

特性 FEATURES

輓造成型是導螺桿生產製造技術上的一大突破與技術之提昇。

以輓造成型來生產製造螺桿，相較於傳統用切割或研磨的加工方式，有以下優點：

1. 加工時間極短
2. 節省材料使用
3. 產品精度高，加工表面美觀
4. 同規格產品尺寸均一
5. 產品拉力更強，表面硬度、耐疲勞度等·機械特性提昇

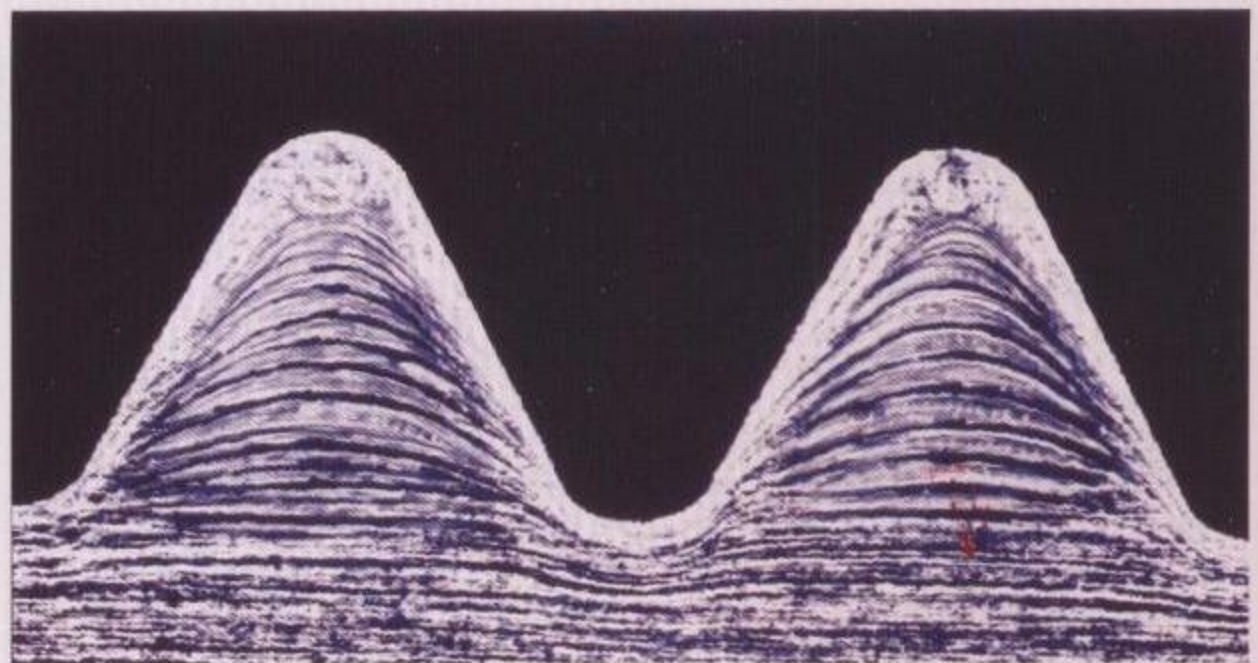
The ballscrew of **Sheng-Chang co.** is produced by the latest new manufacturing technology in ballscrew by high pressure roller case-hardened shaped. Comparison with the traditional old method to make the ballscrew, the new skill here creates below advantages :

1. The processing time become shorter
2. The material consumption is less.
3. Offer high accuracy & precision in job.
4. Perfect appearance outlook
5. Supply high thrust load allowance, and durable capacity.
6. The material is significantly harden and strengthened forms.

▶ 輓造成型優點 The features

輓造成型形成有連續層狀組織，相較於研磨切削成型，有較高的機械性能。

Roller case-hardened shaped will form one continuous schistose structure, which is with better mechanical efficiency than those formed by traditional cutting & grinding shaped.



附表一：滾珠螺桿國際精度標準 The international accuracy standard of ballscrew

| 型 號 STYLE NO. | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 10 |
|------------------|---------|-----|---|---|----|---|----|---|----|-----|
| e300 | ISO,DIN | — | 6 | — | 12 | — | 23 | — | 52 | 210 |
| | JIS | 3.5 | 5 | — | 8 | — | 18 | — | 50 | 210 |

單位 (Unit):um

附表二：各等級軸向背隙對照表 The grade of axial play

| 等 級 GRADE | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------|---|---|---|----|----|----|----|
| 軸向背隙 AXIAL PLAY | 5 | 5 | 5 | 10 | 15 | 20 | 25 |

