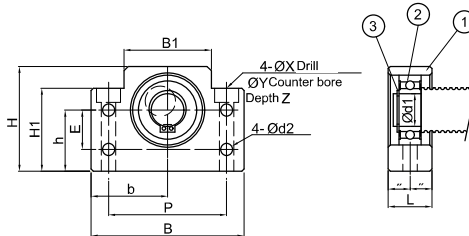
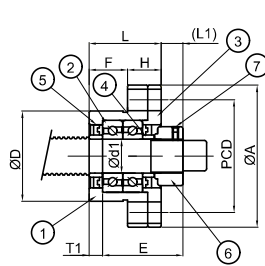


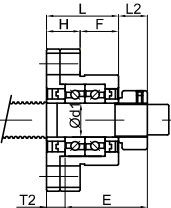
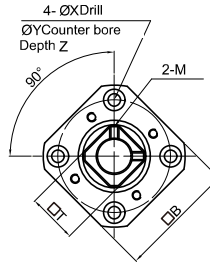
| Specification | Main dimensions (mm) |    |    |      |    |     |     |               |               |     |      |    |     |    |    |     |     |      |      |    | Weight (kg) |      |
|---------------|----------------------|----|----|------|----|-----|-----|---------------|---------------|-----|------|----|-----|----|----|-----|-----|------|------|----|-------------|------|
|               | d1                   | L  | L1 | L2   | L3 | B   | H   | b<br>(Note 1) | h<br>(Note 1) | B1  | H1   | E  | P   | C1 | C2 | d2  | X   | Y    | Z    | M  |             | T    |
| BK10          | 10                   | 25 | 5  | 29.5 | 5  | 60  | 39  | 30            | 22            | 34  | 32.5 | 15 | 46  | 13 | 6  | 5.5 | 6.6 | 10.8 | 5    | M3 | 16          | 0.4  |
| BK12          | 12                   | 25 | 5  | 29.5 | 5  | 60  | 43  | 30            | 25            | 34  | 32.5 | 18 | 46  | 13 | 6  | 5.5 | 6.6 | 10.8 | 1.5  | M4 | 19          | 0.45 |
| BK15          | 15                   | 27 | 6  | 32   | 6  | 70  | 48  | 35            | 28            | 40  | 38   | 18 | 54  | 15 | 6  | 5.5 | 6.6 | 11   | 6.5  | M4 | 22          | 0.6  |
| BK17          | 17                   | 35 | 9  | 44   | 7  | 86  | 64  | 43            | 39            | 50  | 55   | 28 | 68  | 19 | 8  | 6.6 | 9   | 14   | 8.5  | M4 | 24          | 1.3  |
| BK20          | 20                   | 35 | 8  | 43   | 8  | 88  | 60  | 44            | 34            | 52  | 50   | 22 | 70  | 19 | 8  | 6.6 | 9   | 14   | 8.5  | M4 | 30          | 1.3  |
| BK25          | 25                   | 42 | 12 | 54   | 9  | 106 | 80  | 53            | 48            | 64  | 70   | 33 | 85  | 22 | 10 | 9   | 11  | 17   | 11   | M6 | 35          | 2.4  |
| BK30          | 30                   | 45 | 14 | 61   | 9  | 128 | 89  | 64            | 51            | 76  | 78   | 33 | 102 | 23 | 11 | 11  | 14  | 20   | 13   | M6 | 40          | 3.4  |
| BK35          | 35                   | 50 | 14 | 67   | 12 | 140 | 96  | 70            | 52            | 88  | 79   | 35 | 114 | 26 | 12 | 11  | 14  | 20   | 13   | M6 | 50          | 4.4  |
| BK40          | 40                   | 61 | 18 | 76   | 15 | 160 | 110 | 80            | 60            | 100 | 90   | 37 | 130 | 33 | 14 | 14  | 18  | 26   | 17.5 | M6 | 50          | 6.8  |



