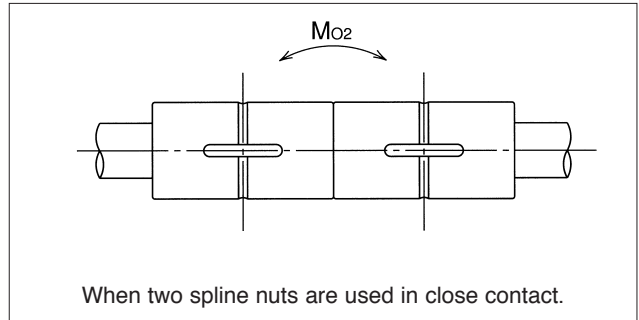
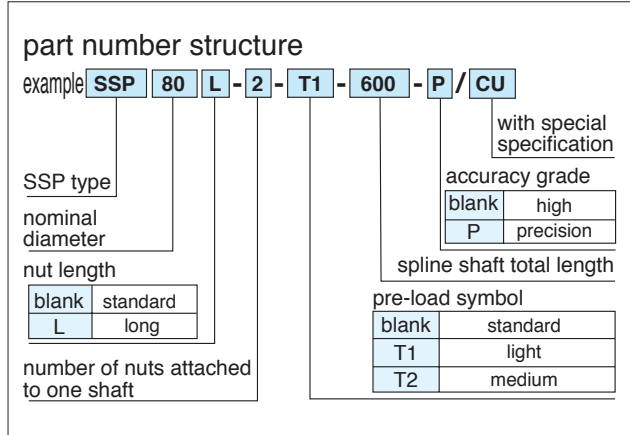
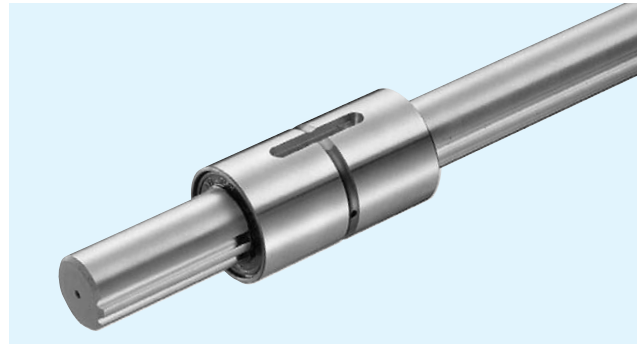


# SSP TYPE

## – Cylindrical Spline Nut –

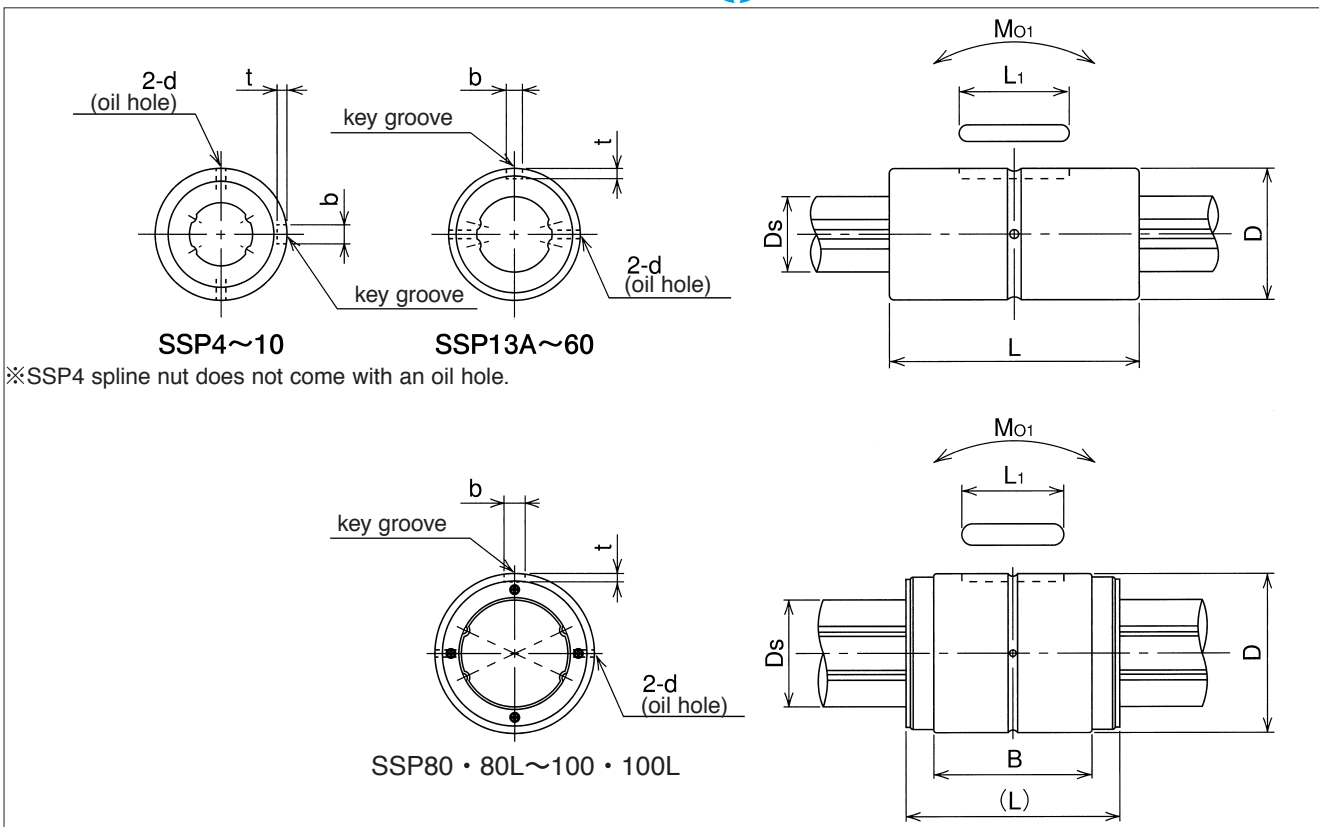


| part number |               | major dimensions |           |     |           |       |          |           |                  |                |      |                |           |
|-------------|---------------|------------------|-----------|-----|-----------|-------|----------|-----------|------------------|----------------|------|----------------|-----------|
|             |               | D                | tolerance | L   | tolerance | B     | b        | tolerance | t                | L <sub>1</sub> | d    | D <sub>s</sub> | tolerance |
| standard    | anticorrosion | mm               | μm        | mm  | mm        | mm    | mm       | μm        | +0.05<br>0<br>mm | mm             | mm   | mm             | μm        |
| SSP 4       | SSPS 4        | 10               | 0/-9      | 16  | 0         | -     | 2        | +14<br>0  | 1.2              | 6              | -    | 4              | 0         |
| SSP 6       | SSPS 6        | 14               | 0         | 25  |           |       | 2.5      |           | 1.2              | 10.5           | 1    | 6              | -12       |
| SSP 8       | SSPS 8        | 16               | -11       | 25  |           |       | 2.5      |           | 1.2              | 10.5           | 1.5  | 8              | 0         |
| SSP 10      | SSPS 10       | 21               | 0         | 33  |           |       | 3        |           | 1.5              | 13             | 1.5  | 10             | -15       |
| SSP 13A     | SSPS 13A      | 24               | -13       | 36  |           |       | 3        |           | 1.5              | 15             | 1.5  | 13             | 0         |
| SSP 16A     | SSPS 16A      | 31               | 0         | 50  |           |       | 3.5      | 2         | 17.5             | 2              | 16   | -18            |           |
| SSP 20A     | SSPS 20A      | 35               |           | 63  |           |       | 4        | 2.5       | 29               | 2              | 20   | 0              |           |
| SSP 20      | SSPS 20       | 32               |           | 60  |           |       | 4        | 2.5       | 26               | 2              | 18.2 |                |           |
| SSP 25A     | SSPS 25A      | 42               |           | 71  |           |       | 4        | 2.5       | 36               | 3              | 25   |                |           |
| SSP 25      | SSPS 25       | 37               |           | 70  |           |       | 5        | 3         | 33               | 3              | 23   |                |           |
| SSP 30      | -             | 45               |           | 80  | 7         | +22   | 4        | 41        | 3                | 28             |      |                |           |
| SSP 40      | -             | 60               |           | 0   | 100       | 10    | 0        | 4.5       | 55               | 4              | 37.4 |                | 0         |
| SSP 50      | -             | 75               |           | -19 | 112       | 15    | +27<br>0 | 5         | 60               | 4              | 47   |                | -25       |
| SSP 60      | -             | 90               |           | 0   | 127       | 18    |          | 6         | 68               | 4              | 56.5 |                | 0         |
| SSP 80      | -             | 120              |           | -22 | 160       | 118.2 |          | 6         | 76               | 5              | 80   |                | -30       |
| SSP 80L     | -             |                  | 217       |     | 175.2     |       |          |           |                  |                |      |                |           |
| SSP100      | -             | 150              | 0         | 185 | 132.6     | 20    |          | +33<br>0  | 7                | 110            | 5    | 100            | 0         |
| SSP100L     | -             |                  |           | 248 | 195.6     |       | 160      |           |                  | -35            |      |                |           |

