |    |     |        |
| N6-M14x1.5AHM | M14x1.5  |     |      |    |    | 26 |    |    | 16 |     |        |
| N9-1/4"AHM    | 1/4"BSPT | 9,3 | 13,5 | 34 | 14 |    | 22 | 20 |    |     | N9     |
| N9-M14x1.5AHN | M14x1.5  |     |      |    |    |    |    |    |    | 8   |        |
| N9-M16x1.5AHN | M16x1.5  |     |      |    |    |    |    |    |    |     |        |
| N9-3/8"AHM    | 3/8"BSPT |     |      | 35 |    | 30 | 23 | 21 | 19 |     |        |



| Type        | Rp       | A  | B    | d1   | d  | L  | I1   | SW | Series |
|-------------|----------|----|------|------|----|----|------|----|--------|
| FN 9-14 A   | 1/4"BSPT | 30 | 23,5 | 13,5 | 9  | 34 | 11,5 | 16 | N9     |
| FN 9-38 A   | 3/8"BSPT |    |      |      |    |    |      | 19 |        |
| FN 16-38 A  | 3/8"BSPT |    |      |      |    | 40 |      |    |        |
| FN 16-38 AL | 3/8"BSPT |    |      |      |    | 53 | 24,5 |    |        |
| FN 16-12 A  | 1/2"BSPT | 32 | 29,5 | 19,9 | 15 | 45 | 16,5 | 22 | N16    |
| FN 16-12 AL | 1/2"BSPT |    |      |      |    | 54 | 25,5 |    |        |

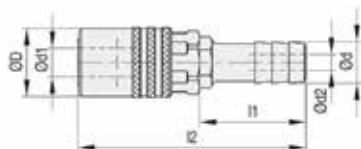
材料

黄铜 Brass

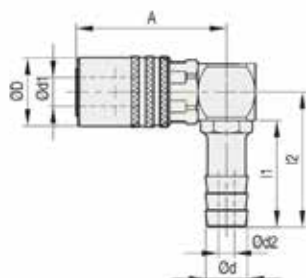
## 快速接头

## QUICK RELEASE CONNECTOR PLUG

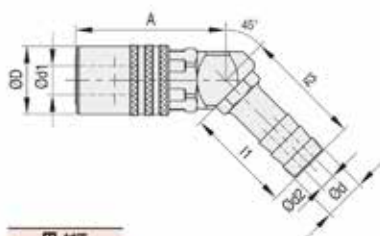
## SVK



| Type    | d1   | d2 | d    | D    | l1 | l2  | Series |
|---------|------|----|------|------|----|-----|--------|
| SVK-106 | 9,5  | 5  | 7,3  | 17,0 | 27 | 57  | N6     |
| SVK-109 |      | 6  | 10,5 |      |    |     |        |
| SVK-111 |      | 9  | 12,2 |      |    |     |        |
| SVK-113 | 13,6 | 9  | 14,0 | 22,6 | 46 | 68  | N9     |
| SVK-119 | 20,0 | 16 | 20,0 | 30,0 | 46 | 103 | N16    |



| Type    | d1   | d2 | d    | D    | A  | l1 | l2 | Series |
|---------|------|----|------|------|----|----|----|--------|
| SVK-206 | 9,5  | 5  | 7,3  | 17,0 | 38 | 27 | 34 | N6     |
| SVK-209 |      | 6  | 10,5 |      |    |    |    |        |
| SVK-211 | 13,6 | 9  | 12,2 | 22,6 | 52 | 46 | 69 | N9     |
| SVK-213 |      |    | 14,0 |      |    |    |    |        |
| SVK-219 | 20,0 | 16 | 20,0 | 30,0 | 74 | 46 | 69 | N16    |



| Type    | d1   | d2 | d    | D    | A  | l1 | l2 | Series |
|---------|------|----|------|------|----|----|----|--------|
| SVK-306 | 9,5  | 5  | 7,3  | 17,0 | 38 | 27 | 34 | N6     |
| SVK-309 |      | 6  | 10,5 |      |    |    |    |        |
| SVK-311 | 13,6 | 9  | 12,2 | 22,6 | 52 | 46 | 69 | N9     |
| SVK-313 |      |    | 14,0 |      |    |    |    |        |
| SVK-319 | 20,0 | 16 | 20,0 | 30,0 | 74 | 46 | 69 | N16    |

M 材质

黄铜 Brass

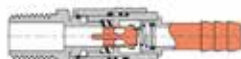
## 开放式 Flow-thru type



## 自动切断式 Automatic shut-off type



VALVE CLOSED

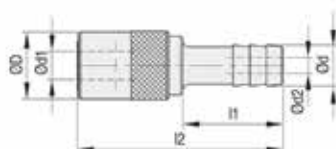


VALVE OPEN

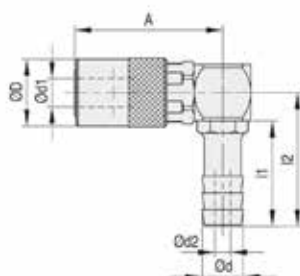
# 快速接头

## QUICK RELEASE CONNECTOR PLUGS

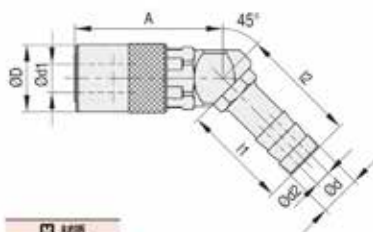
### SK



| Type   | d1   | d2 | d    | D    | l1 | l2 | Series |
|--------|------|----|------|------|----|----|--------|
| SK-106 | 9,5  | 5  | 7,3  | 17,0 | 25 | 52 | N6     |
| SK-109 |      | 6  | 10,5 |      |    | 62 |        |
| SK-111 | 13,6 | 9  | 12,2 | 22,6 | 32 | 77 | N9     |
| SK-113 |      |    | 14,0 |      |    | 77 |        |
| SK-119 | 20,0 | 16 | 20,0 | 30,0 | 32 | 77 | N16    |



| Type   | d1   | d2 | d    | D    | A  | l1 | l2 | Series |
|--------|------|----|------|------|----|----|----|--------|
| SK-206 | 9,5  | 5  | 7,3  | 17,0 | 38 | 27 | 34 | N6     |
| SK-209 |      | 6  | 10,5 |      |    |    | 37 |        |
| SK-211 | 13,6 | 9  | 12,2 | 22,6 | 52 | 46 | 69 | N9     |
| SK-213 |      |    | 14,0 |      |    |    | 69 |        |
| SK-219 | 20,0 | 16 | 20,0 | 30,0 | 68 | 46 | 69 | N16    |



| Type   | d1   | d2 | d    | D    | A  | l1 | l2 | Series |
|--------|------|----|------|------|----|----|----|--------|
| SK-306 | 9,5  | 5  | 7,3  | 17,0 | 38 | 27 | 37 | N6     |
| SK-309 |      | 6  | 10,5 |      |    |    | 37 |        |
| SK-311 | 13,6 | 9  | 12,2 | 22,6 | 52 | 46 | 69 | N9     |
| SK-313 |      |    | 14,0 |      |    |    | 69 |        |
| SK-319 | 20,0 | 16 | 20,0 | 30,0 | 67 | 46 | 69 | N16    |

材质

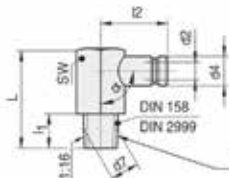
黄铜 Brass

# 水咀 NIPPLES

## Z81 /.../ 90°



| 材料    | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   | 120     |
| Water | 100     |



Coated with sealing compound

Z80/... Z80HT/... Z80PL /...  
 Z801/... Z801HT/... Z801PL /...  
 Z802/... Z8021/...  
 Z805/...  
 Z8051/...  
 Z807/... Z807HT/...  
 Z808/... Z808HT/...  
 Z82/...

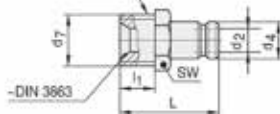
| Type             | L  | l1 | SW | l2 | d2  | d4 | d7       |
|------------------|----|----|----|----|-----|----|----------|
| Z81/9/8x0,75/90  | 27 | 9  | 11 | 23 | 4,5 | 9  | M 8x0,75 |
| Z81/9/9x1/90     |    |    |    |    | 5,5 |    | M 9x1    |
| Z81/9/10x1/90    |    |    |    |    | 6   |    | M 10x1   |
| Z81/9/R1/8/90    |    |    |    |    |     |    | R 1/8A   |
| Z81/13/11x1/90   | 34 | 11 | 15 | 25 | 8,5 | 13 | M 11x1   |
| Z81/13/14x1,5/90 |    |    |    |    | 9   |    | M 14x1,5 |
| Z81/13/R1/4/90   |    |    |    |    |     |    | R 1/4A   |
| Z81/19/24x1,5/90 | 47 | 16 | 24 | 42 | 13  | 19 | M 24x1,5 |
| Z81/19/R1/2/90   |    |    |    |    |     |    | G 1/2A   |

## Z811/...



| 材料    | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   | 120     |
| Water | 100     |

Coated with sealing compound



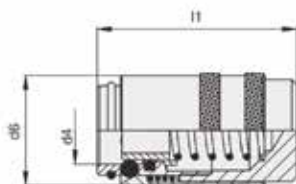
Z80/... Z80PL /...  
 Z802/...  
 Z807/...  
 Z80700/...  
 Z805/...  
 Z82/...

| Type           | L  | l1 | SW | d2 | d4 | d7       |
|----------------|----|----|----|----|----|----------|
| Z811/9/14x1,5  | 29 | 12 | 15 | 6  | 9  | M 14x1,5 |
| Z811/9/R1/4    |    |    |    |    |    | G 1/4A   |
| Z811/13/16x1,5 | 30 |    | 17 | 9  | 13 | M 16X1,5 |
| Z811/13/R3/8   |    |    |    |    |    | G 3/8A   |
| Z811/19/24x1,5 | 51 | 16 | 27 | 13 | 19 | M 24X1,5 |
| Z811/19/R3/4   |    |    |    |    |    | G 3/4A   |

Z825 / ...



Z804/...  
Z811/...  
Z810/...  
Z831/...  
Z830/...  
Z831/...  
Z90/...  
Z900/...



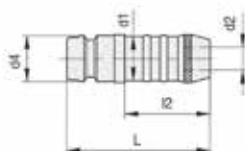
| 材料    | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   | 120     |
| Water | 100     |

| Type    | l1 | d6    | d4 |
|---------|----|-------|----|
| Z825/9  | 34 | 17,25 | 9  |
| Z825/13 | 40 | 22,1  | 13 |
| Z825/19 | 58 | 31    | 19 |

Z83 / ...



Z80/... Z80PL /...  
Z801/... Z801PL /...  
Z807/...  
Z82/...



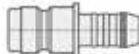
Z85/...  
Z852/...  
Z853/...  
Z854/...

| 材料    | max. °C |
|-------|---------|
| Air   | 200     |
| Oil   | 120     |
| Water | 100     |

Typ 1



Typ 2



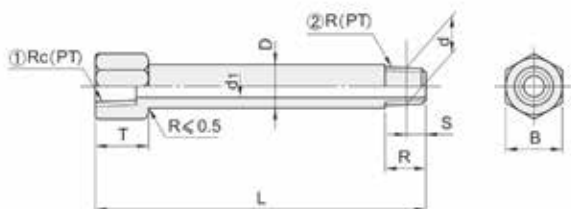
| Type      | l2   | L    | d2  | Typ | d4 | d1 |
|-----------|------|------|-----|-----|----|----|
| Z83/9     | 22,5 | 43,5 | 6   | 1   | 9  | 9  |
| Z83/13    | 25   | 42   | 9   |     | 13 | 13 |
| Z83/19    | 32   | 61   | 13  |     | 19 | 19 |
| Z83/9/5   | 13,5 | 29,5 | 3,5 | 2   | 9  | 5  |
| Z83/13/9  | 22,5 | 39,5 | 6   |     | 13 | 9  |
| Z83/19/13 | 25   | 54   | 9   |     | 19 | 13 |

# 冷却水用接头

## COOLING WATER CONNECTOR

### JTW / JTWS 锥螺纹延长用

RoHS

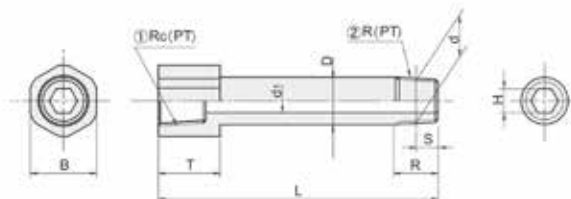


| Code | 材料         |
|------|------------|
| JTW  | 黄铜 C3604   |
| JTWS | 不锈钢 SUS304 |

| Type        | No. | L       |          | B  | T  | D    | d1 | ℓ  | S    | d      | ①<br>Rc(PT) | ②<br>R(PT) |
|-------------|-----|---------|----------|----|----|------|----|----|------|--------|-------------|------------|
|             |     | 指定单位5mm | 指定单位10mm |    |    |      |    |    |      |        |             |            |
| JTW<br>JTWS | 1   | 30~145  | 150~300  | 14 | 13 | 10.5 | 6  | 10 | 3.97 | 9.728  | 1/8         | 1/8        |
|             | 2   |         |          | 17 | 16 | 13.8 | 8  |    | 6.01 | 13.157 | 1/4         | 1/4        |
|             | 3   |         |          | 21 | 17 | 17.3 | 10 | 12 | 6.35 | 16.662 | 3/8         | 3/8        |

① 请在常压980kPa(10kgf/cm<sup>2</sup>)以下使用。 ② L尺寸250mm以上仅适用于JTW。

### HX-JTW



| 材料        |
|-----------|
| 黄铜(C3604) |

HX-JTW (外六角内C内六角孔型)

| Type   | No. | L                  | B  | T  | D  | d <sub>1</sub> | 内六角孔<br>○H | ℓ  | S    | d      | ①<br>Rc(PT) | ②<br>R(PT) |
|--------|-----|--------------------|----|----|----|----------------|------------|----|------|--------|-------------|------------|
| HX-JTW | 1   | 50~150 (指定単位 10mm) | 14 | 13 | 10 | 6              | ○ 6        | 9  | 3.97 | 9.728  | 1/8         | 1/8        |
|        | 2   |                    | 17 | 16 | 13 | 8              | ○ 8        | 11 | 6.01 | 13.157 | 1/4         | 1/4        |
|        | 3   | 50・100・150 (选择)    | 21 | 17 | 17 | 10             | ○10        | 13 | 6.35 | 16.662 | 3/8         | 3/8        |

① 请在常压980kPa(10kgf/cm<sup>2</sup>)以下使用。 ② 锥螺纹部分②设有内六角孔。



Type No. L  
JTW 1 50

# 冷却水用接头 COOLING WATER CONNECTOR

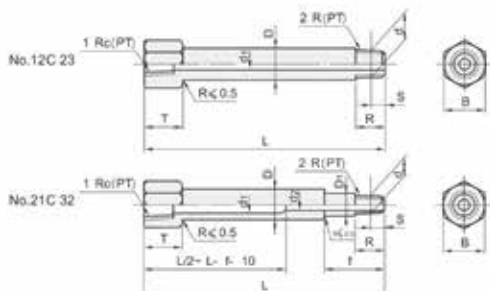
## JTWF

### 锥螺纹转换型



材质

黄铜 C3604



| Type | No. | L<br>指定单位10mm | B  | T  | D    | D <sub>1</sub> | d <sub>1</sub> | d <sub>2</sub> | f  | ℓ  | S    | d      | ①<br>Rc(PT) | ②<br>R(PT) |
|------|-----|---------------|----|----|------|----------------|----------------|----------------|----|----|------|--------|-------------|------------|
| JTWF | 1   | 50~200        | 17 | 16 | 13.8 | -              | 6              | -              | -  | 10 | 6.01 | 13.157 | 1/8         | 1/4        |
|      | 2   |               | 21 | 17 | 17.3 | -              | 8              | -              | -  | 12 | 6.35 | 16.662 | 1/4         | 3/8        |
|      | 3   |               | 17 | 16 | 13.8 | 11             | -              | 6              | 15 | 10 | 3.97 | 9.728  | 1/4         | 1/8        |
|      | 4   |               | 21 | 17 | 17.3 | 14             | 10             | 8              | -  | 10 | 6.01 | 13.157 | 3/8         | 1/4        |

① 请在常压980kPa(10kgf/cm<sup>2</sup>)以下使用。



Type No. L  
JTWF - 1 - 50

## WCP / WCSP

### 锥螺纹延长用



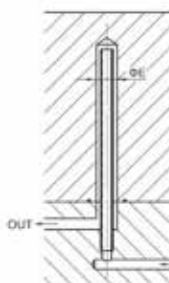
① WCP / WCSP的螺纹为细牙

| Code | 材质         |
|------|------------|
| WCP  | 黄铜 C3604   |
| WCSP | 不锈钢 SUS304 |

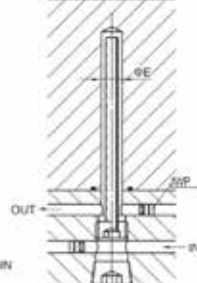
| Type          | D  | MXPitch<br>(细牙螺纹) | d   | L                            |
|---------------|----|-------------------|-----|------------------------------|
| WCP<br>(黄铜)   | 3  | M3X0.35           | 1.0 | 50 100<br>150 200            |
|               | 4  | M4X0.5            | 2.0 | 50 100<br>150 200            |
|               | 5  | M5X0.5            | 3.0 | 50 100<br>150 200<br>250 300 |
| WCSP<br>(不锈钢) | 6  | M6X0.75           | 4.0 | 50 100<br>150 200<br>250 300 |
|               | 8  | M8X0.75           | 5.0 | 50 100<br>150 200<br>250 300 |
|               | 10 | M10X1.0           | 7.0 | 50 100<br>150 200<br>250 300 |

## 功能示意图 Functional chart

### • WCPWCSP



### • WCPMCWCSPPT



① ΦE的推荐值请参照右页使用范例



Type D L  
WCP - 3 - 50

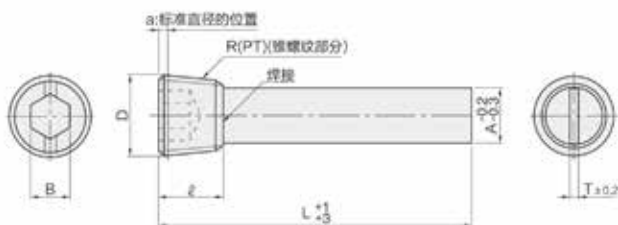


## 隔水片

## STRAIGHT BRASS PLUG BAFFLES

## CPF

## 销螺纹安装型



| 表面处理 | 硬度       | 材质       |      |
|------|----------|----------|------|
|      |          | 平板       | 螺纹部分 |
| 镀锌   | HRC32~42 | 黄铜 C3604 | S45C |

| Type | A  | L<br>10 | T   | R(PT) | D      | a    | 螺纹牙数 | Pitch | $\ell$ | B |
|------|----|---------|-----|-------|--------|------|------|-------|--------|---|
| CPF  | 6  | 50~200  | 1.5 | 1/8   | 9.728  | 0.45 | 28   | 0.91  | 7      | 5 |
|      | 8  |         |     |       |        |      |      |       |        |   |
|      | 9  |         |     |       |        |      |      |       |        |   |
|      | 10 | 50~250  | 2.0 | 1/4   | 13.157 | 0.7  | 19   | 1.34  | 8.9    | 6 |
|      | 12 |         |     |       |        |      |      |       |        |   |
|      | 14 | 50~300  |     | 3/8   | 16.662 |      |      |       | 10     | 8 |



Type

A

L

CPF

-

6

-

50

## W5039

## 封圈隔水片



| 材质       |           |
|----------|-----------|
| 平板       | 橡胶圈       |
| 黄铜 C3604 | 氟橡胶 Viton |

| Type         | S | b  | l   | l <sub>1</sub> | d <sub>1</sub> | d <sub>2</sub> |
|--------------|---|----|-----|----------------|----------------|----------------|
| W5039/10/180 | 2 | 10 | 180 | 13             | 12             | M6             |
| W5039/15/250 |   | 15 | 250 | 16             | 16             | M8             |
| W5039/20/300 |   | 20 | 300 | 20             | 22             | M12            |
| W5039/25/390 |   | 25 | 390 | 22             | 26             | M16            |

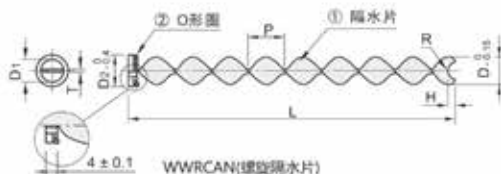
# 隔水片 STRAIGHT BRASS PLUG BAFFLES

## WWRC

## 塑胶螺旋隔水片



| Code | 构成零件 | 材料                      | 数量 |
|------|------|-------------------------|----|
| ①    | 隔水片  | PA6+30%GF (含30%玻璃纤维的尼龙) | 1  |
| ②    | O型圈  | 氟橡胶                     | 1  |



WWRCAN(螺旋隔水片)

| Code | 构成零件 | 材料                      | 数量 |
|------|------|-------------------------|----|
| ①    | 分流板  | PA6+30%GF (含30%玻璃纤维的尼龙) | 1  |
| ②    | O型圈  | 氟橡胶                     | 2  |

WWRCTN(WRCAN 用分流板)



▲请与WWRCAN配套使用


 材料  
PA6+30%GF(含30%玻璃纤维的尼龙)

 材料  
PA6+30%GF(含30%玻璃纤维的尼龙)

| Type            | D  | D1 | D2 | T   | R   | H   | P  | A   |
|-----------------|----|----|----|-----|-----|-----|----|-----|
| WWRCAN<br>(螺旋型) | 8  | 8  | 15 | 1.5 | 2   | 2   | 20 | 4.2 |
|                 | 10 | 10 | 18 | 1.8 | 2.5 | 2.5 |    |     |
|                 | 12 | 11 | 22 | 2   | 3   | 3   |    |     |
|                 | 16 | 15 | 25 | 3   | 4   | 4   |    |     |
|                 | 20 | 18 | 30 | 5   | 5   | 5   |    |     |

| Type                     | D  | D2 | D3 | T   | R   | B   |
|--------------------------|----|----|----|-----|-----|-----|
| WWRCTN<br>(分流板)<br>(分割板) | 8  | 15 | 8  | 1.2 | 4.1 | 4.5 |
|                          | 10 | 18 | 8  | 1.5 |     |     |
|                          | 12 | 22 | 10 | 1.6 |     |     |
|                          | 16 | 25 | 13 | 2   | 6.0 |     |
|                          | 20 | 30 | 17 |     |     |     |

| Type             | D  | R   | H   | P  |
|------------------|----|-----|-----|----|
| WWRCBN<br>(全螺旋型) | 8  | 2   | 2   | 20 |
|                  | 10 | 2.5 | 2.5 |    |
|                  | 12 | 3   | 3   |    |
|                  | 16 | 4   | 4   |    |
|                  | 20 | 5   | 5   |    |

| Type             | D  | T   | R   | H   | P  |
|------------------|----|-----|-----|-----|----|
| WWRCBN<br>(全螺旋型) | 8  | 1.5 | 2   | 2   | 20 |
|                  | 10 | 1.8 | 2.5 | 2.5 |    |
|                  | 12 | 2   | 3   | 3   |    |
|                  | 16 | 3   | 4   | 4   |    |
|                  | 20 |     | 5   | 5   |    |
|                  | 25 |     | 6   | 6   |    |
|                  |    | 3.5 |     |     |    |



Type

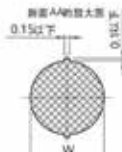
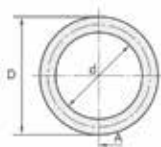
D

L

WWRCAN - 8 -



SOR



其他尺寸和规格，可以根据要求定制  
Other sizes and specifications can be customized according to requirements.

| 适用温度范围    | 材料         |
|-----------|------------|
| -15~150°C | 氟橡胶 FKM-70 |

| Type | No.  | O型圈安装槽加工尺寸(参考值) |            |            |            | W(粗细)    | do(内径) |       |
|------|------|-----------------|------------|------------|------------|----------|--------|-------|
|      |      | *d              | *D, D1(通用) |            |            |          |        |       |
| SOR  | P 3  | 3               | 6          | 0<br>-0.05 | +0.05<br>0 | 1.9±0.07 | 2.8    | ±0.24 |
|      | P 4  | 4               | 7          |            |            |          | 3.8    |       |
|      | P 5  | 5               | 8          |            |            |          | 4.8    |       |
|      | P 6  | 6               | 9          |            |            |          | 5.8    |       |
|      | P 7  | 7               | 10         |            |            |          | 6.8    |       |
|      | P 8  | 8               | 11         |            |            |          | 7.8    |       |
|      | P 9  | 9               | 12         |            |            |          | 8.8    |       |
|      | P 10 | 10              | 13         |            |            |          | 9.8    |       |
|      | P 11 | 11              | 15         | 0<br>-0.06 | +0.06<br>0 | 2.4±0.07 | 10.8   | ±0.24 |
|      | P 12 | 12              | 16         |            |            |          | 11.8   |       |
|      | P 14 | 14              | 18         |            |            |          | 13.8   |       |
|      | P 15 | 15              | 19         |            |            |          | 14.8   |       |
|      | P 16 | 16              | 20         |            |            |          | 15.8   |       |
|      | P 18 | 18              | 22         |            |            |          | 17.8   |       |
|      | P 20 | 20              | 24         |            |            |          | 19.8   |       |
|      | P 21 | 21              | 25         |            |            |          | 20.8   |       |
|      | P 22 | 22              | 26         |            |            |          | 21.8   |       |
|      | P 24 | 24              | 30         | 0<br>-0.08 | +0.08<br>0 | 3.5±0.1  | 23.7   | ±0.3  |
|      | P 25 | 25              | 31         |            |            |          | 24.7   |       |
|      | P 26 | 26              | 32         |            |            |          | 25.7   |       |
|      | P 28 | 28              | 34         |            |            |          | 27.7   |       |
|      | P 30 | 30              | 36         |            |            |          | 29.7   |       |
|      | P 31 | 31              | 37         |            |            |          | 30.7   |       |
|      | P 32 | 32              | 38         |            |            |          | 31.7   |       |
|      | P 34 | 34              | 40         |            |            |          | 33.7   |       |
|      | P 35 | 35              | 41         |            |            |          | 34.7   |       |
|      | P 36 | 36              | 42         |            |            |          | 35.7   |       |
|      | P 38 | 38              | 44         |            |            |          | 37.7   |       |
|      | P 39 | 39              | 45         |            |            |          | 38.7   |       |
|      | P 40 | 40              | 46         |            |            |          | 39.7   |       |
|      | P 42 | 42              | 48         |            |            |          | 41.7   | ±0.5  |
|      | P 44 | 44              | 50         |            |            |          | 43.7   |       |
|      | P 46 | 46              | 52         |            |            |          | 45.7   |       |
|      | P 48 | 48              | 54         |            |            |          | 47.7   |       |



Type No.  
SOR P3

# 冷却水分流器

## COOLING WATER DIVERTER

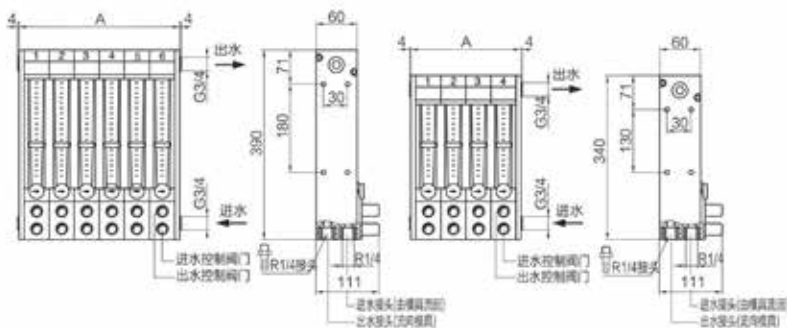
## CWD



CORD 10



CORD 8



### 产品特点 Precautions

- 温度控制：通过对塑料成型机、金属压铸机、吹塑机及其它相关设备的冷却水流量控制，达到控制模具温度的作用，从而提高产品成型质量。
- 回路监测：当冷却水回路有堵塞时，能马上显示，避免产生不良品。
- 分组监控：每组都设有温度表及流量调节阀，通过流量调节阀分区控制水流量，以保证产品的统一一致性。
- 清洗方便：由于分流器会因进入杂质而堵塞，或使用时间过长内壁挂有水垢，只需将分流器上端的螺盖卸下，用软管清洗干净即可。
- Temperature Control: Control the mould temperature by controlling the cooling water flow of mechanical equipment to improve the quality of production and moulding.
- Water Flow Detection: When the cooling water is blocked, it can be displayed immediately to avoid bad products.
- Group monitoring: Each group has a temperature meter and a flow controller, which can control the flow of water through the flow controller. So as to ensure the consistency of shrinkage rate of products.
- Easy to clean: When the shunt is blocked or rusty, just remove the bolt at the top and clean the pipe.

| 材料表                            | 材料件                                  |
|--------------------------------|--------------------------------------|
| 阀体、透气管：聚酰胺<br>阀芯：黄铜<br>密封圈：氟橡胶 | R1/4接头<br>2件/组<br>M12内六角扳手1件<br>管塞1件 |

| Type          | No. | 管数<br>Pipe number | A   |
|---------------|-----|-------------------|-----|
| CWD8<br>CWD10 | T2  | 2                 | 124 |
|               | T4  | 4                 | 229 |
|               | T6  | 6                 | 334 |
|               | T8  | 8                 | 439 |
|               | T10 | 10                | 543 |
|               | T12 | 12                | 647 |



Type No. L  
CWD8 - T2 - 50

### CWD8参数

- 工作介质：水
- 流量：0 ~ 8L/min.
- 压力与温度：

| 最大压力 (bar) | 最高温度 (°C) |
|------------|-----------|
| 8          | 80        |
| 6          | 100       |
| 4          | 120       |

### CWD10参数

- 工作介质：水
- 流量：0 ~ 10L/min.
- 压力与温度：

| 最大压力 (bar) | 最高温度 (°C) |
|------------|-----------|
| 10         | 60        |
| 8          | 80        |
| 6          | 100       |
| 4          | 120       |

# 冷却水用流量计

## FLOW METERS FOR MOLD

### FLAF / FLAM



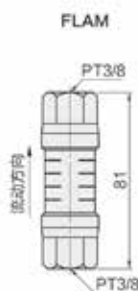
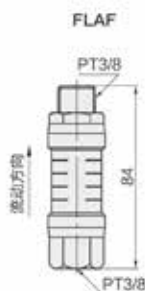
外螺纹安装用



内螺纹安装用

#### 简易型

| 材料            | 使用温度范围   |
|---------------|----------|
| 透视图：聚酰胺 阀芯：黄铜 | 10℃~120℃ |



### FLBF / FLBM



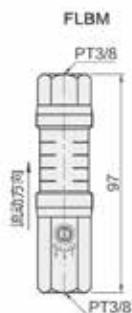
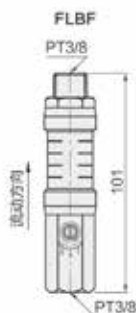
外螺纹安装用



内螺纹安装用

#### 流量调节型

| 材料            | 使用温度范围   |
|---------------|----------|
| 透视图：聚酰胺 阀芯：黄铜 | 10℃~120℃ |



### 产品特点 Precautions

- 冷却水流量可通过刻度确认，可防止冷却条件的不稳定。
- 内置流量调节装置，可设定模具冷却条件。
- The cooling water flow rate can be confirmed by the scale, which can prevent the instability of cooling conditions.
- Built-in flow adjustment device, mold cooling conditions can be set.