單位 (Unit):um

產品介紹 INDEX

▶ 高精密高品質
Precision, Quality



P1, P2

SFR 雙切邊單雙螺帽 SFR-Square shape single/double nut type



P3, P4

DFR 全圓單雙螺帽
DFR-Circular shape single/double nut type



P5, P6

DIN 單雙螺帽
DIN-Square shape single/double nut type



P7

微型單螺帽 Miniature Ballscrew-single nut type



P8

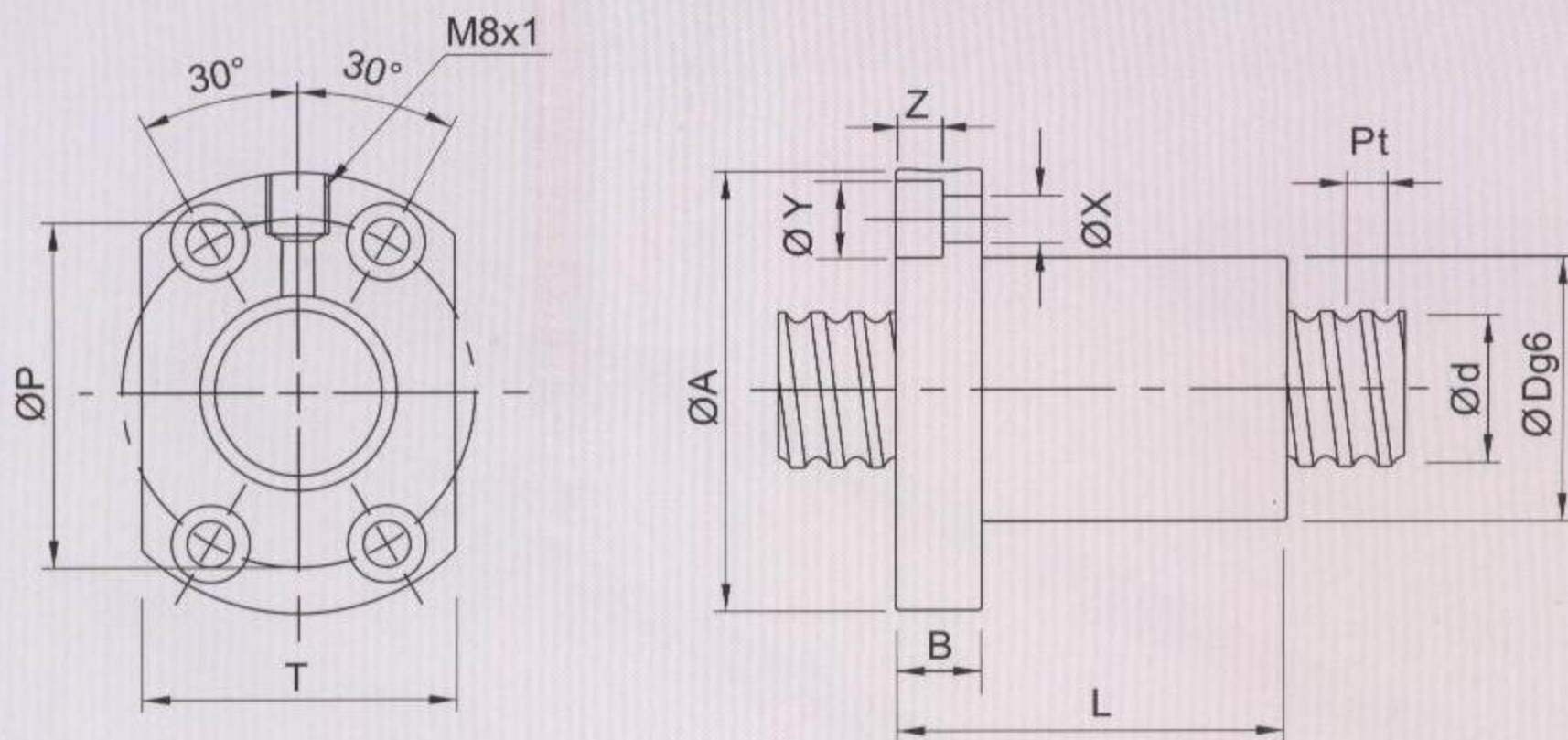
艾克姆螺桿 Trapezoidal Screws

SFR-A 雙切邊單螺帽

Square shape single nut type

尺寸圖

DIMENSIONS



供應精度等級

C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|----|------------------------------|------------------|----|-----|----|----|----|----|----|-----|-----------------------------|---------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | T | B | X | Y | Z | Ca(動態)Kn Ca(Dynsmic) Kn | Co(靜態)Kn Co(Static) Kn |
| 1510 | 15 | 10 | 3 | 49 | 30 | 49 | 39 | 34 | 11 | 5 | 8 | 5 | 585 | 1630 |
| 1604 | 16 | 4 | 4 | 45 | 30 | 49 | 39 | 34 | 11 | 5 | 8 | 5 | 660 | 1290 |
| 1605 | 16 | 5 | 4 | 50 | 30 | 49 | 39 | 34 | 11 | 5 | 8 | 5 | 800 | 2100 |
| 2004 | 20 | 4 | 4 | 45 | 34 | 57 | 45 | 40 | 11 | 6 | 10 | 6 | 720 | 1640 |
| 2005 | 20 | 5 | 4 | 50 | 34 | 57 | 45 | 40 | 11 | 6 | 10 | 6 | 1150 | 2400 |
| 2010 | 20 | 10 | 3 | 49 | 34 | 57 | 45 | 40 | 11 | 6 | 10 | 6 | 860 | 1800 |
| 2504 | 25 | 4 | 4 | 46 | 40 | 63 | 51 | 46 | 11 | 6 | 10 | 6 | 790 | 1690 |
| 2505 | 25 | 5 | 4 | 50 | 40 | 63 | 51 | 46 | 11 | 6 | 10 | 6 | 1300 | 3130 |
| 2510 | 25 | 10 | 3 | 50 | 40 | 63 | 51 | 46 | 11 | 6 | 10 | 6 | 975 | 2350 |
| 3205 | 32 | 5 | 4 | 51 | 48 | 74 | 60 | 52 | 12 | 7 | 12 | 7 | 1470 | 4170 |
| 3210 | 32 | 10 | 4 | 87 | 54 | 86 | 70 | 60 | 15 | 9 | 14 | 8.5 | 3410 | 7190 |
| 4005 | 40 | 5 | 4 | 54 | 56 | 90 | 72 | 64 | 15 | 9 | 14 | 8.5 | 1630 | 5350 |
| 4010 | 40 | 10 | 4 | 83 | 64 | 106 | 84 | 72 | 18 | 11 | 18 | 11 | 3930 | 9550 |