# BALL SPLINE



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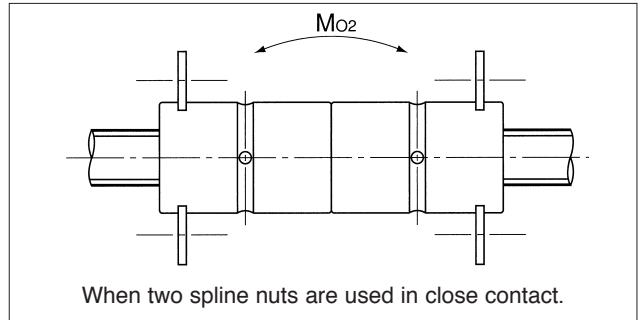
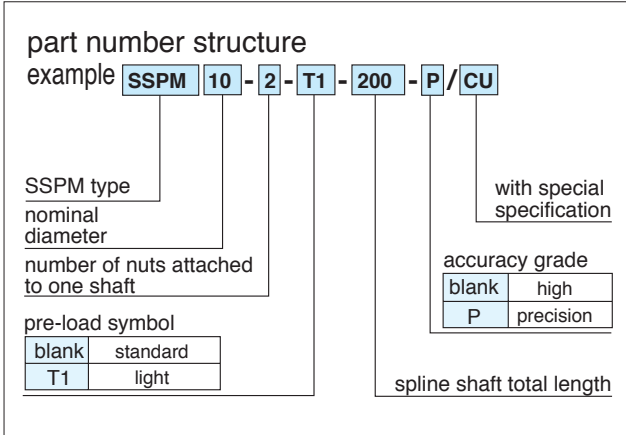
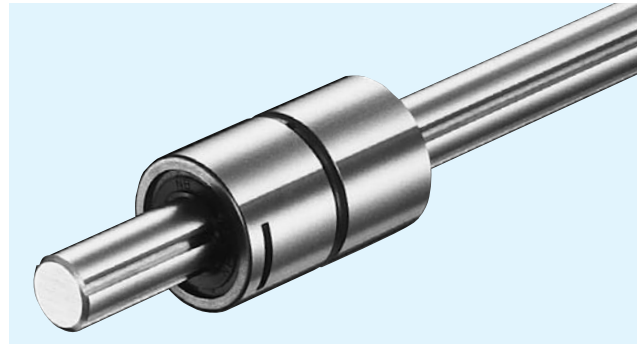


| basic torque rating                |                                    | basic load rating  |                                | allowable static moment  |                          | second cross-sectional moment of inertia | cross-sectional coefficient | mass      |               | part number |
|------------------------------------|------------------------------------|--------------------|--------------------------------|--------------------------|--------------------------|--|-----------------------------|-----------|---------------|-------------|
| dynamic<br>C <sub>T</sub><br>N • m | static<br>C <sub>0T</sub><br>N • m | dynamic<br>C<br>kN | static<br>C <sub>0</sub><br>kN | M <sub>01</sub><br>N • m | M <sub>02</sub><br>N • m |  |                             | nut<br>kg | shaft<br>kg/m |             |
| 0.74                               | 1.05                               | 0.86               | 1.22                           | 1.97                     | 10.3                     | 1.18 × 10                                | 5.90                        | 0.0065    | 0.10          | SSP 4       |
| 1.5                                | 2.4                                | 1.22               | 2.28                           | 5.1                      | 40                       | 5.9 × 10                                 | 1.97 × 10                   | 0.019     | 0.21          | SSP 6       |
| 2.1                                | 3.7                                | 1.45               | 2.87                           | 7.4                      | 50                       | 1.9 × 10 <sup>2</sup>                    | 4.76 × 10                   | 0.023     | 0.38          | SSP 8       |
| 4.4                                | 8.2                                | 2.73               | 5.07                           | 18.0                     | 116                      | 4.61 × 10 <sup>2</sup>                   | 9.22 × 10                   | 0.054     | 0.60          | SSP 10      |
| 21                                 | 39.2                               | 2.67               | 4.89                           | 13.7                     | 109                      | 1.38 × 10 <sup>3</sup>                   | 2.13 × 10 <sup>2</sup>      | 0.07      | 1.0           | SSP 13A     |
| 60                                 | 110                                | 6.12               | 11.2                           | 46                       | 299                      | 2.98 × 10 <sup>3</sup>                   | 3.73 × 10 <sup>2</sup>      | 0.15      | 1.5           | SSP 16A     |
| 105                                | 194                                | 8.9                | 16.3                           | 110                      | 560                      | 7.35 × 10 <sup>3</sup>                   | 7.34 × 10 <sup>2</sup>      | 0.22      | 2.4           | SSP 20A     |
| 83                                 | 133                                | 7.84               | 11.3                           | 63                       | 500                      | 5.05 × 10 <sup>3</sup>                   | 5.54 × 10 <sup>2</sup>      | 0.20      | 2.0           | SSP 20      |
| 189                                | 346                                | 12.8               | 23.4                           | 171                      | 1,029                    | 1.79 × 10 <sup>4</sup>                   | 1.43 × 10 <sup>3</sup>      | 0.33      | 3.7           | SSP 25A     |
| 162                                | 239                                | 12.3               | 16.1                           | 104                      | 830                      | 1.27 × 10 <sup>4</sup>                   | 1.11 × 10 <sup>3</sup>      | 0.22      | 3.1           | SSP 25      |
| 289                                | 412                                | 18.6               | 23.2                           | 181                      | 1,470                    | 2.75 × 10 <sup>4</sup>                   | 1.96 × 10 <sup>3</sup>      | 0.35      | 4.8           | SSP 30      |
| 637                                | 882                                | 30.8               | 37.5                           | 358                      | 2,940                    | 8.73 × 10 <sup>4</sup>                   | 4.67 × 10 <sup>3</sup>      | 0.81      | 8.6           | SSP 40      |
| 1,390                              | 3,180                              | 46.1               | 74.2                           | 696                      | 4,400                    | 2.16 × 10 <sup>5</sup>                   | 9.21 × 10 <sup>3</sup>      | 1.5       | 13.1          | SSP 50      |
| 2,100                              | 4,800                              | 58.0               | 127                            | 1,300                    | 8,800                    | 4.51 × 10 <sup>5</sup>                   | 1.60 × 10 <sup>4</sup>      | 2.5       | 19            | SSP 60      |
| 3,860                              | 6,230                              | 83.1               | 134                            | 2,000                    | 11,100                   | 1.93 × 10 <sup>6</sup>                   | 4.38 × 10 <sup>5</sup>      | 5.1       | 39            | SSP 80      |
| 5,120                              | 9,340                              | 110                | 201                            | 4,410                    | 21,100                   |  |                             | 7.6       |               | SSP 80L     |
| 6,750                              | 11,570                             | 135                | 199                            | 3,360                    | 19,300                   | 4.69 × 10 <sup>6</sup>                   | 9.38 × 10 <sup>5</sup>      | 9.7       | 61            | SSP100      |
| 8,960                              | 17,300                             | 179                | 298                            | 7,340                    | 37,700                   |  |                             | 13.9      |               | SSP100L     |

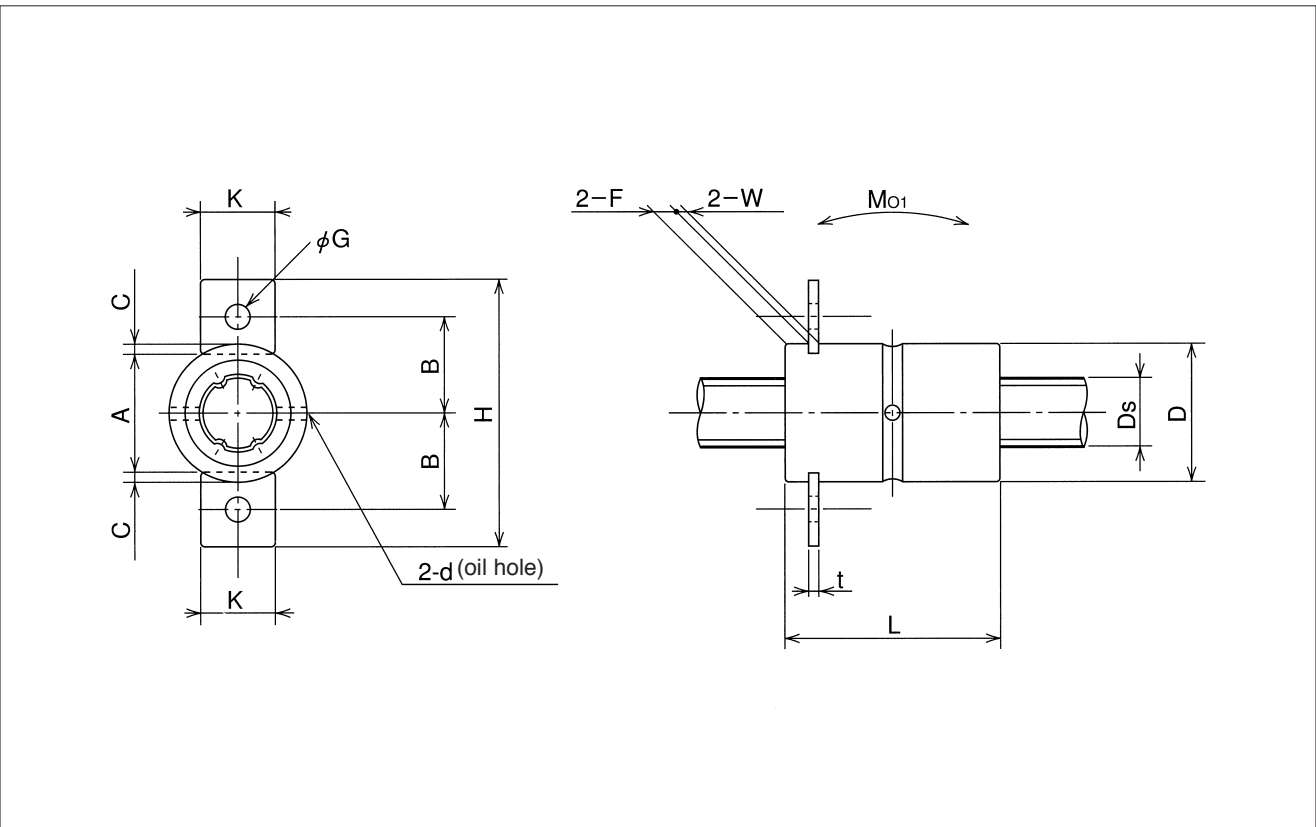
1kN ≒ 102kgf    1N • m ≒ 0.102kgf • m

# SSPM TYPE

## – Keyless Spline Nut –



| part number   | major dimensions |                 |    |                 |     |     |     |      |     |      |      |     |     |
|---------------|------------------|-----------------|----|-----------------|-----|-----|-----|------|-----|------|------|-----|-----|
|               | D                |                 | L  |                 | F   | W   | C   | A    | d   | B    | H    | K   | G   |
|               | mm               | tolerance<br>μm | mm | tolerance<br>mm |     |     |     |      |     |      |      |     |     |
| <b>SSPM 6</b> | 14               | 0               | 25 | 0<br>-0.2       | 2.2 | 1.1 | 1.0 | 12.0 | 1   | 9.4  | 25.6 | 6.8 | 2.9 |
| <b>SSPM 8</b> | 16               | -11             | 25 |                 | 2.7 | 1.3 | 1.2 | 13.6 | 1.5 | 11   | 30.6 | 8.5 | 3.5 |
| <b>SSPM10</b> | 21               | 0/-13           | 33 |                 | 2.7 | 1.3 | 1.2 | 18.6 | 1.5 | 13.5 | 35.6 | 8.5 | 3.5 |