### 注意事项 Attention

- 不可用于模具冷却以外用途。
- 请按右表使用。
- Cannot be used for purposes other than mold cooling.
- Please use the recommended data in the table.

|        |       |     |
|--------|-------|-----|
| 最大使用压力 | MPa   | 0.5 |
| 最大耐压   | MPa   | 0.8 |
| 最大流量   | l/min | 18  |
| 最大安装扭矩 | N·m   | 12  |

# 冷却水接头

## COOLING WATER COUPLING

### JWRF/JWRL



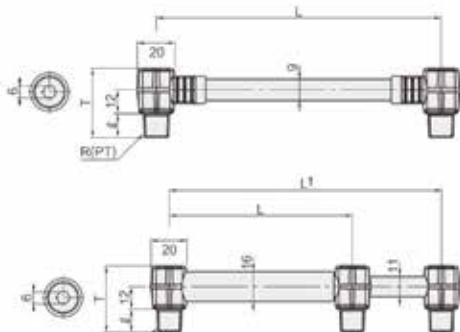
JWRF (软管型)



JWRL (伸缩型)

螺纹部: JIS B 0203  
管用锥螺纹R(PT)

| Code |      | 材料                              |
|------|------|---------------------------------|
| 伸缩型  | 软管型  | 本体: 聚脲酯树脂<br>软管: 聚氨酯<br>螺纹部: 黄铜 |
| JWRF | JWRL |                                 |



#### 软管型

| Type | No. | L   | R(PT) | T  | l    |
|------|-----|-----|-------|----|------|
| JWRF | 1   | 140 | 1/8   | 31 | 9    |
|      | 2   |     | 1/4   | 35 | 12.7 |

#### 伸缩型

| Type | No. | L   | L <sub>1</sub> | R(PT) | T  | l    |
|------|-----|-----|----------------|-------|----|------|
| JWRL | 1   | 50  | 65             | 1/8   | 31 | 9    |
|      |     | 65  | 100            |       |    |      |
|      |     | 100 | 160            |       |    |      |
|      | 2   | 50  | 65             | 1/4   | 35 | 12.7 |
|      |     | 65  | 100            |       |    |      |
|      |     | 100 | 160            |       |    |      |



Type No. L  
JWRF - 1 - 140

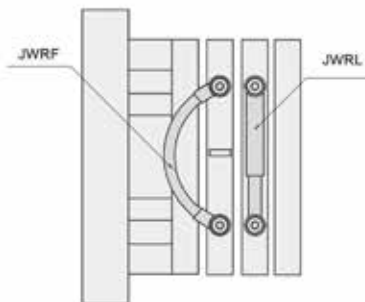
#### 产品特点 Precautions

- JWRF (软管型) 用于模具冷却系统间的相互连接, 可避开中间的障碍物进行安装, 同时减少模具体积, 安装简便, 使用内六角扳手即可拆装, (推荐应用于100mm以上孔距)。
- JWRL (伸缩型) 可在 L<sub>1</sub> 的范围内自由调整长度, 配合模具水冷却系统相互连接, 降低管线复杂度, 同时减少模具体积。
- JWRF is used for the interconnection of mold cooling systems, which can avoid the obstacles in the middle, reduce the volume of the mold, and is easy to install.
- JWRL can adjust the length within the range of L<sub>1</sub>, reduce pipeline complexity and reduce mold volume.

#### 注意事项 Attention

- JWRF (伸缩型) 安装前请使内六角扳手空转5~6次, 不空转而紧拉时, 可能会导致漏水。
- Before installing the JWRF, use the hex wrench to run idling for 5~6 times, otherwise it may cause water leakage.

#### 功能示意图 Functional chart

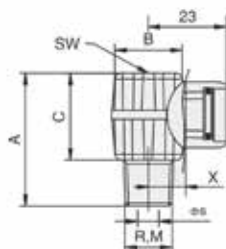




# 冷却水接头 COOLING WATER COUPLING

JWRC

调整型



| 构成主体 | 铜管       | 螺纹部分     | 螺母部分       |
|------|----------|----------|------------|
| 聚脲树脂 | 黄铜 C3604 | 黄铜 C3604 | 管用锥螺纹R(PT) |

| Type | No. | A  | B  | C  | X    | R(PT) | M  | S | T  | SW | D  | d  | L      |
|------|-----|----|----|----|------|-------|----|---|----|----|----|----|--------|
| JWRC | 1   | 35 | 21 | 26 | 8.7  | 1/8"  | 10 | 5 | 8  | 6  | 8  | 6  | 50~300 |
|      | 2   |    |    |    |      | 1/4"  |    | 6 |    |    |    |    |        |
|      | 3   | 39 | 25 | 30 | 11.2 | 1/4"  | 12 | 9 | 12 | 8  | 12 | 10 | 50~300 |
|      | 4   |    |    |    |      | 3/8"  |    |   |    |    |    |    |        |

示例：安装时，冷却水孔中心距为300mm，实际铜管长度为(300-2X)mm

For example: when installing, center distance of cooling water hole is 300 mm. Actual length of copper pipe is (300-2X) mm.

## 规格 Specification

| 尺寸 Dimension                      | 1/8                        | 1/4      | 3/8        |
|-----------------------------------|----------------------------|----------|------------|
| 最大紧固扭矩 (N·cm) (kgf·cm)            | 490 (50)                   | 880 (90) | 1175 (120) |
| 常用压力 (kPa) (kgf·cm <sup>2</sup> ) | 980 (10)                   |          |            |
| 最高压力 (kPa) (kgf·cm <sup>2</sup> ) | 1470 (15)                  |          |            |
| 适用温度范围                            | 80℃以下 Lower than 80 degree |          |            |
| 耐真空性                              | 不适用 Not applicable         |          |            |

## 产品特点 Precautions

调整型冷却水管用接头；

用于冷却水孔之间的连接。配合铜管，可任意调整距离（最长距离500mm）。

装配简单，使用内六角扳手即可拆装。

Cooling water coupling with regulating type:

It applies to connection between cooling water holes, cooperate with copper pipes, and be able to adjust distance randomly (maximum distance of 500 mm). The assembly is simple, and it could be disassembled and assembled through hexagonal wrench.

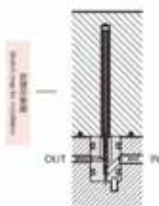
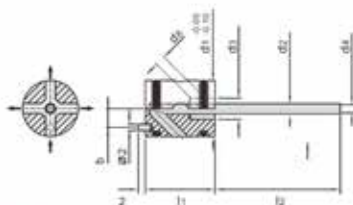


| Type | No. | L  |
|------|-----|----|
| JWRC | 1   | 50 |

# 冷却水针

## COOLING WATER NEEDLE

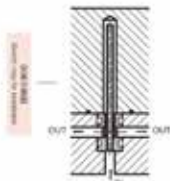
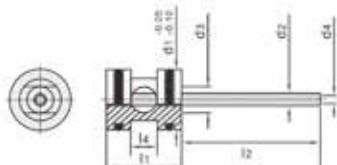
## E2110



| 材料         | 耐温             |
|------------|----------------|
| 主体 SUS 304 | O型圈 Viton 150℃ |

| Type         | b   | d3 | d4  | d8 | l1 | l2  | d1 | d2  |
|--------------|-----|----|-----|----|----|-----|----|-----|
| E2110/10/1.3 | 3   | 4  | 0.8 | 2  | 15 | 150 | 10 | 1.3 |
| E2110/10/1.6 |     |    | 1.2 |    |    |     |    | 1.6 |
| E2110/10/2.4 |     |    | 1.8 |    |    |     |    | 2.4 |
| E2110/16/1.6 | 5.5 | 6  | 1.2 | 3  | 20 | 200 | 16 | 1.6 |
| E2110/16/2.4 |     |    | 1.8 |    |    |     |    | 2.4 |
| E2110/16/3.3 |     |    | 2.5 |    |    |     |    | 3.3 |
| E2110/25/4   | 9   | 12 | 3.2 | 12 | 30 | 200 | 25 | 4   |
| E2110/25/5   |     |    | 4   |    |    |     |    | 5   |
| E2110/25/6   |     |    | 5   |    |    |     |    | 6   |
| E2110/25/8   |     |    | 7   |    |    |     |    | 8   |

## E2112



| 材料         | 耐温             |
|------------|----------------|
| 主体 SUS 304 | O型圈 Viton 150℃ |

| Type          | d3 | d4  | l1 | l2  | l4 | d1 | d2  |
|---------------|----|-----|----|-----|----|----|-----|
| E 2112/10/1.3 | 4  | 0.8 | 15 | 150 | 4  | 10 | 1.3 |
| E 2112/10/1.6 |    | 1.2 |    |     |    |    | 1.6 |
| E 2112/10/2.4 |    | 1.8 |    |     |    |    | 2.4 |
| E 2112/16/1.6 | 7  | 1.2 | 20 | 200 | 7  | 16 | 1.6 |
| E 2112/16/2.4 |    | 1.8 |    |     |    |    | 2.4 |
| E 2112/16/3.3 |    | 2.5 |    |     |    |    | 3.3 |
| E 2112/16/4   | 12 | 3.2 | 30 | 200 | 12 | 25 | 4   |
| E 2112/16/5   |    | 4   |    |     |    |    | 5   |
| E 2112/16/6   |    | 5   |    |     |    |    | 6   |
| E 2112/25/4   |    | 3.2 |    |     |    |    | 4   |
| E 2112/25/5   | 12 | 4   | 30 | 200 | 12 | 25 | 5   |
| E 2112/25/6   |    | 5   |    |     |    |    | 6   |
| E 2112/25/8   |    | 7   |    |     |    |    | 8   |

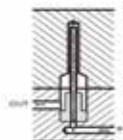
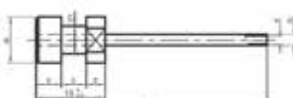


# 冷却水针

## COOLING WATER NEEDLE

WCPK

压入型



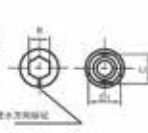
M 材质

SUS 304

| Type | H  | D1 | C | d   | D | L   |
|------|----|----|---|-----|---|-----|
| WCPK | 8  | 6  | 6 | 1.6 | 2 | 100 |
|      |    |    |   |     |   | 200 |
|      |    |    |   | 2.5 | 3 | 100 |
|      |    |    |   |     |   | 200 |
|      | 10 | 8  | 8 | 3.6 | 4 | 300 |
|      |    |    |   |     |   | 200 |

WCPF

英制直螺纹型



M 材质

SUS 304

| Type | G (PF) | B | I  | I1 | I2 | C   | D1 | d1  | d   | D | L   |
|------|--------|---|----|----|----|-----|----|-----|-----|---|-----|
| WCPF | 1/8    | 4 | 20 | 13 | 10 | 6.7 | 8  | 1.6 | 1.6 | 2 | 100 |
|      |        |   |    |    |    |     |    |     |     |   | 200 |
|      |        |   |    |    |    |     |    | 2.5 | 2.5 | 3 | 100 |
|      |        |   |    |    |    |     |    |     |     |   | 200 |
|      | 1/4    | 5 | 23 | 15 | 12 | 8.5 | 10 | 3.6 | 3.6 | 4 | 300 |
|      |        |   |    |    |    |     |    |     |     |   | 200 |



Type

D

L

WCPK - 2 - 100

# 冷却水针

## COOLING WATER NEEDLE

### WCPFT 锥螺纹型

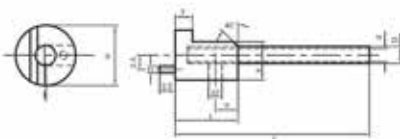


材质

SUS 304

| Type  | R (PT) | B | l  | l1 | l2 | C   | D1 | d1  | d   | D | L   |
|-------|--------|---|----|----|----|-----|----|-----|-----|---|-----|
| WCPFT | 1/8    | 4 | 20 | 13 | 10 | 6.7 | 8  | 1.6 | 1.6 | 2 | 100 |
|       |        |   |    |    |    |     |    |     |     |   | 200 |
|       |        |   |    |    |    |     |    | 2.5 | 2.5 | 3 | 100 |
|       |        |   |    |    |    |     |    |     |     |   | 200 |
|       | 1/4    | 5 | 23 | 15 | 12 | 8.5 | 10 | 3.6 | 3.6 | 4 | 300 |
|       |        |   |    |    |    |     |    |     |     |   | 200 |
|       |        |   |    |    |    |     |    |     |     |   | 300 |

### WCPS 台肩定位型



材质

SUS 304

| Type | HhB |                                                     | T   | l1 | l  | d1   | a   | d  | D  | L   |
|------|-----|-----------------------------------------------------|-----|----|----|------|-----|----|----|-----|
| WCPS | 10  | $\begin{smallmatrix} 0 \\ -0.002 \end{smallmatrix}$ | 5.1 | 10 | 18 | 3.5  | 7.2 | 3  | 4  | 200 |
|      | 12  |                                                     |     |    |    | 5.4  | 9.5 | 5  | 6  | 300 |
|      | 15  | $\begin{smallmatrix} 0 \\ -0.007 \end{smallmatrix}$ | 5.6 | 11 | 20 | 6.5  | 12  | 6  | 8  | 300 |
|      | 18  |                                                     |     |    |    | 8.5  | 11  | 8  | 10 | 350 |
|      | 22  | $\begin{smallmatrix} 0 \\ -0.003 \end{smallmatrix}$ |     |    | 22 | 10.5 | 14  | 10 | 12 | 350 |
|      |     |                                                     |     |    |    |      |     |    |    |     |



Type

D

L

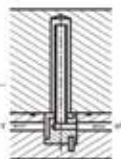
WCPFT - 2 - 100

# 冷却水针

## COOLING WATER NEEDLE

**WCPN 销子定位型**


针头直径  
(Needle tip diameter)



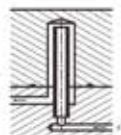
**M** 材质

SUS 304

| Type | Hh8 |                 | T | l1 | l  | d1 | a | d   | D   | L   |
|------|-----|-----------------|---|----|----|----|---|-----|-----|-----|
| WCPN | 10  | $0$<br>$-0.022$ | 4 | 10 | 18 | 3  | — | 0.9 | 1.5 | 150 |
|      |     |                 |   |    |    |    |   | 1.5 | 2.5 |     |
|      |     |                 |   |    |    |    |   | 2.2 | 3.2 |     |

**WCSP**


针头直径  
(Needle tip diameter)



**M** 材质

SUS 304

| Type | M × P     | d   | D  | L       |
|------|-----------|-----|----|---------|
| WCSP | M3 × 0.35 | 1.0 | 3  | 50 100  |
|      |           |     |    | 150 200 |
|      | M4 × 0.5  | 2.0 | 4  | 50 100  |
|      |           |     |    | 150 200 |
|      | M5 × 0.5  | 3.0 | 5  | 50 100  |
|      |           |     |    | 150 200 |
|      | M6 × 0.75 | 4.0 | 6  | 250 300 |
|      |           |     |    | 50 100  |
|      | M8 × 0.75 | 5.0 | 8  | 150 200 |
|      |           |     |    | 250 300 |
|      | M10 × 1.0 | 7.0 | 10 | 50 100  |
|      |           |     |    | 150 200 |



Type D L

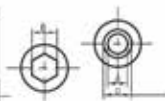
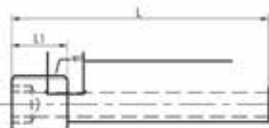
WCPN — 1.5 — 150

# 冷却水针

## COOLING WATER NEEDLE

### WCPM

#### 普通直螺纹



冷却水针  
Cooling water needle for induction



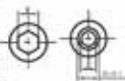
材质

SUS 304

| Type | MXP       | B | d   | D | L1 | L   |
|------|-----------|---|-----|---|----|-----|
| WCPM | M6 x 1.0  | 3 | 1.6 | 2 | 6  | 150 |
|      |           |   |     |   |    | 200 |
|      |           |   |     |   |    | 200 |
|      | M8 x 1.25 | 4 | 2.5 | 3 | 8  | 200 |
|      |           |   |     |   |    | 250 |
|      |           |   | 3.6 | 4 |    | 200 |
|      |           |   |     |   |    | 300 |

### WCPPT

#### 锥螺纹



冷却水针  
Cooling water needle for induction



材质

SUS 304

| Type  | R (PT) | B | d   | D | L1 | L   |
|-------|--------|---|-----|---|----|-----|
| WCPPT | 1/8    | 5 | 1.6 | 2 | 7  | 150 |
|       |        |   |     |   |    | 200 |
|       |        |   | 2.5 | 3 |    | 200 |
|       |        |   |     |   |    | 250 |
|       |        |   | 3.6 | 4 |    | 200 |
|       |        |   |     |   |    | 300 |



Type

D

L

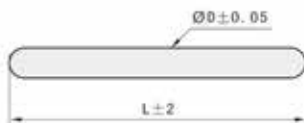
WCPM - 2 - 150



# 冷却棒

## HEAT PIPES

### HTK



| Type | D   | L      |
|------|-----|--------|
| HTK  | 2   | 30-300 |
|      | 2.5 |        |
|      | 3   |        |
|      | 4   |        |
|      | 5   |        |
|      | 6   |        |
|      | 8   |        |
|      | 10  |        |
|      | 12  |        |

#### 产品特点 Precautions

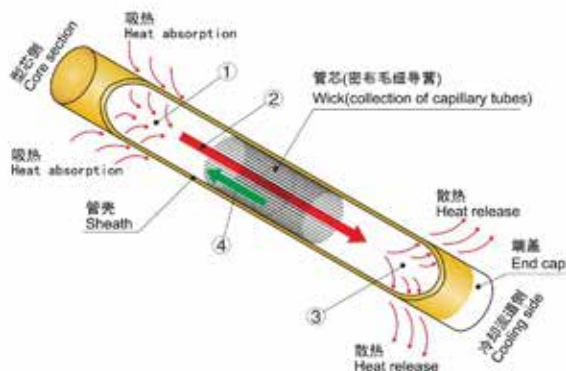
1. 冷却效果快。HTK冷却棒不是仅通过金属导热，而是将制冷剂作为热交换媒介来使用。热传导性是铜棒的200倍，并且具有优良的热响应性。
2. 稳定的冷却效果。与以往的方法（使用隔水片和冷却管）不同，HTK很少会因生锈、水垢等原因使水流减小而导致冷却效率下降，也不用担心制冷剂会沸腾，减少了大量的维修保养工作；
3. 能减少冷却水路的需求，降低水路的复杂度，减小模具体积；
4. 无需螺丝固定，安装更为方便。

1. Good cooling effective, HTK heat pipes not used in metal heat conductivity, but by mean of refrigerant sheat transfer media to use it. Heat conductivity is 200 times than brass pipes, also with better thermal response.
2. Stable cooling effective, It is different from previous method, HTK few time get rusty, incrustant ect, thereby decrease water flow make heat pipes reduce effective.
3. Reduce the cooling water circuits, simplification of the cooling water circuit, and reduce the volume of mold.
4. Fasting installation, no screw for fixing.



Type D L  
HTK 2 30

#### 功能示意图 Functional chart



#### 截面图: Cross section:



图1 HTK-2

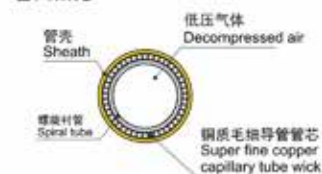


图2 HTK-3、4、5、6、8

# 冷却棒

## HEAT PIPES

### HTK冷却棒的工作原理:

- ① 制冷剂吸收芯侧的热量而挥发;
- ② 挥发的制冷剂因气压差而向冷却侧移动;
- ③ 移至冷却侧的制冷剂释放热量并液化;
- ④ 液态制冷剂因管芯毛细管的吸力作用而返回芯侧。

### Exploded View of the HTK Heat Transaction Pipe:

- ① The operating solution absorbs the core side heat and gasifies;
- ② Vapor pressure difference causes the gasified operating solution to move to the cooling side;
- ③ Moved to the cooling side, the gasified solution releases heat and liquidates;
- ④ The wick's capillarity causes the operating solution to return to the core side.

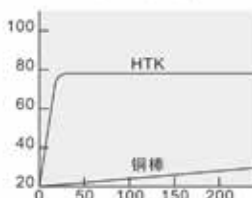
### 冷却棒的工作周期:

Operating cycle of the HTK heat transaction pipe



### 冷却棒的热响应性能:

Thermal response property



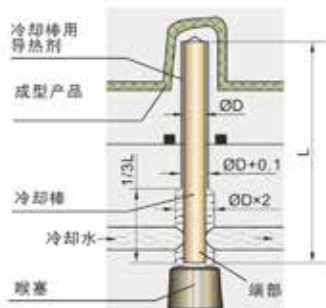
### (测试条件)

- 加热媒介: 热水 (80°C)
- 冷却媒介: 空气 (室温)
- 加热部分: 冷却部分=1:1
- 测温位置: 冷却部分
- 热交换管尺寸:  $\varnothing 4$  L105

### (Testing conditions)

- Heating medium: Hot water (80°C)
- Cooling medium: Air (room temperature)
- Heating/cooling section size: 1:1
- Measured location: Cooling section
- Pipe size:  $\varnothing 4$  L105

### ■ 安装方法 Installation diagram



- 冷却棒安装孔要比冷却棒大0.1mm;
- 冷却棒装入时, 请用冷却棒专用导热剂将多的空间填满;
- 插入冷却棒时请注意端部应在冷却侧;
- 使用温度: 30-200°C;
- 请参考安装示意图加工安装孔。

- Installed holes shall be bigger 0.1mm than heat pipe.
- Please use special heat transfer agent fill to the full space when install heat pipe.
- Insert heat pipe, end position shall be on side of heat pipe.
- Usage temperature: 30°C-200°C
- Please refer to installation instructions to processing installed holes.

### ■ 注意事项 Attention

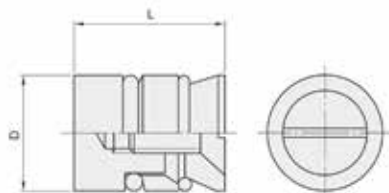
1. 请在200°C以下使用, (破坏温度为250°C) HTK的耐久性设计为内部压力20kgf/cm<sup>2</sup>以下;  
(例在200°C时内部压力上升至16kgf/cm<sup>2</sup>)
2. 若冷却面积小, 有时不能获得设计的冷却效果。  
安装加工的建议方法设置冷却穴, 确保冷却面积;
3. 请不要擅自拆卸和切断;
4. 如果热交换管被弯曲或压扁其冷却效果将下降;
5. 不适用于油冷却。

1. Installed holes shall be bigger 0.1mm than heat pipe. Use under a temperature of 200°C or lower. (Burst temperature 250°C) It is designed to withstand an internal pressure up to 20kgf/cm<sup>2</sup> (For example, the internal pressure rises to 16kgf/cm<sup>2</sup> at 200°C).
2. If the cooling section area is insufficient, proper cooling effects may not be obtained. Provide a water cooling jacket referring to mounting method, and secure the cooling section area.
3. Do not cut or disassemble.
4. Bending or squashing the heat transaction pipe hampers its cooling function.
5. Do not use oil for cooling

# 止水栓

## COOLING CIRCUIT PLUGS

## JWP



| 零件名称 | 1 主体       | 2 O形圈 | 3 垫圈       | 4 弹簧环 | 5 锥形垫圈     | 6 一字槽螺钉    |
|------|------------|-------|------------|-------|------------|------------|
| 材料   | 黄铜 (C3604) | 氟橡胶   | 黄铜 (C3604) | —     | 黄铜 (C3604) | 黄铜 (C3604) |

| Type | D    | L  |
|------|------|----|
| JWP  | 6    | 10 |
|      | 8    |    |
|      | 8.5  |    |
|      | 10   |    |
|      | 11.5 |    |
|      | 12   | 12 |
|      | 14   |    |

### 产品特点 Precautions

本产品是为了自由设定冷却水的循环回路而开发的产品。可以在冷却流道的任意位置进行安装。

This product is to be set freely circulating cooling water circuit and the development of products. Can be installed in the cooling channels anywhere.

### 安装方法 Installation diagram

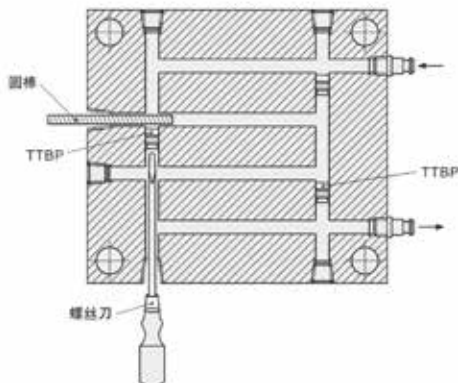
如下图所示，插入一根圆棒，使JWP不能再往前移动，用螺丝刀拧紧，螺钉拧紧时，O形圈膨胀变形，将冷却孔堵住。

As shown below, insert a rod, so that JWP can no longer move forward, with a screwdriver, tighten the screw, O-ring expansion and deformation, the cooling holes plugged.

### 规格 Specification

| 尺寸                              | D6        | D8  | D8.5 | D10  | D11.5 | D12  | D14  |
|---------------------------------|-----------|-----|------|------|-------|------|------|
| O形圈外径尺寸(参考值)                    | 6         | 8.2 | 8.7  | 10.2 | 11.7  | 12.2 | 14.2 |
| O形圈外径公差(参考值)                    | ±0.25     |     |      |      |       |      |      |
| 冷却水孔径                           | 6         | 8   | 8.5  | 10   | 11.5  | 12   | 14   |
| 孔径公差                            | +0.3<br>0 |     |      |      |       |      |      |
| 常用压力(kPa)[kgf/cm <sup>2</sup> ] | 588 [6]   |     |      |      |       |      |      |
| 流体                              | 仅限于水      |     |      |      |       |      |      |
| 适用温度范围                          | 80℃以下(推荐) |     |      |      |       |      |      |

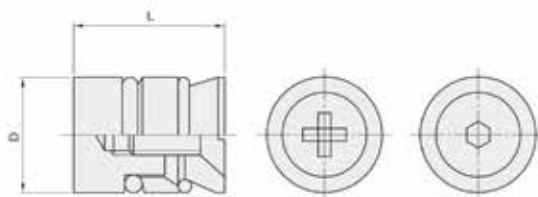
※氟橡胶O形圈的使用温度范围为-15℃~150℃，因为是将O形圈压变形之后使用的，建议在80℃以下使用。  
Viton O-ring temperature range of -15℃ ~ 150℃, because the O-ring is deformed after use, it is recommended to use below 80℃



# 止水栓

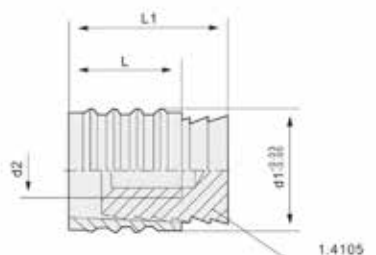
## COOLING CIRCUIT PLUGS

### CCP



| Type  | 特点                | D外径 | ø6 | ø8 | ø10 | ø12 | ø16 | ø20 | ø25 | ø30 |
|-------|-------------------|-----|----|----|-----|-----|-----|-----|-----|-----|
|       |                   | L   | 10 | 10 | 10  | 12  | 14  | 19  | 19  | 19  |
| CCP-A | 黑色橡胶圈水温耐温80-110°  |     |    |    |     |     |     |     |     |     |
| CCP-B | 红色橡胶圈水温耐温120-160° |     |    |    |     |     |     |     |     |     |
| CCP-C | 绿色氟胶圈水温耐温160-220° |     |    |    |     |     |     |     |     |     |

### Z942

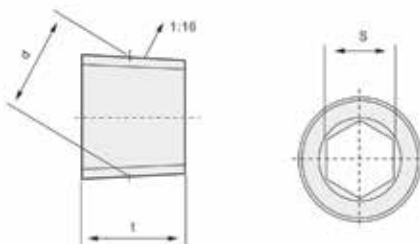


| Type    | 尺寸 |    |    |      |
|---------|----|----|----|------|
|         | d1 | d2 | L  | L1   |
| Z942/6  | 6  | M3 | 8  | 11.5 |
| Z942/8  | 8  | M4 |    |      |
| Z942/10 | 10 | M6 | 10 | 14   |
| Z942/12 | 12 |    |    |      |
| Z942/16 | 16 | M8 | 12 | 16   |

# 止付螺丝

## SHOULDER BOLT

## Z94

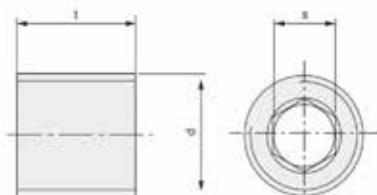


材料

黄铜 Brass (表面电镀)

| Type        | 规格(d)    | 高度(t) | 内孔径(s) |
|-------------|----------|-------|--------|
| Z94/ 5x0.5  | M 5x0.5  | 5     | 3      |
| Z94/ 8x0.75 | M 8x0.75 | 8     | 4      |
| Z94/ 10x1   | M 10x1   |       | 5      |
| Z94/ 12x1.5 | M 12x1.5 |       | 6      |
| Z94/ 14x1.5 | M 14x1.5 | 10    | 7      |
| Z94/ R1/8   | R 1/8A   | 8     | 5      |
| Z94/ R1/4   | R 1/4A   | 10    | 7      |
| Z94/ R3/8   | R 3/8A   |       | 8      |
| Z94/ R1/2   | R 1/2A   |       | 10     |