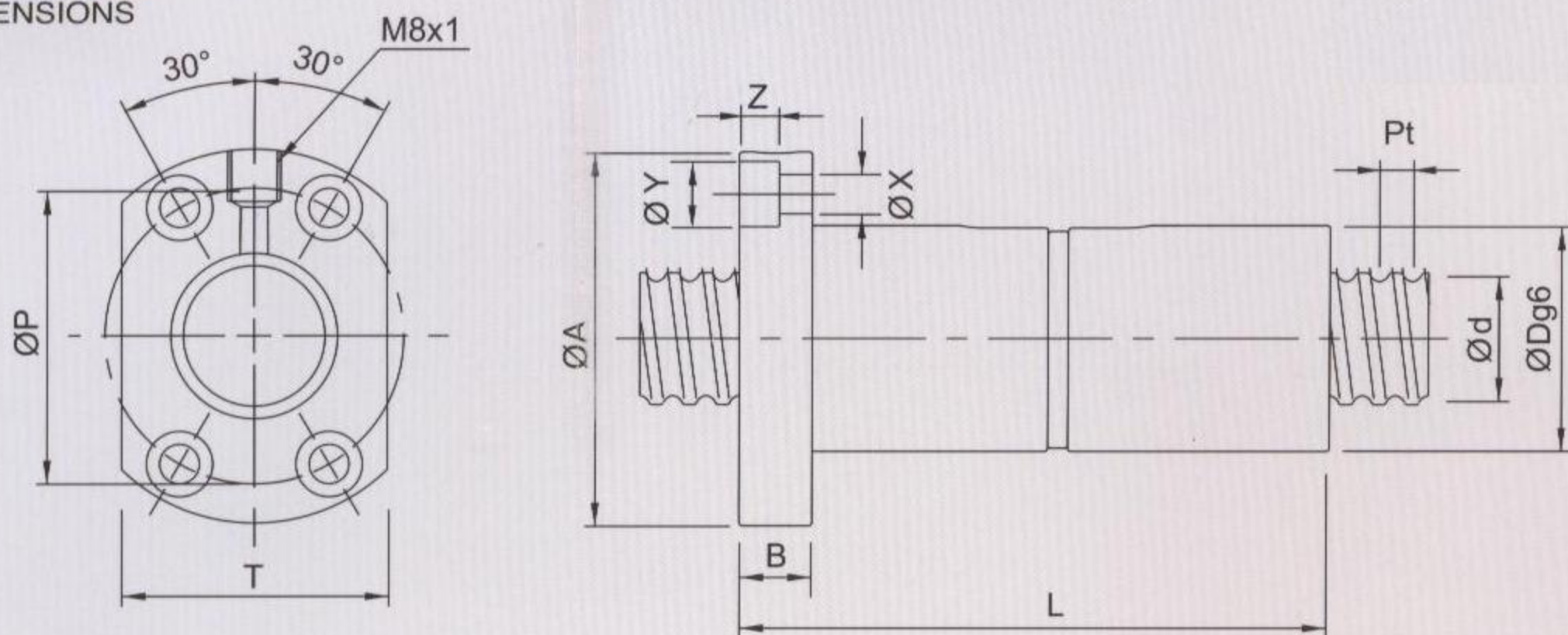
單位(Unit):mm

DFR-A 雙切邊雙螺帽

Square shape double nut type

尺寸圖

DIMENSIONS



供應精度等級

C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|----|------------------------------|------------------|----|-----|----|----|----|----|----|-----|-----------------------------|---------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | T | B | X | Y | Z | Ca(動態)Kn Ca(Dynsmic) Kn | Co(靜態)Kn Co(Static) Kn |
| 1605 | 16 | 5 | 6 | 86 | 30 | 49 | 39 | 34 | 11 | 5 | 8 | 5 | 1200 | 3150 |
| 2005 | 20 | 5 | 8 | 99 | 34 | 57 | 45 | 40 | 11 | 6 | 10 | 6 | 1725 | 3600 |
| 2505 | 25 | 5 | 8 | 99 | 40 | 63 | 51 | 46 | 11 | 6 | 10 | 6 | 2600 | 6260 |
| 3205 | 32 | 5 | 8 | 99 | 48 | 74 | 60 | 52 | 12 | 7 | 12 | 7 | 2940 | 8340 |
| 3210 | 32 | 10 | 8 | 161 | 54 | 86 | 70 | 62 | 15 | 9 | 14 | 8.5 | 6820 | 14380 |
| 4005 | 40 | 5 | 8 | 102 | 56 | 90 | 72 | 64 | 15 | 9 | 14 | 8.5 | 3260 | 10700 |
| 4010 | 40 | 10 | 8 | 166 | 64 | 106 | 84 | 72 | 18 | 11 | 18 | 11 | 7860 | 19080 |