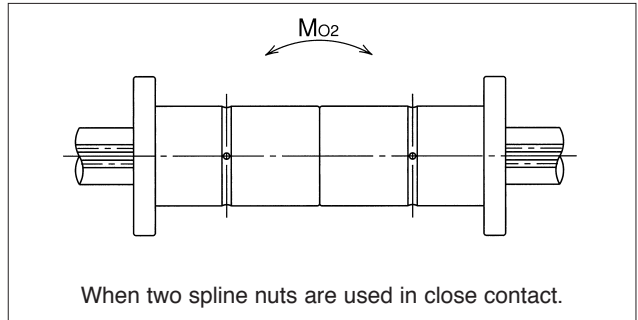
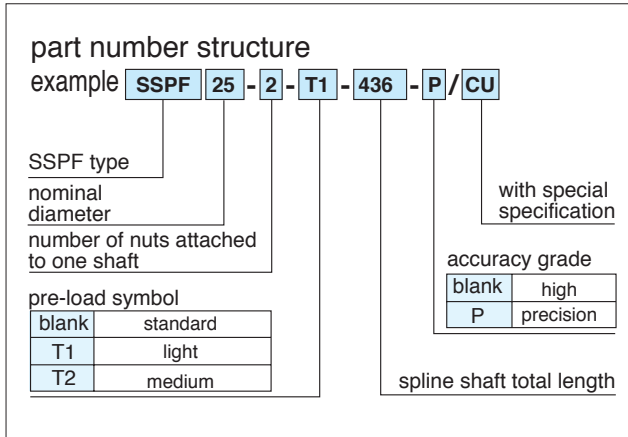
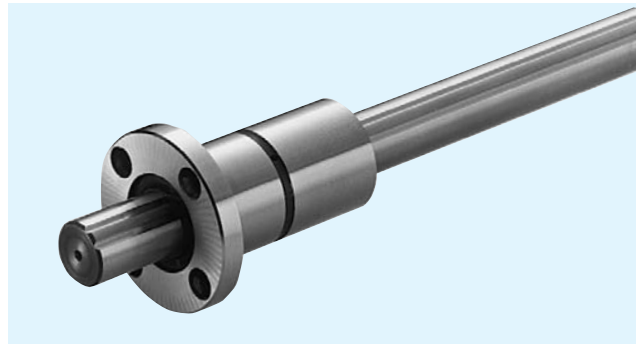
| t   | Ds |                 | basic torque rating |                 | basic load rating |                | allowable static moment |                 | second cross-sectional moment of inertia | cross-sectional coefficient | mass  |       | part number   |
|-----|----|-----------------|---------------------|-----------------|-------------------|----------------|-------------------------|-----------------|--|-----------------------------|-------|-------|---------------|
|     |    |                 | dynamic             | static          | dynamic           | static         | M <sub>01</sub>         | M <sub>02</sub> |  |                             | nut   | shaft |               |
|     |    |                 | C <sub>T</sub>      | C <sub>0T</sub> | C                 | C <sub>0</sub> |                         |                 |  |                             |       |       |               |
| mm  | mm | tolerance<br>μm | N · m               | N · m           | kN                | kN             | N · m                   | N · m           | mm <sup>4</sup>                          | mm <sup>3</sup>             | kg    | kg/m  |               |
| 1.0 | 6  | 0/-12           | 1.5                 | 2.4             | 1.22              | 2.28           | 5.1                     | 40              | 5.9 × 10                                 | 1.97 × 10                   | 0.019 | 0.21  | <b>SSPM 6</b> |
| 1.2 | 8  | 0               | 2.1                 | 3.7             | 1.45              | 2.87           | 7.4                     | 50              | 1.9 × 10 <sup>2</sup>                    | 4.76 × 10                   | 0.023 | 0.38  | <b>SSPM 8</b> |
| 1.2 | 10 | -15             | 4.4                 | 8.2             | 2.73              | 5.07           | 18.0                    | 116             | 4.61 × 10 <sup>2</sup>                   | 9.22 × 10                   | 0.054 | 0.60  | <b>SSPM10</b> |