## Z940



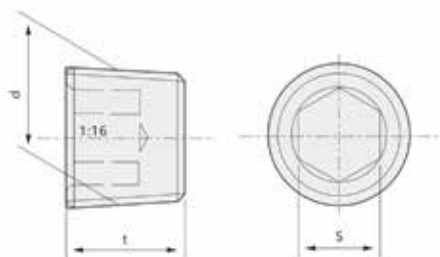
材料

黄铜 Brass (表面电镀)

| Type         | 规格(d)    | 高度(t) | 内孔径(s) |
|--------------|----------|-------|--------|
| Z940/ 8x0.75 | M 8x0.75 | 8     | 4      |
| Z940/ 10x1   | M 10x1   |       | 5      |
| Z940/ 12x1.5 | M 12x1.5 |       | 6      |
| Z940/ 14x1.5 | M 14x1.5 | 10    | 7      |
| Z940/ R1/8   | G1/8A    | 8     | 5      |
| Z940/ R1/4   | R1/4A    | 10    | 7      |
| Z940/ R3/8   | R3/8     |       | 8      |
| Z940/ R1/2   | G1/2A    |       | 10     |

# 止付螺丝 SHOULDER BOLT

BP



材料

黄铜 Brass

## 美制NPT牙

| Type   | 规格(d)  | 高度(t) | 内孔径(s) | 内孔径(s) |
|--------|--------|-------|--------|--------|
| BP-10  | 1/8NPT | 0.25  | 0.187  | 27     |
| BP-20  | 1/4NPT | 0.406 | 0.25   | 18     |
| BP-40  | 3/8NPT |       | 0.312  |        |
| BP-60  | 1/2NPT | 0.531 | 0.375  | 14     |
| BP-100 | 3/4NPT |       | 0.562  |        |
| BP-140 | 1"NPT  | 0.656 | 0.625  | 11.5   |

## 英制PT牙

| Type  | 规格(d) | 高度(t) | 内孔径(s) | 内孔径(s) |
|-------|-------|-------|--------|--------|
| PT-01 | 1/8PT | 7     | 5      | 28     |
| PT-02 | 1/4PT | 8.9   | 6      | 19     |
| PT-03 | 3/8PT | 10    | 8      |        |
| PT-04 | 1/2PT | 12    | 10     | 14     |
| PT-06 | 3/4PT | 14    | 14     |        |
| PT-08 | 1"PT  | 17    | 17     | 11     |

## 公制牙

| Type   | R        | L  | SW |
|--------|----------|----|----|
| AN-8   | 1/8"BSPT | 8  | 5  |
| AN-4   | 1/4"BSPT | 10 | 7  |
| AN-3   | 3/8"BSPT |    | 8  |
| AN-2   | 1/2"BSPT | 10 | 10 |
| AN-M8  | M 8x0.75 | 8  | 4  |
| AN-M10 | M 10x1   | 8  | 5  |
| AN-M12 | M 12x1.5 | 8  | 6  |
| AN-M14 | M 14x1.5 | 8  | 7  |



# SPRUE BUSHING, LOCATING RINGS

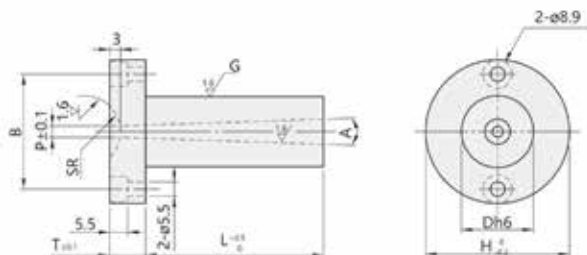
SERIES >>>

浇口套·定位环系列





SBA



| 材料    | 硬度       |
|-------|----------|
| SKD61 | HRC48~52 |
| S45C  | HRC40~48 |

| Type | H  | B  | Dh6<br>公差 |            | T            | L<br>指定单位0.5mm | SR                  | P                                     | A为双边度数<br>间隔0.5度 |                           |
|------|----|----|-----------|------------|--------------|----------------|---------------------|---------------------------------------|------------------|---------------------------|
| SBA  | 35 | 25 | 8         | 0<br>-0.01 | T=10<br>T=15 | 10~100         | 0<br>11<br>16       | 2 2.5<br>3 3.5                        | 1~3              |                           |
|      |    |    | 10        |            |              | 10~150         | 0<br>11<br>13<br>16 | 2<br>2.5<br>3<br>3.5<br>4<br>4.5<br>5 | 1~4              |                           |
|      |    |    | 12        |            |              |                |                     |                                       |                  |                           |
|      | 40 | 30 | 10        | 0<br>-0.02 |              | 10~150         | 0<br>11<br>13<br>16 |                                       |                  |                           |
|      |    |    | 12        |            |              |                |                     |                                       |                  |                           |
|      |    |    | 13        |            |              |                |                     |                                       |                  |                           |
|      |    |    | 16        |            |              |                |                     |                                       |                  |                           |
|      | 50 | 36 | 12        |            |              | 0<br>-0.02     | 10~150              |                                       |                  | 0<br>11<br>13<br>16<br>20 |
|      |    |    | 16        |            |              |                |                     |                                       |                  |                           |
|      |    |    | 20        |            |              |                |                     |                                       |                  |                           |



| Type | D | T | L | SR | P | A  |   |   |   |   |   |   |
|------|---|---|---|----|---|----|---|---|---|---|---|---|
| SBA  | - | 8 | - | 10 | - | 50 | - | 0 | - | 3 | - | 1 |

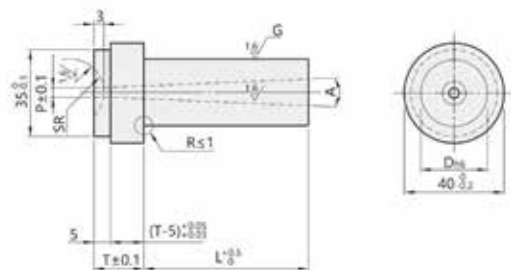
# 浇口套

## SPRUE BUSHING

### SBB



| 材料    | 硬度       |
|-------|----------|
| SKD61 | HRC48~52 |
| S45C  | HRC40~48 |



| Type | D  | T  | L<br>指定单位1mm | SR | P   | A为双边度数<br>间隔0.5度 |
|------|----|----|--------------|----|-----|------------------|
| SBB  | 10 |    | 60~100       | 0  | 2   | 1<br>2<br>3      |
|      | 12 | 20 |              | 11 | 2.5 |                  |
|      | 13 | 25 |              | 16 | 3   |                  |
|      | 16 | 30 |              | 19 | 3.5 |                  |
|      | 20 |    |              | 20 | 4   |                  |
|      |    |    |              | 21 | 4.5 |                  |
|      |    |    |              |    | 5   |                  |

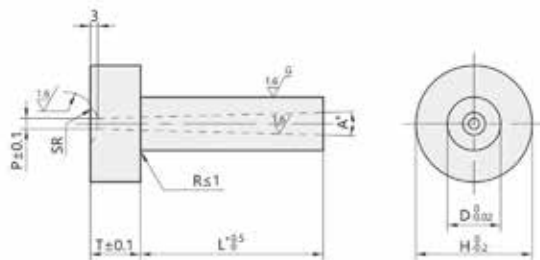


| Type | D  | T  | L  | SR | P | A |
|------|----|----|----|----|---|---|
| SBB  | 10 | 20 | 60 | 0  | 2 | 1 |

### SBC



| 材料    | 硬度       |
|-------|----------|
| SKD61 | HRC48~52 |
| S45C  | HRC40~48 |

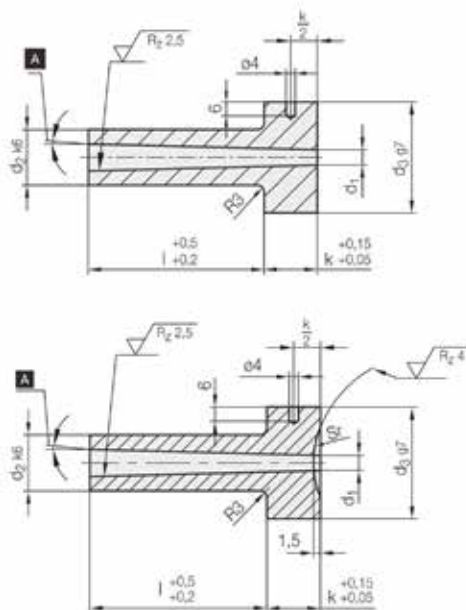


| Type | D  | T  | L<br>指定单位1mm | H  | SR | P   | A为双边度数<br>间隔0.5度 |
|------|----|----|--------------|----|----|-----|------------------|
| SBC  | 10 |    | 60~100       | 20 | 0  | 2   | 1<br>2<br>3      |
|      | 12 | 15 |              | 25 | 11 | 2.5 |                  |
|      | 13 | 20 |              | 30 | 16 | 3   |                  |
|      | 16 |    |              | 35 | 19 | 3.5 |                  |
|      | 20 |    |              |    | 20 | 4   |                  |
|      |    |    |              |    | 21 | 4.5 |                  |
|      |    |    |              |    |    | 5   |                  |



| Type | D  | T  | L  | H  | SR | P | A |
|------|----|----|----|----|----|---|---|
| SBC  | 10 | 20 | 60 | 20 | 0  | 2 | 1 |

Z512



| 材料    | 硬度       |
|-------|----------|
| SKD61 | HRC48~52 |
| S45C  | HRC40~48 |

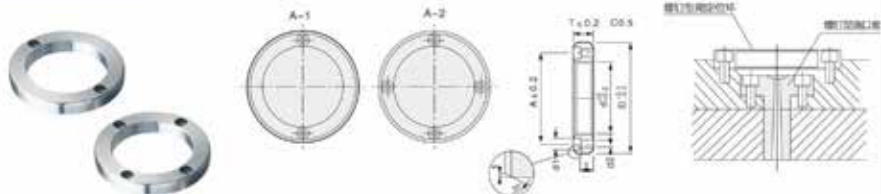
| Type | Sr   | A*  | d2  | L   | d1  | d3 | K  |
|------|------|-----|-----|-----|-----|----|----|
| Z512 | 0    | 0.5 | 12  | 22  | 2.5 | 28 | 13 |
|      |      |     |     | 27  |     |    |    |
|      |      |     |     | 36  |     |    |    |
|      |      |     |     | 46  |     |    |    |
|      |      |     |     | 22  | 3.5 |    |    |
|      |      |     |     | 27  |     |    |    |
|      |      |     |     | 36  |     |    |    |
|      |      |     |     | 46  |     |    |    |
|      | 56   | 1   | 3   | 38  | 18  |    |    |
|      | 27   |     |     |     |     |    |    |
|      | 36   |     |     |     |     |    |    |
|      | 46   |     |     |     |     |    |    |
|      | 56   |     |     |     |     |    |    |
|      | 66   |     |     |     |     |    |    |
|      | 76   |     |     |     |     |    |    |
|      | 86   |     |     |     |     |    |    |
|      | 15.5 | 1.5 | 12  | 96  | 4   | 38 | 18 |
|      |      |     |     | 116 |     |    |    |
|      |      |     |     | 27  |     |    |    |
|      |      |     |     | 36  |     |    |    |
|      |      |     |     | 46  |     |    |    |
|      |      |     |     | 56  |     |    |    |
|      |      |     |     | 66  |     |    |    |
| 76   |      |     |     |     |     |    |    |
| 40   | 2    | 12  | 86  | 4   | 38  | 18 |    |
|      |      |     | 96  |     |     |    |    |
|      |      |     | 116 |     |     |    |    |
|      |      |     | 27  |     |     |    |    |
|      |      |     | 36  |     |     |    |    |
|      |      |     | 46  |     |     |    |    |
|      |      |     | 56  |     |     |    |    |



| Type | Sr | A*  | L  | d1  | K  |
|------|----|-----|----|-----|----|
| Z512 | 0  | 0.5 | 22 | 2.5 | 13 |

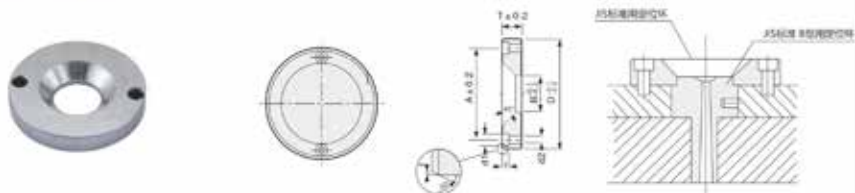
# 定位圈 LOCATING RING

## LRA



| Type | D   | T  | 螺丝 | 螺丝孔 |    | t | d   | A   |
|------|-----|----|----|-----|----|---|-----|-----|
|      |     |    |    | d2  | d1 |   |     |     |
| LRA  | 60  | 10 | M5 | 5.5 | 9  | 5 | 40  | 50  |
|      |     | 15 |    |     |    |   |     |     |
|      |     | 20 |    |     |    |   |     |     |
|      |     | 25 |    |     |    |   |     |     |
|      | 100 | 10 | M6 | 6.5 | 11 | 3 | 70  | 85  |
|      |     | 15 |    |     |    |   |     |     |
|      |     | 20 |    |     |    | 8 |     |     |
|      |     | 25 |    |     |    |   |     |     |
|      | 110 | 10 |    |     |    | 3 | 80  | 95  |
|      |     | 15 |    |     |    | 8 |     |     |
|      |     | 20 |    |     |    |   |     |     |
|      |     | 25 |    |     |    |   |     |     |
|      | 120 | 10 |    |     |    | 3 | 90  | 105 |
|      |     | 15 |    |     |    | 8 |     |     |
|      |     | 20 |    |     |    |   |     |     |
|      |     | 25 |    |     |    |   |     |     |
|      | 150 | 15 | M8 | 9   | 14 | 6 | 110 | 130 |
|      |     | 20 |    |     |    |   |     |     |
|      |     | 25 |    |     |    |   |     |     |
|      |     | 25 |    |     |    |   |     |     |

## LRB



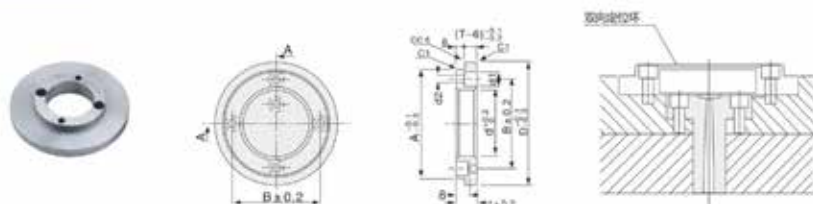
| Type | D   | T  | B        | 螺絲 | 螺絲孔 |    |     | A   |
|------|-----|----|----------|----|-----|----|-----|-----|
|      |     |    |          |    | d2  | d1 | t   |     |
| LRB  | 100 | 15 | 35 40 50 | M6 | 6.6 | 11 | 6.5 | 85  |
|      |     | 20 |          |    |     |    |     |     |
|      |     | 25 |          |    |     |    |     |     |
|      | 120 | 15 | 35 40 50 | M8 | 9   | 14 | 8.6 | 100 |
|      |     | 20 |          |    |     |    |     |     |
|      | 150 | 15 |          |    |     |    |     |     |



Type D T  
LRA 80 10

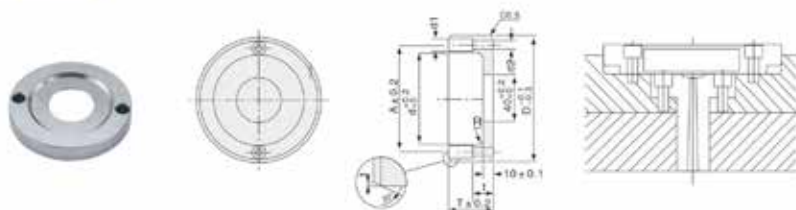
# 定位圈 LOCATING RING

## LRC



| Type | D   | T  | 螺丝 | 螺丝孔 |    | d  | B  | A   |
|------|-----|----|----|-----|----|----|----|-----|
|      |     |    |    | d2  | d1 |    |    |     |
| LRC  | 100 | 14 | M5 | 5.5 | 9  | 40 | 50 | 60  |
|      |     | 16 |    |     |    |    |    |     |
|      | 120 | 14 | M6 | 6.5 | 11 | 70 | 85 | 100 |
|      |     | 16 |    |     |    |    |    |     |
|      | 130 | 14 | M6 | 6.5 | 11 | 70 | 85 | 100 |
|      |     | 16 |    |     |    |    |    |     |

## LRD

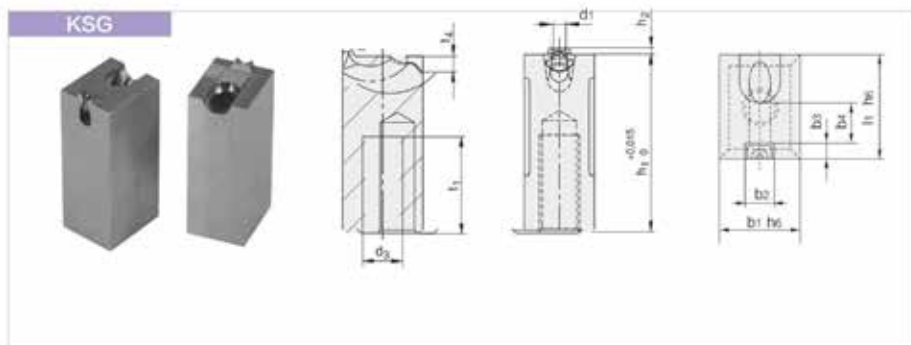


| Type | D   | T  | 螺丝 | 螺丝孔 |    | t  | R  | d  | A   |
|------|-----|----|----|-----|----|----|----|----|-----|
|      |     |    |    | d2  | d1 |    |    |    |     |
| LRD  | 100 | 15 | M6 | 6.5 | 11 | 9  | 5  | 70 | 85  |
|      |     | 20 |    |     |    | 20 | 10 |    |     |
|      |     | 35 |    |     |    | 9  | 5  | 90 | 105 |
|      |     | 40 |    |     |    | 20 | 10 |    |     |
|      |     | 45 |    |     |    | 9  | 5  |    |     |
|      | 120 | 15 |    |     |    | 9  | 5  | 70 | 85  |
|      |     | 20 |    |     |    | 20 | 10 |    |     |
|      |     | 35 |    |     |    | 9  | 5  | 90 | 105 |
|      |     | 40 |    |     |    | 20 | 10 |    |     |
|      |     | 45 |    |     |    | 9  | 5  |    |     |



Type D T  
LRC - 100 - 14

# 螺栓拉杆 PULLER BOLTS



| Type | r1   | t1 | t4   | b2  | b3   | b4  | d3 | h2  | l1 | b1 | h1 | d1                |
|------|------|----|------|-----|------|-----|----|-----|----|----|----|-------------------|
| KSG  | 1.5  | 8  | 2    | 2.6 | 1.3  | 3.7 | M4 | 0.8 | 8  | 6  | 17 | 0.4<br>0.6<br>0.8 |
|      | 2    |    | 2    | 2.6 | 1.3  | 3.7 |    |     | 10 | 8  | 22 | 0.6<br>0.8<br>1   |
|      | 2.25 | 10 | 2.25 | 3.0 | 1.5  | 4.5 | M5 |     | 12 | 10 | 27 | 0.6<br>0.8<br>1   |
|      | 2.5  |    | 2.5  | 3.5 | 1.75 | 5   | M6 |     | 15 | 12 |    | 0.8<br>1<br>1.2   |



Type    r1    d1  
KSG    -   1.5    -   0.4

潜伏浇口器简化了模具浇口的结构，它利用隧道式在产品端面进浇，这种浇道结构切断方式保证了与塑料产品的顺畅脱离，浇口顶端壁厚无明显痕迹，相对其他潜伏模式的塑料进浇阻力降低了许多，使塑件质量达到了更高的层次。

## ■ 产品特点 Precautions

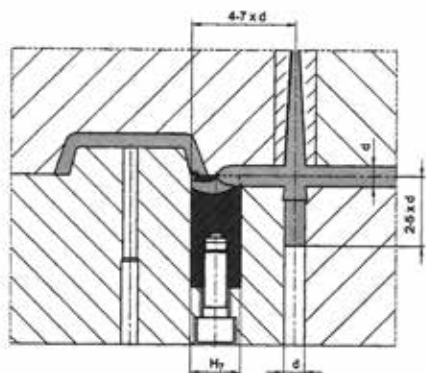
- 脱模时浇口与模具自动分离
- 浇口部份形成标准件，更换方便。
- 很适合平面型的或薄壁型的塑料元件。
- Gate and mould can be separated when demoulding.
- The gate part forms Standard part and is easy to replace.
- It is fit for the plastic components with plain surface or thin walls.

## ■ 安装方法 Installation diagram

根据塑料的硬度，浇口的浇嘴与流道顶杆顶出点之间应该保持4-7个d的距离，以便浇口保证因自身附着力而留下足够的脱模空间（大约需要2-5个d）。

According to the hardness of the plastic, the gate mouth and the ejector point of the gate should be kept a distance of 4-7 d, so as to ensure enough demoulding space due to itself attachment strength of the gate (about 2-5 d).

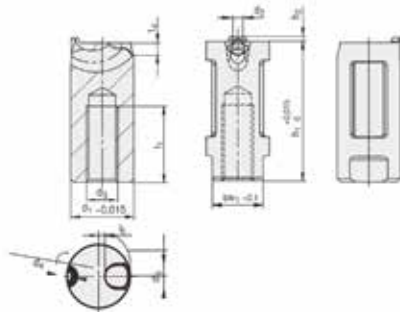
The submarine gate simplifies the mould gate structure. The gate separation way of this runner structure ensures the fluent separation of the plastic products. There is no obvious trail at the top of the gate, which makes the products quality reach higher level.



## 牛角式进浇口镶件

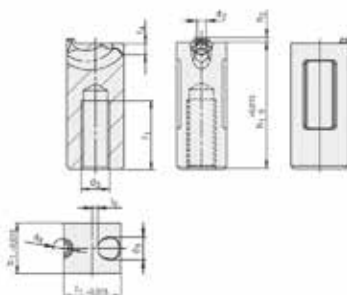
## INSETS OF INLET GATE OF HORN WIRES

Z1050



| Type  | No.       | SW1 | t1 | t4   | l5   | h2  | d3 | d4  | d5  | d1 | h1 | d2  |
|-------|-----------|-----|----|------|------|-----|----|-----|-----|----|----|-----|
| Z1050 | 6x17x0.6  | 5.5 | 10 | 1.25 | 0.5  | 0.6 | M4 | 2.2 | 2.5 | 6  | 17 | 0.6 |
|       | 8x22x0.6  | 6   | 13 | 1.5  | 0.75 |     |    | 2.4 | 3   | 8  | 22 | 0.8 |
|       | 8x22x0.8  |     |    |      |      |     |    | 2.5 |     |    |    |     |
|       | 10x22x0.8 |     |    |      |      | 2.9 | 4  | 10  |     |    |    |     |
|       | 10x22x1.2 | 3.3 | 5  | 12   | 1.6  |     |    |     |     |    |    |     |
|       | 10x22x1.6 | 2.9 |    |      |      |     |    |     |     |    |    |     |
|       | 12x22x1.2 | 3.3 |    |      |      | 10  | 11 | 2.5 |     |    |    | 2.0 |
|       | 12x22x1.6 | 3.7 |    |      |      |     |    |     |     |    |    |     |
|       | 12x22x2.0 |     |    |      |      |     |    |     |     |    |    |     |

Z1060



| Type  | No.          | t1 | t4  | l5   | h2  | d3 | d4  | d5 | l1 | d1 | h1 | d2  |  |
|-------|--------------|----|-----|------|-----|----|-----|----|----|----|----|-----|--|
| Z1060 | 8x6x22x0.6   | 13 | 1.5 | 0.75 | 0.6 | M4 | 2.2 | 3  | 8  | 6  | 22 | 0.6 |  |
|       | 8x6x22x0.8   |    |     |      |     |    | 2.4 |    |    |    |    | 0.8 |  |
|       | 10x8x22x0.8  |    |     |      |     |    | 2.5 |    |    |    |    | 1.2 |  |
|       | 10x8x22x1.2  | 12 | 2   | 1    | 0.8 | M5 | 3.0 | 4  | 10 | 8  |    | 1.6 |  |
|       | 10x8x22x1.6  |    |     |      |     |    | 3.3 |    |    |    |    | 1.2 |  |
|       | 12x10x22x1.2 |    |     |      |     |    | 2.9 |    |    |    |    | 1.6 |  |
|       | 12x10x22x1.6 | 11 | 2.5 |      |     |    | 3.3 | 5  | 12 | 10 |    | 2.0 |  |
|       | 12x10x22x2.0 |    |     |      |     |    | 3.7 |    |    |    |    |     |  |

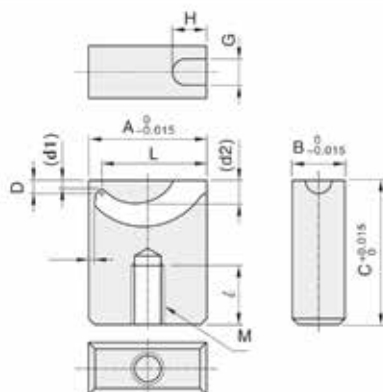

 Type No.  
 Z1050 - 8x17x0.6



# 牛角式进浇口镶件

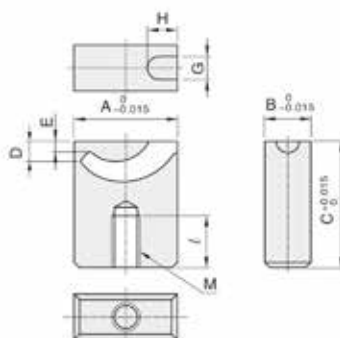
## INSETS OF INLET GATE OF HORN

### MTGC



| Type | No. | A  | B  | C  | L    | D | (d1)  | (d2)  | (d3)  | G | H   | M x l |
|------|-----|----|----|----|------|---|-------|-------|-------|---|-----|-------|
| MTGC | 1   | 18 | 8  | 22 | 16   | 2 | (1.3) | (3.5) | (0.9) | 4 | 5.2 | M5x9  |
|      | 2   | 25 | 10 |    | 22.1 | 3 | (2.1) | (4.8) | (1.2) | 6 | 6.5 | M5x8  |
|      | 3   | 30 | 12 | 27 | 26.9 | 5 | (4.1) | (7.5) | (1.2) | 8 | 7   | M6x9  |

### MSGC



| Type | No. | A  | B  | C  | D   | E   | G | H   | M x l |
|------|-----|----|----|----|-----|-----|---|-----|-------|
| MSGC | 1   | 18 | 8  | 22 | 4.1 | 2.5 | 4 | 5.2 | M5x9  |
|      | 2   | 25 | 10 | 22 | 5.7 | 3.2 | 6 | 6.6 | M5x8  |
|      | 3   | 30 | 12 | 27 | 8.4 | 5.5 | 8 | 7   | M6x9  |



Type

No.

