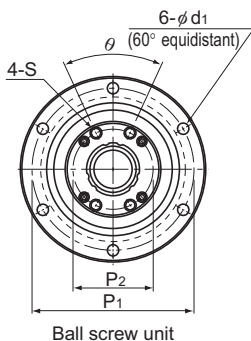


# NS Heavy Load Type: Linear Motion No Preload

|          |        |
|----------|--------|
| DN value | 70,000 |
|----------|--------|



Ball screw unit

| Model No. | Screw shaft outer diameter<br>d | Screw shaft inner diameter<br>db | Lead<br>Ph | Ball screw dimensions |                       |                                      |                             |                                    |                                   |                                  |                      |
|-----------|---------------------------------|----------------------------------|------------|-----------------------|-----------------------|--------------------------------------|-----------------------------|------------------------------------|-----------------------------------|----------------------------------|----------------------|
|           |                                 |                                  |            | Basic load rating     |                       | Ball center-to-center diameter<br>dp | Thread minor diameter<br>dc | Outer diameter<br>D                | Flange diameter<br>D <sub>f</sub> | Overall length<br>L <sub>1</sub> | D <sub>3</sub><br>h7 |
|           |                                 |                                  |            | Ca<br>kN              | C <sub>0a</sub><br>kN |                                      |                             |                                    |                                   |                                  |                      |
| NS 1616   | 16                              | 11                               | 16         | 3.9                   | 7.2                   | 16.65                                | 13.7                        | 52 <sup>0</sup> <sub>-0.007</sub>  | 68                                | 43.5                             | 40                   |
| NS 2020   | 20                              | 14                               | 20         | 6.1                   | 12.3                  | 20.75                                | 17.5                        | 62 <sup>0</sup> <sub>-0.007</sub>  | 78                                | 54                               | 50                   |
| NS 2525   | 25                              | 18                               | 25         | 9.1                   | 19.3                  | 26                                   | 21.9                        | 72 <sup>0</sup> <sub>-0.007</sub>  | 92                                | 65                               | 58                   |
| NS 3232   | 32                              | 23                               | 32         | 13                    | 29.8                  | 33.25                                | 28.3                        | 80 <sup>0</sup> <sub>-0.007</sub>  | 105                               | 80                               | 66                   |
| NS 4040   | 40                              | 29                               | 40         | 21.4                  | 49.7                  | 41.75                                | 35.2                        | 110 <sup>0</sup> <sub>-0.008</sub> | 140                               | 98                               | 90                   |
| NS 5050   | 50                              | 36                               | 50         | 31.8                  | 77.6                  | 52.2                                 | 44.1                        | 120 <sup>0</sup> <sub>-0.008</sub> | 156                               | 126                              | 100                  |

Ball spline

| Model No. | Ball spline dimensions |                      |                                                    |                       |                        |                                   |
|-----------|------------------------|----------------------|----------------------------------------------------|-----------------------|------------------------|-----------------------------------|
|           | Basic load rating      |                      | Static permissible moment<br>M <sub>k</sub><br>N·m | Basic torque rating   |                        | Outer diameter<br>D <sub>7</sub>  |
|           | C<br>kN                | C <sub>0</sub><br>kN |                                                    | C <sub>T</sub><br>N·m | C <sub>0T</sub><br>N·m |                                   |
| NS 1616   | 7.1                    | 12.6                 | 67.6                                               | 31.4                  | 34.3                   | 31 <sup>0</sup> <sub>-0.013</sub> |
| NS 2020   | 10.2                   | 17.8                 | 118                                                | 56.9                  | 55.9                   | 35 <sup>0</sup> <sub>-0.016</sub> |
| NS 2525   | 15.2                   | 25.8                 | 210                                                | 105                   | 103                    | 42 <sup>0</sup> <sub>-0.016</sub> |
| NS 3232   | 20.5                   | 34                   | 290                                                | 180                   | 157                    | 49 <sup>0</sup> <sub>-0.016</sub> |
| NS 4040   | 37.8                   | 60.5                 | 687                                                | 419                   | 377                    | 64 <sup>0</sup> <sub>-0.019</sub> |
| NS 5050   | 60.9                   | 94.5                 | 1,340                                              | 842                   | 769                    | 80 <sup>0</sup> <sub>-0.019</sub> |

Notes: For K hollow shaft, please refer to the db dimension for the inner bore diameter of the shaft.

A solid shaft is also available upon request. See "Ball Spline" **A3-120** for details.

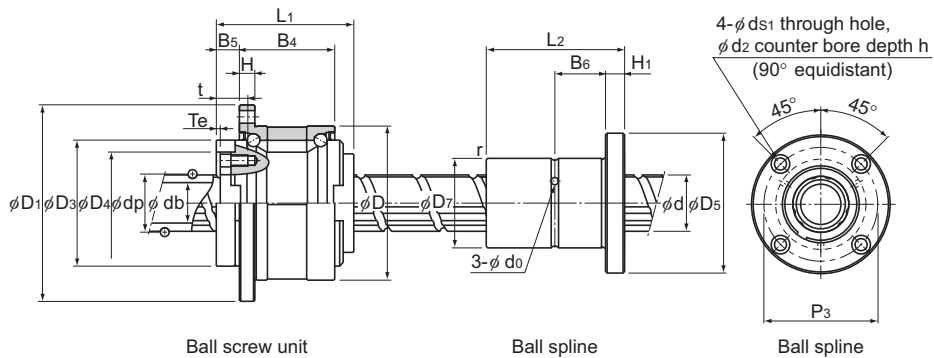
## Model number coding

**NS2525 +600L C5**

Model number    Overall shaft length (in mm)    Accuracy symbol<sup>1</sup>

<sup>1</sup> See **A15-12**.