1kN ≅ 102kgf    1N · m ≅ 0.102kgf · m



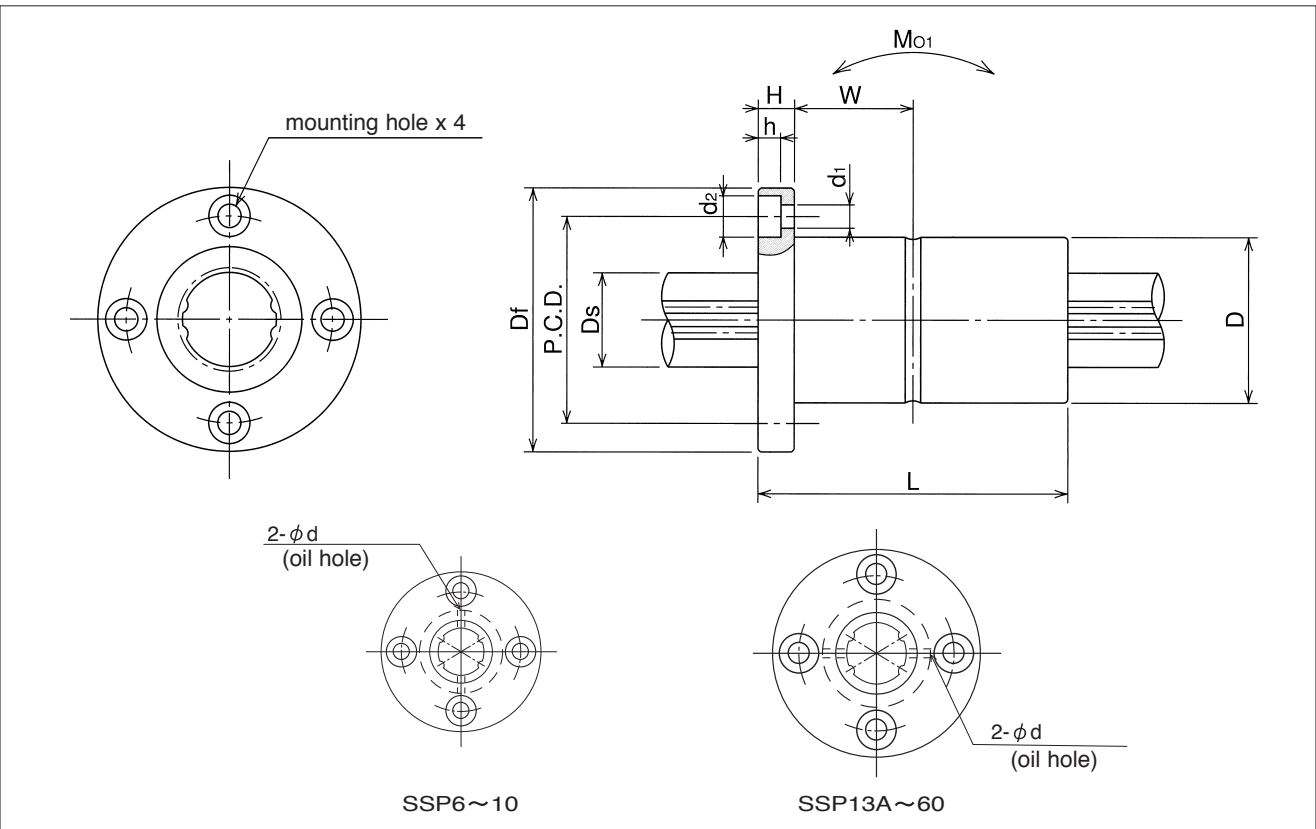
# SSPF TYPE

## – Flange Type Nut –



| part number |               | major dimensions |                      |         |                 |          |         |                 |   |         |         |
|-------------|---------------|------------------|----------------------|---------|-----------------|----------|---------|-----------------|---|---------|---------|
|             |               | D<br>mm          | tolerance<br>$\mu m$ | L<br>mm | tolerance<br>mm | Df<br>mm | H<br>mm | P.C.D.<br>mm    | d <sub>1</sub> × d <sub>2</sub> × h<br>mm | W<br>mm | d<br>mm |
| standard    | anticorrosion |                  |                      |         |                 |          |         |                 |   |         |         |
| SSPF 6      | SSPFS 6       | 14               | 0                    | 25      | 0<br>-0.2       | 30       | 5       | 22              | 3.4 × 6.5 × 3.3                           | 7.5     | 1       |
| SSPF 8      | SSPFS 8       | 16               | -11                  | 25      |                 | 32       | 5       | 24              | 3.4 × 6.5 × 3.3                           | 7.5     | 1.5     |
| SSPF10      | SSPFS10       | 21               | 0                    | 33      |                 | 42       | 6       | 32              | 4.5 × 8 × 4.4                             | 10.5    | 1.5     |
| SSPF13A     | SSPFS13A      | 24               | -13                  | 36      |                 | 43       | 7       | 33              | 4.5 × 8 × 4.4                             | 11      | 1.5     |
| SSPF16A     | SSPFS16A      | 31               | 0<br>-16             | 50      |                 | 50       | 7       | 40              | 4.5 × 8 × 4.4                             | 18      | 2       |
| SSPF20A     | SSPFS20A      | 35               |                      | 63      |                 | 58       | 9       | 45              | 5.5 × 9.5 × 5.4                           | 22.5    | 2       |
| SSPF20      | SSPFS20       | 32               |                      | 60      | 51              | 7        | 40      | 4.5 × 8 × 4.4   | 23  | 2       |         |
| SSPF25A     | SSPFS25A      | 42               |                      | 71      | 65              | 9        | 52      | 5.5 × 9.5 × 5.4 | 26.5                                      | 3       |         |
| SSPF25      | SSPFS25       | 37               |                      | 70      | 60              | 9        | 47      | 5.5 × 9.5 × 5.4 | 26  | 3       |         |
| SSPF30      | —             | 45               |                      | 80      | 70              | 10       | 54      | 6.6 × 11 × 6.5  | 30  | 3       |         |
| SSPF40      | —             | 60               | 0                    | 100     | 0<br>-0.3       | 90       | 14      | 72              | 9 × 14 × 8.6                              | 36      | 4       |
| SSPF50      | —             | 75               | -19                  | 112     |                 | 113      | 16      | 91              | 11 × 17.5 × 11                            | 40      | 4       |
| SSPF60      | —             | 90               | 0/-22                | 127     |                 | 129      | 18      | 107             | 11 × 17.5 × 11                            | 45.5    | 4       |





| D <sub>s</sub><br>mm | tolerance<br>μm | basic torque rating              |                                  | basic load rating  |                                | allowable static moment |                        | second cross-sectional moment of inertia<br>mm <sup>4</sup> | cross-sectional coefficient<br>mm <sup>3</sup> | mass      |               | part number    |
|----------------------|-----------------|----------------------------------|----------------------------------|--------------------|--------------------------------|-------------------------|------------------------|---|--|-----------|---------------|----------------|
|                      |                 | dynamic<br>C <sub>T</sub><br>N·m | static<br>C <sub>0T</sub><br>N·m | dynamic<br>C<br>kN | static<br>C <sub>0</sub><br>kN | M <sub>01</sub><br>N·m  | M <sub>02</sub><br>N·m |   |  | nut<br>kg | shaft<br>kg/m |                |
|                      |                 | 6                                | 0/-12                            | 1.5                | 2.4                            | 1.22                    | 2.28                   |   |  | 5.1       | 40            |                |
| 8                    | 0               | 2.1                              | 3.7                              | 1.45               | 2.87                           | 7.4                     | 50                     | 1.9 × 10 <sup>2</sup>                                       | 4.76 × 10                                      | 0.042     | 0.38          | <b>SSPF 8</b>  |
| 10                   | -15             | 4.4                              | 8.2                              | 2.73               | 5.07                           | 18.0                    | 116                    | 4.61 × 10 <sup>2</sup>                                      | 9.22 × 10                                      | 0.094     | 0.6           | <b>SSPF10</b>  |
| 13                   | 0               | 21                               | 39.2                             | 2.67               | 4.89                           | 13.7                    | 109                    | 1.38 × 10 <sup>3</sup>                                      | 2.13 × 10 <sup>2</sup>                         | 0.1       | 1             | <b>SSPF13A</b> |
| 16                   | -18             | 60                               | 110                              | 6.12               | 11.2                           | 46                      | 299                    | 2.98 × 10 <sup>3</sup>                                      | 3.73 × 10 <sup>2</sup>                         | 0.2       | 1.5           | <b>SSPF16A</b> |
| 20                   | 0<br>-21        | 105                              | 194                              | 8.9                | 16.3                           | 110                     | 560                    | 7.35 × 10 <sup>3</sup>                                      | 7.34 × 10 <sup>2</sup>                         | 0.33      | 2.4           | <b>SSPF20A</b> |
| 18.2                 |                 | 83                               | 133                              | 7.84               | 11.3                           | 63                      | 500                    | 5.05 × 10 <sup>3</sup>                                      | 5.54 × 10 <sup>2</sup>                         | 0.22      | 2             | <b>SSPF20</b>  |
| 25                   |                 | 189                              | 346                              | 12.8               | 23.4                           | 171                     | 1,029                  | 1.79 × 10 <sup>4</sup>                                      | 1.43 × 10 <sup>3</sup>                         | 0.45      | 3.7           | <b>SSPF25A</b> |
| 23                   |                 | 162                              | 239                              | 12.3               | 16.1                           | 104                     | 830                    | 1.27 × 10 <sup>4</sup>                                      | 1.11 × 10 <sup>3</sup>                         | 0.32      | 3.1           | <b>SSPF25</b>  |
| 28                   |                 | 289                              | 412                              | 18.6               | 23.2                           | 181                     | 1,470                  | 2.75 × 10 <sup>4</sup>                                      | 1.96 × 10 <sup>3</sup>                         | 0.51      | 4.8           | <b>SSPF30</b>  |
| 37.4                 | 0               | 637                              | 882                              | 30.8               | 37.5                           | 358                     | 2,940                  | 8.73 × 10 <sup>4</sup>                                      | 4.67 × 10 <sup>3</sup>                         | 1.15      | 8.6           | <b>SSPF40</b>  |
| 47                   | -25             | 1,390                            | 3,180                            | 46.1               | 74.2                           | 696                     | 4,400                  | 2.16 × 10 <sup>5</sup>                                      | 9.21 × 10 <sup>3</sup>                         | 2.1       | 13.1          | <b>SSPF50</b>  |
| 56.5                 | 0/-30           | 2,100                            | 4,800                            | 58.0               | 127                            | 1,300                   | 8,800                  | 4.51 × 10 <sup>5</sup>                                      | 1.60 × 10 <sup>4</sup>                         | 3.3       | 19            | <b>SSPF60</b>  |

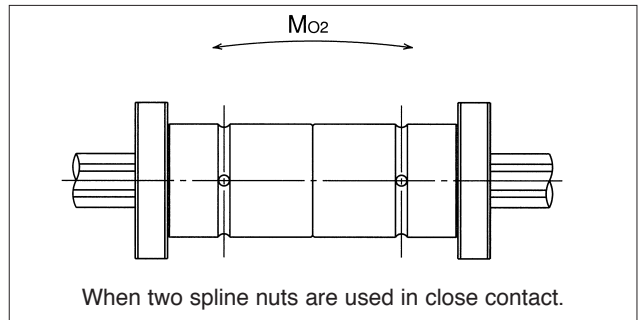
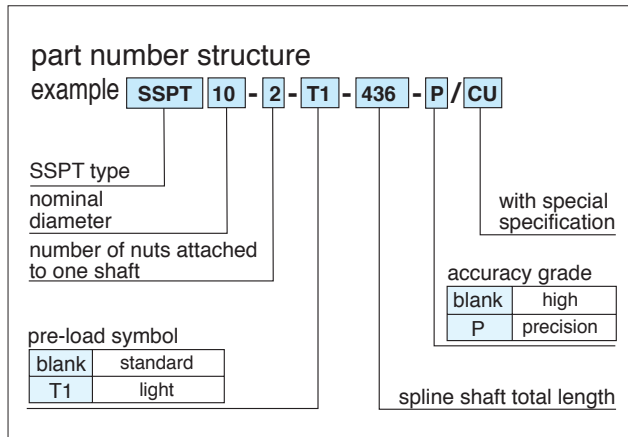
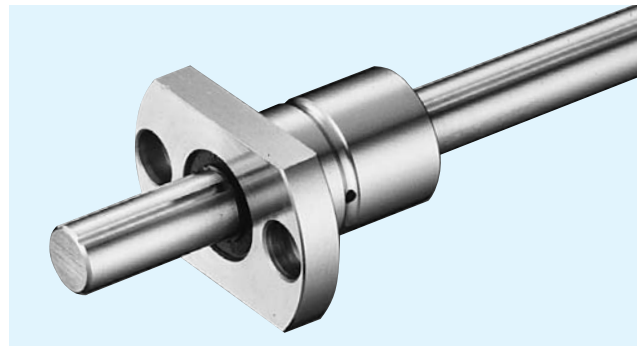
1kN ≅ 102kgf    1N·m ≅ 0.102kgf·m