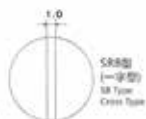
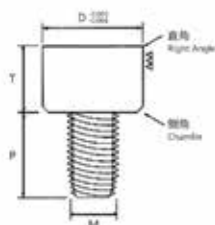
MTGC

1

## 止料螺丝 (档料沟)

STOP-FEEDING SCREW (STOPPING RUN)

SR



| 材料 | 硬度 |
|----|----|
|----|----|

|    |         |
|----|---------|
| 中碳 | HRC50°C |
|----|---------|

| Type                        | D  | T  | P  | M  | B |
|-----------------------------|----|----|----|----|---|
| SRA型(内六角形)<br>Inner Hexagon | 6  | 7  | 11 | 5  | 3 |
|                             | 8  |    | 12 | 6  | 4 |
|                             | 10 | 8  | 16 | 8  | 5 |
| SRB型(一字型)<br>Cross Type     | 12 | 10 | 20 | 10 | 6 |

SRLP

拉料销



| 材料 | 硬度 |
|----|----|
|----|----|

|      |             |
|------|-------------|
| SUJ2 | HRC60° ± 2° |
|------|-------------|

| Type | D | H  | h   | d   | d2  | L                             |
|------|---|----|-----|-----|-----|-------------------------------|
| SRLP | 2 | 4  | 2   | 1.5 | 1.0 | 15 20 25 30 35 40             |
|      | 3 | 5  |     | 2.3 | 1.8 | 15 20 25 30 35 40 45 50       |
|      | 4 | 6  | 2.5 | 2.8 | 2.3 | 20 25 30 35 40 45 50 60 70 80 |
|      | 5 | 7  | 3   | 3.3 | 2.8 | 20 25 30 35 40 45 50 60 70 80 |
|      | 6 | 8  |     | 3.8 | 3.0 | 30 35 40 45 50 60 70 80       |
|      | 8 | 10 | 4   | 5.8 | 5.0 | 30 35 40 45 50 60 70 80       |



Type D L  
SRLP 6 15

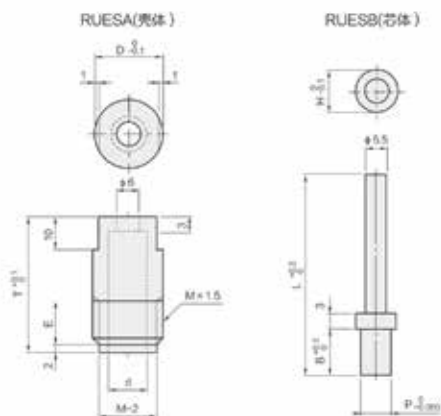
# 料头弹出器

## RUNNER EJECTOR SETS

### RES



| Code     | 材料     | 硬度       |
|----------|--------|----------|
| RESA(壳体) | SCM435 | HRC33~38 |
| RESB(芯杆) | SK95   | HRC53~58 |



| 1 壳体 |           |    |    |    |    |    |    | 2 芯杆                       |  | 3 弹簧                                           |                                                |                                                |
|------|-----------|----|----|----|----|----|----|----------------------------|--|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| D    | M         | d  | E  | T  | H  | P  | B  | L                          |  | 类型                                             | 外径-自由长                                         | 弹簧刚度                                           |
| 14   | M14×P=1.5 | 9  | 10 | 26 | 8  | 6  | 10 | 35 40 45 50 55 60 65       |  | WWF 8-25<br>WWFH 8-25<br>WWL 8-25<br>WWLH 8-25 | WWF =0.05<br>WWFH=0.05<br>WWL =0.1<br>WWLH=0.1 |                                                |
|      |           |    |    |    |    |    | 15 | 40 45 50 55 60 65 70 75 80 |  |                                                |                                                |                                                |
| 16   | M16×P=1.5 | 11 | 12 | 35 | 10 | 8  | 23 | 50 55 60 65 70 75 80 85    |  |                                                |                                                | WWF 8-30<br>WWFH 8-30<br>WWL 8-30<br>WWLH 8-30 |
|      |           |    |    |    |    |    | 28 | 60 65 70 75 80 85 90       |  |                                                |                                                |                                                |
| 18   | M18×P=1.5 | 13 | 12 | 35 | 12 | 10 | 33 | 70 75 80 85 90 95          |  |                                                |                                                |                                                |
|      |           |    |    |    |    |    | 38 | 85 90 95 100               |  |                                                |                                                |                                                |
|      |           |    |    |    |    |    | 48 | 105 110                    |  |                                                |                                                |                                                |

| Type           | D    | B  | L                          | 弹簧                         |
|----------------|------|----|----------------------------|----------------------------|
| 1123 组替<br>RES | 6.0  | 10 | 35 40 45 50 55 60 65       | WWF<br>WWFH<br>WWL<br>WWLH |
|                |      | 15 | 40 45 50 55 60 65 70 75 80 |                            |
|                | 8.0  | 23 | 50 55 60 65 70 75 80 85    |                            |
|                |      | 28 | 60 65 70 75 80 85 90       |                            |
|                | 10.0 | 33 | 70 75 80 85 90 95          |                            |
|                |      | 38 | 85 90 95 100               |                            |
|                |      | 48 | 105 110                    |                            |



Type D B L  
RES 1 10 35

# 料头弹出器

## RUNNER EJECTOR SETS

| Type          | D    | 适用芯杆径<br>P | T  |
|---------------|------|------------|----|
| ■ 固定环<br>RESA | 14.0 | 6          | 26 |
|               | 16.0 | 8          | 35 |
|               | 18.0 | 10         | 35 |

| Type          | D    | 8  | L                          |
|---------------|------|----|----------------------------|
| ■ 双芯杆<br>RESB | 6.0  | 10 | 35 40 45 55 60 65          |
|               |      | 15 | 40 45 50 55 60 65 70 75 80 |
|               |      | 23 | 50 55 60 65 70 75 80 85    |
|               | 8.0  | 28 | 60 65 70 75 80 85 90       |
|               |      | 33 | 70 75 80 85 90 95          |
|               |      | 38 | 85 90 95 100               |
|               | 10.0 | 48 | 105 110                    |

### ■ 安装方法 Installation diagram

#### 用固定圈押住的方法:

将固定圈埋入模具顶部夹板5mm深度固定起来。

$$L=T1+T2-5$$

#### Using fixed ring to press it:

Embed the fixed ring 5mm in the clamped plate at the top of the template and fix it.

$$L=T1+T2-5$$

#### 用射出机固定板顶住的方法:

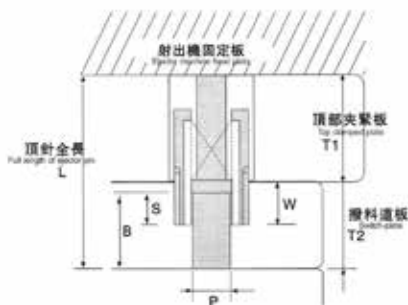
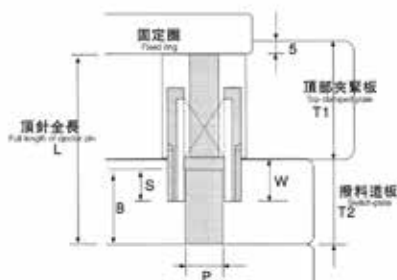
必须注意不要干涉到射出机固定板的孔穴

$$L=T1+T2$$

#### Using ejector machine fixed plate to withstand it:

Must ensure that the hole of the ejector machine fixed plate is not disturbed.

$$L=T1+T2$$



**SERIES**

## 氮气弹簧系列



氮气弹簧是一种以高压氮气为工作介质的新型弹性组件。它体积小、弹力大、行程长、工作平稳、制造精密、使用寿命长、弹力曲线平稳,以及不需要预紧等等,它具有金属弹簧、橡胶和气垫等常规弹性组件所不具备的性能,能够弥补其不足,并代替常规弹性组件完成常规弹性组件难于完成的工作,简化模具设计和制造,方便模具安装和调整,延长模具的使用寿命,确保产品质量的稳定。它可以作为独立部件安装在模具中使用,也可以设计成一种氮气弹簧系统,作为模具的一部分参加工作,可以在系统中很方便实现弹力恒定和延时动作,是一种具有柔性性能的新一代的最理想弹性部件。

The nitrogen gas spring is a new type of elastic component that uses high-pressure nitrogen as the working medium. It has small size, large elastic force, long stroke, stable operation, precise manufacturing, long service life, stable elastic curve, and does not require pretension, etc. Metal springs, rubbers, air cushions and other conventional elastic components do not have the performance, which can make up for their shortcomings, and replace conventional elastic components to complete tasks that are difficult to complete with conventional elastic components, simplify mold design and manufacturing, facilitate mold installation and adjustment, and extend mold The service life ensures the stability of product quality. It can be installed in the mold as an independent component, or it can be designed as a nitrogen spring system. It can work as a part of the mold. It can easily achieve constant elastic pressure and delayed action in the system. It is a new type of flexible performance. The most ideal elastic component.

#### ■ 功能 Functional

- 初始力F: 是指该系列氮气弹簧在常温状态时, 冲气压强为15MPa后初始状态时的弹压力; 同一系列氮气弹簧的初始力是一致的。

Initial force F: refers to the elastic pressure of this series of nitrogen springs in the initial state when the pressure is 15MPa at room temperature; the initial force of the same series of nitrogen springs is the same.

- 行程S: 是指该型号氮气弹簧的工作行程, 这些行程可以充分被利用, 但是为了防止在模具更换或调试中出现氮气弹簧超出行程而超载的突发事件, 因此推荐在设计中保留 >5mm或10%S的空余行程。

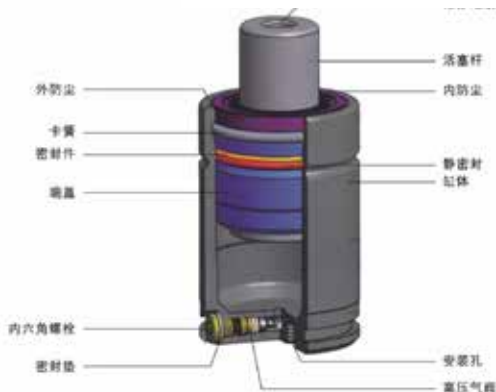
Stroke S: Refers to the working stroke of the nitrogen spring of this model. These strokes can be fully utilized. However, in order to prevent the sudden event of the nitrogen spring exceeding the stroke and overload during mold replacement or debugging, it is recommended to keep it in the design > 5mm or 10%S spare stroke.

- 总长L: 是指该型号氮气弹簧的制造长度, 即在自然状态时的最大长度, 必须满足: 总长 ≥ 基长J+2x行程S

Total length L: refers to the manufacturing length of this type of nitrogen gas spring, that is, the maximum length in the natural state, which must meet: total length ≥ base length J+2x stroke S

- 工作寿命: 在正确安装和正常使用下, 氮气弹簧的工作寿命(行程 ≤ 50mm)为一百万次以上。如果行程大于50mm时, 将以氮气弹簧实际累计行程约100000米计算为其寿命, 即: 工作寿命=100000米+(实际行程×2)

Working life: Under correct installation and normal use, the working life of the nitrogen gas spring (stroke ≤ 50mm) is more than one million times. If the stroke is greater than 50mm, the actual cumulative stroke of the nitrogen gas spring is about 100000 meters as its life, that is: working life=100000 meters + (actual stroke ×2)



#### ■ 安装方法 Installation diagram

- 氮气弹簧为高压密封制品，出厂前经过严格的检查和测试，不允许有任何的其他泄漏现象，因此要求用户正确地安装和使用，才能确保安全可靠性和最佳的使用寿命。

The nitrogen gas spring is a high-pressure sealing product, which has been strictly inspected and tested before leaving the factory, and no other leakage is allowed. Therefore, users are required to install and use correctly to ensure safety, reliability and best service life.

- 当氮气弹簧作为独立部件安装在模具中后，在使用寿命范围内无须拆卸维修。但是应尽量避免装有氮气弹簧的模具在油压机上使用。

After the nitrogen gas spring is installed in the mold as an independent part, it does not need to be disassembled and repaired within the service life. But try to avoid using molds equipped with nitrogen gas springs on hydraulic presses.

- 在氮气弹簧下端的螺钉主要起保护和加强密封作用，不得擅自拆卸和随意敲击。

The screw at the lower end of the nitrogen gas spring is mainly used to protect and strengthen the seal. It is not allowed to be disassembled and knocked at will.

- 推荐工作行程 $\leq 0.9 \times S$ (制造行程)。

Recommended working stroke  $\leq 0.9 \times S$  (manufacturing stroke).

- 被活塞杆上端顶压的工件的其接触面与活塞杆的轴线的垂直度应 $\leq 1^\circ$  (即应保持垂直，严禁偏载)。

The perpendicularity between the contact surface of the workpiece pressed by the upper end of the piston rod and the axis of the piston rod should be  $\leq 1^\circ$  (that is, it should be kept vertical, and partial load is strictly prohibited).

- 被活塞杆上端顶压的工件的运动方向必须与活塞杆运动方向平行。

The movement direction of the workpiece pressed by the upper end of the piston rod must be parallel to the movement direction of the piston rod.

- 氮气弹簧在被压缩后，不要使用活塞杆自由空回程，以免引起氮气弹簧内部损坏。

After the nitrogen gas spring is compressed, do not use the free-air return stroke of the piston rod to avoid internal damage to the nitrogen gas spring.

- 严禁将氮气弹簧置于烈日下暴晒和高热源环境中，最高允许温度 $+80^\circ\text{C}$ 。

It is strictly forbidden to place the nitrogen gas spring in the environment of hot sun and high heat source, and the maximum allowable temperature is  $+80^\circ\text{C}$ .

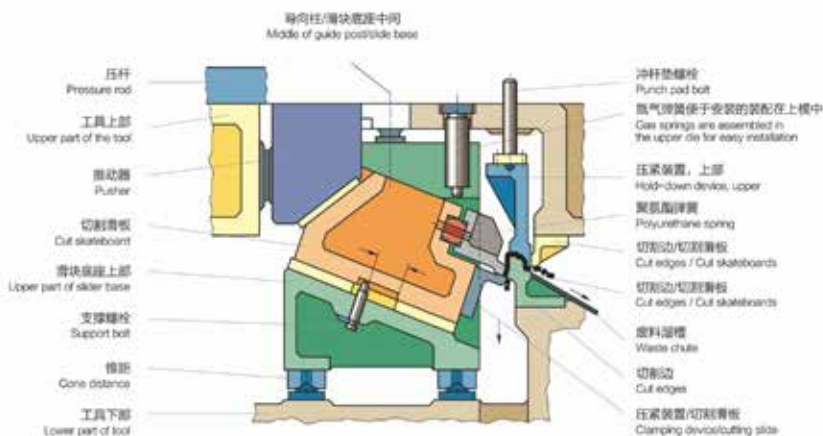


## 应用举例 Application examples

### 带有悬挂导板的切边模具 / Trimming dies with hanging guides

为方便安装，上模内装氮气弹簧的作用为了在下模圆锥长度内让导板支撑的定位省力。

For the convenience of installation, the function of the nitrogen gas spring installed in the upper die is to save effort for the positioning of the guide plate support within the conical length of the lower die.

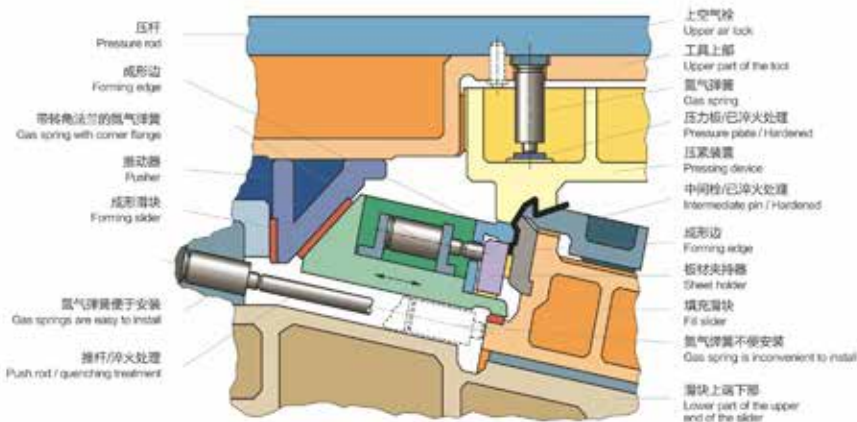


### 模具 / Mold

模具导板内装氮气弹簧时往往需要安装一只保护罩。这种保护罩需要承受高的导板-压扁模压力。

上模内装氮气弹簧用途是为过弱的顶杆缓冲垫增加压力。

When installing a nitrogen gas spring in the mold guide, it is often necessary to consider installing a protective cover. Such protective covers are required to withstand high guide-flattening die pressures. The purpose of the nitrogen gas spring installed in the upper mold is to increase the pressure for the too weak ejector cushion...



# 氮气弹簧

## NITROGEN GAS SPRING

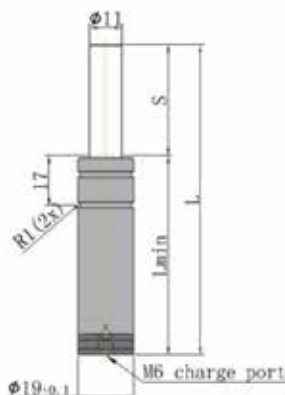
### TC170 (GSV170)

#### 产品特点 Precautions

- 初始力: 1700N
- 终止力: 2800N
- 充气压强: 18MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 1700N
- Maximum load: 2800N
- Nitrogen gas charge pressure: 18MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type      | 行程 S | 总长 L | L (Min) |
|-----------|------|------|---------|
| TC170-007 | 7    | 44   | 37      |
| TC170-010 | 10   | 50   | 40      |
| TC170-015 | 15   | 60   | 45      |
| TC170-019 | 19   | 68   | 49      |
| TC170-025 | 25   | 80   | 55      |
| TC170-038 | 38   | 106  | 68      |
| TC170-050 | 50   | 130  | 80      |
| TC170-063 | 63   | 156  | 93      |
| TC170-075 | 75   | 185  | 110     |
| TC170-080 | 80   | 195  | 115     |
| TC170-100 | 100  | 235  | 135     |
| TC170-125 | 125  | 285  | 160     |



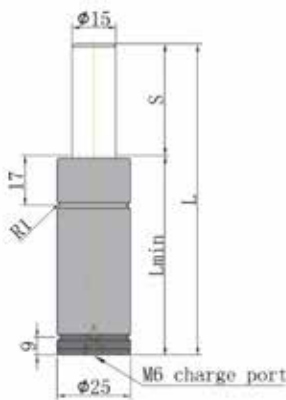
### TC320 (GSV320)

#### 产品特点 Precautions

- 初始力: 3200N
- 终止力: 5300N
- 充气压强: 18MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 3200N
- Maximum load: 5300N
- Nitrogen gas charge pressure: 18MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type      | 行程 S | 总长 L | L (Min) |
|-----------|------|------|---------|
| TC320-007 | 7    | 44   | 37      |
| TC320-010 | 10   | 50   | 40      |
| TC320-015 | 15   | 60   | 45      |
| TC320-019 | 19   | 68   | 49      |
| TC320-025 | 25   | 80   | 55      |
| TC320-038 | 38   | 106  | 68      |
| TC320-050 | 50   | 130  | 80      |
| TC320-063 | 63   | 156  | 93      |
| TC320-075 | 75   | 185  | 110     |
| TC320-080 | 80   | 195  | 115     |
| TC320-100 | 100  | 235  | 135     |
| TC320-125 | 125  | 285  | 160     |



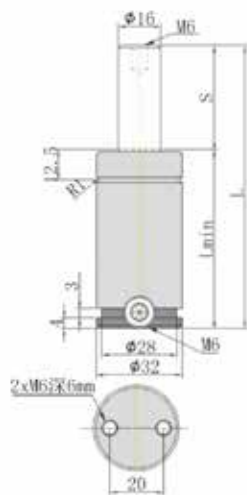
### TC350 (GSV350)

#### 产品特点 Precautions

- 初始力: 3450N
- 终止力: 5500N
- 充气压强: 18MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 3450N
- Maximum load: 5500N
- Nitrogen gas charge pressure: 18MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type      | 行程 S | 总长 L | L (Min) |
|-----------|------|------|---------|
| TC350-010 | 10   | 50   | 40      |
| TC350-013 | 13   | 56   | 43      |
| TC350-016 | 16   | 62   | 46      |
| TC350-019 | 19   | 68   | 49      |
| TC350-025 | 25   | 80   | 55      |
| TC350-032 | 32   | 94   | 62      |
| TC350-035 | 35   | 100  | 65      |
| TC350-038 | 38   | 106  | 68      |
| TC350-045 | 45   | 120  | 75      |
| TC350-050 | 50   | 130  | 80      |
| TC350-055 | 55   | 140  | 85      |
| TC350-063 | 63   | 156  | 93      |
| TC350-070 | 70   | 170  | 100     |
| TC350-075 | 75   | 180  | 105     |
| TC350-080 | 80   | 190  | 110     |
| TC350-090 | 90   | 210  | 120     |
| TC350-100 | 100  | 230  | 130     |
| TC350-125 | 125  | 280  | 155     |



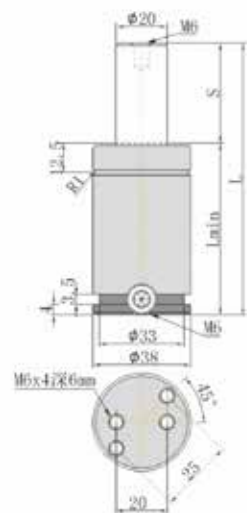
### TC500 (GSV500)

#### 产品特点 Precautions

- 初始力: 4710N
- 终止力: 7200N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 4710N
- Maximum load: 7200N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type      | 行程 S | 总长 L | L (Min) |
|-----------|------|------|---------|
| TC500-010 | 10   | 50   | 40      |
| TC500-013 | 13   | 56   | 43      |
| TC500-016 | 16   | 62   | 46      |
| TC500-019 | 19   | 68   | 49      |
| TC500-025 | 25   | 80   | 55      |
| TC500-030 | 30   | 90   | 60      |
| TC500-032 | 32   | 94   | 62      |
| TC500-035 | 35   | 100  | 65      |
| TC500-038 | 38   | 106  | 68      |
| TC500-045 | 45   | 120  | 75      |
| TC500-050 | 50   | 130  | 80      |
| TC500-055 | 55   | 140  | 85      |
| TC500-063 | 63   | 156  | 93      |
| TC500-070 | 70   | 170  | 100     |
| TC500-075 | 75   | 180  | 105     |
| TC500-080 | 80   | 190  | 110     |
| TC500-090 | 90   | 210  | 120     |
| TC500-100 | 100  | 230  | 130     |
| TC500-125 | 125  | 280  | 155     |



# 氮气弹簧

## NITROGEN GAS SPRING

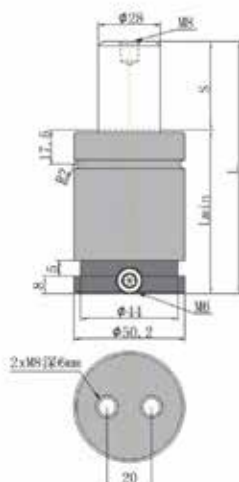
### TC1000 (GSV1000)

#### 产品特点 Precautions

- 初始力: 9230N
- 终止力: 14800N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 9230N
- Maximum load: 14800N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC1000-013 | 13   | 64   | 51      |
| TC1000-016 | 16   | 70   | 54      |
| TC1000-019 | 19   | 76   | 57      |
| TC1000-025 | 25   | 88   | 63      |
| TC1000-030 | 30   | 98   | 68      |
| TC1000-032 | 32   | 102  | 70      |
| TC1000-035 | 35   | 108  | 73      |
| TC1000-038 | 38   | 114  | 76      |
| TC1000-040 | 40   | 118  | 78      |
| TC1000-045 | 45   | 128  | 83      |
| TC1000-050 | 50   | 138  | 88      |
| TC1000-055 | 55   | 148  | 93      |
| TC1000-063 | 63   | 164  | 101     |
| TC1000-070 | 70   | 178  | 108     |
| TC1000-075 | 75   | 188  | 113     |
| TC1000-080 | 80   | 198  | 118     |
| TC1000-090 | 90   | 218  | 128     |
| TC1000-100 | 100  | 238  | 138     |
| TC1000-125 | 125  | 288  | 163     |



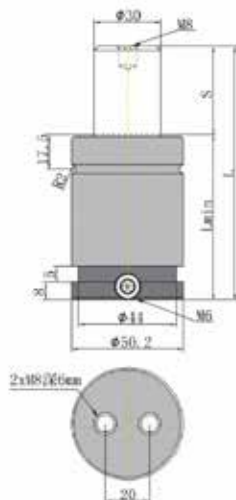
### TC1200 (GSV1200)

#### 产品特点 Precautions

- 初始力: 10600N
- 终止力: 17000N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 10600N
- Maximum load: 17000N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC1200-010 | 10   | 58   | 48      |
| TC1200-013 | 13   | 64   | 51      |
| TC1200-019 | 19   | 76   | 57      |
| TC1200-025 | 25   | 88   | 63      |
| TC1200-038 | 38   | 114  | 76      |
| TC1200-050 | 50   | 138  | 88      |
| TC1200-063 | 63   | 164  | 101     |
| TC1200-080 | 80   | 198  | 118     |
| TC1200-100 | 100  | 238  | 138     |
| TC1200-125 | 125  | 288  | 163     |



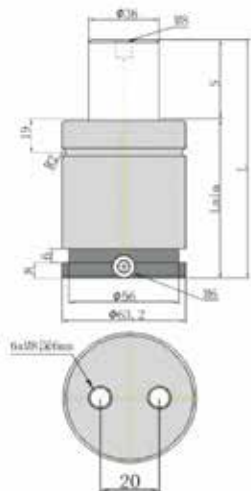
### TC1500 (GSV1500)

#### 产品特点 Precautions

- 初始力: 15300N
- 终止力: 24000N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 15300N
- Maximum load: 24000N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC1500-013 | 13   | 70   | 57      |
| TC1500-016 | 16   | 76   | 60      |
| TC1500-019 | 19   | 82   | 63      |
| TC1500-025 | 25   | 94   | 69      |
| TC1500-030 | 30   | 104  | 74      |
| TC1500-032 | 32   | 108  | 76      |
| TC1500-035 | 35   | 114  | 79      |
| TC1500-038 | 38   | 120  | 82      |
| TC1500-040 | 40   | 124  | 84      |
| TC1500-045 | 45   | 134  | 89      |
| TC1500-050 | 50   | 144  | 94      |
| TC1500-055 | 55   | 154  | 99      |
| TC1500-063 | 63   | 170  | 107     |
| TC1500-070 | 70   | 184  | 114     |
| TC1500-075 | 75   | 194  | 119     |
| TC1500-080 | 80   | 204  | 124     |
| TC1500-090 | 90   | 224  | 134     |
| TC1500-100 | 100  | 244  | 144     |
| TC1500-125 | 125  | 294  | 169     |



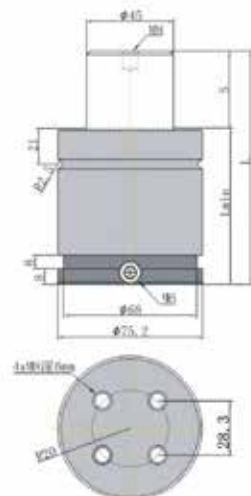
### TC2400 (GSV2400)

#### 产品特点 Precautions

- 初始力: 24000N
- 终止力: 36200N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 24000N
- Maximum load: 36200N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC2400-016 | 16   | 77   | 61      |
| TC2400-019 | 19   | 83   | 64      |
| TC2400-025 | 25   | 95   | 70      |
| TC2400-030 | 30   | 105  | 75      |
| TC2400-032 | 32   | 109  | 77      |
| TC2400-035 | 35   | 115  | 80      |
| TC2400-038 | 38   | 121  | 83      |
| TC2400-040 | 40   | 125  | 85      |
| TC2400-045 | 45   | 135  | 90      |
| TC2400-050 | 50   | 145  | 95      |
| TC2400-055 | 55   | 155  | 100     |
| TC2400-063 | 63   | 171  | 108     |
| TC2400-070 | 70   | 185  | 115     |
| TC2400-075 | 75   | 195  | 120     |
| TC2400-080 | 80   | 205  | 125     |
| TC2400-090 | 90   | 225  | 135     |
| TC2400-100 | 100  | 245  | 145     |
| TC2400-125 | 125  | 295  | 170     |



# 氮气弹簧

## NITROGEN GAS SPRING

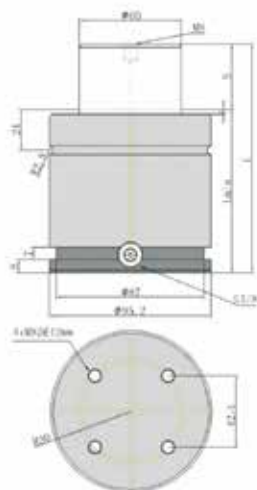
### TC4200 (GSV4200)

#### 产品特点 Precautions

- 初始力: 42000N
- 终止力: 86000N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 42000N
- Maximum load: 86000N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC4200-016 | 16   | 90   | 74      |
| TC4200-019 | 19   | 96   | 77      |
| TC4200-025 | 25   | 108  | 83      |
| TC4200-032 | 32   | 122  | 90      |
| TC4200-035 | 35   | 128  | 93      |
| TC4200-038 | 38   | 134  | 96      |
| TC4200-045 | 45   | 148  | 103     |
| TC4200-050 | 50   | 158  | 108     |
| TC4200-055 | 55   | 168  | 113     |
| TC4200-063 | 63   | 184  | 121     |
| TC4200-075 | 75   | 208  | 133     |
| TC4200-080 | 80   | 218  | 138     |
| TC4200-090 | 90   | 238  | 148     |
| TC4200-100 | 100  | 258  | 158     |
| TC4200-125 | 125  | 308  | 183     |



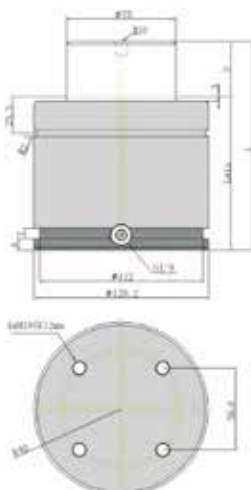
### TC6600 (GSV6600)

#### 产品特点 Precautions

- 初始力: 66000N
- 终止力: 102400N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 66000N
- Maximum load: 102400N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC6600-016 | 16   | 100  | 84      |
| TC6600-019 | 19   | 106  | 87      |
| TC6600-025 | 25   | 118  | 93      |
| TC6600-032 | 32   | 132  | 100     |
| TC6600-035 | 35   | 138  | 103     |
| TC6600-038 | 38   | 144  | 106     |
| TC6600-045 | 45   | 158  | 113     |
| TC6600-050 | 50   | 168  | 118     |
| TC6600-055 | 55   | 178  | 123     |
| TC6600-063 | 63   | 194  | 131     |
| TC6600-075 | 75   | 218  | 143     |
| TC6600-080 | 80   | 228  | 148     |
| TC6600-100 | 100  | 268  | 168     |
| TC6600-125 | 125  | 318  | 193     |





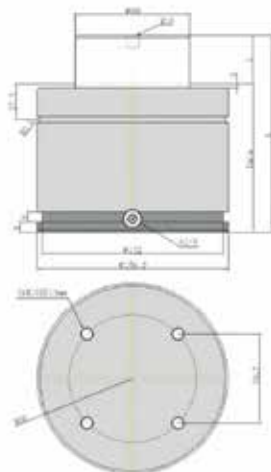
### TC9500 (GSV9500)

#### 产品特点 Precautions

- 初始力: 95000N
- 终止力: 145000N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 95000N
- Maximum load: 145000N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type       | 行程 S | 总长 L | L (Min) |
|------------|------|------|---------|
| TC9500-025 | 25   | 128  | 103     |
| TC9500-032 | 32   | 142  | 110     |
| TC9500-038 | 38   | 154  | 116     |
| TC9500-050 | 50   | 178  | 128     |
| TC9500-063 | 63   | 204  | 141     |
| TC9500-075 | 75   | 228  | 153     |
| TC9500-080 | 80   | 238  | 158     |
| TC9500-100 | 100  | 178  | 78      |
| TC9500-125 | 125  | 328  | 203     |



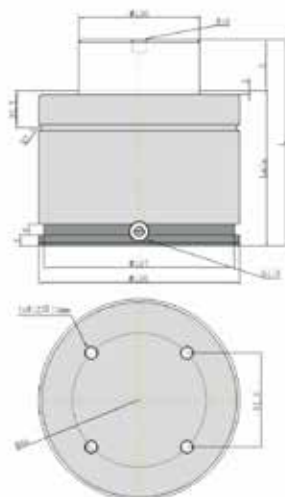
### TC20000 (GSV20000)

#### 产品特点 Precautions

- 初始力: 200000N
- 终止力: 307000N
- 充气压强: 15MPa
- 最大允许速度: 1m/s
- 允许温度: -20℃~80℃
- 工作频率: 6~60/min
- Initial load: 200000N
- Maximum load: 307000N
- Nitrogen gas charge pressure: 15MPa
- Maximum speed: 1m/s
- Working temperature: -20℃~80℃
- Working frequency: 6~60/min

#### 规格 Specification

| Type        | 行程 S | 总长 L | L (Min) |
|-------------|------|------|---------|
| TC20000-019 | 19   | 148  | 129     |
| TC20000-025 | 25   | 160  | 135     |
| TC20000-032 | 32   | 175  | 143     |
| TC20000-038 | 38   | 186  | 148     |
| TC20000-050 | 50   | 210  | 160     |
| TC20000-063 | 63   | 236  | 173     |
| TC20000-075 | 75   | 260  | 185     |
| TC20000-080 | 80   | 270  | 190     |
| TC20000-100 | 100  | 310  | 210     |
| TC20000-125 | 125  | 360  | 235     |