單位(Unit):mm

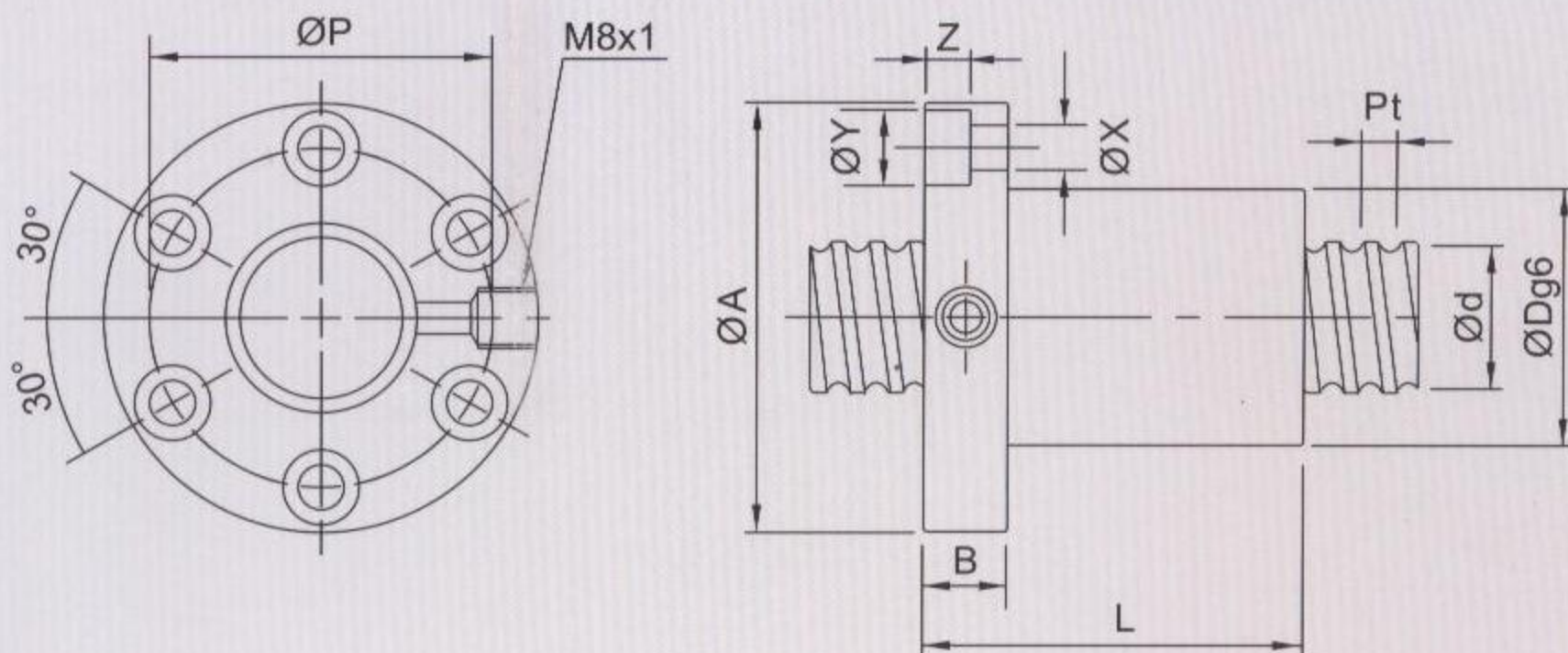
SFR-B全圓單螺帽

Circular shape single nut type

尺寸圖



DIMENSIONS



供應精度等級

C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



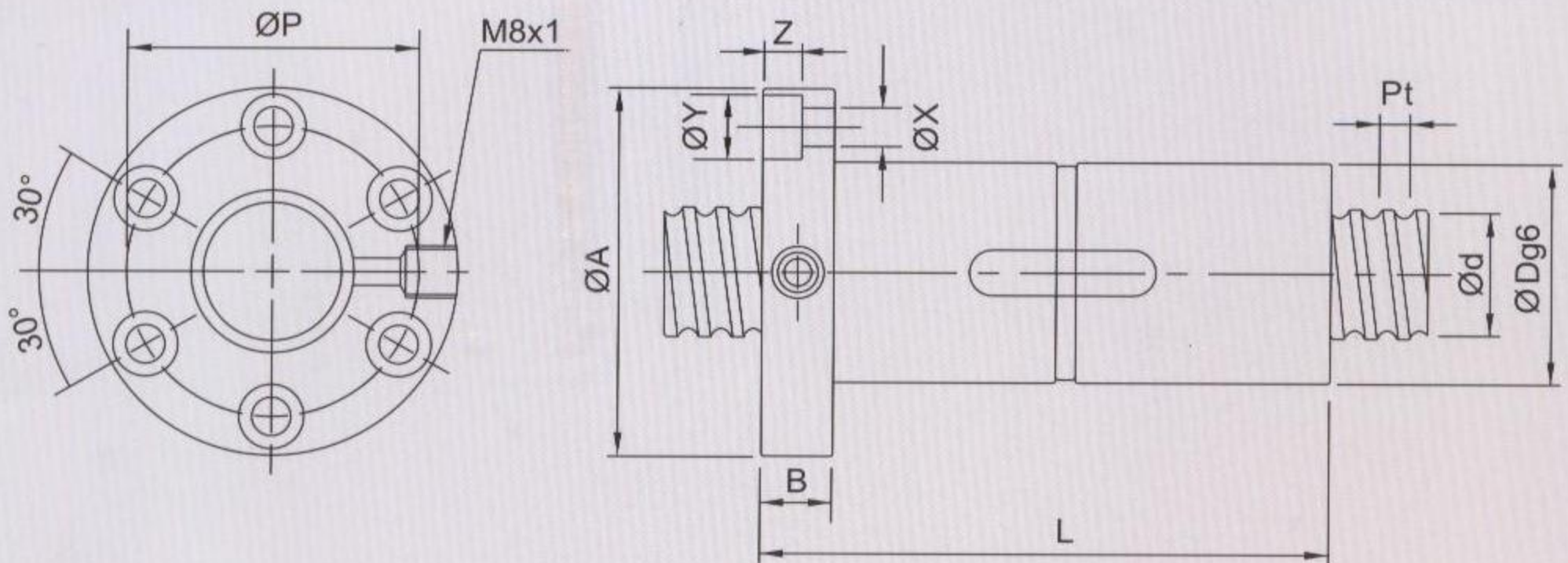
| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|----|------------------------------|------------------|----|-----|----|----|----|----|-----|-----------------------------|---------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | B | X | Y | Z | Ca(動態)Kn Ca(Dynsmic) Kn | Co(靜態)Kn Co(Static) Kn |
| 1510 | 15 | 10 | 3 | 49 | 30 | 49 | 39 | 11 | 5 | 8 | 5 | 585 | 1630 |
| 1604 | 16 | 4 | 4 | 45 | 30 | 49 | 39 | 11 | 5 | 8 | 5 | 660 | 1290 |
| 1605 | 16 | 5 | 4 | 50 | 30 | 49 | 39 | 11 | 5 | 8 | 5 | 800 | 2100 |
| 2004 | 20 | 4 | 4 | 45 | 34 | 57 | 45 | 11 | 6 | 10 | 6 | 720 | 1640 |
| 2005 | 20 | 5 | 4 | 50 | 34 | 57 | 45 | 11 | 6 | 10 | 6 | 1150 | 2400 |
| 2010 | 20 | 10 | 3 | 49 | 34 | 57 | 45 | 11 | 6 | 10 | 6 | 860 | 1800 |
| 2504 | 25 | 4 | 4 | 46 | 40 | 63 | 51 | 11 | 6 | 10 | 6 | 790 | 1690 |
| 2505 | 25 | 5 | 4 | 50 | 40 | 63 | 51 | 11 | 6 | 10 | 6 | 1300 | 3130 |
| 2510 | 25 | 10 | 3 | 50 | 40 | 63 | 51 | 11 | 6 | 10 | 6 | 975 | 2350 |
| 3205 | 32 | 5 | 4 | 51 | 48 | 74 | 60 | 12 | 7 | 12 | 7 | 1470 | 4170 |
| 3210 | 32 | 10 | 4 | 87 | 54 | 86 | 70 | 15 | 9 | 14 | 8.5 | 3410 | 7190 |
| 4005 | 40 | 5 | 4 | 54 | 56 | 90 | 72 | 15 | 9 | 14 | 8.5 | 1630 | 5350 |
| 4010 | 40 | 10 | 4 | 83 | 64 | 106 | 84 | 18 | 11 | 18 | 11 | 3930 | 9550 |