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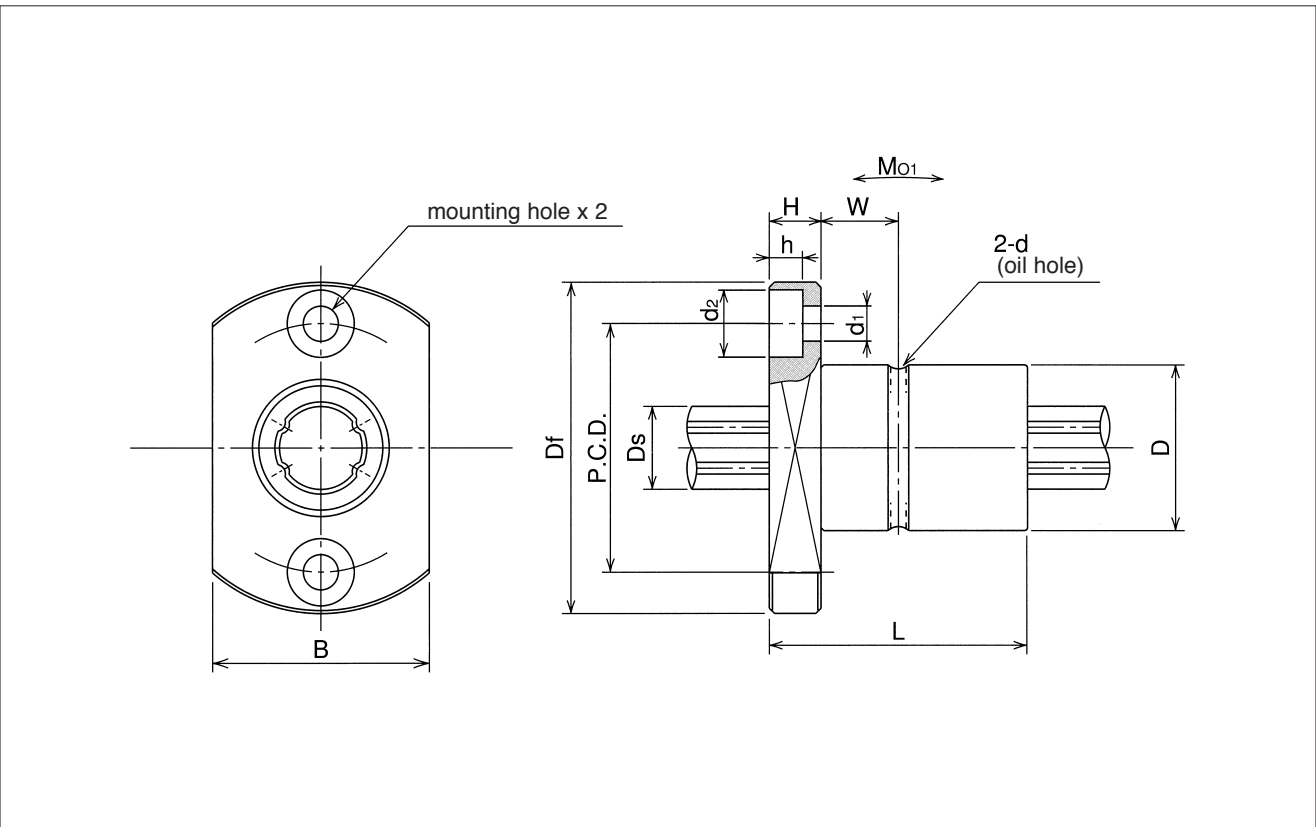
# SSPT TYPE

– Two Side Cut Flange Type –



| part number   | major dimensions |                 |    |                 |    |    |   |        |                                     |      |     |
|---------------|------------------|-----------------|----|-----------------|----|----|---|--------|-------------------------------------|------|-----|
|               | D                |                 | L  |                 | Df | B  | H | P.C.D. | d <sub>1</sub> × d <sub>2</sub> × h | W    | d   |
|               | mm               | tolerance<br>μm | mm | tolerance<br>mm |    |    |   |        |                                     |      |     |
| <b>SSPT 6</b> | 14               | 0               | 25 | 0<br>-0.2       | 30 | 18 | 5 | 22     | 3.4 × 6.5 × 3.3                     | 7.5  | 1   |
| <b>SSPT 8</b> | 16               | -11             | 25 |                 | 32 | 21 | 5 | 24     | 3.4 × 6.5 × 3.3                     | 7.5  | 1.5 |
| <b>SSPT10</b> | 21               | 0/-13           | 33 |                 | 42 | 25 | 6 | 32     | 4.5 × 8 × 4.4                       | 10.5 | 1.5 |





| Ds |                 | basic torque rating   |                        | basic load rating |                      | allowable static moment |                        | second cross-sectional moment of inertia | cross-sectional coefficient | mass  |       | part number   |
|----|-----------------|-----------------------|------------------------|-------------------|----------------------|-------------------------|------------------------|--|-----------------------------|-------|-------|---------------|
|    |                 | dynamic               | static                 | dynamic           | static               | M01                     | M02                    |  |                             | nut   | shaft |               |
| mm | tolerance<br>μm | C <sub>T</sub><br>N·m | C <sub>OT</sub><br>N·m | C<br>kN           | C <sub>o</sub><br>kN | M <sub>01</sub><br>N·m  | M <sub>02</sub><br>N·m | mm <sup>4</sup>                          | mm <sup>3</sup>             | kg    | kg/m  |               |
| 6  | 0/-12           | 1.5                   | 2.4                    | 1.22              | 2.28                 | 5.1                     | 40                     | 5.9 × 10                                 | 1.97 × 10                   | 0.029 | 0.21  | <b>SSPT 6</b> |
| 8  | 0               | 2.1                   | 3.7                    | 1.45              | 2.87                 | 7.4                     | 50                     | 1.9 × 10 <sup>2</sup>                    | 4.76 × 10                   | 0.035 | 0.38  | <b>SSPT 8</b> |
| 10 | -15             | 4.4                   | 8.2                    | 2.73              | 5.07                 | 18.0                    | 116                    | 4.61 × 10 <sup>2</sup>                   | 9.22 × 10                   | 0.075 | 0.6   | <b>SSPT10</b> |

1kN ≅ 102kgf    1N·m ≅ 0.102kgf·m

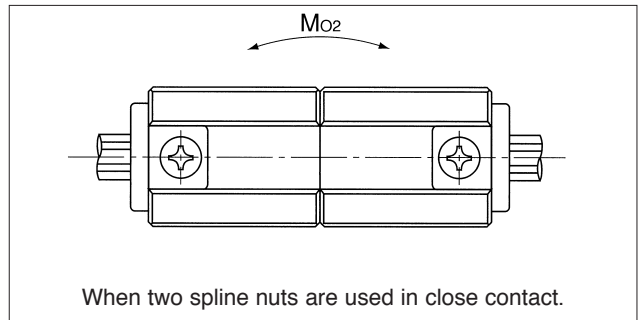
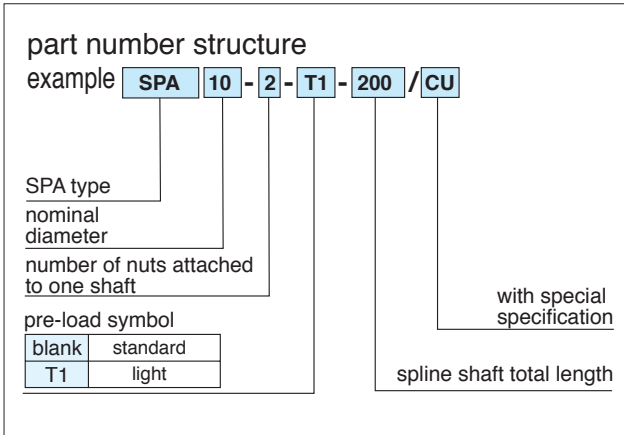
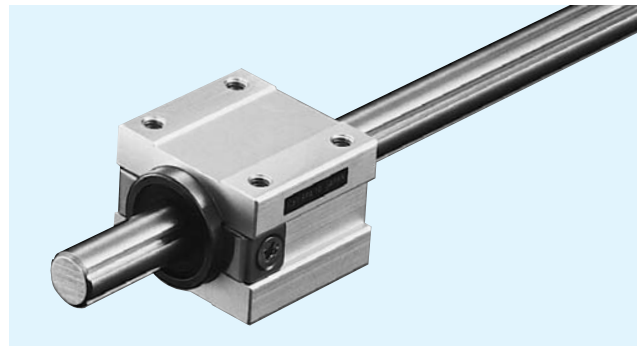


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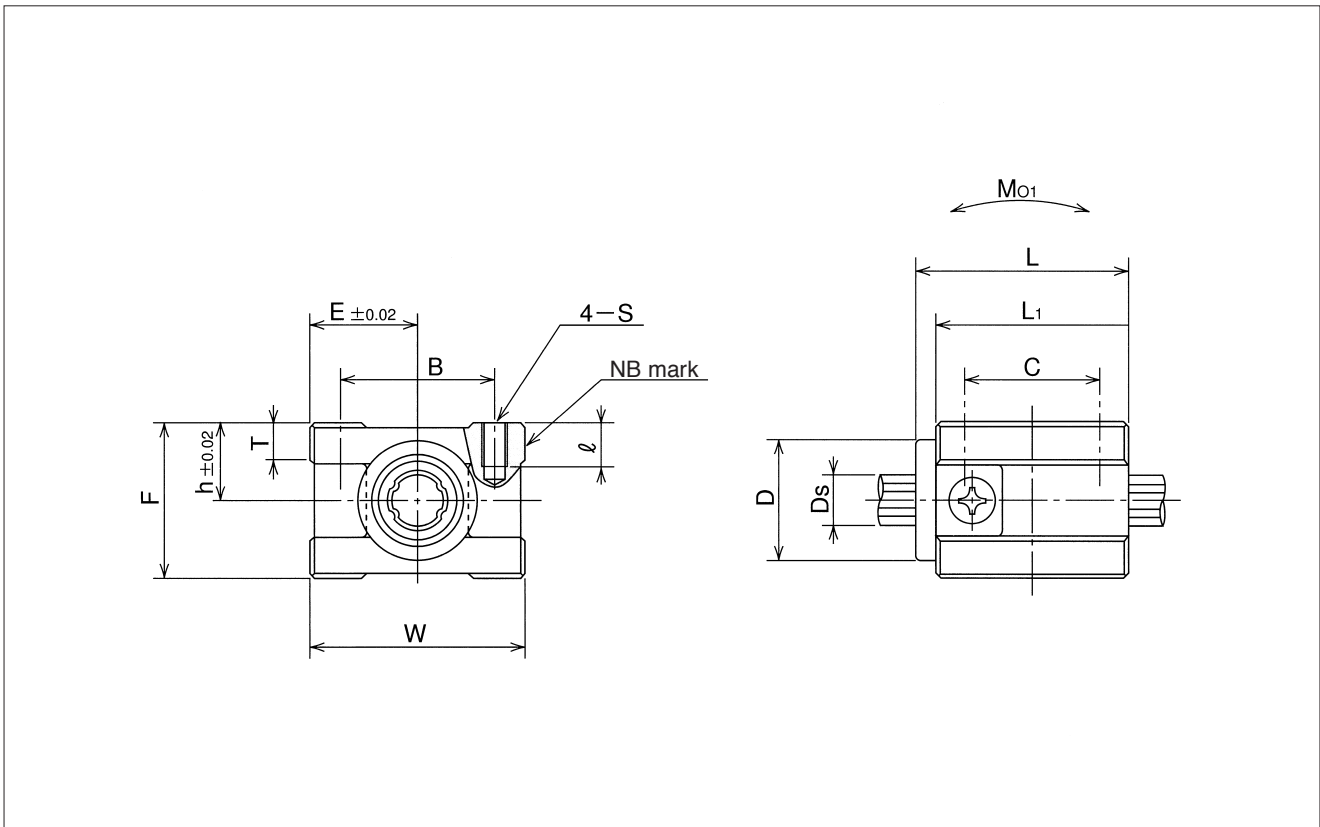
# SPA TYPE