# BALL BEARING GUIDE POST SETS FOR DIE SET

SERIES B-111

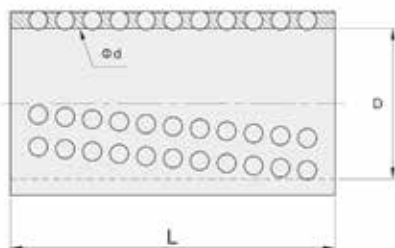
## 模架用钢珠导柱组件



## 模架用钢珠导柱组件

BALL BEARING GUIDE POST SETS FOR DIESET

GBH / GBL / GBP



| M Body 材质        | M Ball 材质 | H Ball 硬度 |
|------------------|-----------|-----------|
| 铜 GBH copper     | GCr15     | HRC 61-66 |
| 铝合金 GBL aluminum |           |           |
| 树脂 GBP plastic   |           |           |

| 球径d | 轴径D | 长度L |
|-----|-----|-----|
| 2   | 10  | 15  |
|     |     | 20  |
|     | 12  | 15  |
|     |     | 25  |
|     | 14  | 15  |
|     |     | 25  |
| 3   | 16  | 18  |
|     |     | 30  |
|     | 18  | 30  |
|     |     | 45  |
|     |     | 60  |
|     |     | 75  |
|     | 19  | 45  |
|     |     | 60  |
|     | 20  | 45  |
|     |     | 60  |
|     | 22  | 50  |
|     |     | 60  |
|     | 25  | 50  |
|     |     | 75  |
|     | 28  | 60  |
|     |     | 75  |

| 球径d | 轴径D | 长度L |
|-----|-----|-----|
| 4   | 28  | 50  |
|     |     | 60  |
|     |     | 75  |
|     | 30  | 50  |
|     |     | 60  |
|     |     | 75  |
|     |     | 80  |
|     | 32  | 50  |
|     |     | 60  |
|     |     | 75  |
|     |     | 80  |
|     |     | 90  |
|     | 35  | 60  |
|     |     | 75  |
|     |     | 90  |
|     | 36  | 60  |
|     |     | 75  |
|     |     | 90  |
|     |     | 90  |
|     | 38  | 60  |
|     |     | 75  |
|     |     | 90  |

| 球径d | 轴径D | 长度L |
|-----|-----|-----|
| 4   | 40  | 70  |
|     |     | 80  |
|     |     | 90  |
|     | 50  | 70  |
|     |     | 80  |
|     |     | 90  |
|     | 38  | 60  |
|     |     | 70  |
|     |     | 90  |
| 5   | 40  | 60  |
|     |     | 90  |
|     |     | 110 |
|     | 50  | 60  |
|     |     | 90  |
|     |     | 110 |
|     | 60  | 70  |
|     |     | 110 |
|     |     | 110 |
|     | 70  | 80  |
|     |     | 120 |
|     |     | 100 |
|     | 80  | 100 |
|     |     | 120 |
|     |     | 120 |

## 模架用钢珠导柱组件/装卸型

BALL BEARING GUIDE POST SETS FOR DIESET / REMOVABLE TYPE

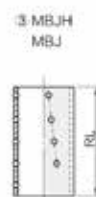
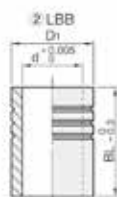
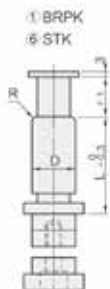
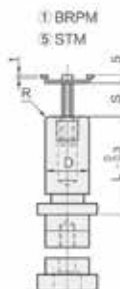
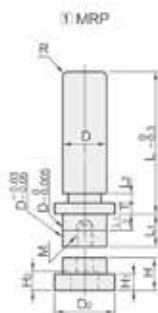
## 高刚性钢珠导柱组件

无挡块  
No stopperRBSH  
(QBSH)可动挡块  
Movable stopperRMSH  
(QMSH)固定挡块  
Fixed stopperRKSH  
(QKSH)铝合金钢珠衬套 Aluminum cage  
(树脂钢珠衬套 Resin cage)

## 钢珠导柱组件

无挡块  
No stopperRB  
(QB)可动挡块  
Movable stopperRM  
(QM)固定挡块  
Fixed stopperRK  
(QK)

| Type | 组成零件 Part |      |      |     |     |     |
|------|-----------|------|------|-----|-----|-----|
|      | ①         | ②    | ③    | ④   | ⑤   | ⑥   |
| RBSH | MRP       | LBB  | MBSH | SWP | -   | -   |
| RMSH | BRPM      |      |      |     | STM | -   |
| RKSH | BRPK      |      |      |     | -   | STK |
| QMSH | MRP       |      |      |     | -   | -   |
| QMSH | BRPM      | MBJH | MBJH | SWP | STM | -   |
| QKSH | BRPK      |      |      |     | -   | STK |
| RB   | MRP       | LBB  | MBSH | SWP | -   | -   |
| RM   | BRPM      |      |      |     | STM | -   |
| RK   | BRPK      |      |      |     | -   | STK |
| QM   | MRP       |      |      |     | -   | -   |
| QM   | BRPM      | MBJH | MBJH | SWP | STM | -   |
| QK   | BRPK      |      |      |     | -   | STK |



| MRPP · BRPM · BRPK |                  |    |    |    |    |     |      |    |      |     |         |     |         |
|--------------------|------------------|----|----|----|----|-----|------|----|------|-----|---------|-----|---------|
| D                  | D1               | L1 | L2 | T  | H  | H1  | H2   | D2 | D3   | t   | M       | R   | 数量/单位   |
| 20                 | 29               | 15 | 5  | 14 | 7  | 8.5 | 10.5 | 28 | 19.5 | 1.6 | 8 × 18  | 2.0 | CB8-25  |
| 22                 | +0.020<br>-0.015 | 31 | 16 | 10 | 8  | 9   | 11.5 | 30 | 21.5 | 1.6 | 8 × 18  | 3.0 |         |
| 25                 |                  | 36 | 18 | 10 | 16 | 8   | 10.5 | 36 | 27.5 | 2.0 | 10 × 22 | 3.5 |         |
| 28                 | +0.025<br>-0.020 | 39 | 20 | 12 | 12 | 18  | 12.5 | 40 | 31.5 | 2.0 | 12 × 27 | 4.0 |         |
| 32                 |                  | 44 | 23 | 15 | 15 | 20  | 14.5 | 48 | 37.5 | 2.0 | 14 × 31 | 5.0 | CB10-30 |
| 38                 | +0.030<br>-0.025 | 53 | 27 | 12 | 12 | 18  | 10   | 55 | 44.5 | 2.0 | 12 × 27 | 4.0 |         |
| 45                 | +0.035<br>-0.030 | 59 | 32 | 15 | 15 | 20  | 12   | 62 | 49.5 | 2.0 | 14 × 31 | 5.0 |         |
| 50                 |                  | 69 | 35 | 15 | 15 | 20  | 12   | 62 | 49.5 | 2.0 | 14 × 31 | 5.0 |         |

| LBB |    |       |         |
|-----|----|-------|---------|
| d   | D4 | 数量/单位 | 数量/单位   |
| 26  | 37 | 5     | 0-0.007 |
| 28  | 40 | 5     | 0-0.007 |
| 31  | 44 | 5     | 0-0.007 |
| 34  | 48 | 5     | 0-0.007 |
| 40  | 54 | 5     | 0-0.007 |
| 48  | 63 | 5     | 0-0.007 |
| 55  | 74 | 5     | 0-0.007 |
| 60  | 78 | 5     | 0-0.007 |

| R   | S    | S1 |
|-----|------|----|
| 50  | 0-19 | 15 |
| 50  | 0-23 | 20 |
| 75  | 0-30 | 25 |
| 90  | 0-37 | 30 |
| 110 | 0-47 | 35 |

## 模架用钢珠导柱组件/装卸型

BALL BEARING GUIDE POST SETS FOR DIESET / REMOVABLE TYPE

| Type | PD | L  |    |     |     |     |     | ② LBB      |     | RL  | 4 FL  |
|------|----|----|----|-----|-----|-----|-----|------------|-----|-----|-------|
|      |    |    |    |     |     |     |     | Code       | BL  |     |       |
| RGSB | 20 | 80 | 90 | 100 | 110 | 120 |     | L<br>(LBB) | 50  | 50  | 40140 |
| RMSB | 22 | 80 | 90 | 100 | 110 | 120 |     |            | 50  | 50  | 40140 |
| RKSB |    | 80 | 90 | 100 | 110 | 120 |     |            | 60  | 60  |       |
| QBSB | 25 | 80 | 90 | 100 | 110 | 120 | 130 |            | 60  | 60  | 40150 |
| QMSB | 28 |    |    |     |     |     |     |            | 80  | 75  |       |
| QKSB |    |    |    |     |     |     |     |            | 60  | 60  | 50150 |
| RB   | 32 |    |    | 100 | 110 | 120 | 130 |            | 80  | 75  |       |
| RM   |    |    |    |     |     |     |     |            | 80  | 75  | 70190 |
| RK   | 38 |    |    |     |     |     |     |            | 100 | 90  |       |
| QB   |    |    |    |     |     |     |     |            | 80  | 75  | 80190 |
| QM   | 45 |    |    |     |     |     |     |            | 100 | 90  |       |
| QK   |    |    |    |     |     |     |     |            | 100 | 90  | 80190 |
|      | 50 |    |    |     |     |     |     |            | 120 | 110 |       |
|      |    |    |    |     |     |     |     |            | 100 | 90  | 80190 |
|      |    |    |    |     |     |     |     |            | 120 | 110 |       |



Type PD L  
RGSB - 20 - 80

## ■ 产品特点 Precautions

| Type | 钢珠数量 Ball | 衬套材质 Material     | 挡块 Stopper           |
|------|-----------|-------------------|----------------------|
| RBSB | 数量多 More  | 铝合金 Aluminum cage | 无挡块 No stopper       |
| QBSB | 数量多 More  | 树脂 Resin cage     | 无挡块 No stopper       |
| RMSB | 数量多 More  | 铝合金 Aluminum cage | 可动挡块 Movable stopper |
| QMSB | 数量多 More  | 树脂 Resin cage     | 可动挡块 Movable stopper |
| RKSB | 数量多 More  | 铝合金 Aluminum cage | 固定挡块 Fixed stopper   |
| QKSB | 数量多 More  | 树脂 Resin cage     | 固定挡块 Fixed stopper   |
| RB   | 数量少 Few   | 铝合金 Aluminum cage | 无挡块 No stopper       |
| QB   | 数量少 Few   | 树脂 Resin cage     | 无挡块 No stopper       |
| RM   | 数量少 Few   | 铝合金 Aluminum cage | 可动挡块 Movable stopper |
| QM   | 数量少 Few   | 树脂 Resin cage     | 可动挡块 Movable stopper |
| RK   | 数量少 Few   | 铝合金 Aluminum cage | 固定挡块 Fixed stopper   |
| QK   | 数量少 Few   | 树脂 Resin cage     | 固定挡块 Fixed stopper   |

## ■ 产品特点 Precautions

1. 钢珠数量多，强度更高。
2. 铝合金珠套，保持力大，树脂套，轻便，不产生磨损粉末。
3. 可动挡块高度可调节，适合闭合度低的模具，固定挡块，强度大，适合导套之间有插拔动作的模具。
4. 压入型需要通过油压机安装到模板，装卸型需要用法兰安装。

1. Large number of steel balls, higher strength
2. Aluminum cage, strong holding force, Resin cage, light and no wear powder
3. The height of the Movable stopper is adjustable, suitable for molds with low closing degree, and the Fixed stopper has high strength, suitable for molds with inserting and pulling actions between the guide pillars.
4. The Press-Fit post type needs to be installed to the template by a hydraulic machine, and the Detachable post type needs to be installed with a flange.

## 模架用钢珠导柱组件/压入型

## BALL BEARING GUIDE POST SETS FOR DIE SET / PRESS FIT POST

## 高刚性钢珠导柱组件

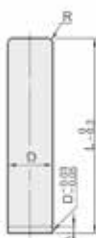
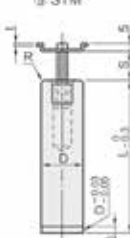
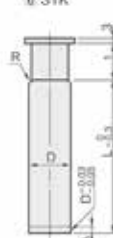
无挡块  
No stopperPBSH  
(GBSH)可动挡块  
Movable stopperPMSH  
(GMSH)固定挡块  
Fixed stopperPKSH  
(GKSH)铝合金钢珠衬套 Aluminum cage  
(树脂钢珠衬套 Resin cage)

## 钢珠导柱组件

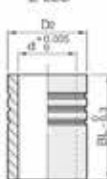
无挡块  
No stopperPB  
(GB)可动挡块  
Movable stopperPM  
(GM)固定挡块  
Fixed stopperPK  
(GK)

| Type | 组成零件 Part |      |      |     |     |
|------|-----------|------|------|-----|-----|
|      | 1         | 2    | 3    | 4   | 5   |
| PBSH | MSP       | LBB  | MBSH | SWP | -   |
| PMSH | BSPM      |      |      |     | STM |
| PKSH | BSPK      |      |      |     | -   |
| GBSH | MSP       |      |      |     | STK |
| GMSH | BSPM      | MBJH | MBS  | SWP | STM |
| GKSH | BSPK      |      |      |     | -   |
| PB   | MSP       |      |      |     | STK |
| PM   | BSPM      |      |      |     | -   |
| PK   | BSPK      | LBB  | MBJ  | SWP | STM |
| GB   | MSP       |      |      |     | -   |
| GM   | BSPM      |      |      |     | STK |
| GK   | BSPK      |      |      |     | -   |

① MSP

① BSPM  
⑤ STM① BSPK  
⑥ STK

② LBB

③ MBSH  
MBS③ MBJH  
MBJ

④ SWP



| MSP - BSPM - BSPK |   |     |     |  |
|-------------------|---|-----|-----|--|
| D                 | A | t   | R   |  |
| 20                | 4 | 1.6 | 2.0 |  |
| 22                |   |     | 3.0 |  |
| 25                |   |     | 3.5 |  |
| 28                | 5 | 2.0 | 4.0 |  |
| 32                |   |     | 5.0 |  |
| 38                |   |     |     |  |
| 45                | 6 | 2.0 | 4.0 |  |
| 50                |   |     | 5.0 |  |

| LBB |    |        |
|-----|----|--------|
| d   | D4 |        |
| 20  | 37 | -0.007 |
| 22  | 40 |        |
| 25  | 44 |        |
| 28  | 48 |        |
| 32  | 54 | -0.008 |
| 38  | 63 |        |
| 45  | 74 |        |
| 50  | 78 | -0.010 |

| RL  | S    | S1 |
|-----|------|----|
| 50  | 0-19 | 15 |
| 60  | 0-23 | 20 |
| 75  | 0-30 | 25 |
| 90  | 0-37 | 30 |
| 110 | 0-47 | 35 |

## 模架用钢珠导柱组件/压入型

## BALL BEARING GUIDE POST SETS FOR DIE SET / PRESS FIT POST

| Type | D  | L                                   | 2 LBB      |     | RL  | 4 FL   |
|------|----|-------------------------------------|------------|-----|-----|--------|
|      |    |                                     | Code       | BL  |     |        |
| PBSH | 20 | 100 110 120 130 140 150 160 170 180 | L<br>(LBB) | 50  | 50  | 40~140 |
| PMSH | 22 | 120 130 140 150 160 170 180         |            | 50  | 50  | 40~140 |
| PKSH | 22 | 120 130 140 150 160 170 180         |            | 60  | 60  | 40~140 |
| GBSH | 25 | 120 130 140 150 160 170 180         |            | 60  | 60  | 40~150 |
| GMSH | 25 | 120 130 140 150 160 170 180         |            | 80  | 75  | 40~150 |
| GKSH | 28 | 140 150 160 170 180 190 200         |            | 60  | 60  | 50~150 |
| PB   | 32 | 160 170 180 190 200 220 240         |            | 80  | 75  | 70~190 |
| PM   | 32 | 160 170 180 190 200 220 240         |            | 100 | 90  | 70~190 |
| PK   | 38 | 180 190 200 220 240 260             |            | 80  | 75  | 80~190 |
| GB   | 38 | 180 190 200 220 240 260             |            | 100 | 90  | 80~190 |
| GM   | 45 | 180 190 200 220 240 260             |            | 100 | 90  | 80~190 |
| GK   | 50 | 220 240 260                         |            | 120 | 110 | 80~190 |



Type D L  
PBSH - 20 - 100

## ■ 产品对比表 Comparison Table

| Type | 钢珠数量 Ball | 衬套材质 Material     | 挡块 Stopper           |
|------|-----------|-------------------|----------------------|
| PBSH | 数量多 More  | 铝合金 Aluminum cage | 无挡块 No stopper       |
| GBSH | 数量多 More  | 树脂 Resin cage     | 无挡块 No stopper       |
| PMSH | 数量多 More  | 铝合金 Aluminum cage | 可动挡块 Movable stopper |
| GMSH | 数量多 More  | 树脂 Resin cage     | 可动挡块 Movable stopper |
| PKSH | 数量多 More  | 铝合金 Aluminum cage | 固定挡块 Fixed stopper   |
| GKSH | 数量多 More  | 树脂 Resin cage     | 固定挡块 Fixed stopper   |
| PB   | 数量少 Few   | 铝合金 Aluminum cage | 无挡块 No stopper       |
| GB   | 数量少 Few   | 树脂 Resin cage     | 无挡块 No stopper       |
| PM   | 数量少 Few   | 铝合金 Aluminum cage | 可动挡块 Movable stopper |
| GM   | 数量少 Few   | 树脂 Resin cage     | 可动挡块 Movable stopper |
| PK   | 数量少 Few   | 铝合金 Aluminum cage | 固定挡块 Fixed stopper   |
| GK   | 数量少 Few   | 树脂 Resin cage     | 固定挡块 Fixed stopper   |

## ■ 产品特点 Precautions

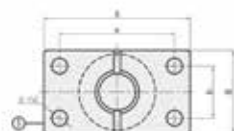
1. 钢珠数量多，强度更高。
2. 铝合金球套，保持力大，树脂套，轻便，不产生磨损粉末。
3. 可动挡块高度可调节，适合闭合度低的模具，固定挡块，强度高，适合导套之间有插拔动作的模具。
4. 压入型需要通过油压机安装到模板，装卸型需要用法兰安装。
1. Large number of steel balls, higher strength
2. Aluminum cage, strong holding force, Resin cage, light and no wear powder
3. The height of the Movable stopper is adjustable, suitable for molds with low closing degree, and the Fixed stopper has high strength, suitable for molds with inserting and pulling actions between the guide pillars.
4. The Press-Fit post type needs to be installed to the template by a hydraulic machine, and the Detachable post type needs to be installed with a flange.



# 模架用钢珠导柱组件

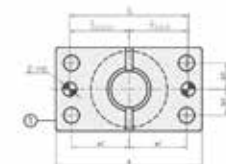
## BALL BEARING GUIDE POST SETS FOR DIESET

## MY



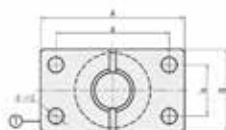
| M 材质     | H 硬度         |
|----------|--------------|
| ① FC1 50 | SSHRc-(高温淬火) |
| ② 45C    |              |
| ③ FC250  |              |

## MYZP



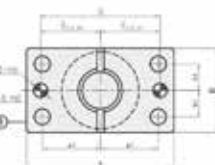
| M 材质     | H 硬度                    |
|----------|-------------------------|
| ① FC1 50 | 镀铬固体氮处理<br>SSHRc-(高温淬火) |
| ② 45C    |                         |
| ③ FC250  |                         |

## MYZ



| M 材质     | H 硬度                    |
|----------|-------------------------|
| ① FC1 50 | 镀铬固体氮处理<br>SSHRc-(高温淬火) |
| ② 45C    |                         |
| ③ FC250  |                         |

## MYP



| M 材质     | H 硬度         |
|----------|--------------|
| ① FC1 50 | SSHRc-(高温淬火) |
| ② 45C    |              |
| ③ FC250  |              |



## 模架用钢珠导柱组件

## BALL BEARING GUIDE POST SETS FOR DIESET

| D  |                  | A   | B  | a   | b  | d   | H  | H1 | T  | S   | a1   | b1 | eH7 | 螺栓          | 固定销    |         |
|----|------------------|-----|----|-----|----|-----|----|----|----|-----|------|----|-----|-------------|--------|---------|
| 20 | +0.020<br>+0.015 | 74  | 44 | 56  | 30 | 6.6 | 30 | 40 | 15 | 56  | 28   | 15 | 6   | +0.012<br>0 | M6 30  | Φ 6 20  |
| 25 |                  | 84  | 48 | 66  | 30 | 9   | 30 | 45 | 20 | 66  | 33   | 15 | 8   |             | M8 35  | Φ 8 30  |
| 32 | +0.025<br>+0.020 | 100 | 58 | 76  | 36 | 11  | 40 | 50 | 20 | 76  | 38   | 18 | 8   | +0.015<br>0 | M10 40 | Φ 8 30  |
| 38 | +0.030<br>+0.025 | 130 | 75 | 100 | 44 | 11  | 50 | 60 | 25 | 100 | 50   | 22 | 10  |             | M10 45 | Φ 10 40 |
| 50 | +0.035<br>+0.030 | 155 | 90 | 125 | 60 | 14  | 65 | 85 | 25 | 125 | 62.5 | 30 | 10  |             | M12 50 | Φ 10 40 |

| Type | D  | L  |     |     |     |     |     |
|------|----|----|-----|-----|-----|-----|-----|
| MYP  | 25 | 90 | 100 | 110 | 120 | 130 | 140 |
|      | 32 |    |     |     | 120 | 130 | 140 |

| Type              | D  | L   |     |     |     |     |     |
|-------------------|----|-----|-----|-----|-----|-----|-----|
| MY<br>MYZ<br>MYZP | 25 | 100 | 110 | 120 | 130 | 140 | 150 |
|                   | 32 |     |     | 120 | 130 | 140 | 150 |
|                   | 38 |     |     |     | 130 | 140 | 150 |
|                   | 50 |     |     |     |     |     | 180 |



Type D L  
MYP - 25 - 100

## ■ 产品对比表 Comparison Table

| Type | 定位孔 Positioning Hole | 衬套材质 Material       | 挡块 Stopper     |
|------|----------------------|---------------------|----------------|
| MY   | 无 No                 | 油润滑 Oil Lubrication | 无挡块 No Stopper |
| MYP  | 有 Yes                | 油润滑 No              | 无挡块 No Stopper |
| MYZ  | 无 No                 | 自润滑 Oil Lubrication | 无挡块 No Stopper |
| MYZP | 有 Yes                | 自润滑 No              | 无挡块 No Stopper |

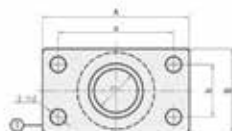
## ■ 产品特点 Precautions

1. MYZ和MYZP都无需润滑油，内部有镶嵌有自润滑石墨块，MYZP相对于MYZ多了定位孔。
2. 铝合金钢珠衬套，铝合金衬套保持力大，强度更高，树脂衬套，更加轻便，工作过程中几乎不产生磨损粉末。
3. 可动挡块装配时钢珠衬套的高度容易调整，由于可动挡块会随着冲床的下降而降低，因此闭合高度较低的模具也可以对应。
1. Both MYZ and MYZP do not need lubricating oil. There are self-lubricating graphite blocks inlaid inside. MYZP has two positioning holes than MYZ.
2. Aluminum cage, aluminum alloy bushings have greater holding power and higher strength. Resin cages are lighter and hardly produce wear powder during working.
3. The height of the steel ball bushing is easy to adjust when the movable stopper is assembled. Since the movable stopper will decrease with the lowering of the punch, the mold with a lower closed height can also be used.

## 模架用钢珠导柱组件

## BALL BEARING GUIDE POST SETS FOR DIESET

## MYA

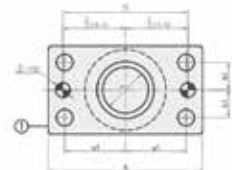
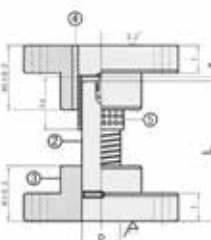


## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GCr15 | 58HRC-(高温淬火) |
| ③ GCr15 | 58HRC-       |
| ④ AL铝合金 |              |

## MYAP

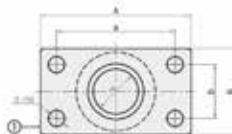


## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GCr15 | 58HRC-(高温淬火) |
| ③ GCr15 | 58HRC-       |
| ④ AL铝合金 |              |

## MYJ

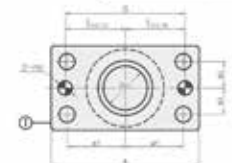
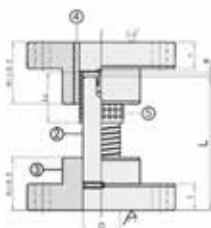


## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GCr15 | 58HRC-(高温淬火) |
| ③ GCr15 | 58HRC-       |
| ④ POM树脂 |              |

## MYJP



## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GCr15 | 58HRC-(高温淬火) |
| ③ GCr15 | 58HRC-       |
| ④ POM树脂 |              |

## 模架用钢珠导柱组件

## BALL BEARING GUIDE POST SETS FOR DIESET

| D  |                  | D1 | A   | B  | a   | b  | d   | H  | H1 | T  | Le | M<br>挡块可动量 | S   | a1   | b1 | eH7 | 螺栓          | 固定销               |
|----|------------------|----|-----|----|-----|----|-----|----|----|----|----|------------|-----|------|----|-----|-------------|-------------------|
| 20 | +0.020<br>+0.015 | 26 | 74  | 44 | 56  | 30 | 6.6 | 30 | 50 | 15 | 50 | 0-20       | 56  | 28   | 15 | 6   | +0.012<br>0 | M6 30<br>φ 6 20   |
| 25 |                  | 31 | 84  | 48 | 66  | 30 | 9   | 30 | 50 | 20 | 50 | 0-20       | 66  | 33   | 15 | 8   |             | m8 35<br>φ 8 30   |
| 32 | +0.025<br>+0.020 | 40 | 100 | 58 | 76  | 36 | 11  | 40 | 60 | 20 | 60 | 0-25       | 76  | 38   | 18 | 8   | +0.015<br>0 | M10 40<br>φ 8 30  |
| 38 | +0.030<br>+0.025 | 48 | 130 | 75 | 100 | 44 | 11  | 50 | 70 | 25 | 70 | 0-29       | 100 | 50   | 22 | 10  |             | M10 45<br>φ 10 40 |
| 50 | +0.035<br>+0.030 | 60 | 155 | 90 | 125 | 60 | 14  | 65 | 90 | 25 | 90 | 0-42       | 125 | 62.5 | 30 | 10  |             | M12 50<br>φ 10 40 |

| Type       | D  | L  |     |     |     |     |     |     |     |     |     |
|------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MYA<br>MYJ | 20 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |     |     |     |
|            | 25 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 180 | 200 |
|            | 32 |    | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 180 | 200 |
|            | 38 |    |     |     |     | 130 | 140 | 150 | 160 | 180 | 200 |
|            | 50 |    |     |     |     |     |     |     | 180 | 200 |     |

| Type         | D  | L  |     |     |     |     |     |     |     |     |     |
|--------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MYAP<br>MYJP | 20 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |     |     |     |
|              | 25 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 180 | 200 |
|              | 32 |    | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 180 | 200 |
|              | 38 |    |     |     |     | 130 | 140 | 150 | 160 | 180 | 200 |
|              | 50 |    |     |     |     |     |     |     | 180 | 200 | 220 |



Type D L  
MYA - 20 - 90

## ■ 产品对比表 Comparison Table

| Type | 定位孔 Positioning Hole |     | 衬套材质 Material |               | 挡块 Stopper           |
|------|----------------------|-----|---------------|---------------|----------------------|
| MYA  | 无                    | No  | 铝合金           | Aluminum cage | 可动挡块 Movable Stopper |
| MYAP | 有                    | Yes | 铝合金           | Aluminum cage | 可动挡块 Movable Stopper |
| MYJ  | 无                    | No  | 树脂            | Resin cage    | 可动挡块 Movable Stopper |
| MYJP | 有                    | Yes | 树脂            | Resin cage    | 可动挡块 Movable Stopper |

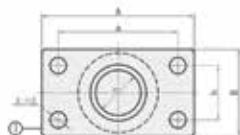
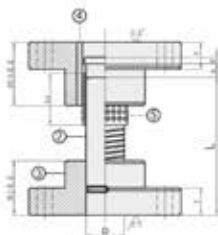
## ■ 产品特点 Precautions

1. MYAP和MYJP相对于MYA、MYJ多了定位孔。
2. 铝合金钢珠衬套。铝合金衬套保持力大，强度更高。树脂衬套，更加轻便，工作过程中几乎不产生磨损粉末。
3. 可动挡块装配时候钢珠衬套的高度容易调整。由于可动挡块会随着冲床的下降而降低，因此闭合高度较低的模具也可以对应。
1. MYAP/ MYJP has two positioning holes than MYA/MYJ.
2. Aluminum cage, aluminum alloy bushings have greater holding power and higher strength. Resin cages are lighter and hardly produce wear powder during working.
3. The height of the steel ball bushing is easy to adjust when the movable stopper is assembled. Since the movable stopper will decrease with the lowering of the punch, the mold with a lower closed height can also be used.