單位(Unit):mm

DFR-B全圓雙螺帽

Circular shape double nut type

尺寸圖 DIMENSIONS



供應精度等級 C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|----|------------------------------|------------------|----|-----|----|----|----|----|-----|-----------------------------|---------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | B | X | Y | Z | Ca(動態)Kn Ca(Dynsmic) Kn | Co(靜態)Kn Co(Static) Kn |
| 1605 | 16 | 5 | 6 | 86 | 30 | 49 | 39 | 11 | 5 | 8 | 5 | 1200 | 3150 |
| 2005 | 20 | 5 | 8 | 99 | 34 | 57 | 45 | 11 | 6 | 10 | 6 | 1725 | 3600 |
| 2505 | 25 | 5 | 8 | 99 | 40 | 63 | 51 | 11 | 6 | 10 | 6 | 2600 | 6260 |
| 3205 | 32 | 5 | 8 | 99 | 48 | 74 | 60 | 12 | 7 | 12 | 7 | 2940 | 8340 |
| 3210 | 32 | 10 | 8 | 161 | 54 | 86 | 70 | 15 | 9 | 14 | 8.5 | 6820 | 14380 |
| 4005 | 40 | 5 | 8 | 102 | 56 | 90 | 72 | 15 | 9 | 14 | 8.5 | 3260 | 10700 |
| 4010 | 40 | 10 | 8 | 166 | 64 | 106 | 84 | 18 | 11 | 18 | 11 | 7860 | 19080 |