## – Keyless Block Type –



| part number  | major dimensions |      |    |    |    |                |     |    |    |    |    |    |
|--------------|------------------|------|----|----|----|----------------|-----|----|----|----|----|----|
|              | h                | E    | W  | L  | F  | L <sub>1</sub> | T   | B  | C  | S  | ℓ  | D  |
|              | mm               | mm   | mm | mm | mm | mm             | mm  | mm | mm |    | mm | mm |
| <b>SPA 6</b> | 9                | 12.5 | 25 | 25 | 18 | 22.5           | 4.2 | 18 | 16 | M3 | 5  | 14 |
| <b>SPA 8</b> | 10               | 14   | 28 | 25 | 20 | 22             | 5   | 20 | 16 | M3 | 5  | 16 |
| <b>SPA10</b> | 12.5             | 16.5 | 33 | 33 | 25 | 30             | 7.5 | 25 | 20 | M4 | 6  | 21 |





| Ds<br>mm | tolerance<br>μm | basic torque rating     |                          | basic load rating |                      | allowable static moment |                 | second cross-sectional moment of inertia<br>mm <sup>4</sup> | cross-sectional coefficient<br>mm <sup>3</sup> | mass  |       | part number  |
|----------|-----------------|-------------------------|--------------------------|-------------------|----------------------|-------------------------|-----------------|---|--|-------|-------|--------------|
|          |                 | dynamic                 | static                   | dynamic           | static               | M <sub>01</sub>         | M <sub>02</sub> |   |  | nut   | shaft |              |
|          |                 | C <sub>T</sub><br>N · m | C <sub>0T</sub><br>N · m | C<br>kN           | C <sub>0</sub><br>kN | N · m                   | N · m           |   |  | kg    | kg/m  |              |
| 6        | 0/-12           | 1.5                     | 2.4                      | 1.22              | 2.28                 | 5.1                     | 40              | 5.9 × 10  | 1.97 × 10                                      | 0.035 | 0.21  | <b>SPA 6</b> |
| 8        | 0               | 2.1                     | 3.7                      | 1.45              | 2.87                 | 7.4                     | 50              | 1.9 × 10 <sup>2</sup>                                       | 4.76 × 10                                      | 0.042 | 0.38  | <b>SPA 8</b> |
| 10       | -15             | 4.4                     | 8.2                      | 2.73              | 5.07                 | 18                      | 116             | 4.61 × 10 <sup>2</sup>                                      | 9.22 × 10                                      | 0.088 | 0.6   | <b>SPA10</b> |

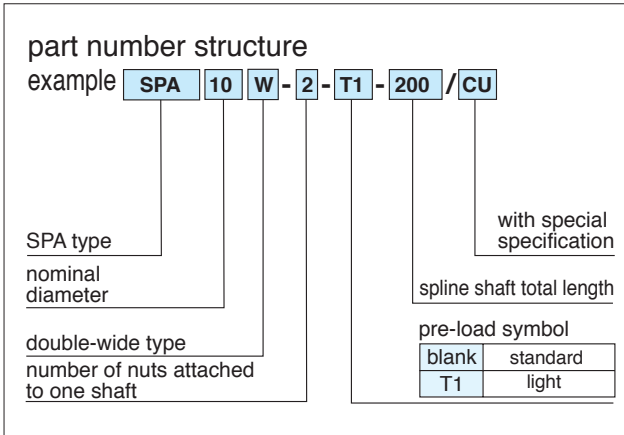
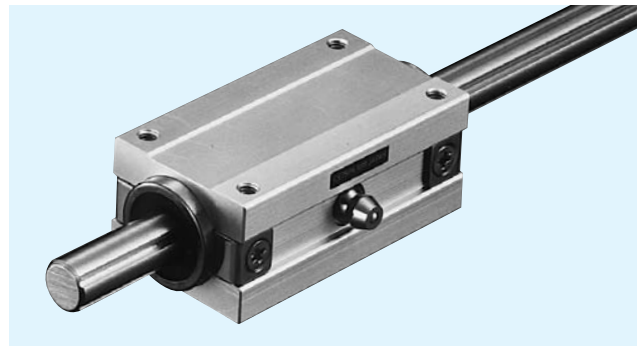
1kN ≅ 102kgf    1N · m ≅ 0.102kgf · m



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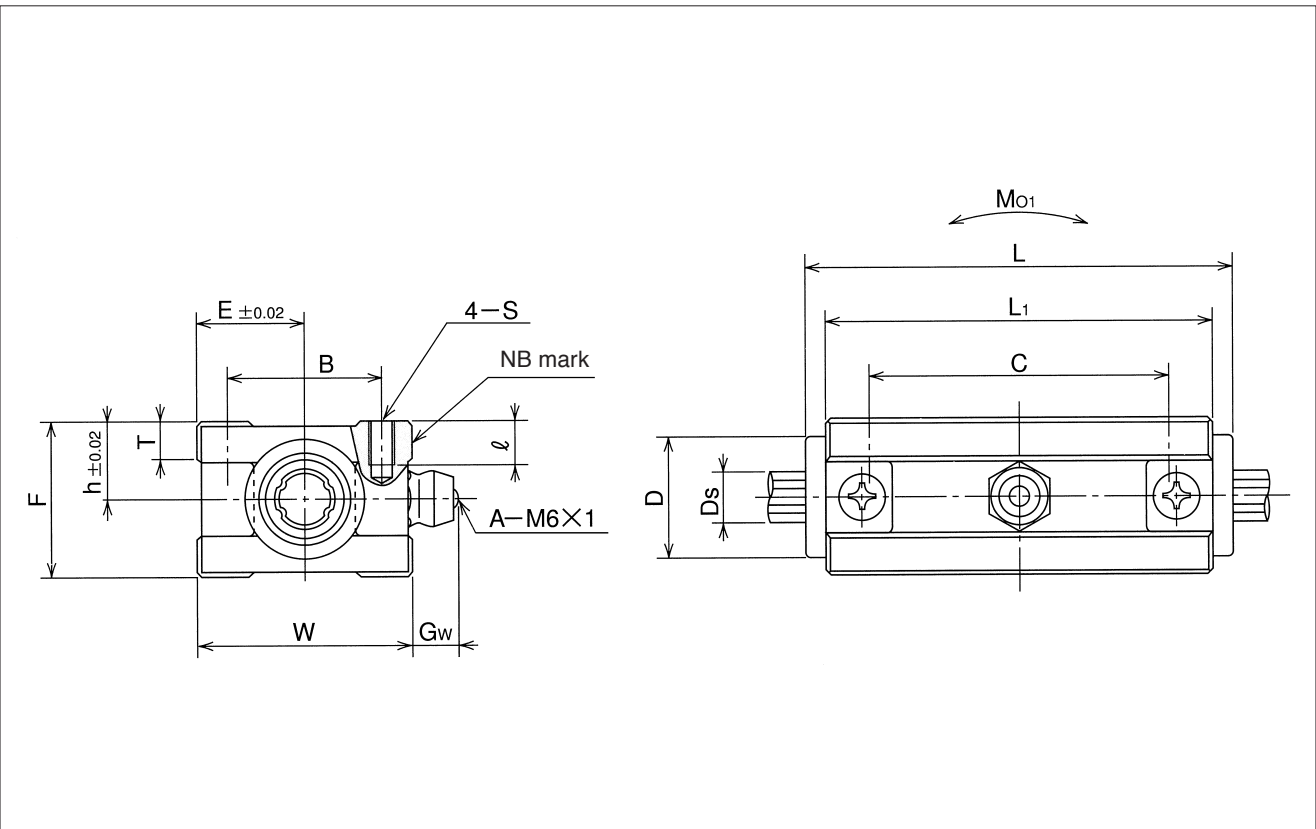
# SPA-W TYPE

— Keyless Block Double Type —



| part number   | major dimensions |      |    |    |    |                |     |     |    |    |    |    |
|---------------|------------------|------|----|----|----|----------------|-----|-----|----|----|----|----|
|               | h                | E    | W  | L  | F  | L <sub>1</sub> | T   | Gw  | B  | C  | S  | ℓ  |
|               | mm               | mm   | mm | mm | mm | mm             | mm  | mm  | mm | mm |    | mm |
| <b>SPA 6W</b> | 9                | 12.5 | 25 | 50 | 18 | 45             | 4.2 | 6.5 | 18 | 35 | M3 | 5  |
| <b>SPA 8W</b> | 10               | 14   | 28 | 50 | 20 | 44             | 5   |     | 20 | 34 | M3 | 5  |
| <b>SPA10W</b> | 12.5             | 16.5 | 33 | 66 | 25 | 60             | 7.5 |     | 25 | 50 | M4 | 6  |