| Specification | Main dimensions (mm) |    |     |     |               |               |     |      |    |     |     |     |      |      |         |           | Weight (kg) |
|---------------|----------------------|----|-----|-----|---------------|---------------|-----|------|----|-----|-----|-----|------|------|---------|-----------|-------------|
|               | d1                   | L  | B   | H   | b<br>(Note 1) | h<br>(Note 1) | B1  | H1   | E  | P   | d2  | X   | Y    | Z    | Bearing | Snap ring |             |
| BF10          | 8                    | 20 | 60  | 39  | 30            | 22            | 34  | 32.5 | 15 | 46  | 5.5 | 6.6 | 10.8 | 5    | 608ZZ   | S08       | 0.3         |
| BF12          | 10                   | 20 | 60  | 43  | 30            | 25            | 34  | 32.5 | 18 | 46  | 5.5 | 6.6 | 10.8 | 1.5  | 6000ZZ  | S10       | 0.35        |
| BF15          | 15                   | 20 | 70  | 48  | 35            | 28            | 40  | 38   | 18 | 54  | 5.5 | 6.6 | 11   | 6.5  | 6002ZZ  | S15       | 0.4         |
| BF17          | 17                   | 23 | 86  | 64  | 43            | 39            | 50  | 55   | 28 | 68  | 6.6 | 9   | 14   | 8.5  | 6203ZZ  | S17       | 0.75        |
| BF20          | 20                   | 26 | 88  | 60  | 44            | 34            | 52  | 50   | 22 | 70  | 6.6 | 9   | 14   | 8.5  | 6004ZZ  | S20       | 0.77        |
| BF20H         | 20                   | 26 | 88  | 74  | 44            | 48            | 52  | 64   | -  | 70  | -   | 9   | 14   | 8.5  | 6004ZZ  | S20       | 1.02        |
| BF25          | 25                   | 30 | 106 | 80  | 53            | 48            | 64  | 70   | 33 | 85  | 9   | 11  | 17   | 11   | 6205ZZ  | S25       | 1.45        |
| BF30          | 30                   | 32 | 128 | 89  | 64            | 51            | 76  | 78   | 33 | 102 | 11  | 14  | 20   | 13   | 6206ZZ  | S30       | 1.95        |
| BF35          | 35                   | 32 | 140 | 96  | 70            | 52            | 88  | 79   | 35 | 114 | 11  | 14  | 20   | 13   | 6207ZZ  | S35       | 2.25        |
| BF40          | 40                   | 37 | 160 | 110 | 80            | 60            | 100 | 90   | 37 | 130 | 14  | 18  | 26   | 17.5 | 6208ZZ  | S40       | 3.3         |



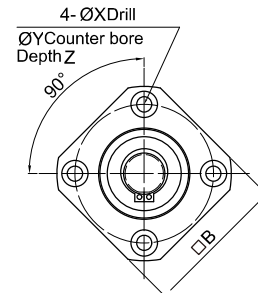
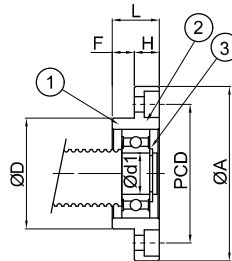
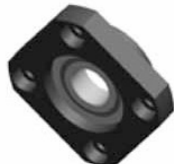
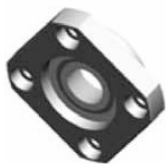
Mounting method A