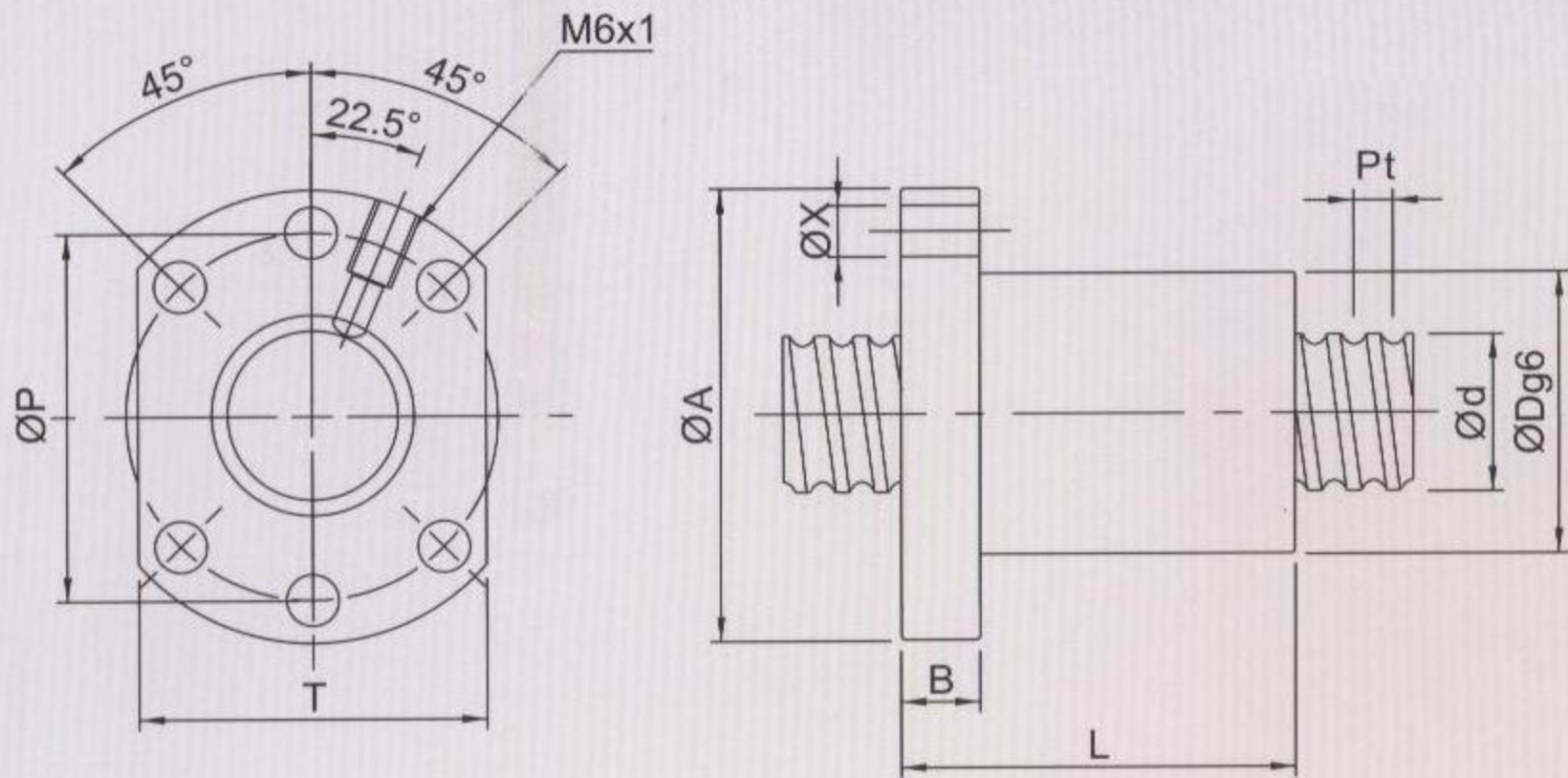
單位(Unit):mm

DIN 單螺帽

Square shape single nut type

尺寸圖

DIMENSIONS



供應精度等級

C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|----|------------------------------|------------------|----|----|----|----|----|-----|-----------------------------|---------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | T | B | X | Ca(動態)Kn Ca(Dynsmic) Kn | Co(動態)Kn Co(Static) Kn |
| 1510 | 15 | 10 | 3 | 49 | 28 | 48 | 38 | 40 | 10 | 5.5 | 585 | 1630 |
| 1605 | 16 | 5 | 4 | 50 | 28 | 48 | 38 | 40 | 10 | 5.5 | 800 | 2100 |
| 2005 | 20 | 5 | 4 | 50 | 36 | 58 | 47 | 44 | 10 | 6.6 | 1150 | 2400 |
| 2010 | 20 | 10 | 3 | 49 | 36 | 58 | 47 | 44 | 10 | 6.6 | 880 | 1800 |
| 2505 | 25 | 5 | 4 | 50 | 40 | 62 | 51 | 48 | 10 | 6.6 | 1300 | 3130 |
| 2510 | 25 | 10 | 3 | 50 | 40 | 62 | 51 | 48 | 10 | 6.6 | 975 | 2350 |
| 3205 | 32 | 5 | 4 | 51 | 50 | 80 | 65 | 62 | 12 | 9 | 1470 | 4170 |
| 3210 | 32 | 10 | 4 | 87 | 50 | 80 | 65 | 62 | 12 | 9 | 3410 | 7190 |
| 4005 | 40 | 5 | 4 | 54 | 63 | 93 | 78 | 70 | 14 | 9 | 1630 | 5350 |
| 4010 | 40 | 10 | 4 | 87 | 63 | 93 | 78 | 70 | 14 | 9 | 3930 | 9550 |