## 模架用钢珠导柱组件

BALL BEARING GUIDE POST SETS FOR DIESET

## MYAK

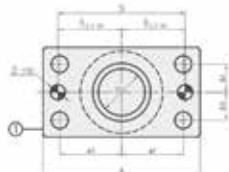
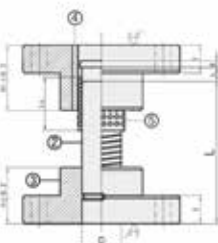


## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GC15  | SBHRC-(高温淬火) |
| ③ GC15  | SBHRC-       |
| ④ AL铝合金 |              |

## MYKP

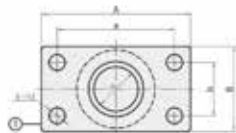
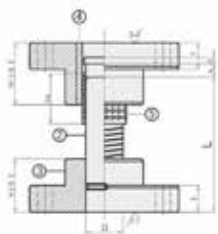


## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GC15  | SBHRC-(高温淬火) |
| ③ GC15  | SBHRC-       |
| ④ AL铝合金 |              |

## MYJK

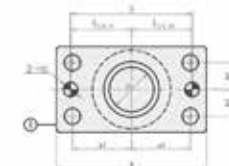


## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GC15  | SBHRC-(高温淬火) |
| ③ GC15  | SBHRC-       |
| ④ POM树脂 |              |

## MJKP



## M 材质

## H 硬度

|         |              |
|---------|--------------|
| ① FC150 |              |
| ② GC15  | SBHRC-(高温淬火) |
| ③ GC15  | SBHRC-       |
| ④ POM树脂 |              |

## 模架用钢珠导柱组件

## BALL BEARING GUIDE POST SETS FOR DIESET

| D  | D1               | A  | B   | a  | b   | d  | H  | H1 | T  | Ls | K<br>固定挡块 | E  | S  | a1  | b1   | eH7 | 螺栓 | 固定销    |         |
|----|------------------|----|-----|----|-----|----|----|----|----|----|-----------|----|----|-----|------|-----|----|--------|---------|
| 25 | +0.020<br>+0.015 | 31 | 84  | 48 | 66  | 30 | 9  | 30 | 50 | 20 | 50        | 20 | 5  | 66  | 33   | 15  | 8  | m8 35  | φ 8x30  |
| 32 | +0.025<br>+0.020 | 40 | 100 | 58 | 76  | 36 | 11 | 40 | 60 | 20 | 60        | 25 | 5  | 76  | 38   | 18  | 8  | M10 40 | φ 8x30  |
| 38 | +0.030<br>+0.025 | 48 | 130 | 75 | 100 | 44 | 11 | 50 | 70 | 25 | 70        | 30 | 10 | 100 | 50   | 22  | 10 | M10 45 | φ 10x40 |
| 50 | +0.035<br>+0.030 | 60 | 155 | 90 | 125 | 60 | 14 | 65 | 90 | 25 | 90        | 40 | 10 | 125 | 62.5 | 30  | 10 | M12 50 | φ 10x40 |

| Type         | D  | L   |     |     |     |     |     |     |     |     |     |  |  |  |  |  |  |  |  |  |
|--------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|
| MJKP<br>MYKP | 25 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |     |     |     |  |  |  |  |  |  |  |  |  |
|              | 32 |     | 110 | 120 | 130 | 140 | 150 | 160 | 180 |     |     |  |  |  |  |  |  |  |  |  |
|              | 38 |     |     |     |     |     |     |     | 180 | 200 |     |  |  |  |  |  |  |  |  |  |
|              | 50 |     |     |     |     |     |     |     | 180 | 200 | 220 |  |  |  |  |  |  |  |  |  |

| Type         | D  | L  |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |  |  |  |
|--------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|
| MYJK<br>MYAK | 25 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 200 |     |  |  |  |  |  |  |  |
|              | 32 |    | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 200 | 220 |  |  |  |  |  |  |  |
|              | 38 |    |     |     |     | 130 | 140 | 150 | 160 | 170 | 180 | 200 | 220 |  |  |  |  |  |  |  |
|              | 50 |    |     |     |     |     |     |     |     |     | 180 | 200 | 220 |  |  |  |  |  |  |  |

|                                                                                  |      |    |     |
|----------------------------------------------------------------------------------|------|----|-----|
|  | Type | D  | L   |
|                                                                                  | MJKP | 25 | 100 |

## ■ 产品对比表 Comparison Table

| Type | 定位孔 Positioning Hole |     | 衬套材质 Material |               | 挡块 Stopper |               |
|------|----------------------|-----|---------------|---------------|------------|---------------|
| MYAK | 无                    | No  | 铝合金           | Aluminum cage | 固定挡块       | Fixed Stopper |
| MYKP | 有                    | Yes | 铝合金           | Aluminum cage | 固定挡块       | Fixed Stopper |
| MYJK | 无                    | No  | 树脂            | Resin cage    | 固定挡块       | Fixed Stopper |
| MJKP | 有                    | Yes | 树脂            | Resin cage    | 固定挡块       | Fixed Stopper |

## ■ 产品特点 Precautions

- 1、MYKP和MJKP相对于MYAK、MYJK多了定位孔。
- 2、铝合金钢珠衬套，铝合金衬套保持力大，强度更高。树脂衬套，更加轻便，工作过程中几乎不产生磨损粉末。
- 3、可动挡块装配时候钢珠衬套的高度容易调整，由于可动挡块会随着冲床的下降而降低，因此闭合高度较低的模具也可以对应。
- 1、MYKP/MJKP has two positioning holes than MYAK/MYJK.
- 2、Aluminum cage, aluminum alloy bushings have greater holding power and higher strengths. Resin cages are lighter and hardly produce wear powder during working.
- 3、The height of the steel ball bushing is easy to adjust when the movable stopper is assembled. Since the movable stopper will decrease with the lowering of the punch, the mold with a lower closed height can also be used.

# OTHER COMPONENT

SERIES

其它组件系列





# 模具温度计 MOLD THERMOMETER

## MTA

### 磁铁式



| 测温范围   | 精度 |
|--------|----|
| 0~200℃ | ±3 |



#### 安装与使用:

1. 选择模具的合理位置, 加工外径40mm孔, 深度13mm。
2. 根据需求确定安装数量。
3. 也可以作为临时测温用, 能测得平面区域的温度。
4. 为注塑工艺提供重要的数据。

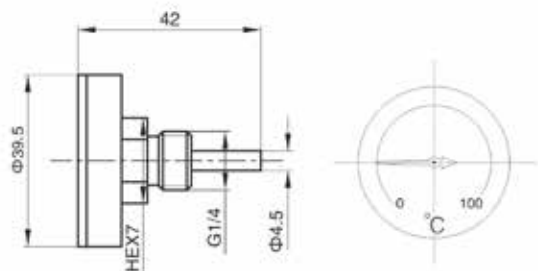
| Type    | 温度范围  | 直径 | 高度 | 范围与精度  |
|---------|-------|----|----|--------|
| MTA-100 | 0~100 | 40 | 13 | 100℃±2 |
| MTA-200 | 0~200 | 40 | 13 | 200℃±3 |

## MTB

### 螺钉式

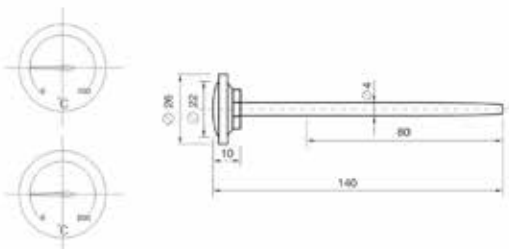


| 测温范围   | 精度 |
|--------|----|
| 0~100℃ | ±3 |



## MTC

### 探针式



| 测温范围   | 精度 |
|--------|----|
| 0~200℃ | ±3 |

#### 安装与使用:

1. 在预定的合理位置钻孔, 深度80mm。
2. 能测得模具内准确的温度, 为注塑工艺提供重要的数据。

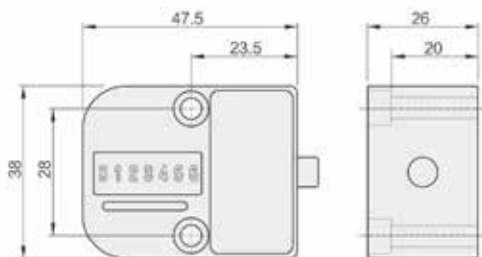


# 计数器

## MOLD COUNTER

## CVPL

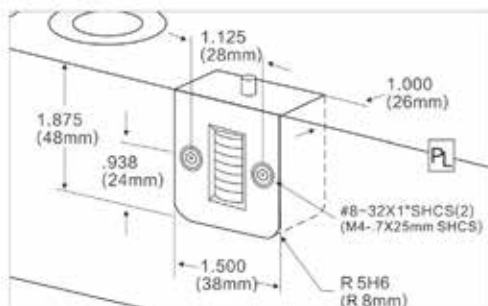
## 方形计数器



CVPL 80℃以下  
CVPLH 150℃以下

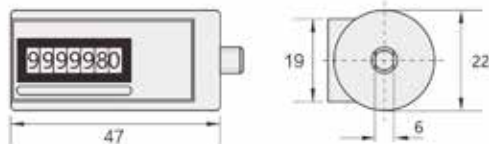
## 产品特点

- 采用机械式结构，不易产生误动作，可准确进行开模次数的计数。
- 批量采购，我们可以根据你的需求印制logo。
- The mold counter adopts a mechanical structure, which is not prone to malfunction, and can accurately count the number of mold openings.
- Bulk purchase, we can print logo according to your needs.



## CVR

## 圆形计数器

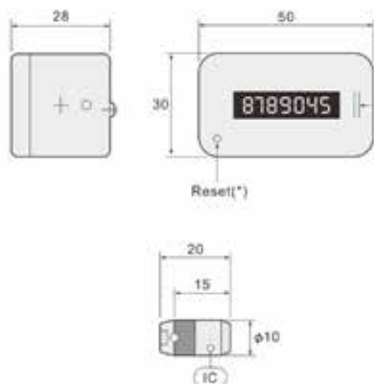


# 智能型电子计数器

## TAPERED INTERLOCKS

CEC

电子计数器

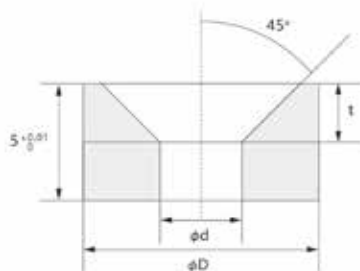


| 材料  | 耐温  |
|-----|-----|
| ABS | 60℃ |

CC. 503028  
CC. RE5328

SRA

垫片



| 材料   |
|------|
| S45C |

| Type   | $\phi D$ | $\phi d$ | t   |
|--------|----------|----------|-----|
| SRA-16 | 16       | 5.5      | 3.0 |
| SRA-20 | 20       | 6.5      | 3.5 |
| SRA-25 | 25       | 8.5      | 4.4 |

更多规格，欢迎来图定制。  
More specifications can be customized.

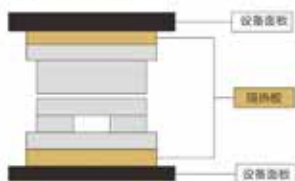
# 隔热板 INSULATION BOARD

IB

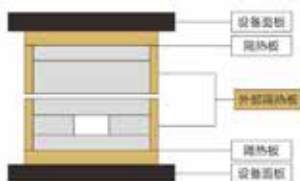


| 性质<br>properties                                  | 白色 (WH) | 黄色 (YE) | 绿色 (GN) | 黑色 (BL) | 蓝色 (BU) | 银色 (SL) | 灰色 (GR) | 棕色 (BR) | 金色 (GD) |
|---------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 密度 (g/cm <sup>3</sup> )<br>Density                | 1.4     | 1.9     | 1.9     | 1.85    | 1.8     | 2.1     | 1.8     | 1.9     | 1.8     |
| 抗折强度 (N/mm <sup>2</sup> )<br>Flexural strength    | 200     | 380     | 380     | 400     | 140     | 200     | 140     | 500     | 140     |
| 抗压强度 (N/mm <sup>2</sup> )<br>Compressive strength | 300     | 600     | 580     | 560     | 330     | 400     | 330     | 600     | 300     |
| 热膨胀系数 (10 <sup>-6</sup> K <sup>-1</sup> )<br>CTE  | 13      | 13      | 13      | 15      | 18      | 10      | 18      | 20      | 8       |
| 导热系数 (W/mK)<br>Thermal conductivity               | 0.19    | 0.19    | 0.19    | 0.23    | 0.18    | 0.15    | 0.18    | 0.21    | 0.1     |
| 连续使用温度 (°C)<br>Service temperature                | 200     | 200     | 200     | 250     | 200     | 600     | 200     | 230     | 800     |
| 最高温 (°C)<br>Maximum temperature                   | 210     | 210     | 210     | 260     | 210     | 600     | 210     | 250     | 800     |

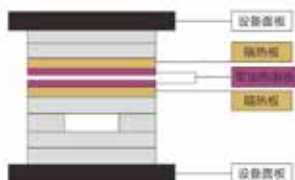
## 模具应用部位介绍:



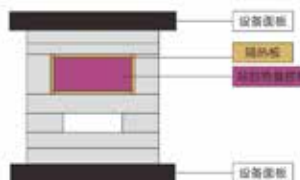
\*普通塑料 / 橡胶 / 压铸模具的运用



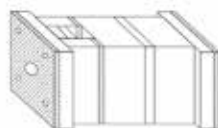
\*半导体CVD封装模具中运用



\*局部需要精确控制温度的模具中应用



\*局部需要精确控制温度的模具中应用



PS



| 国材质         | 国硬度      |
|-------------|----------|
| 高碳钢 1.1274C | HRC47-51 |
| 不锈钢 1.4310C | HRC43-47 |
| 黄铜 C27400   |          |

■ 产品特点

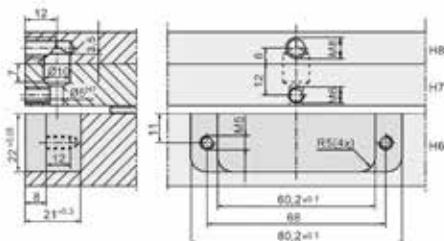
- 高精度的德国精密垫片材料为原装进口1.4310C不锈钢和1.1274C高碳钢以及C27400黄铜三种材料经热处理精密加工制成；具有剪剪度高，拉力强度高，光洁度好，有韧性，不易折断的特点。其中高碳钢的材质具有一定的弹性。
- High precision German precision gaskets are made of original German 1.4310c stainless steel, 1.1274c high carbon steel and c27400 brass after heat treatment and finishing. They have the characteristics of high precision, strong tensile strength, good finish, toughness and not easy to break. Among them, the material of high carbon steel has certain elasticity.

■ 产品用途

- 广泛用于电子仪器，模具制造，精密机械制造行业。各种五金零件，机械零件，冲压件，小五金制造。模具车间的模具维修，模具测量间隙和因机械老化时出现晃动，摇摆及不稳定现象时，可采用本产品来解决机台维修问题。
- Widely used in electronic instruments, mold manufacturing, precision machinery manufacturing industry. All kinds of hardware parts, mechanical parts, stamping parts, hardware manufacturing. This product can be used to solve the problem of machine maintenance in the mold workshop, when the gap of the mold measurement and the phenomenon of swaying, swaying and instability occur due to mechanical aging.

德国精密间隙垫片

| 厚度/Thickness | Long 5000mm |           | Long 3000mm |
|--------------|-------------|-----------|-------------|
|              | Wide 12.7mm | Wide 50mm |             |
| 0.005        |             |           | -           |
| 0.01         |             |           | -           |
| 0.02         |             |           | -           |
| 0.03         |             |           | -           |
| 0.04         |             |           | -           |
| 0.05         |             |           | -           |
| 0.06         |             |           | -           |
| 0.07         |             |           | -           |
| 0.08         |             |           | -           |
| 0.09         |             |           | -           |
| 0.10         |             |           | -           |
| 0.12         |             |           | -           |
| 0.15         |             |           | -           |
| 0.20         |             |           | -           |
| 0.25         |             |           | -           |
| 0.30         |             |           | -           |
| 0.40         |             |           | -           |
| 0.50         |             | -         |             |
| 0.60         |             | -         |             |
| 0.70         |             | -         |             |
| 0.80         |             | -         |             |
| 0.90         |             | -         |             |
| 1.00         |             | -         |             |



# 限位开关

## LIMIT SWITCHES

### V-1C25



| Type       | 外形    | 额定频率  | 绝缘电阻    | 额定电压   | 工作电流 |
|------------|-------|-------|---------|--------|------|
| V-15-1C25  | 针状按钮  | 30次/分 | Min100M | AC250V | 15A  |
| V-151-1C25 | 短摆杆   | 30次/分 | Min100M | AC250V | 15A  |
| V-152-1C25 | 中摆杆   | 30次/分 | Min100M | AC250V | 15A  |
| V-153-1C25 | 长摆杆   | 30次/分 | Min100M | AC250V | 15A  |
| V-154-1C25 | R型摆杆  | 30次/分 | Min100M | AC250V | 15A  |
| V-155-1C25 | 滚珠短摆杆 | 30次/分 | Min100M | AC250V | 15A  |
| V-156-1C25 | 滚珠中摆杆 | 30次/分 | Min100M | AC250V | 15A  |

### Z-15



| Type          | 外形       | 额定频率  | 绝缘电阻    | 额定电压   | 工作电流 |
|---------------|----------|-------|---------|--------|------|
| Z-15GW-B      | 摆杆型      | 20次/分 | Min100M | AC250V | 15A  |
| Z-15GW2-B     | 长摆杆滚珠型   | 20次/分 | Min100M | AC250V | 15A  |
| Z-15GW22613-B | 短摆杆滚珠型   | 20次/分 | Min100M | AC250V | 15A  |
| Z-15GD-B      | 弹簧短按钮    | 20次/分 | Min100M | AC250V | 15A  |
| Z-15GQ-B      | 面板安装式按钮型 | 20次/分 | Min100M | AC250V | 15A  |
| Z-15GQ22-B    | 面板安装式滚珠型 | 20次/分 | Min100M | AC250V | 15A  |

## 油石

### FIBER OILSTONES

#### FOS



#### 产品特点 Precautions

- 本产品使用了纯度非常高的白氧化铝纤维做原料，有着优秀的切削性能。可迅速的消除放电加工后的凹凸面和斑点。
- 对于热处理模具，硬质工具钢，微细雕刻模具等粗磨，中磨，精磨。
- 本产品因主要使用结合剂(油)，所以无气孔堵塞现象且有着优秀的切削性能。
- This product uses high-purified white aluminium oxide fiber as its raw material having excellent cutting performance, able to quickly eliminate the roughness and spots after the discharging processing.
- It is used for coarse cutting intermediate cutting and elaborate cutting of heat treatment molds, hard tool steels and fine engraving of molds.
- This product mainly uses combined oyster, so there is no air hole plug, besides, it has fantastic cutting performance.

| Size       | 砂号 Sand No. |      |      |      |      |      |       |       |       |       |       |  |
|------------|-------------|------|------|------|------|------|-------|-------|-------|-------|-------|--|
| 1.5x6x100  | 120#        | 240# | 320# | 400# | 600# | 800# | 1000# | 1200# | 1500# | 2000# | 3000# |  |
| 2x6x100    |             |      |      |      |      |      |       |       |       |       |       |  |
| 3x6x100    |             |      |      |      |      |      |       |       |       |       |       |  |
| 1.5x13x100 |             |      |      |      |      |      |       |       |       |       |       |  |
| 2x13x100   |             |      |      |      |      |      |       |       |       |       |       |  |
| 3x3x150    |             |      |      |      |      |      |       |       |       |       |       |  |
| 3x6x150    |             |      |      |      |      |      |       |       |       |       |       |  |
| 6x6x150    |             |      |      |      |      |      |       |       |       |       |       |  |
| 3x13x150   |             |      |      |      |      |      |       |       |       |       |       |  |
| 5x13x150   |             |      |      |      |      |      |       |       |       |       |       |  |
| 10x10x150  |             |      |      |      |      |      |       |       |       |       |       |  |
| 13x13x150  |             |      |      |      |      |      |       |       |       |       |       |  |

## 钻石膏

### DIAMOND COMPOUND

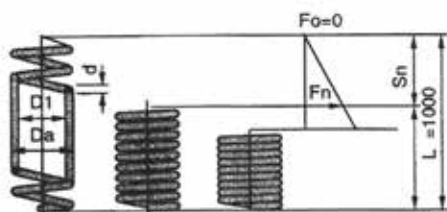
#### DC



| 砂号 Sand No. | Micron Size | 颜色 Color     | 研磨用途 Cutting purposes    |
|-------------|-------------|--------------|--------------------------|
| #170        | 90 μ        | 白色 White     | 粗研能用 Course grinding     |
| #230        | 60 μ        | 橘红色 Orange   | 粗研能用 Course grinding     |
| #300        | 45 μ        | 紫色 Purple    | 粗研能用 Course grinding     |
| #600        | 25 μ        | 红褐色 Mahogany | 粗研能用 Course grinding     |
| #1200       | 14 μ        | 咖啡色 Brown    | 一半亮度用 General brightness |
| #1800       | 8 μ         | 粉红色 Pink     | 一半亮度用 General brightness |
| #3000       | 6 μ         | 黄色 Yellow    | 精密亮度 Precise brightness  |
| #8000       | 3 μ         | 草绿色 Green    | 精密亮度 Precise brightness  |
| #14000      | 1 μ         | 蓝色 Blue      | 精密亮度 Precise brightness  |
| #10000      | 1/4 μ       | 灰色 Grey      | 抛光 Polishing             |
| #24000      | 1/10 μ      | 银色 Silver    | 抛光 Polishing             |



WS



可自行裁切所需长度  
Length can be determined as needed

| 材料            | 耐温            |
|---------------|---------------|
| SAE5150 铬钒合金钢 | 30°C ~ +200°C |

| Type  | 内径 Di<br>Inner Dia<br>(mm) | 外径 Da<br>Outer Dia<br>(mm) | 线径 d<br>Line Dia<br>(mm) | 压缩比<br>Compression Ratio<br>Sn% | 荷重 Fn<br>Loading<br>(kg) |
|-------|----------------------------|----------------------------|--------------------------|---------------------------------|--------------------------|
| WS-10 | 11                         | 16                         | 2.5                      | 45%                             | 40                       |
| WS-12 | 13                         | 20                         | 3.3                      |                                 | 55                       |
| WS-16 | 17                         | 25                         | 4.0                      |                                 | 95                       |
| WS-20 | 21                         | 31                         | 5.0                      |                                 | 110                      |
| WS-25 | 26                         | 38                         | 6.0                      |                                 | 170                      |
| WS-30 | 31                         | 45                         | 7.0                      |                                 | 220                      |

另有一般尺寸扁形弹簧  
Flat-shaped spring of general size is available



# 模具弹簧

## MOLD SPRING



TF轻小荷重弹簧价目表

| 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P |
|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|
| TF 8X4X15           | 13   | TF 16X8X55          | 31   | TF 22X11X75         | 41   | TF 30X16X55         | 39   | TF50X27.5X175       | 216  |
| 20                  | 15   | 60                  | 33   | 80                  | 42   | 60                  | 41   | 200                 | 240  |
| 25                  | 16   | 65                  | 34   | 90                  | 45   | 65                  | 42   | 250                 | 288  |
| 30                  | 17   | 70                  | 35   | 100                 | 48   | 70                  | 43   | 300                 | 336  |
| 35                  | 18   | 75                  | 36   | 125                 | 54   | 75                  | 46   | 350                 | 384  |
| 40                  | 19   | 80                  | 37   | 150                 | 60   | 80                  | 48   | 400                 | 432  |
| 45                  | 21   | TF 18X9X25          | 25   | TF25X13.5X25        | 29   | 90                  | 51   | 450                 | 492  |
| 50                  | 22   | 30                  | 27   | 30                  | 30   | 100                 | 55   | 500                 | 552  |
| 55                  | 23   | 35                  | 28   | 35                  | 31   | 125                 | 63   | TF 60X33X70         | 144  |
| 60                  | 24   | 40                  | 29   | 40                  | 33   | 150                 | 72   | 80                  | 156  |
| TF 10X5X20          | 15   | 45                  | 30   | 45                  | 34   | 175                 | 90   | 90                  | 168  |
| 25                  | 16   | 50                  | 31   | 50                  | 35   | TF 35X20X40         | 39   | 100                 | 180  |
| 30                  | 17   | 55                  | 33   | 55                  | 36   | 45                  | 41   | 125                 | 216  |
| 35                  | 18   | 60                  | 34   | 60                  | 37   | 50                  | 43   | 150                 | 252  |
| 40                  | 19   | 65                  | 35   | 65                  | 39   | 55                  | 46   | 175                 | 288  |
| 45                  | 21   | 70                  | 36   | 70                  | 40   | 60                  | 48   | 200                 | 324  |
| 50                  | 22   | 75                  | 37   | 75                  | 42   | 65                  | 51   | 250                 | 396  |
| 55                  | 23   | 80                  | 39   | 80                  | 45   | 70                  | 53   | 300                 | 468  |
| 60                  | 24   | 90                  | 41   | 90                  | 47   | 75                  | 55   | 350                 | 552  |
| TF 12X6X20          | 17   | TF 20X11X25         | 27   | 100                 | 51   | 80                  | 58   | 400                 | 636  |
| 25                  | 18   | 30                  | 28   | 125                 | 55   | 90                  | 60   | 450                 | 720  |
| 30                  | 19   | 35                  | 29   | 150                 | 63   | 100                 | 65   | 500                 | 804  |
| 35                  | 21   | 40                  | 30   | TF27X13.5X25        | 30   | 125                 | 82   |                     |      |
| 40                  | 22   | 45                  | 31   | 30                  | 31   | 150                 | 94   |                     |      |
| 45                  | 23   | 50                  | 33   | 35                  | 33   | 175                 | 108  |                     |      |
| 50                  | 24   | 55                  | 34   | 40                  | 34   | 200                 | 126  |                     |      |
| 55                  | 25   | 60                  | 35   | 45                  | 35   | TF 40X22X50         | 48   |                     |      |
| 60                  | 27   | 65                  | 36   | 50                  | 36   | 60                  | 54   |                     |      |
| TF 14X7X25          | 22   | 70                  | 37   | 55                  | 37   | 70                  | 60   |                     |      |
| 30                  | 23   | 75                  | 39   | 60                  | 40   | 80                  | 66   |                     |      |
| 35                  | 24   | 80                  | 41   | 65                  | 41   | 90                  | 72   |                     |      |
| 40                  | 25   | 90                  | 43   | 70                  | 42   | 100                 | 84   |                     |      |
| 45                  | 27   | 100                 | 46   | 75                  | 45   | 125                 | 102  |                     |      |
| 50                  | 28   | 125                 | 48   | 80                  | 47   | 150                 | 120  |                     |      |
| 55                  | 29   | TF 22X11X25         | 28   | 90                  | 50   | 175                 | 138  |                     |      |
| 60                  | 30   | 30                  | 29   | 100                 | 53   | 200                 | 156  |                     |      |
| 65                  | 31   | 35                  | 30   | 125                 | 60   | 250                 | 192  |                     |      |
| 70                  | 33   | 40                  | 31   | 150                 | 70   | TF50X27.5X60        | 90   |                     |      |
| TF 16X8X25          | 24   | 45                  | 33   | TF 30X16X25         | 31   | 70                  | 102  |                     |      |
| 30                  | 25   | 50                  | 34   | 30                  | 33   | 80                  | 114  |                     |      |
| 35                  | 27   | 55                  | 35   | 35                  | 34   | 90                  | 126  |                     |      |
| 40                  | 28   | 60                  | 36   | 40                  | 35   | 100                 | 138  |                     |      |
| 45                  | 29   | 65                  | 37   | 45                  | 36   | 125                 | 168  |                     |      |
| 50                  | 30   | 70                  | 39   | 50                  | 37   | 150                 | 192  |                     |      |



OTHER COMPONENT SERIES

| 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 |     | ④V/P          | 规格 SPEC<br>外径×内径×长度 |                           | ④V/P                   | 规格 SPEC<br>外径×内径×长度 |     | ④V/P                   | 规格 SPEC<br>外径×内径×长度    |     | ④V/P | 规格 SPEC<br>外径×内径×长度 |     | ④V/P |
|---------------------|------|---------------------|-----|---------------|---------------------|---------------------------|------------------------|---------------------|-----|------------------------|------------------------|-----|------|---------------------|-----|------|
|                     |      | TL                  | TLR |               | TL                  | TLR                       |                        | TL                  | TLR |                        | TL                     | TLR |      | TL                  | TLR |      |
| TL 8x4x15           | 13   | TL 16x8x55          | 31  | TL 22x11x75   | 42                  |                           | TL 30x15x<br>TLR30x16x | 55                  | 43  | 43                     | TL 36x25x<br>TLR36x30x | 175 | 276  | 276                 |     |      |
| 20                  | 15   | 60                  | 33  | 80            | 45                  |                           | 60                     | 46                  | 46  |                        | 200                    | 312 | 312  |                     |     |      |
| 25                  | 16   | 65                  | 34  | 90            | 47                  |                           | 65                     | 48                  | 48  |                        | 250                    | 372 | 372  |                     |     |      |
| 30                  | 17   | 70                  | 35  | 100           | 54                  |                           | 70                     | 51                  | 51  |                        | 300                    | 432 | 432  |                     |     |      |
| 35                  | 18   | 75                  | 36  | 125           | 60                  |                           | 75                     | 53                  | 53  |                        | 350                    | 492 | 492  |                     |     |      |
| 40                  | 19   | 80                  | 37  | 150           | 66                  |                           | 80                     | 55                  | 55  |                        | 400                    | 552 | 552  |                     |     |      |
| 45                  | 21   | TL 18x9x25          | 25  | TL 25x12.5x25 | 30                  |                           | 90                     | 60                  | 60  |                        | 450                    | 624 | 624  |                     |     |      |
| 50                  | 22   | 30                  | 27  | 30            | 31                  |                           | 100                    | 66                  | 66  |                        | 500                    | 696 | 696  |                     |     |      |
| 55                  | 23   | 35                  | 28  | 35            | 33                  |                           | 125                    | 78                  | 78  | TL 60x30x<br>TLR60x35x | 70                     | 204 | 204  |                     |     |      |
| 60                  | 24   | 40                  | 29  | 40            | 34                  |                           | 150                    | 90                  | 90  |                        | 80                     | 216 | 216  |                     |     |      |
| TL 10x5x20          | 15   | 45                  | 30  | 45            | 35                  |                           | 175                    | 106                 | 106 |                        | 90                     | 228 | 228  |                     |     |      |
| 25                  | 16   | 50                  | 31  | 50            | 36                  | TL 35x17.5x<br>TLR 35x20x | 40                     | 43                  | 43  |                        | 100                    | 240 | 240  |                     |     |      |
| 30                  | 17   | 55                  | 33  | 55            | 37                  |                           | 45                     | 47                  | 47  |                        | 125                    | 276 | 276  |                     |     |      |
| 35                  | 18   | 60                  | 34  | 60            | 39                  |                           | 50                     | 51                  | 51  |                        | 150                    | 324 | 324  |                     |     |      |
| 40                  | 19   | 65                  | 35  | 65            | 40                  |                           | 55                     | 54                  | 54  |                        | 175                    | 372 | 372  |                     |     |      |
| 45                  | 21   | 70                  | 36  | 70            | 41                  |                           | 60                     | 58                  | 58  |                        | 200                    | 420 | 420  |                     |     |      |
| 50                  | 22   | 75                  | 37  | 75            | 43                  |                           | 65                     | 61                  | 61  |                        | 250                    | 504 | 504  |                     |     |      |
| 55                  | 23   | 80                  | 39  | 80            | 46                  |                           | 70                     | 65                  | 65  |                        | 300                    | 588 | 588  |                     |     |      |
| 60                  | 24   | 90                  | 41  | 90            | 48                  |                           | 75                     | 69                  | 69  |                        | 350                    | 672 | 672  |                     |     |      |
| TL 12x6x20          | 17   | TL 20x10x25         | 28  | 100           | 55                  |                           | 80                     | 72                  | 72  |                        | 400                    | 756 | 756  |                     |     |      |
| 25                  | 18   | 30                  | 29  | 125           | 63                  |                           | 90                     | 78                  | 78  |                        | 450                    | 840 | 840  |                     |     |      |
| 30                  | 19   | 35                  | 30  | 150           | 70                  |                           | 100                    | 88                  | 88  |                        | 500                    | 924 | 924  |                     |     |      |
| 35                  | 21   | 40                  | 31  | TL 27x13.5x25 | 31                  |                           | 125                    | 102                 | 102 |                        |                        |     |      |                     |     |      |
| 40                  | 22   | 45                  | 33  | 30            | 33                  |                           | 150                    | 120                 | 120 |                        |                        |     |      |                     |     |      |
| 45                  | 23   | 50                  | 34  | 35            | 34                  |                           | 175                    | 128                 | 128 |                        |                        |     |      |                     |     |      |
| 50                  | 24   | 55                  | 35  | 40            | 35                  |                           | 200                    | 162                 | 162 |                        |                        |     |      |                     |     |      |
| 55                  | 25   | 60                  | 36  | 45            | 36                  | TL 40x20x<br>TLR40x26x    | 50                     | 63                  | 63  |                        |                        |     |      |                     |     |      |
| 60                  | 27   | 65                  | 37  | 50            | 37                  |                           | 60                     | 70                  | 70  |                        |                        |     |      |                     |     |      |
| TL 14x7x25          | 22   | 70                  | 39  | 55            | 39                  |                           | 70                     | 82                  | 82  |                        |                        |     |      |                     |     |      |
| 30                  | 23   | 75                  | 41  | 60            | 41                  |                           | 80                     | 94                  | 94  |                        |                        |     |      |                     |     |      |
| 35                  | 24   | 80                  | 43  | 65            | 43                  |                           | 90                     | 106                 | 106 |                        |                        |     |      |                     |     |      |
| 40                  | 25   | 90                  | 46  | 70            | 46                  |                           | 100                    | 118                 | 118 |                        |                        |     |      |                     |     |      |
| 45                  | 27   | 100                 | 48  | 75            | 48                  |                           | 125                    | 138                 | 138 |                        |                        |     |      |                     |     |      |
| 50                  | 28   | 125                 | 51  | 80            | 51                  |                           | 150                    | 156                 | 156 |                        |                        |     |      |                     |     |      |
| 55                  | 29   | TL 22x11x25         | 29  | 90            | 54                  |                           | 175                    | 174                 | 174 |                        |                        |     |      |                     |     |      |
| 60                  | 30   | 30                  | 30  | 100           | 60                  |                           | 200                    | 198                 | 198 |                        |                        |     |      |                     |     |      |
| 65                  | 31   | 35                  | 31  | 125           | 72                  |                           | 250                    | 240                 | 240 |                        |                        |     |      |                     |     |      |
| 70                  | 33   | 40                  | 33  | 150           | 82                  | TL 50x25x<br>TLR 50x30x   | 60                     | 114                 | 114 |                        |                        |     |      |                     |     |      |
| TL 16x8x25          | 24   | 45                  | 34  | TL 30x15x25   | 33                  |                           | 70                     | 126                 | 126 |                        |                        |     |      |                     |     |      |
| 30                  | 25   | 50                  | 35  | TLR 30x16x30  | 34                  | 34                        | 80                     | 138                 | 138 |                        |                        |     |      |                     |     |      |
| 35                  | 27   | 55                  | 36  | 35            | 35                  | 35                        | 90                     | 156                 | 156 |                        |                        |     |      |                     |     |      |
| 40                  | 28   | 60                  | 37  | 40            | 36                  | 36                        | 100                    | 168                 | 168 |                        |                        |     |      |                     |     |      |
| 45                  | 29   | 65                  | 39  | 45            | 39                  | 39                        | 125                    | 210                 | 210 |                        |                        |     |      |                     |     |      |
| 50                  | 30   | 70                  | 40  | 50            | 41                  | 41                        | 150                    | 240                 | 240 |                        |                        |     |      |                     |     |      |