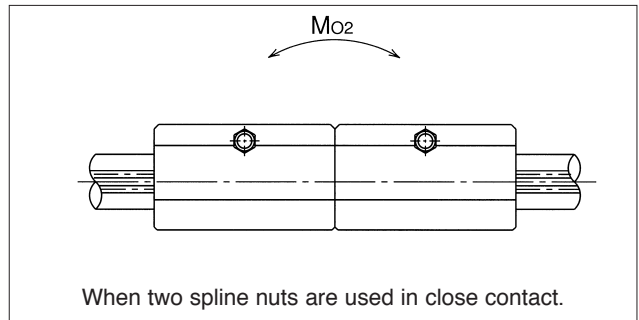
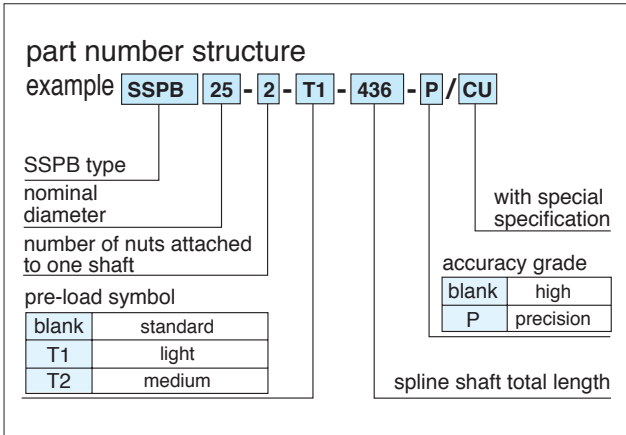
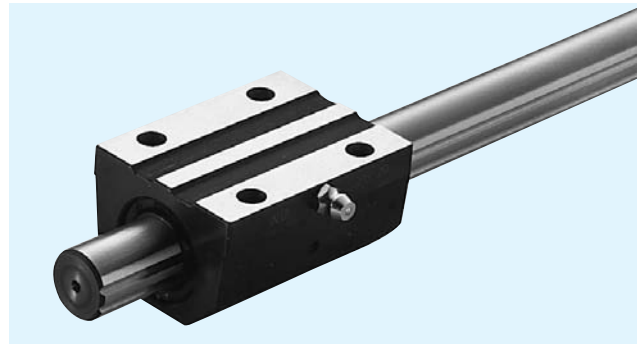
| D<br>mm | Ds<br>mm | tolerance<br>μm | basic torque rating    |                        | basic load rating  |                    | allowable<br>static<br>moment<br>Mo1<br>N · m | second<br>cross-<br>sectional<br>moment of<br>inertia<br>mm <sup>4</sup> | cross-<br>sectional<br>coefficient<br>mm <sup>3</sup> | mass      |               | part<br>number |
|---------|----------|-----------------|------------------------|------------------------|--------------------|--------------------|---|--|---|-----------|---------------|----------------|
|         |          |                 | dynamic<br>CT<br>N · m | static<br>COT<br>N · m | dynamic<br>C<br>kN | static<br>Co<br>kN |   |  |   | nut<br>kg | shaft<br>kg/m |                |
| 14      | 6        | 0/-12           | 3.0                    | 4.8                    | 1.98               | 4.56               | 40  | 5.9 × 10   | 1.97 × 10   | 0.072     | 0.21          | <b>SPA 6W</b>  |
| 16      | 8        | 0               | 4.2                    | 7.4                    | 2.35               | 5.78               | 50  | 1.9 × 10 <sup>2</sup>  | 4.76 × 10   | 0.085     | 0.38          | <b>SPA 8W</b>  |
| 21      | 10       | -15             | 8.8                    | 16.4                   | 4.42               | 10.14              | 116   | 4.61 × 10 <sup>2</sup>   | 9.22 × 10   | 0.179     | 0.60          | <b>SPA10W</b>  |

1kN ≅ 102kgf    1N · m ≅ 0.102kgf · m



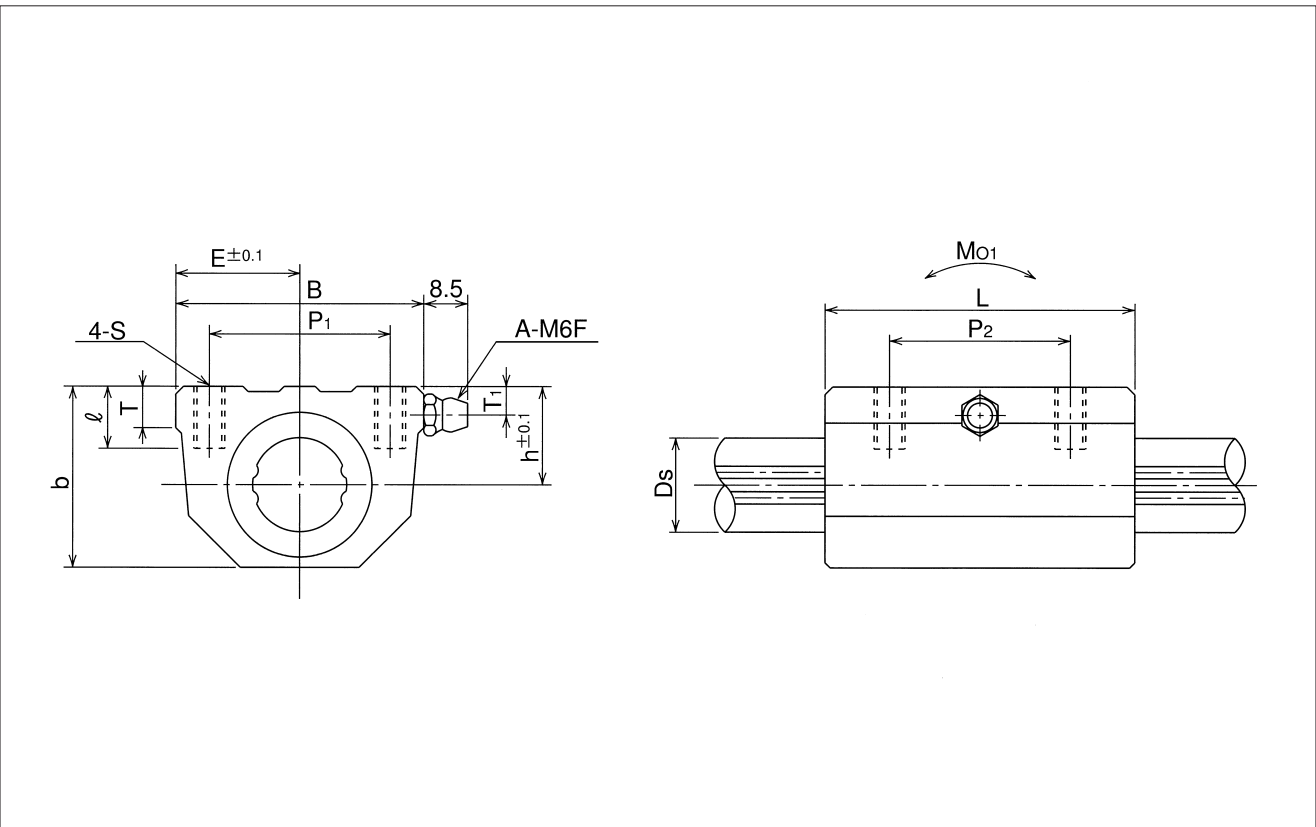
# SSPB TYPE

– Block Type –



| part number   | major dimensions |    |     |    |      |    |                |                |     |    |                |
|---------------|------------------|----|-----|----|------|----|----------------|----------------|-----|----|----------------|
|               | h                | B  | L   | E  | b    | T  | P <sub>1</sub> | P <sub>2</sub> | S   | ℓ  | T <sub>1</sub> |
|               | mm               | mm | mm  | mm | mm   | mm | mm             | mm             |     | mm | mm             |
| <b>SSPB20</b> | 19               | 48 | 60  | 24 | 35   | 8  | 35             | 35             | M6  | 12 | 5.5            |
| <b>SSPB25</b> | 22               | 60 | 70  | 30 | 41.5 | 10 | 40             | 40             | M8  | 12 | 6              |
| <b>SSPB30</b> | 26               | 70 | 80  | 35 | 50   | 12 | 50             | 50             | M8  | 12 | 7              |
| <b>SSPB40</b> | 32               | 86 | 100 | 43 | 63   | 15 | 60             | 60             | M10 | 15 | 8              |





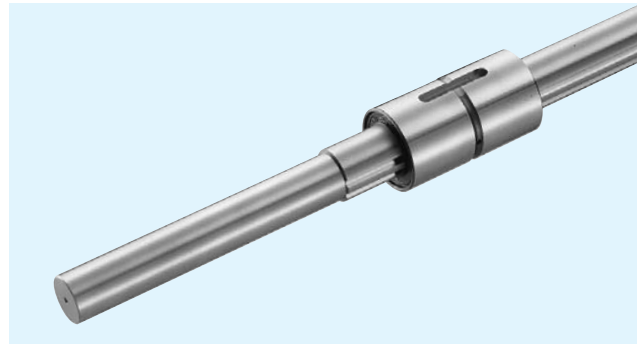
| Ds   |                 | basic torque rating |                 | basic load rating |                | allowable static moment |                 | second cross-sectional moment of inertia | cross-sectional coefficient | mass |       | part number   |
|------|-----------------|---------------------|-----------------|-------------------|----------------|-------------------------|-----------------|--|-----------------------------|------|-------|---------------|
|      |                 | dynamic             | static          | dynamic           | static         | M <sub>01</sub>         | M <sub>02</sub> |  |                             | nut  | shaft |               |
|      |                 | C <sub>T</sub>      | C <sub>0T</sub> | C                 | C <sub>0</sub> |                         |                 |  |                             |      |       |               |
| mm   | tolerance<br>μm | N·m                 | N·m             | kN                | kN             | N·m                     | N·m             | mm <sup>4</sup>                          | mm <sup>3</sup>             |      |       |               |
| 18.2 | 0<br>-21        | 83                  | 133             | 7.84              | 11.3           | 63                      | 500             | 5.05 × 10 <sup>3</sup>                   | 5.54 × 10 <sup>2</sup>      | 0.55 | 2.0   | <b>SSPB20</b> |
| 23   |                 | 162                 | 239             | 12.3              | 16.1           | 104                     | 830             | 1.27 × 10 <sup>4</sup>                   | 1.11 × 10 <sup>3</sup>      | 0.9  | 3.1   | <b>SSPB25</b> |
| 28   |                 | 289                 | 412             | 18.6              | 23.2           | 181                     | 1,470           | 2.75 × 10 <sup>4</sup>                   | 1.96 × 10 <sup>3</sup>      | 1.4  | 4.8   | <b>SSPB30</b> |
| 37.4 | 0/-25           | 637                 | 882             | 30.8              | 37.5           | 358                     | 2,940           | 8.73 × 10 <sup>4</sup>                   | 4.67 × 10 <sup>3</sup>      | 2.5  | 8.6   | <b>SSPB40</b> |