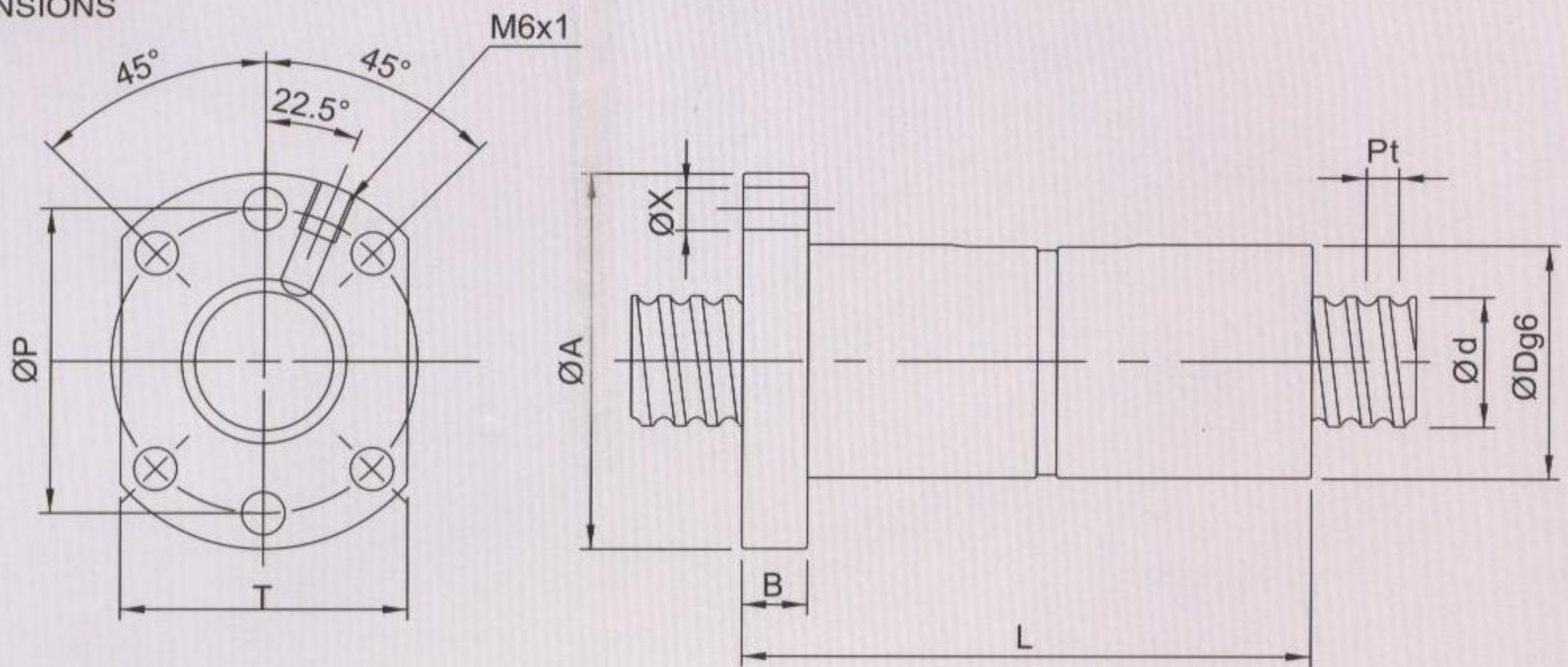
單位(Unit):mm

DIN 雙螺帽

Square shape double nut type

尺寸圖

DIMENSIONS



供應精度等級

C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|----|------------------------------|------------------|----|----|----|----|----|-----|-----------------------------|--------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | T | B | X | Ca(動態)Kn Ca(Dynsmic) Kn | Co(靜態)Kn C(Static) Kn |
| 1605 | 16 | 5 | 6 | 85 | 28 | 48 | 38 | 40 | 10 | 5.5 | 1200 | 3150 |
| 2005 | 20 | 5 | 8 | 98 | 36 | 58 | 47 | 44 | 10 | 6.6 | 1725 | 3600 |
| 2505 | 25 | 5 | 8 | 98 | 40 | 62 | 51 | 48 | 10 | 6.6 | 2600 | 6260 |
| 3205 | 32 | 5 | 8 | 99 | 50 | 80 | 65 | 62 | 12 | 9 | 2940 | 8340 |
| 3210 | 32 | 10 | 8 | 159 | 50 | 80 | 65 | 62 | 12 | 9 | 6820 | 14380 |
| 4005 | 40 | 5 | 8 | 102 | 63 | 93 | 78 | 70 | 14 | 9 | 3260 | 10700 |
| 4010 | 40 | 10 | 8 | 163 | 63 | 93 | 78 | 70 | 14 | 9 | 7860 | 19080 |