# 模具弹簧

## MOLD SPRING



### TM中荷重弹簧价目表

| 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P | 规格 SPEC<br>外径×内径×长度 | ④V/P |
|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|
| TM 8X4X15           | 13   | TM 16X8X55          | 33   | TM 22X11X70         | 42   | TM 30X15X50         | 48   | TM 50X25X150        | 288  |
| 20                  | 15   | 60                  | 34   | 75                  | 45   | 55                  | 51   | 175                 | 324  |
| 25                  | 16   | 65                  | 35   | 80                  | 48   | 60                  | 53   | 200                 | 360  |
| 30                  | 17   | 70                  | 36   | 90                  | 52   | 65                  | 55   | 250                 | 432  |
| 35                  | 18   | 75                  | 39   | 100                 | 55   | 70                  | 58   | 300                 | 504  |
| 40                  | 19   | 80                  | 41   | 125                 | 61   | 75                  | 60   | TM 60X30X70         | 216  |
| 45                  | 21   | TM 18X9X25          | 28   | 150                 | 67   | 80                  | 64   | 80                  | 228  |
| 50                  | 22   | 30                  | 29   | TM 25X12.5X25       | 31   | 90                  | 67   | 90                  | 252  |
| 55                  | 24   | 35                  | 30   | 30                  | 33   | 100                 | 75   | 100                 | 276  |
| 60                  | 27   | 40                  | 31   | 35                  | 34   | 125                 | 91   | 125                 | 336  |
| TM 10X5X20          | 15   | 45                  | 33   | 40                  | 35   | 150                 | 108  | 150                 | 396  |
| 25                  | 16   | 50                  | 34   | 45                  | 36   | 175                 | 126  | 175                 | 456  |
| 30                  | 17   | 55                  | 35   | 50                  | 39   | TM 35X17.5X40       | 49   | 200                 | 516  |
| 35                  | 18   | 60                  | 36   | 55                  | 40   | 45                  | 53   | 250                 | 612  |
| 40                  | 19   | 65                  | 37   | 60                  | 41   | 50                  | 57   | 300                 | 720  |
| 45                  | 21   | 70                  | 40   | 65                  | 42   | 55                  | 60   |                     |      |
| 50                  | 22   | 75                  | 42   | 70                  | 43   | 60                  | 66   |                     |      |
| 55                  | 23   | 80                  | 46   | 75                  | 46   | 65                  | 72   |                     |      |
| 60                  | 24   | 90                  | 48   | 80                  | 49   | 70                  | 78   |                     |      |
| TM 12X6X20          | 17   | TM 20X10X25         | 29   | 90                  | 53   | 75                  | 84   |                     |      |
| 25                  | 18   | 30                  | 30   | 100                 | 58   | 80                  | 90   |                     |      |
| 30                  | 19   | 35                  | 31   | 125                 | 66   | 90                  | 96   |                     |      |
| 35                  | 21   | 40                  | 33   | 150                 | 82   | 100                 | 106  |                     |      |
| 40                  | 22   | 45                  | 34   | TM 27X13.5X25       | 34   | 125                 | 126  |                     |      |
| 45                  | 23   | 50                  | 36   | 30                  | 35   | 150                 | 142  |                     |      |
| 50                  | 24   | 55                  | 37   | 35                  | 36   | 175                 | 162  |                     |      |
| 55                  | 25   | 60                  | 39   | 40                  | 37   | 200                 | 186  |                     |      |
| 60                  | 27   | 65                  | 40   | 45                  | 39   | TM 40X20X50         | 75   |                     |      |
| TM 14X7X25          | 22   | 70                  | 41   | 50                  | 40   | 60                  | 84   |                     |      |
| 30                  | 23   | 75                  | 43   | 55                  | 42   | 70                  | 96   |                     |      |
| 35                  | 24   | 80                  | 47   | 60                  | 45   | 80                  | 108  |                     |      |
| 40                  | 25   | 90                  | 51   | 65                  | 47   | 90                  | 120  |                     |      |
| 45                  | 27   | 100                 | 54   | 70                  | 50   | 100                 | 132  |                     |      |
| 50                  | 28   | 125                 | 58   | 75                  | 52   | 125                 | 156  |                     |      |
| 55                  | 29   | 150                 | 65   | 80                  | 55   | 150                 | 186  |                     |      |
| 60                  | 30   | TM 22X11X25         | 30   | 90                  | 59   | 175                 | 216  |                     |      |
| 65                  | 31   | 30                  | 31   | 100                 | 66   | 200                 | 228  |                     |      |
| 70                  | 33   | 35                  | 33   | 125                 | 76   | 250                 | 288  |                     |      |
| TM 16X8X25          | 25   | 40                  | 34   | 150                 | 88   | TM 50X25X60         | 138  |                     |      |
| 30                  | 27   | 45                  | 35   | TM 30X15X25         | 36   | 70                  | 150  |                     |      |
| 35                  | 28   | 50                  | 37   | 30                  | 39   | 80                  | 168  |                     |      |
| 40                  | 29   | 55                  | 39   | 35                  | 41   | 90                  | 186  |                     |      |
| 45                  | 30   | 60                  | 40   | 40                  | 43   | 100                 | 204  |                     |      |
| 50                  | 31   | 65                  | 41   | 45                  | 46   | 125                 | 252  |                     |      |





TH重荷重弹簧价目表

| 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P |
|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|
| TH 8X4X15           | 15   | TH 16X8X55          | 35   | TH 22X11X75         | 50   | TH 30X15X55         | 54   | TH 50X25X175        | 360  |
| 20                  | 16   | 60                  | 36   | 80                  | 52   | 60                  | 57   | 200                 | 408  |
| 25                  | 17   | 65                  | 37   | 90                  | 55   | 65                  | 60   | 250                 | 504  |
| 30                  | 18   | 70                  | 40   | 100                 | 61   | 70                  | 63   | 300                 | 600  |
| 35                  | 19   | 75                  | 42   | 125                 | 66   | 75                  | 65   | TH 60X30X70         | 252  |
| 40                  | 21   | 80                  | 45   | 150                 | 72   | 80                  | 69   | 80                  | 276  |
| 45                  | 22   | TH 18X9X25          | 30   | TH25X12.5X25        | 34   | 90                  | 75   | 90                  | 300  |
| 50                  | 23   | 30                  | 31   | 30                  | 35   | 100                 | 90   | 100                 | 324  |
| 55                  | 25   | 35                  | 33   | 35                  | 36   | 125                 | 106  | 125                 | 344  |
| 60                  | 28   | 40                  | 34   | 40                  | 37   | 150                 | 126  | 150                 | 384  |
| TH 10X5X20          | 16   | 45                  | 35   | 45                  | 39   | 175                 | 144  | 175                 | 504  |
| 25                  | 17   | 50                  | 36   | 50                  | 41   | TH 35X17.5X40       | 55   | 200                 | 584  |
| 30                  | 18   | 55                  | 37   | 55                  | 42   | 45                  | 60   | 250                 | 672  |
| 35                  | 19   | 60                  | 39   | 60                  | 43   | 50                  | 65   | 300                 | 768  |
| 40                  | 21   | 65                  | 41   | 65                  | 46   | 55                  | 70   |                     |      |
| 45                  | 22   | 70                  | 44   | 70                  | 48   | 60                  | 76   |                     |      |
| 50                  | 23   | 75                  | 46   | 75                  | 51   | 65                  | 82   |                     |      |
| 55                  | 24   | 80                  | 50   | 80                  | 53   | 70                  | 88   |                     |      |
| 60                  | 25   | 90                  | 53   | 90                  | 58   | 75                  | 94   |                     |      |
| TH 12X6X20          | 18   | TH 20X10X25         | 31   | 100                 | 65   | 80                  | 100  |                     |      |
| 25                  | 19   | 30                  | 33   | 125                 | 72   | 90                  | 106  |                     |      |
| 30                  | 21   | 35                  | 34   | 150                 | 87   | 100                 | 118  |                     |      |
| 35                  | 22   | 40                  | 35   | TH27X13.5X25        | 36   | 125                 | 138  |                     |      |
| 40                  | 23   | 45                  | 36   | 30                  | 39   | 150                 | 162  |                     |      |
| 45                  | 24   | 50                  | 39   | 35                  | 41   | 175                 | 186  |                     |      |
| 50                  | 25   | 55                  | 40   | 40                  | 43   | 200                 | 214  |                     |      |
| 55                  | 27   | 60                  | 41   | 45                  | 46   | TH 40X20X50         | 84   |                     |      |
| 60                  | 28   | 65                  | 43   | 50                  | 48   | 60                  | 96   |                     |      |
| TH 14X7X25          | 24   | 70                  | 46   | 55                  | 51   | 70                  | 108  |                     |      |
| 30                  | 25   | 75                  | 48   | 60                  | 53   | 80                  | 120  |                     |      |
| 35                  | 27   | 80                  | 51   | 65                  | 55   | 90                  | 132  |                     |      |
| 40                  | 28   | 90                  | 54   | 70                  | 58   | 100                 | 150  |                     |      |
| 45                  | 29   | 100                 | 60   | 75                  | 60   | 125                 | 174  |                     |      |
| 50                  | 30   | 125                 | 64   | 80                  | 63   | 150                 | 198  |                     |      |
| 55                  | 31   | TH 22X11X25         | 33   | 90                  | 65   | 175                 | 228  |                     |      |
| 60                  | 33   | 30                  | 34   | 100                 | 75   | 200                 | 264  |                     |      |
| 65                  | 34   | 35                  | 35   | 125                 | 84   | 250                 | 324  |                     |      |
| 70                  | 35   | 40                  | 36   | 150                 | 99   | TH 50X25X60         | 156  |                     |      |
| TH 16X8X25          | 28   | 45                  | 37   | TH 30X15X25         | 40   | 70                  | 168  |                     |      |
| 30                  | 29   | 50                  | 40   | 30                  | 42   | 80                  | 186  |                     |      |
| 35                  | 30   | 55                  | 41   | 35                  | 45   | 90                  | 210  |                     |      |
| 40                  | 31   | 60                  | 42   | 40                  | 47   | 100                 | 228  |                     |      |
| 45                  | 33   | 65                  | 45   | 45                  | 49   | 125                 | 264  |                     |      |
| 50                  | 34   | 70                  | 47   | 50                  | 52   | 150                 | 312  |                     |      |

# 模具弹簧

## MOLD SPRING



TB极重荷重弹簧价目表

| 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P |
|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|
| TB 8x4x15           | 19   | TB 16x8x55          | 41   | TB 22x11x75         | 59   | TB 30x15x55         | 60   | TB 50x25x175        | 408  |
| 20                  | 21   | 60                  | 43   | 80                  | 65   | 60                  | 63   | 200                 | 456  |
| 25                  | 22   | 65                  | 47   | 90                  | 70   | 65                  | 65   | 250                 | 540  |
| 30                  | 23   | 70                  | 49   | 100                 | 77   | 70                  | 69   | 300                 | 648  |
| 35                  | 24   | 75                  | 53   | 125                 | 87   | 75                  | 76   | TB 60x30x70         | 300  |
| 40                  | 25   | 80                  | 55   | 150                 | 96   | 80                  | 84   | 80                  | 324  |
| 45                  | 27   | TB 18x9x25          | 34   | TB 25x12.5x25       | 39   | 90                  | 96   | 90                  | 348  |
| 50                  | 28   | 30                  | 35   | 30                  | 40   | 100                 | 108  | 100                 | 372  |
| 55                  | 30   | 35                  | 36   | 35                  | 41   | 125                 | 120  | 125                 | 432  |
| 60                  | 33   | 40                  | 39   | 40                  | 43   | 150                 | 138  | 150                 | 492  |
| TB 10x5x20          | 21   | 45                  | 41   | 45                  | 46   | 175                 | 162  | 175                 | 552  |
| 25                  | 22   | 50                  | 43   | 50                  | 48   | TB 35x17.5x40       | 64   | 200                 | 612  |
| 30                  | 23   | 55                  | 46   | 55                  | 51   | 45                  | 70   | 250                 | 720  |
| 35                  | 24   | 60                  | 48   | 60                  | 53   | 50                  | 76   | 300                 | 840  |
| 40                  | 25   | 65                  | 51   | 65                  | 55   | 55                  | 82   |                     |      |
| 45                  | 27   | 70                  | 53   | 70                  | 60   | 60                  | 88   |                     |      |
| 50                  | 28   | 75                  | 55   | 75                  | 67   | 65                  | 94   |                     |      |
| 55                  | 29   | 80                  | 58   | 80                  | 72   | 70                  | 100  |                     |      |
| 60                  | 30   | 90                  | 63   | 90                  | 78   | 75                  | 106  |                     |      |
| TB 12x6x20          | 23   | TB 20x10x25         | 36   | 100                 | 84   | 80                  | 118  |                     |      |
| 25                  | 24   | 30                  | 37   | 125                 | 96   | 90                  | 130  |                     |      |
| 30                  | 25   | 35                  | 39   | 150                 | 108  | 100                 | 142  |                     |      |
| 35                  | 27   | 40                  | 41   | TB 27x13.5x25       | 42   | 125                 | 163  |                     |      |
| 40                  | 28   | 45                  | 43   | 30                  | 45   | 150                 | 192  |                     |      |
| 45                  | 29   | 50                  | 46   | 35                  | 47   | 175                 | 223  |                     |      |
| 50                  | 30   | 55                  | 48   | 40                  | 49   | 200                 | 240  |                     |      |
| 55                  | 31   | 60                  | 51   | 45                  | 52   | TB 40x20x50         | 102  |                     |      |
| 60                  | 33   | 65                  | 53   | 50                  | 54   | 60                  | 114  |                     |      |
| TB 14x7x25          | 28   | 70                  | 55   | 55                  | 57   | 70                  | 130  |                     |      |
| 30                  | 29   | 75                  | 58   | 60                  | 59   | 80                  | 144  |                     |      |
| 35                  | 30   | 80                  | 60   | 65                  | 61   | 90                  | 156  |                     |      |
| 40                  | 31   | 90                  | 66   | 70                  | 66   | 100                 | 168  |                     |      |
| 45                  | 34   | 100                 | 72   | 75                  | 71   | 125                 | 204  |                     |      |
| 50                  | 35   | 125                 | 82   | 80                  | 76   | 150                 | 240  |                     |      |
| 55                  | 37   | TB 22x11x25         | 37   | 90                  | 82   | 175                 | 264  |                     |      |
| 60                  | 40   | 30                  | 39   | 100                 | 90   | 200                 | 300  |                     |      |
| 65                  | 43   | 35                  | 40   | 125                 | 102  | 250                 | 360  |                     |      |
| 70                  | 46   | 40                  | 42   | 150                 | 120  | TB 50x25x60         | 188  |                     |      |
| TB 16x8x25          | 31   | 45                  | 45   | TB 30x15x25         | 46   | 70                  | 204  |                     |      |
| 30                  | 33   | 50                  | 47   | 30                  | 48   | 80                  | 222  |                     |      |
| 35                  | 34   | 55                  | 49   | 35                  | 51   | 90                  | 240  |                     |      |
| 40                  | 35   | 60                  | 52   | 40                  | 53   | 100                 | 258  |                     |      |
| 45                  | 36   | 65                  | 54   | 45                  | 55   | 125                 | 300  |                     |      |
| 50                  | 39   | 70                  | 57   | 50                  | 58   | 150                 | 348  |                     |      |

TR塑胶模用耐热弹簧价目表



| 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P |
|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|
| TR 14.5x9x20        | 19   | TR 21x13x30         | 27   | TR26x16.5x80        | 41   | TR 32x21x175        | 72   | TR 46x32x50         | 55   |
| 25                  | 21   | 35                  | 28   | 90                  | 43   | TR 39x26x40         | 45   | 60                  | 58   |
| 30                  | 22   | 40                  | 29   | 100                 | 46   | 45                  | 47   | 70                  | 60   |
| 35                  | 23   | 45                  | 30   | 125                 | 52   | 50                  | 49   | 80                  | 63   |
| 40                  | 24   | 50                  | 31   | 150                 | 55   | 60                  | 52   | 90                  | 66   |
| 45                  | 25   | 60                  | 34   | TR 32x21x40         | 35   | 70                  | 54   | 100                 | 70   |
| 50                  | 27   | 70                  | 36   | 45                  | 37   | 80                  | 57   | 125                 | 79   |
| TR 17x11x25         | 22   | 80                  | 39   | 50                  | 40   | 90                  | 60   | 150                 | 84   |
| 30                  | 23   | 90                  | 41   | 60                  | 42   | 100                 | 64   | 175                 | 90   |
| 35                  | 24   | 100                 | 43   | 70                  | 45   | 125                 | 71   | 200                 | 96   |
| 40                  | 25   | TR 26x16.5x40       | 31   | 80                  | 48   | 150                 | 75   | 250                 | 108  |
| 45                  | 27   | 45                  | 33   | 90                  | 52   | 175                 | 78   | 300                 | 120  |
| 50                  | 28   | 50                  | 34   | 100                 | 55   | 200                 | 83   |                     |      |
| 55                  | 29   | 60                  | 36   | 125                 | 64   | 250                 | 90   |                     |      |
| 60                  | 30   | 70                  | 39   | 150                 | 67   | 300                 | 106  |                     |      |

TY塑胶模用耐热弹簧价目表



| 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P |
|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|
| TY 14.5x9x20        | 22   | TY 21x13x35         | 30   | TY 26x16.5x90       | 47   | TY 39x26x40         | 48   | TY 46x32x60         | 63   |
| 25                  | 23   | 40                  | 31   | 100                 | 51   | 45                  | 51   | 70                  | 65   |
| 30                  | 24   | 45                  | 33   | 125                 | 58   | 50                  | 53   | 80                  | 67   |
| 35                  | 25   | 50                  | 34   | 150                 | 64   | 60                  | 57   | 90                  | 72   |
| 40                  | 27   | 60                  | 36   | TY 32x21x40         | 40   | 70                  | 60   | 100                 | 77   |
| 45                  | 28   | 70                  | 39   | 45                  | 43   | 80                  | 64   | 125                 | 90   |
| 50                  | 29   | 80                  | 41   | 50                  | 47   | 90                  | 67   | 150                 | 96   |
| TY 17x11x25         | 24   | 90                  | 43   | 60                  | 51   | 100                 | 72   | 175                 | 102  |
| 30                  | 25   | 100                 | 46   | 70                  | 54   | 125                 | 82   | 200                 | 108  |
| 35                  | 27   | TY 26x16.5x40       | 35   | 80                  | 58   | 150                 | 87   | 250                 | 120  |
| 40                  | 28   | 45                  | 36   | 90                  | 61   | 175                 | 94   | 300                 | 132  |
| 45                  | 29   | 50                  | 37   | 100                 | 66   | 200                 | 101  |                     |      |
| 50                  | 30   | 60                  | 40   | 125                 | 75   | 250                 | 108  |                     |      |
| 60                  | 33   | 70                  | 42   | 150                 | 78   | 300                 | 120  |                     |      |
| TY 21x13x30         | 29   | 80                  | 40   | 175                 | 84   | TY 46x32x50         | 60   |                     |      |



# 模具弹簧

## MOLD SPRING



LR、JIS浮升梢圆线弹簧(黑色)价目表

| 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P | 规格 SPEC<br>外径×内径×长度 | @V/P |
|---------------------|------|---------------------|------|---------------------|------|
| LR 3x2x10           | 4    | LR 16x10.7x25       | 10   | LR 22x14.7x50       | 23   |
| 15                  | 4    | 30                  | 11   | 55                  | 24   |
| 20                  | 5    | 35                  | 12   | 60                  | 25   |
| 25                  | 6    | 40                  | 13   | 65                  | 27   |
| LR 4x2.6x10         | 4    | 45                  | 15   | 7                   | 28   |
| 15                  | 4    | 50                  | 16   | 75                  | 29   |
| 20                  | 5    | 55                  | 17   | 80                  | 30   |
| 25                  | 6    | 60                  | 18   | 90                  | 31   |
| 30                  | 6    | 65                  | 19   | 100                 | 33   |
| LR 6x4x15           | 5    | 70                  | 21   | LR 25x17x25         | 19   |
| 20                  | 6    | 75                  | 22   | 30                  | 21   |
| 25                  | 6    | 80                  | 23   | 35                  | 22   |
| 30                  | 7    | LR 18x12x25         | 12   | 40                  | 23   |
| 35                  | 7    | 30                  | 13   | 45                  | 24   |
| LR 8x5.4x15         | 6    | 35                  | 15   | 50                  | 25   |
| 20                  | 7    | 40                  | 16   | 55                  | 27   |
| 25                  | 7    | 45                  | 17   | 60                  | 28   |
| 30                  | 8    | 50                  | 18   | 65                  | 29   |
| 35                  | 9    | 55                  | 19   | 70                  | 30   |
| 40                  | 9    | 60                  | 21   | 75                  | 31   |
| LR 10x6.5x25        | 8    | 65                  | 22   | 80                  | 33   |
| 30                  | 9    | 70                  | 23   | 90                  | 35   |
| 35                  | 9    | 75                  | 24   | 100                 | 36   |
| 40                  | 10   | 80                  | 25   |                     |      |
| 45                  | 10   | 90                  | 27   |                     |      |
| 50                  | 11   | LR 20x13.5x25       | 13   |                     |      |
| LR 12x8x25          | 9    | 30                  | 15   |                     |      |
| 30                  | 9    | 35                  | 16   |                     |      |
| 35                  | 10   | 40                  | 17   |                     |      |
| 40                  | 10   | 45                  | 18   |                     |      |
| 45                  | 11   | 50                  | 19   |                     |      |
| 50                  | 12   | 55                  | 21   |                     |      |
| 55                  | 12   | 60                  | 22   |                     |      |
| 60                  | 13   | 65                  | 23   |                     |      |
| LR 14x9.3x25        | 9    | 70                  | 24   |                     |      |
| 30                  | 10   | 75                  | 25   |                     |      |
| 35                  | 10   | 80                  | 27   |                     |      |
| 40                  | 11   | 90                  | 28   |                     |      |
| 45                  | 12   | 100                 | 29   |                     |      |
| 50                  | 13   | LR 22x14.7x25       | 17   |                     |      |
| 55                  | 15   | 30                  | 18   |                     |      |
| 60                  | 16   | 35                  | 19   |                     |      |
| 65                  | 17   | 40                  | 21   |                     |      |
| 70                  | 18   | 45                  | 22   |                     |      |

## 多国模具钢材规格特性表

[illegible]