# Rotary Nut Ball Screw



Unit: mm

|  | D <sub>4</sub> | H  | B <sub>4</sub> | B <sub>5</sub> | Te | P <sub>1</sub> | P <sub>2</sub> | S   | t  | d <sub>1</sub> | θ° | Support bearing basic load rating |                | Nut inertial moment     | Screw shaft inertial moment | Nut mass | Shaft mass | Permissible rotational speed |
|--|----------------|----|----------------|----------------|----|----------------|----------------|-----|----|----------------|----|-----------------------------------|----------------|-------------------------|-----------------------------|----------|------------|------------------------------|
|  |                |    |                |                |    |                |                |     |    |                |    | Ca                                | C <sub>a</sub> |                         |                             |          |            |                              |
|  | H7             | H  | B <sub>4</sub> | B <sub>5</sub> | Te | P <sub>1</sub> | P <sub>2</sub> | S   | t  | d <sub>1</sub> | θ° | kN                                | kN             | kg·m <sup>2</sup>       | kg·m <sup>2</sup> /mm       | kg       | kg/m       | min <sup>-1</sup>            |
|  | 32             | 5  | 27.5           | 9              | 2  | 60             | 25             | M4  | 12 | 4.5            | 40 | 19.4                              | 19.2           | 4.80 × 10 <sup>-5</sup> | 3.92 × 10 <sup>-8</sup>     | 0.38     | 0.8        | 4,200                        |
|  | 39             | 6  | 34             | 11             | 2  | 70             | 31             | M5  | 16 | 4.5            | 40 | 26.8                              | 29.3           | 1.44 × 10 <sup>-4</sup> | 9.37 × 10 <sup>-8</sup>     | 0.68     | 1.21       | 3,370                        |
|  | 47             | 8  | 43             | 12.5           | 3  | 81             | 38             | M6  | 19 | 5.5            | 40 | 28.2                              | 33.3           | 3.23 × 10 <sup>-4</sup> | 2.20 × 10 <sup>-7</sup>     | 1.1      | 1.79       | 2,690                        |
|  | 58             | 9  | 55             | 14             | 3  | 91             | 48             | M6  | 19 | 6.6            | 40 | 30                                | 39             | 6.74 × 10 <sup>-4</sup> | 5.92 × 10 <sup>-7</sup>     | 1.74     | 2.96       | 2,100                        |
|  | 73             | 11 | 68             | 16.5           | 3  | 123            | 61             | M8  | 22 | 9              | 50 | 59.3                              | 74.1           | 2.79 × 10 <sup>-3</sup> | 1.43 × 10 <sup>-6</sup>     | 3.95     | 4.51       | 1,670                        |
|  | 90             | 12 | 80             | 25             | 4  | 136            | 75             | M10 | 28 | 11             | 50 | 62.2                              | 83             | 5.82 × 10 <sup>-3</sup> | 3.52 × 10 <sup>-6</sup>     | 6.22     | 7.16       | 1,340                        |

Unit: mm

|  | Flange diameter | Overall length                   | H <sub>1</sub> | B <sub>6</sub> | r   | Lubrication hole | P <sub>3</sub> | Mounting hole   |                |     | Nut mass |
|--|-----------------|----------------------------------|----------------|----------------|-----|------------------|----------------|-----------------|----------------|-----|----------|
|  |                 |                                  |                |                |     |                  |                | ds <sub>1</sub> | d <sub>2</sub> | h   |          |
|  | D <sub>5</sub>  | L <sub>2</sub>                   | H <sub>1</sub> | B <sub>6</sub> | r   | d <sub>0</sub>   | P <sub>3</sub> | ds <sub>1</sub> | d <sub>2</sub> | h   | kg       |
|  | 51              | 50 <sup>0</sup> <sub>-0.2</sub>  | 7              | 18             | 0.5 | 2                | 40             | 4.5             | 8              | 4.4 | 0.23     |
|  | 58              | 63 <sup>0</sup> <sub>-0.2</sub>  | 9              | 22.5           | 0.5 | 2                | 45             | 5.5             | 9.5            | 5.4 | 0.33     |
|  | 65              | 71 <sup>0</sup> <sub>-0.3</sub>  | 9              | 26.5           | 0.5 | 3                | 52             | 5.5             | 9.5            | 5.4 | 0.45     |
|  | 77              | 80 <sup>0</sup> <sub>-0.3</sub>  | 10             | 30             | 0.5 | 3                | 62             | 6.6             | 11             | 6.5 | 0.58     |
|  | 100             | 100 <sup>0</sup> <sub>-0.3</sub> | 14             | 36             | 0.5 | 4                | 82             | 9               | 14             | 8.6 | 1.46     |
|  | 124             | 125 <sup>0</sup> <sub>-0.3</sub> | 16             | 46.5           | 1   | 4                | 102            | 11              | 17.5           | 11  | 2.76     |