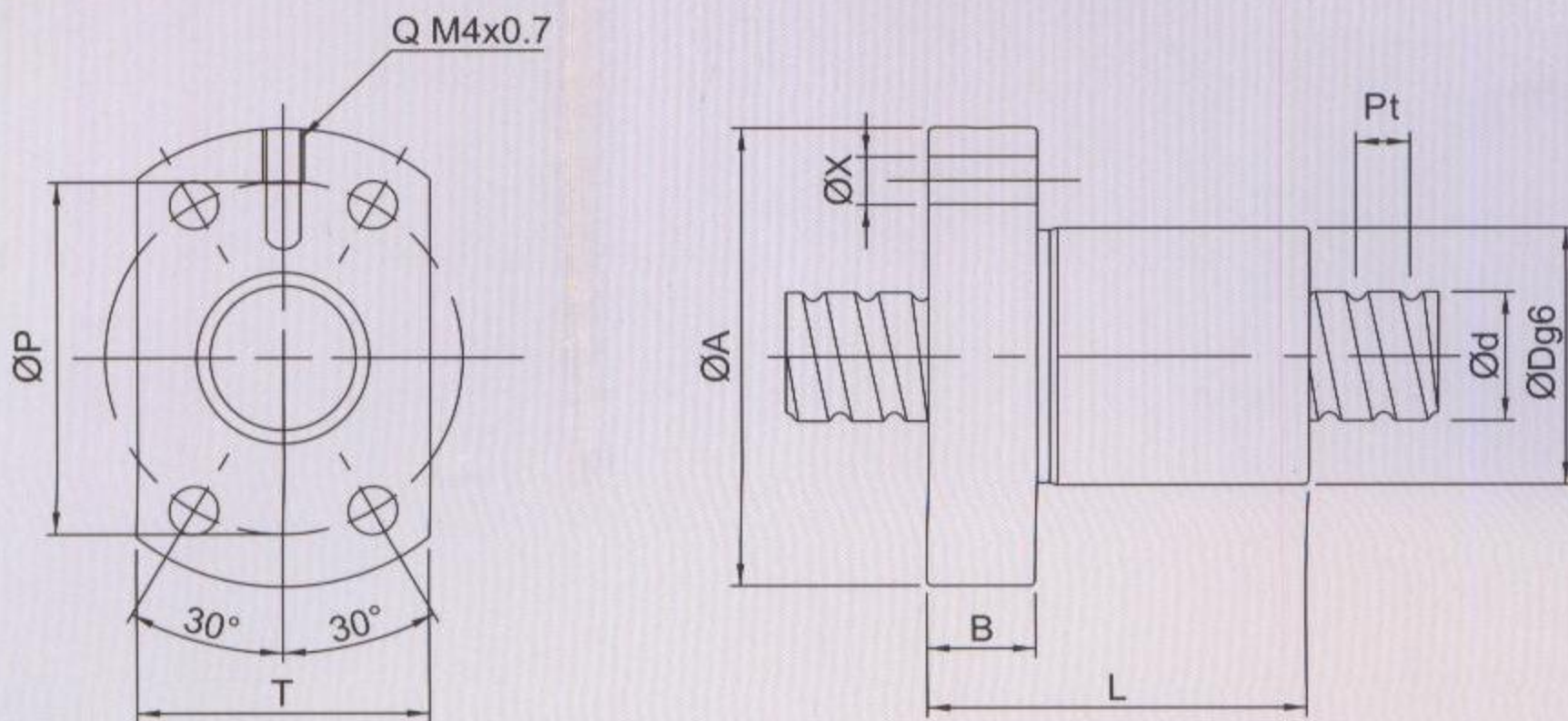
單位(Unit):mm

微徑單螺帽

Miniature Ballscrew-single nut type

尺寸圖

DIMENSIONS



供應精度等級

C5, C7

ACCURACY GRADE

型號尺寸對照表

SPECIFICATION



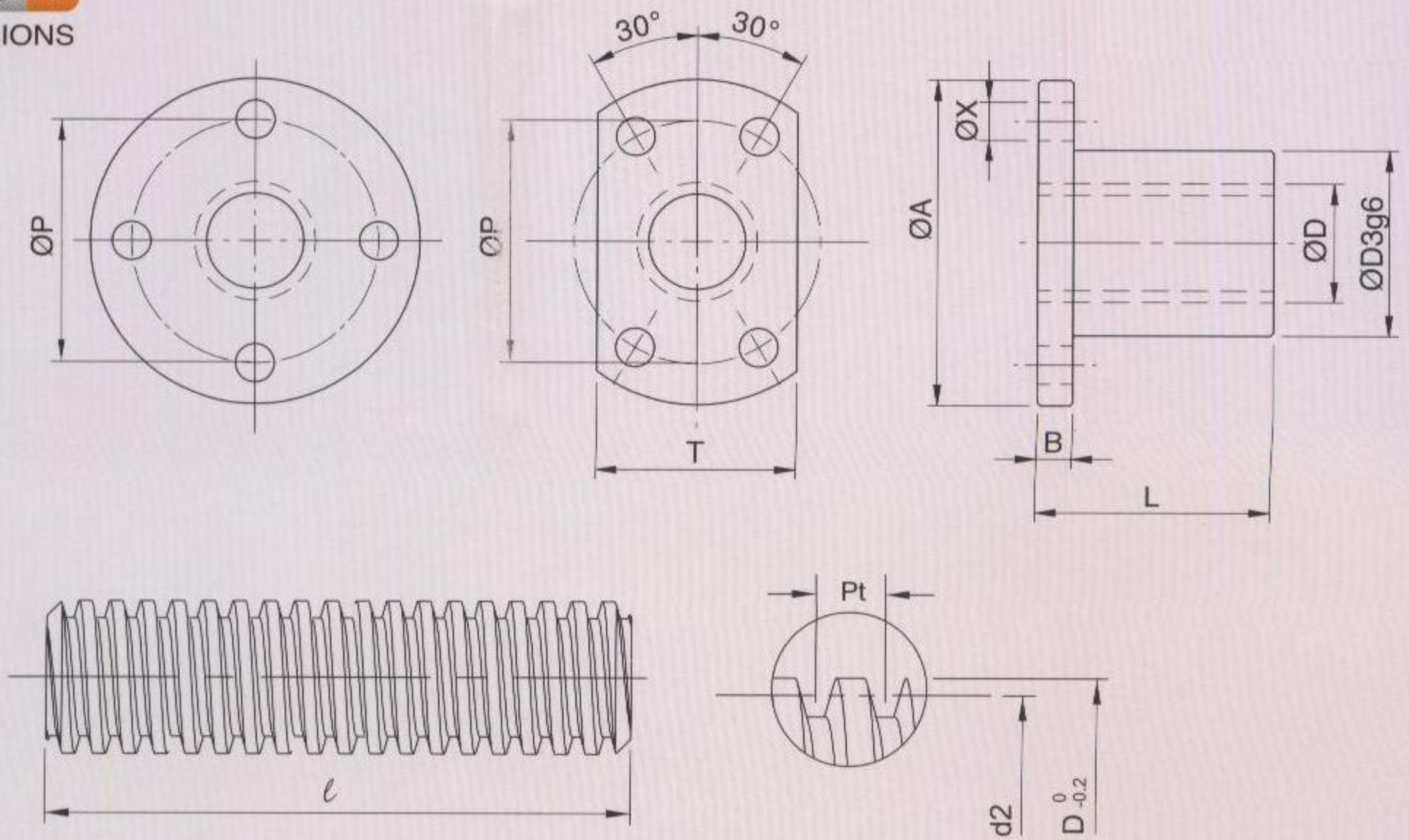
| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | 螺帽尺寸 NUT SIZE | | | | | | | | 基本額定負荷 BASIC RATING LOAD | |
|-----------------|--------------------|-----|------------------------------|------------------|----|----|----|----|----|-----|---|-----------------------------|---------------------------|
| | d | Pt | 珠捲數 Number of Circuits | L | D | A | P | T | B | X | Q | Ca(動態)Kn Ca(Dynsmic) Kn | Co(靜態)Kn Co(Static) Kn |
| 0802 | 8 | 2 | 3 | 20.5 | 16 | 29 | 23 | 20 | 6 | 3.4 | N | 170 | 267 |
| 08-2.5 | 8 | 2.5 | 3 | 22.5 | 16 | 29 | 23 | 20 | 6 | 3.4 | N | 197 | 298 |
| 1002 | 10 | 2 | 3 | 20.5 | 18 | 35 | 27 | 22 | 6 | 4.5 | N | 205 | 348 |
| 1004 | 10 | 4 | 3 | 28 | 22 | 41 | 31 | 25 | 10 | 4.5 | Y | 415 | 590 |
| 1202 | 12 | 2 | 3 | 20.5 | 20 | 37 | 29 | 24 | 6 | 4.5 | N | 217 | 430 |
| 1204 | 12 | 4 | 3 | 28 | 24 | 43 | 33 | 27 | 10 | 4.5 | Y | 445 | 760 |
| 1205 | 12 | 5 | 3 | 35 | 24 | 43 | 33 | 27 | 10 | 4.5 | Y | 670 | 1010 |

單位(Unit):mm

艾克姆螺桿 Trapezoidal Screws

尺寸圖

DIMENSIONS



型號尺寸對照表

SPECIFICATION

螺桿材質

S45C

MATERIAL / Screw

累計誤差

±0.2/300mm

ACCUMULATIVE ERROR

螺帽材質

黃銅
Brass

MATERIAL / Nut

組合間隙

0.1~0.15mm

GAP OF COMBINATION



| 型號 MODEL NO. | 螺桿尺寸 SCREW SIZE | | | | 螺帽尺寸 NUT SIZE | | | | | | |
|-----------------|--------------------|----|------|------|------------------|----|----|----|-----|---|-----|
| | Pt | D | d2 | l | L | D3 | A | P | T | B | X |
| TM8R | 1.5 | 8 | 7.25 | 500 | 20 | 15 | 30 | 22 | --- | 5 | 4.3 |
| TM10R | 2 | 10 | 9 | 1000 | 24 | 20 | 36 | 26 | 22 | 5 | 4.3 |
| TM12R | 2 | 12 | 11 | 1000 | 30 | 22 | 44 | 31 | 24 | 5 | 5.4 |
| TM14R | 3 | 14 | 12.5 | 1000 | 30 | 22 | 44 | 31 | 24 | 5 | 5.4 |
| TM16R | 3 | 16 | 14.5 | 1500 | 35 | 28 | 51 | 38 | 30 | 6 | 6.6 |
| TM18R | 4 | 18 | 16 | 1500 | 40 | 32 | 56 | 42 | 34 | 6 | 6.6 |
| TM20R | 4 | 20 | 18 | 1500 | 40 | 32 | 56 | 42 | 34 | 6 | 6.6 |

* R為右螺旋 R: Right Helix

單位(Unit):mm