## 硬度换算法

各种硬度测试结果对洛氏硬度的换算

| (HRC)<br>洛氏硬度<br>C<br>载荷60kgf<br>金刚石<br>圆锥压头 | (HV)<br>维氏<br>硬度 | (HB)<br>10mm球<br>载荷3000kgf |          | 洛氏硬度                                   |                                                  |                                         | 洛氏表面硬度<br>金刚石圆锥压头     |                       |                       | (HS)<br>肖氏<br>硬度 | 抗拉强度<br>(近似值)<br>MPa<br>(1) |
|----------------------------------------------|------------------|----------------------------|----------|----------------------------------------|--------------------------------------------------|-----------------------------------------|-----------------------|-----------------------|-----------------------|------------------|-----------------------------|
|                                              |                  | 标准球                        | 碳化<br>钨球 | (HRA)<br>A标尺<br>载荷60kgf<br>金刚石<br>圆锥压头 | (HRB)<br>B标尺<br>载荷100kgf<br>直径1.6mm<br>(1/16in)球 | (HRD)<br>D标尺<br>载荷100kgf<br>金刚石<br>圆锥压头 | 15-N<br>标尺<br>载荷15kgf | 30-N<br>标尺<br>载荷30kgf | 45-N<br>标尺<br>载荷45kgf |                  |                             |
| 68                                           | 940              | —                          | —        | 85.6                                   | —                                                | 76.9                                    | 93.2                  | 84.4                  | 75.4                  | 97               | —                           |
| 67                                           | 900              | —                          | —        | 85.0                                   | —                                                | 76.1                                    | 92.9                  | 83.6                  | 74.2                  | 95               | —                           |
| 66                                           | 865              | —                          | —        | 84.5                                   | —                                                | 75.4                                    | 92.5                  | 82.8                  | 73.3                  | 92               | —                           |
| 65                                           | 832              | —                          | (739)    | 83.9                                   | —                                                | 74.5                                    | 92.2                  | 81.9                  | 72.0                  | 91               | —                           |
| 64                                           | 800              | —                          | (722)    | 83.4                                   | —                                                | 73.8                                    | 91.8                  | 81.1                  | 71.0                  | 88               | —                           |
| 63                                           | 772              | —                          | (705)    | 82.8                                   | —                                                | 73.0                                    | 91.4                  | 80.1                  | 69.9                  | 87               | —                           |
| 62                                           | 746              | —                          | (688)    | 82.3                                   | —                                                | 72.2                                    | 91.1                  | 79.3                  | 68.8                  | 85               | —                           |
| 61                                           | 720              | —                          | (670)    | 81.8                                   | —                                                | 71.5                                    | 90.7                  | 78.4                  | 67.7                  | 83               | —                           |
| 60                                           | 697              | —                          | (654)    | 81.2                                   | —                                                | 70.7                                    | 90.2                  | 77.5                  | 66.6                  | 81               | —                           |
| 59                                           | 674              | —                          | (634)    | 80.7                                   | —                                                | 69.9                                    | 89.8                  | 76.6                  | 65.5                  | 80               | —                           |
| 58                                           | 653              | —                          | 615      | 80.1                                   | —                                                | 69.2                                    | 89.3                  | 75.7                  | 64.3                  | 78               | —                           |
| 57                                           | 633              | —                          | 595      | 79.6                                   | —                                                | 68.5                                    | 88.9                  | 74.8                  | 63.2                  | 76               | —                           |
| 56                                           | 613              | —                          | 577      | 79.0                                   | —                                                | 67.7                                    | 88.3                  | 73.9                  | 62.0                  | 75               | —                           |
| 55                                           | 595              | —                          | 560      | 78.5                                   | —                                                | 66.9                                    | 87.9                  | 73.0                  | 60.9                  | 74               | 2075                        |
| 54                                           | 577              | —                          | 543      | 78.0                                   | —                                                | 66.1                                    | 87.4                  | 72.0                  | 59.8                  | 72               | 2015                        |
| 53                                           | 560              | —                          | 525      | 77.4                                   | —                                                | 65.4                                    | 86.9                  | 71.2                  | 58.6                  | 71               | 1950                        |
| 52                                           | 544              | (500)                      | 512      | 76.8                                   | —                                                | 64.6                                    | 86.4                  | 70.2                  | 57.4                  | 69               | 1880                        |
| 51                                           | 528              | (487)                      | 496      | 76.3                                   | —                                                | 63.8                                    | 85.9                  | 69.4                  | 56.1                  | 68               | 1820                        |
| 50                                           | 513              | (475)                      | 481      | 75.9                                   | —                                                | 63.1                                    | 85.5                  | 68.5                  | 55.0                  | 67               | 1760                        |
| 49                                           | 498              | (464)                      | 469      | 75.2                                   | —                                                | 62.1                                    | 85.0                  | 67.6                  | 53.8                  | 66               | 1695                        |
| 48                                           | 484              | 451                        | 455      | 74.7                                   | —                                                | 61.4                                    | 84.5                  | 66.7                  | 52.5                  | 64               | 1635                        |
| 47                                           | 471              | 442                        | 443      | 74.1                                   | —                                                | 60.8                                    | 83.9                  | 65.8                  | 51.4                  | 63               | 1580                        |
| 46                                           | 458              | 432                        | 432      | 73.6                                   | —                                                | 60.0                                    | 83.5                  | 64.8                  | 50.3                  | 62               | 1530                        |
| 45                                           | 446              | 421                        | 421      | 73.1                                   | —                                                | 59.2                                    | 83.0                  | 64.0                  | 49.0                  | 60               | 1480                        |
| 44                                           | 434              | 409                        | 409      | 72.5                                   | —                                                | 58.5                                    | 82.5                  | 63.1                  | 47.8                  | 58               | 1435                        |
| 43                                           | 423              | 400                        | 400      | 72.0                                   | —                                                | 57.7                                    | 82.0                  | 62.2                  | 46.7                  | 57               | 1385                        |
| 42                                           | 412              | 390                        | 390      | 71.5                                   | —                                                | 56.9                                    | 81.5                  | 61.3                  | 45.5                  | 56               | 1340                        |
| 41                                           | 402              | 381                        | 381      | 70.9                                   | —                                                | 56.2                                    | 80.9                  | 60.4                  | 44.3                  | 55               | 1295                        |
| 40                                           | 392              | 371                        | 371      | 70.4                                   | —                                                | 55.4                                    | 80.4                  | 59.5                  | 43.1                  | 54               | 1250                        |
| 39                                           | 382              | 362                        | 362      | 69.9                                   | —                                                | 54.6                                    | 79.9                  | 58.6                  | 41.9                  | 52               | 1215                        |
| 38                                           | 372              | 353                        | 353      | 69.4                                   | —                                                | 53.8                                    | 79.4                  | 57.7                  | 40.8                  | 51               | 1180                        |
| 37                                           | 363              | 344                        | 344      | 68.9                                   | —                                                | 53.1                                    | 78.8                  | 56.8                  | 39.6                  | 50               | 1160                        |
| 36                                           | 354              | 336                        | 336      | 68.4                                   | (109.0)                                          | 52.3                                    | 78.3                  | 55.9                  | 38.4                  | 49               | 1115                        |
| 35                                           | 345              | 327                        | 327      | 67.9                                   | (108.5)                                          | 51.5                                    | 77.7                  | 55.0                  | 37.2                  | 48               | 1080                        |
| 34                                           | 336              | 319                        | 319      | 67.4                                   | (108.0)                                          | 50.8                                    | 77.2                  | 54.2                  | 36.1                  | 47               | 1055                        |
| 33                                           | 327              | 311                        | 311      | 66.8                                   | (107.5)                                          | 50.0                                    | 76.6                  | 53.3                  | 34.9                  | 46               | 1025                        |
| 32                                           | 318              | 301                        | 301      | 66.3                                   | (107.0)                                          | 49.2                                    | 76.1                  | 52.1                  | 33.7                  | 44               | 1000                        |
| 31                                           | 310              | 294                        | 294      | 65.8                                   | (106.0)                                          | 48.4                                    | 75.6                  | 51.3                  | 32.5                  | 43               | 980                         |
| 30                                           | 302              | 286                        | 286      | 65.3                                   | (105.5)                                          | 47.7                                    | 75.0                  | 50.4                  | 31.3                  | 42               | 950                         |
| 29                                           | 294              | 279                        | 279      | 64.7                                   | (104.5)                                          | 47.0                                    | 74.5                  | 49.5                  | 30.1                  | 41               | 930                         |
| 28                                           | 286              | 271                        | 271      | 64.3                                   | (104.0)                                          | 46.1                                    | 73.9                  | 48.6                  | 28.9                  | 41               | 910                         |
| 27                                           | 279              | 264                        | 264      | 63.8                                   | (103.0)                                          | 45.2                                    | 73.3                  | 47.7                  | 27.6                  | 40               | 880                         |
| 26                                           | 272              | 258                        | 258      | 63.3                                   | (102.5)                                          | 44.6                                    | 72.8                  | 46.8                  | 26.7                  | 38               | 860                         |
| 25                                           | 266              | 253                        | 253      | 62.8                                   | (101.5)                                          | 43.8                                    | 72.2                  | 45.9                  | 25.5                  | 38               | 840                         |
| 24                                           | 260              | 247                        | 247      | 62.4                                   | (101.0)                                          | 43.1                                    | 71.6                  | 45.0                  | 24.3                  | 37               | 825                         |
| 23                                           | 254              | 243                        | 243      | 62.0                                   | 100.0                                            | 42.1                                    | 71.0                  | 44.0                  | 23.1                  | 36               | 805                         |
| 22                                           | 248              | 237                        | 237      | 61.5                                   | 99.0                                             | 41.6                                    | 70.5                  | 43.2                  | 22.0                  | 35               | 785                         |
| 21                                           | 243              | 231                        | 231      | 61.0                                   | 98.5                                             | 40.9                                    | 69.9                  | 42.3                  | 20.7                  | 35               | 770                         |
| 20                                           | 238              | 226                        | 226      | 60.5                                   | 97.8                                             | 40.1                                    | 69.4                  | 41.5                  | 19.6                  | 34               | 760                         |
| (18)                                         | 230              | 219                        | 219      | —                                      | 96.7                                             | —                                       | —                     | —                     | —                     | 33               | 730                         |
| (16)                                         | 222              | 212                        | 212      | —                                      | 95.5                                             | —                                       | —                     | —                     | —                     | 32               | 705                         |
| (14)                                         | 213              | 203                        | 203      | —                                      | 93.9                                             | —                                       | —                     | —                     | —                     | 31               | 675                         |
| (12)                                         | 204              | 194                        | 194      | —                                      | 92.3                                             | —                                       | —                     | —                     | —                     | 29               | 650                         |
| (10)                                         | 196              | 187                        | 187      | —                                      | 90.7                                             | —                                       | —                     | —                     | —                     | 28               | 620                         |
| (8)                                          | 188              | 179                        | 179      | —                                      | 89.5                                             | —                                       | —                     | —                     | —                     | 27               | 600                         |
| (6)                                          | 180              | 171                        | 171      | —                                      | 87.1                                             | —                                       | —                     | —                     | —                     | 26               | 580                         |
| (4)                                          | 173              | 165                        | 165      | —                                      | 85.5                                             | —                                       | —                     | —                     | —                     | 25               | 550                         |
| (2)                                          | 166              | 158                        | 158      | —                                      | 83.5                                             | —                                       | —                     | —                     | —                     | 24               | 530                         |
| (0)                                          | 160              | 152                        | 152      | —                                      | 81.7                                             | —                                       | —                     | —                     | —                     | 24               | 515                         |

① 表中( )内数值仅供参考。② 1MPa = 1N/mm<sup>2</sup>

## 参考资料

## 常用材料密度

| 材料名称    | 密度         | 材料名称      | 密度        | 材料名称    | 密度        | 材料名称                      | 密度        |
|---------|------------|-----------|-----------|---------|-----------|---------------------------|-----------|
| 灰铸铁     | 7.25       | 铸铝合金      | 6.3-6.9   | 工业用毛毡   | 0.3       | 有机玻璃                      | 1.18-1.19 |
| 白口铸铁    | 7.55       | 铝镍合金      | 2.7       | 纤维蛇纹石   | 2.2-2.4   | 泡沫塑料                      | 0.2       |
| 可锻铸铁    | 7.3        | 软木        | 0.1-0.4   | 石棉      | -         | 玻璃钢                       | 1.4-2.1   |
| 工业铸铁    | 7.87       | 木材(含水15%) | 0.4-0.75  | 角闪石石棉   | 3.2-3.3   | 尼龙                        | 1.04-1.15 |
| 铸钢      | 7.8        | 胶合板       | 0.56      | 工业橡胶    | 1.3-1.8   | ABS树脂                     | 1.02-1.08 |
| 钢材      | 7.85       | 刨花板       | 0.6       | 平胶板     | 1.6-1.8   | 石棉板                       | 1-1.3     |
| 高速钢     | 8.3-8.7    | 竹材        | 0.9       | 皮革      | 0.4-1.2   | 橡胶石棉板                     | 1.5-2.0   |
| 不锈钢、合金钢 | 7.9        | 木炭        | 0.3-0.5   | 软钢纸版    | 0.9       | 石棉线                       | 0.45-0.55 |
| 硬质合金    | 14.8       | 石墨        | 2-2.2     | 纤维纸版    | 1.3       | 石棉布制带                     | 2         |
| 硅钢片     | 7.55-7.8   | 石膏        | 2.2-2.4   | 酚醛层压板   | 1.3-1.45  | 橡胶夹布传动带                   | 0.8-1.2   |
| 紫铜      | 8.9        | 凝固水泥块     | 3.05-3.15 | 平板玻璃    | 2.5       | 磷酸                        | 1.78      |
| 黄铜      | 8.4-8.85   | 混凝土       | 1.8-2.45  | 实验器皿玻璃  | 2.45      | 盐酸                        | 1.2       |
| 铝       | 2.7        | 硅藻土       | 2.2       | 耐高温玻璃   | 2.23      | 硫酸 (87%)                  | 1.8       |
| 锡       | 7.29       | 普通粘土砖     | 1.7       | 石英玻璃    | 2.2       | 硝酸                        | 1.54      |
| 钛       | 4.51       | 粘土耐火砖     | 2.1       | 陶瓷      | 2.3-2.45  | 酒精                        | 0.8       |
| 金       | 19.32      | 石英        | 2.5       | 碳化钙(电石) | 2.22      | 汽油                        | 0.66-0.75 |
| 银       | 10.5       | 大理石       | 2.6-2.7   | 胶木      | 1.3-1.4   | 煤油                        | 0.78-0.82 |
| 镁       | 1.74       | 石灰石       | 2.6       | 电玉      | 1.45-1.55 | 柴油                        | 0.83      |
| 锌板      | 7.3        | 花岗岩       | 2.6-3     | 聚氨酯漆    | 1.35-1.4  | 石油(原油)                    | 0.82      |
| 铅板      | 11.37      | 金刚石       | 3.5-3.6   | 聚苯乙烯    | 1.05-1.07 | 各类机油                      | 0.9-0.95  |
| 工业镍     | 8.9        | 金刚砂       | 4         | 聚乙烯     | 0.92-0.95 | 变压器油                      | 0.88      |
| 镍铜合金    | 8.8        | 普通刚玉      | 3.85-3.9  | 聚四氟乙烯   | 2.1-2.3   | 汞                         | 13.55     |
| 锡基轴承合金  | 7.34-7.75  | 白刚玉       | 3.9       | 聚丙烯     | 0.9-0.91  | 水 (4°C)                   | 1         |
| 无锡青铜    | 7.5-8.2    | 碳化硅       | 3.1       | 聚甲醛     | 1.41-1.43 | 空气 (20°C)                 | 0.0012    |
| 铝基轴承合金  | 9.33-10.67 | 云母        | 2.7-3.1   | 聚苯醚     | 1.06-1.07 | ① 表内数值为t=20°C的数值, 部分是近似值。 |           |
| 锡青铜     | 8.8        | 沥青        | 0.9-1.5   | 聚丙烯     | 1.24      |                           |           |
| 镁合金     | 1.74-1.81  | 石棉        | 0.9       | 赛璐珞     | 1.35-1.4  |                           |           |

## 钢材材料的热处理

| 材料名称 | 维氏硬度 (HV)        | 淬火深度 (mm)    | 变形        | 可处理材料             | 代表性材料                                            | 备注                                                   |
|------|------------------|--------------|-----------|-------------------|--------------------------------------------------|------------------------------------------------------|
| 整体淬火 | 750以下            | 整体           | 根据材料不同有差异 | 高碳钢<br>C>0.45%    | SKS3 / SKS21 / SUJ2 / SKH51 / SKS93 / SK4 / S45C | 最好不要使用在主轴等较长的物体和精密零件上                                |
| 渗碳淬火 | 750以下            | 标准0.5<br>最大2 | 中         | 低碳钢<br>C<0.3%     | SCM415<br>SNCM220                                | 可局部淬火<br>应在图纸上标明淬火深度<br>适用于精密零件                      |
| 高频淬火 | 500以下            | 1-2          | 大         | 中碳钢<br>C 0.3-0.5% | S45C                                             | 可局部淬火<br>若批量小则成本高昂<br>耐磨性佳                           |
| 氮化淬火 | 900-1000         | 0.1-0.02     | 小         | 氮化钢               | SACM645                                          | 淬火硬度最大<br>适用于精密零件<br>适用于滑动轴承的轴                       |
| 扩散渗氮 | 氮素钢500<br>不锈钢500 | 0.01-0.02    | 小         | 钢铁材料              | S45C<br>SCM415<br>SK3<br>不锈钢                     | 耐磨、耐腐蚀性好<br>耐蚀性与镀锌相同<br>热处理后不可进行研磨因此不适用于精密零件, 适用于自润滑 |
| 发蓝处理 | -                | -            | -         | 线材                | SWP-8                                            | 属于低温退火<br>消除成形时的内部应力,<br>提高弹性                        |



### COMMONLY USED COOPERATE SIZE OF TOLERANCE

[illegible]

① 表中的数值的单位为英寸，上侧的数值的单位为厘米。

|  | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 | 48 | 51 | 54 | 57 | 60 | 63 | 66 | 69 | 72 | 75 | 78 | 81 | 84 | 87 | 90 | 93 | 96 | 99 | 102 | 105 | 108 | 111 | 114 | 117 | 120 | 123 | 126 | 129 | 132 | 135 | 138 | 141 | 144 | 147 | 150 | 153 | 156 | 159 | 162 | 165 | 168 | 171 | 174 | 177 | 180 | 183 | 186 | 189 | 192 | 195 | 198 | 201 | 204 | 207 | 210 | 213 | 216 | 219 | 222 | 225 | 228 | 231 | 234 | 237 | 240 | 243 | 246 | 249 | 252 | 255 | 258 | 261 | 264 | 267 | 270 | 273 | 276 | 279 | 282 | 285 | 288 | 291 | 294 | 297 | 300 | 303 | 306 | 309 | 312 | 315 | 318 | 321 | 324 | 327 | 330 | 333 | 336 | 339 | 342 | 345 | 348 | 351 | 354 | 357 | 360 | 363 | 366 | 369 | 372 | 375 | 378 | 381 | 384 | 387 | 390 | 393 | 396 | 399 | 402 | 405 | 408 | 411 | 414 | 417 | 420 | 423 | 426 | 429 | 432 | 435 | 438 | 441 | 444 | 447 | 450 | 453 | 456 | 459 | 462 | 465 | 468 | 471 | 474 | 477 | 480 | 483 | 486 | 489 | 492 | 495 | 498 | 501 | 504 | 507 | 510 | 513 | 516 | 519 | 522 | 525 | 528 | 531 | 534 | 537 | 540 | 543 | 546 | 549 | 552 | 555 | 558 | 561 | 564 | 567 | 570 | 573 | 576 | 579 | 582 | 585 | 588 | 591 | 594 | 597 | 600 | 603 | 606 | 609 | 612 | 615 | 618 | 621 | 624 | 627 | 630 | 633 | 636 | 639 | 642 | 645 | 648 | 651 | 654 | 657 | 660 | 663 | 666 | 669 | 672 | 675 | 678 | 681 | 684 | 687 | 690 | 693 | 696 | 699 | 702 | 705 | 708 | 711 | 714 | 717 | 720 | 723 | 726 | 729 | 732 | 735 | 738 | 741 | 744 | 747 | 750 | 753 | 756 | 759 | 762 | 765 | 768 | 771 | 774 | 777 | 780 | 783 | 786 | 789 | 792 | 795 | 798 | 801 | 804 | 807 | 810 | 813 | 816 | 819 | 822 | 825 | 828 | 831 | 834 | 837 | 840 | 843 | 846 | 849 | 852 | 855 | 858 | 861 | 864 | 867 | 870 | 873 | 876 | 879 | 882 | 885 | 888 | 891 | 894 | 897 | 900 | 903 | 906 | 909 | 912 | 915 | 918 | 921 | 924 | 927 | 930 | 933 | 936 | 939 | 942 | 945 | 948 | 951 | 954 | 957 | 960 | 963 | 966 | 969 | 972 | 975 | 978 | 981 | 984 | 987 | 990 | 993 | 996 | 999 | 1002 | 1005 | 1008 | 1011 | 1014 | 1017 | 1020 | 1023 | 1026 | 1029 | 1032 | 1035 | 1038 | 1041 | 1044 | 1047 | 1050 | 1053 | 1056 | 1059 | 1062 | 1065 | 1068 | 1071 | 1074 | 1077 | 1080 | 1083 | 1086 | 1089 | 1092 | 1095 | 1098 | 1101 | 1104 | 1107 | 1110 | 1113 | 1116 | 1119 | 1122 | 1125 | 1128 | 1131 | 1134 | 1137 | 1140 | 1143 | 1146 | 1149 | 1152 | 1155 | 1158 | 1161 | 1164 | 1167 | 1170 | 1173 | 1176 | 1179 | 1182 | 1185 | 1188 | 1191 | 1194 | 1197 | 1200 | 1203 | 1206 | 1209 | 1212 | 1215 | 1218 | 1221 | 1224 | 1227 | 1230 | 1233 | 1236 | 1239 | 1242 | 1245 | 1248 | 1251 | 1254 | 1257 | 1260 | 1263 | 1266 | 1269 | 1272 | 1275 | 1278 | 1281 | 1284 | 1287 | 1290 | 1293 | 1296 | 1299 | 1302 | 1305 | 1308 | 1311 | 1314 | 1317 | 1320 | 1323 | 1326 | 1329 | 1332 | 1335 | 1338 | 1341 | 1344 | 1347 | 1350 | 1353 | 1356 | 1359 | 1362 | 1365 | 1368 | 1371 | 1374 | 1377 | 1380 | 1383 | 1386 | 1389 | 1392 | 1395 | 1398 | 1401 | 1404 | 1407 | 1410 | 1413 | 1416 | 1419 | 1422 | 1425 | 1428 | 1431 | 1434 | 1437 | 1440 | 1443 | 1446 | 1449 | 1452 | 1455 | 1458 | 1461 | 1464 | 1467 | 1470 | 1473 | 1476 | 1479 | 1482 | 1485 | 1488 | 1491 | 1494 | 1497 | 1500 | 1503 | 1506 | 1509 | 1512 | 1515 | 1518 | 1521 | 1524 | 1527 | 1530 | 1533 | 1536 | 1539 | 1542 | 1545 | 1548 | 1551 | 1554 | 1557 | 1560 | 1563 | 1566 | 1569 | 1572 | 1575 | 1578 | 1581 | 1584 | 1587 | 1590 | 1593 | 1596 | 1599 | 1602 | 1605 | 1608 | 1611 | 1614 | 1617 | 1620 | 1623 | 1626 | 1629 | 1632 | 1635 | 1638 | 1641 | 1644 | 1647 | 1650 | 1653 | 1656 | 1659 | 1662 | 1665 | 1668 | 1671 | 1674 | 1677 | 1680 | 1683 | 1686 | 1689 | 1692 | 1695 | 1698 | 1701 | 1704 | 1707 | 1710 | 1713 | 1716 | 1719 | 1722 | 1725 | 1728 | 1731 | 1734 | 1737 | 1740 | 1743 | 1746 | 1749 | 1752 | 1755 | 1758 | 1761 | 1764 | 1767 | 1770 | 1773 | 1776 | 1779 | 1782 | 1785 | 1788 | 1791 | 1794 | 1797 | 1800 | 1803 | 1806 | 1809 | 1812 | 1815 | 1818 | 1821 | 1824 | 1827 | 1830 | 1833 | 1836 | 1839 | 1842 | 1845 | 1848 | 1851 | 1854 | 1857 | 1860 | 1863 | 1866 | 1869 | 1872 | 1875 | 1878 | 1881 | 1884 | 1887 | 1890 | 1893 | 1896 | 1899 | 1902 | 1905 | 1908 | 1911 | 1914 | 1917 | 1920 | 1923 | 1926 | 1929 | 1932 | 1935 | 1938 | 1941 | 1944 | 1947 | 1950 | 1953 | 1956 | 1959 | 1962 | 1965 | 1968 | 1971 | 1974 | 1977 | 1980 | 1983 | 1986 | 1989 | 1992 | 1995 | 1998 | 2001 | 2004 | 2007 | 2010 | 2013 | 2016 | 2019 | 2022 | 2025 | 2028 | 2031 | 2034 | 2037 | 2040 | 2043 | 2046 | 2049 | 2052 | 2055 | 2058 | 2061 | 2064 | 2067 | 2070 | 2073 | 2076 | 2079 | 2082 | 2085 | 2088 | 2091 | 2094 | 2097 | 2100 | 2103 | 2106 | 2109 | 2112 | 2115 | 2118 | 2121 | 2124 | 2127 | 2130 | 2133 | 2136 | 2139 | 2142 | 2145 | 2148 | 2151 | 2154 | 2157 | 2160 | 2163 | 2166 | 2169 | 2172 | 2175 | 2178 | 2181 | 2184 | 2187 | 2190 | 2193 | 2196 | 2199 | 2202 | 2205 | 2208 | 2211 | 2214 | 2217 | 2220 | 2223 | 2226 | 2229 | 2232 | 2235 | 2238 | 2241 | 2244 | 2247 | 2250 | 2253 | 2256 | 2259 | 2262 | 2265 | 2268 | 2271 | 2274 | 2277 | 2280 | 2283 | 2286 | 2289 | 2292 | 2295 | 2298 | 2301 | 2304 | 2307 | 2310 | 2313 | 2316 | 2319 | 2322 | 2325 | 2328 | 2331 | 2334 | 2337 | 2340 | 2343 | 2346 | 2349 | 2352 | 2355 | 2358 | 2361 | 2364 | 2367 | 2370 | 2373 | 2376 | 2379 | 2382 | 2385 | 2388 | 2391 | 2394 | 2397 | 2400 | 2403 | 2406 | 2409 | 2412 | 2415 | 2418 | 2421 | 2424 | 2427 | 2430 | 2433 | 2436 | 2439 | 2442 | 2445 | 2448 | 2451 | 2454 | 2457 | 2460 | 2463 | 2466 | 2469 | 2472 | 2475 | 2478 | 2481 | 2484 | 2487 | 2490 | 2493 | 2496 | 2499 | 2502 | 2505 | 2508 | 2511 | 2514 | 2517 | 2520 | 2523 | 2526 | 2529 | 2532 | 2535 | 2538 | 2541 | 2544 | 2547 | 2550 | 2553 | 2556 | 2559 | 2562 | 2565 | 2568 | 2571 | 2574 | 2577 | 2580 | 2583 | 2586 | 2589 | 2592 | 2595 | 2598 | 2601 | 2604 | 2607 | 2610 | 2613 | 2616 | 2619 | 2622 | 2625 | 2628 | 2631 | 2634 | 2637 | 2640 | 2643 | 2646 | 2649 | 2652 | 2655 | 2658 | 2661 | 2664 | 2667 | 2670 | 2673 | 2676 | 2679 | 2682 | 2685 | 2688 | 2691 | 2694 | 2697 | 2700 | 2703 | 2706 | 2709 | 2712 | 2715 | 2718 | 2721 | 2724 | 2727 | 2730 | 2733 | 2736 | 2739 | 2742 | 2745 | 2748 | 2751 | 2754 | 2757 | 2760 | 2763 | 2766 | 2769 | 2772 | 2775 | 2778 | 2781 | 2784 | 2787 | 2790 | 2793 | 2796 | 2799 | 2802 | 2805 | 2808 | 2811 | 2814 | 2817 | 2820 | 2823 | 2826 | 2829 | 2832 | 2835 | 2838 | 2841 | 2844 | 2847 | 2850 | 2853 | 2856 | 2859 | 2862 | 2865 | 2868 | 2871 | 2874 | 2877 | 2880 | 2883 | 2886 | 2889 | 2892 | 2895 | 2898 | 2901 | 2904 | 2907 | 2910 | 2913 | 2916 | 2919 | 2922 | 2925 | 2928 | 2931 | 2934 | 2937 | 2940 | 2943 | 2946 | 2949 | 2952 | 2955 | 2958 | 2961 | 2964 | 2967 | 2970 | 2973 | 2976 | 2979 | 2982 | 2985 | 2988 | 2991 | 2994 | 2997 | 3000 |
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①表中的各段中,上侧的数值为尺寸允许公差的上限,下侧的数值为尺寸允许公差的下限。

## 参考资料

常用螺丝规格表

| 类别     | 规格   | 牙距<br>mm | 成品外径  |       | 线径      |
|--------|------|----------|-------|-------|---------|
|        |      |          | 最大    | 最小    | ±0.02mm |
| 国标粗牙CO | M1.4 | 0.30     | 1.38  | 1.34  | 1.16    |
|        | M1.7 | 0.35     | 1.68  | 1.61  | 1.42    |
|        | M2.0 | 0.40     | 1.98  | 1.89  | 1.68    |
|        | M2.3 | 0.40     | 2.28  | 2.19  | 1.98    |
|        | M2.5 | 0.45     | 2.48  | 2.38  | 2.15    |
|        | M3.0 | 0.50     | 2.98  | 2.88  | 2.60    |
|        | M3.5 | 0.60     | 3.47  | 3.36  | 3.02    |
|        | M4.0 | 0.70     | 3.98  | 3.83  | 3.40    |
|        | M4.5 | 0.75     | 4.47  | 4.36  | 3.88    |
|        | M5.0 | 0.80     | 4.98  | 4.83  | 4.30    |
|        | M6.0 | 1.00     | 5.97  | 5.82  | 5.18    |
|        | M7.0 | 1.00     | 6.97  | 6.82  | 6.18    |
|        | M8.0 | 1.25     | 7.96  | 7.79  | 7.02    |
|        | M9.0 | 1.25     | 8.96  | 8.79  | 8.01    |
|        | M10  | 1.50     | 9.96  | 9.77  | 8.84    |
|        | M11  | 1.50     | 10.97 | 10.73 | 9.84    |
|        | M12  | 1.75     | 11.95 | 11.76 | 10.7    |
|        | M14  | 2.00     | 13.95 | 13.74 | 12.5    |
|        | M16  | 2.00     | 15.95 | 15.74 | 14.5    |
|        | M18  | 2.50     | 17.95 | 17.71 | 16.2    |
|        | M20  | 2.50     | 19.95 | 19.71 | 18.2    |
| 美标粗牙CO | M4.0 | 0.5      | 3.97  | 3.86  | 3.58    |
|        | M4.5 | 0.5      | 4.47  | 4.36  | 4.07    |
|        | M5.0 | 0.5      | 4.97  | 4.86  | 4.57    |
|        | M6.0 | 0.75     | 5.97  | 5.85  | 5.41    |
|        | M7.0 | 0.75     | 6.97  | 6.85  | 6.41    |
|        | M8.0 | 1.00     | 7.97  | 7.83  | 7.24    |
|        | M9.0 | 1.00     | 8.97  | 8.83  | 8.24    |
|        | M10  | 1.00     | 9.97  | 9.82  | 9.23    |
|        | M10  | 1.25     | 9.96  | 9.81  | 9.07    |
|        | M12  | 1.25     | 11.97 | 11.76 | 11.07   |
|        | M12  | 1.50     | 11.96 | 11.79 | 10.89   |
|        | M14  | 1.50     | 13.96 | 13.79 | 12.89   |
|        | M16  | 1.50     | 15.96 | 15.79 | 14.89   |
|        | M18  | 1.50     | 17.95 | 17.78 | 16.86   |
|        | M20  | 1.50     | 19.95 | 19.65 | 18.85   |

| 类别     | 规格   | 牙距<br>mm | 成品外径  |       | 线径      |
|--------|------|----------|-------|-------|---------|
|        |      |          | 最大    | 最小    | ±0.02mm |
| 美标粗牙CO | 1/8  | 40       | 3.145 | 3.030 | 2.70    |
|        | 5/32 | 32       | 3.945 | 3.795 | 3.38    |
|        | 3/16 | 24       | 4.732 | 4.592 | 4.00    |
|        | 1/4  | 20       | 6.320 | 6.165 | 5.45    |
|        | 5/16 | 18       | 7.905 | 7.737 | 6.94    |
|        | 3/8  | 16       | 9.490 | 9.312 | 8.40    |
|        | 7/16 | 14       | 11.07 | 10.88 | 9.84    |
|        | 1/2  | 12       | 12.66 | 12.46 | 11.22   |
|        | 9/16 | 12       | 14.25 | 14.04 | 12.81   |
|        | 5/8  | 11       | 15.83 | 15.61 | 14.27   |
|        | 4#   | 40       | 2.824 | 2.695 | 2.37    |
|        | 5#   | 40       | 3.154 | 3.026 | 2.69    |
|        | 6#   | 32       | 3.484 | 3.333 | 2.91    |
|        | 8#   | 32       | 4.142 | 3.991 | 3.57    |
|        | 10#  | 24       | 4.800 | 4.618 | 4.05    |
|        | 12#  | 24       | 5.461 | 5.279 | 4.70    |
|        | 1/4  | 20       | 6.322 | 6.117 | 5.45    |
|        | 5/16 | 18       | 7.907 | 7.687 | 6.93    |
|        | 3/8  | 16       | 9.491 | 9.254 | 8.40    |
|        | 7/16 | 14       | 11.08 | 10.82 | 9.83    |
|        | 1/2  | 13       | 12.66 | 12.39 | 11.32   |
| 国标粗牙CO | 9/16 | 12       | 14.25 | 13.96 | 12.80   |
|        | 5/8  | 11       | 15.83 | 15.53 | 14.26   |
|        | 4#   | 48       | 2.827 | 2.713 | 2.44    |
|        | 5#   | 44       | 3.157 | 3.036 | 2.73    |
|        | 6#   | 40       | 3.484 | 3.356 | 3.02    |
|        | 8#   | 36       | 4.145 | 4.006 | 3.63    |
|        | 10#  | 32       | 4.803 | 4.651 | 4.23    |
|        | 12#  | 28       | 5.461 | 5.296 | 4.81    |
|        | 1/4  | 28       | 6.324 | 6.160 | 5.68    |
|        | 5/16 | 24       | 7.909 | 7.727 | 7.16    |
|        | 3/8  | 24       | 9.497 | 9.315 | 8.74    |
|        | 7/16 | 20       | 11.08 | 10.87 | 10.18   |
|        | 1/2  | 20       | 12.67 | 12.46 | 11.76   |
|        | 9/16 | 18       | 14.25 | 14.03 | 13.25   |
|        | 5/8  | 18       | 15.84 | 15.62 | 14.83   |