1kN ≅ 102kgf    1N · m ≅ 0.102kgf · m



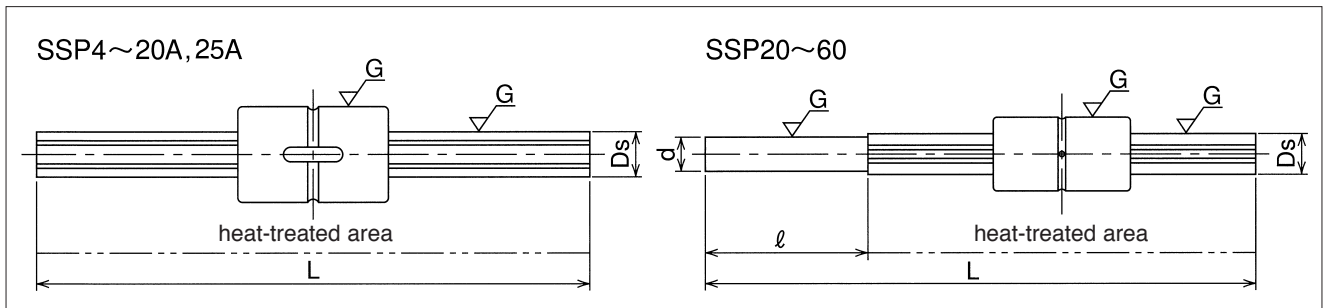
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# STANDARD BALL SPLINE



part number structure example **SPA 10 W S - 2 - T1 - 400**

|                               |                                      |
|-------------------------------|--------------------------------------|
| nut shape                     | standard length L                    |
| SSP cylindrical type          | pre-load symbol                      |
| SSPM key less type            |                                      |
| SSPF flange type              | blank standard                       |
| SSPT two side cut flange type | T1 light                             |
| SPA aluminum block type       | T2 medium                            |
| SSPB block type               | number of nuts attached to one shaft |
| nominal diameter              | standard spline shaft                |
|                               | double-wide type                     |



| nominal diameter | major dimensions |                 |     |                 |     |                   | applicable nut |       |       |       |      |      |      |     |       |      |
|------------------|------------------|-----------------|-----|-----------------|-----|-------------------|----------------|-------|-------|-------|------|------|------|-----|-------|------|
|                  | Ds               |                 | d   |                 | l   | standard length L |                |       |       | SSP   | SSPM | SSPF | SSPT | SPA | SPA-W | SSPB |
|                  | mm               | tolerance<br>μm | mm  | tolerance<br>μm |     | mm                |                |       |       |       |      |      |      |     |       |      |
| 4                | 4                | 0               | -   | -               | -   | 100               | 150            | 200   | 300   | -     | ○    | -    | -    | -   | -     | -    |
| 6                | 6                | -12             | -   | -               | -   | 150               | 200            | 300   | 400   | -     | ○    | ○    | ○    | ○   | ○     | -    |
| 8                | 8                | 0               | -   | -               | -   | 150               | 200            | 300   | 400   | 500   | ○    | ○    | ○    | ○   | ○     | -    |
| 10               | 10               | -15             | -   | -               | -   | 200               | 300            | 400   | 500   | 600   | ○    | ○    | ○    | ○   | ○     | -    |
| 13A              | 13               | 0               | -   | -               | -   | 200               | 300            | 400   | 500   | 600   | ○    | -    | ○    | -   | -     | -    |
| 16A              | 16               | -18             | -   | -               | -   | 200               | 300            | 400   | 500   | 600   | ○    | -    | ○    | -   | -     | -    |
| 20A              | 20               | 0               | -   | -               | -   | 300               | 400            | 500   | 800   | 1,000 | ○    | -    | ○    | -   | -     | -    |
| 20               | 18.2             |                 | 15  | 0/-18           | -   | 350               | 450            | 550   | 650   | -     | ○    | -    | ○    | -   | -     | ○    |
| 25A              | 25               | -21             | -   | -               | 150 | 300               | 400            | 500   | 800   | 1,000 | ○    | -    | ○    | -   | -     | -    |
| 25               | 23               |                 | 20  | 0               | 150 | 350               | 450            | 550   | 650   | 850   | ○    | -    | ○    | -   | -     | ○    |
| 30               | 28               | 25              | -21 |                 | 150 | 450               | 550            | 650   | 750   | 1,150 | ○    | -    | ○    | -   | -     | ○    |
| 40               | 37.4             | 30              |     | 0               | 150 | 550               | 750            | 950   | 1,150 | -     | ○    | -    | ○    | -   | -     | ○    |
| 50               | 47               | 40              | -25 |                 | 150 | 650               | 850            | 1,150 | 1,350 | -     | ○    | -    | ○    | -   | -     | -    |
| 60               | 56.5             | 45              |     | -25             | 150 | 650               | 850            | 1,150 | 1,350 | -     | ○    | -    | ○    | -   | -     | -    |

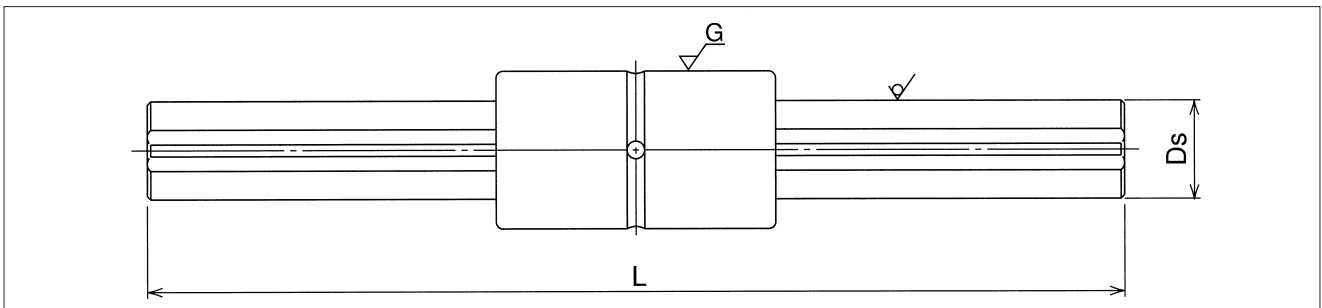
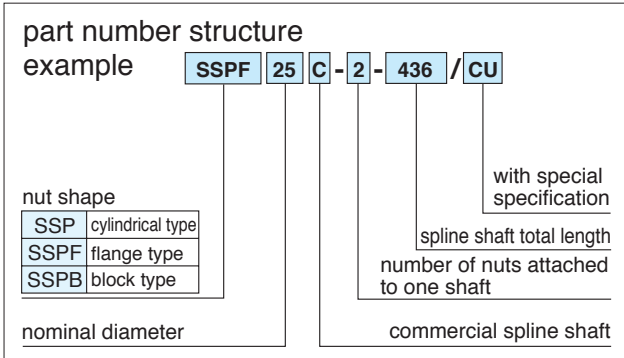
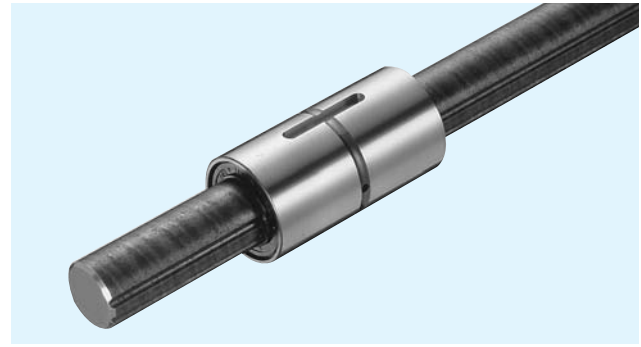
Tolerance of length L for nominal diameter sizes 4-16A: JIS B0405 coarse grade.

○ yes - no

Refer to dimensional tables for nut shape and dimensions.



## COMMERCIAL BALL SPLINE



| nominal diameter | major dimensions |                            |       |       |       |       |       | applicable nut        |      |                       |      |     |       |                       |
|------------------|------------------|----------------------------|-------|-------|-------|-------|-------|-----------------------|------|-----------------------|------|-----|-------|-----------------------|
|                  | Ds<br>mm         | standard length<br>L<br>mm |       |       |       |       |       | SSP                   | SSPM | SSPF                  | SSPT | SPA | SPA-W | SSPB                  |
|                  |                  | 500                        | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 |                       |      |                       |      |     |       |                       |
| 20               | 18.2             | 500                        | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | <input type="radio"/> | -    | <input type="radio"/> | -    | -   | -     | <input type="radio"/> |
| 25               | 23               | 500                        | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | <input type="radio"/> | -    | <input type="radio"/> | -    | -   | -     | <input type="radio"/> |
| 30               | 28               | 500                        | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | <input type="radio"/> | -    | <input type="radio"/> | -    | -   | -     | <input type="radio"/> |
| 40               | 37.4             | 500                        | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | <input type="radio"/> | -    | <input type="radio"/> | -    | -   | -     | <input type="radio"/> |
| 50               | 47               | 500                        | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | <input type="radio"/> | -    | <input type="radio"/> | -    | -   | -     | -                     |

- tolerance of total length and length of splined portion  yes - no
  - total length less than 4000: JIS B0405 coarse grade
  - total length greater than 4,000: +/- 5.0mm
- Please specify for tolerances other than those above.
- Refer to dimensional tables for nut shape and dimensions
- When a commercial shaft is used, the rated load for the nut is about 70% that indicated in the dimensional tables.