Mounting method B

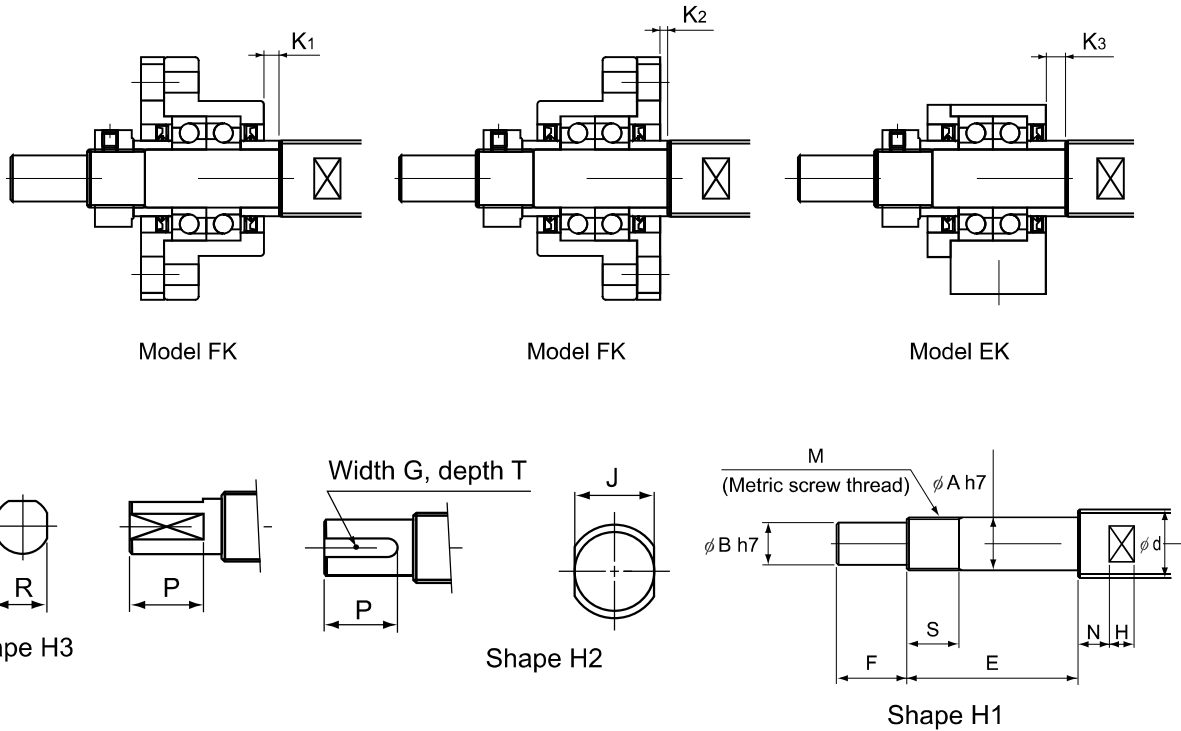
| Specification | Main dimensions (mm) |      |    |      |      |               |     |     |    |                   |     |                   |     |     |      |    |    |    |             |
|---------------|----------------------|------|----|------|------|---------------|-----|-----|----|-------------------|-----|-------------------|-----|-----|------|----|----|----|-------------|
|               | d1                   | L    | H  | F    | E    | D<br>(Note 1) | A   | PCD | B  | Mounting method A |     | Mounting method B |     | X   | Y    | Z  | M  | T  | Weight (kg) |
|               |                      |      |    |      |      |               |     |     |    | L1                | T1  | L2                | T2  |     |      |    |    |    |             |
| FK05          | 5                    | 16.5 | 6  | 10.5 | 18.5 | 20            | 34  | 26  | 26 | 5.5               | 3.5 | 5                 | 3   | 3.4 | 6.5  | 4  | M3 | 11 | 0.1         |
| FK06          | 6                    | 20   | 7  | 13   | 22   | 22            | 36  | 28  | 28 | 5.5               | 3.5 | 6.5               | 4.5 | 3.4 | 6.5  | 4  | M3 | 11 | 0.1         |
| FK08          | 8                    | 23   | 9  | 14   | 26   | 28            | 43  | 35  | 35 | 7                 | 4   | 8                 | 5   | 3.4 | 6.5  | 4  | M3 | 14 | 0.16        |
| FK10          | 10                   | 27   | 10 | 17   | 29.5 | 34            | 52  | 42  | 42 | 7.5               | 5   | 8.5               | 6   | 4.5 | 8    | 5  | M3 | 16 | 0.25        |
| FK12          | 12                   | 27   | 10 | 17   | 29.5 | 36            | 54  | 44  | 44 | 7.5               | 5   | 8.5               | 6   | 4.5 | 8    | 5  | M4 | 19 | 0.26        |
| FK15          | 15                   | 32   | 15 | 17   | 36   | 40            | 63  | 50  | 52 | 10                | 6   | 12                | 8   | 5.5 | 9.5  | 6  | M4 | 22 | 0.4         |
| FK17          | 17                   | 45   | 22 | 23   | 47   | 50            | 77  | 62  | 61 | 11                | 9   | 14                | 12  | 6.6 | 11   | 10 | M4 | 24 | 0.85        |
| FK20          | 20                   | 52   | 22 | 30   | 50   | 57            | 85  | 70  | 68 | 8                 | 10  | 12                | 14  | 6.6 | 11   | 10 | M4 | 30 | 1.2         |
| FK25          | 25                   | 57   | 27 | 30   | 60   | 63            | 98  | 80  | 79 | 13                | 10  | 20                | 17  | 9   | 15   | 13 | M6 | 35 | 1.6         |
| FK30          | 30                   | 62   | 30 | 32   | 61   | 75            | 117 | 95  | 93 | 11                | 12  | 17                | 18  | 11  | 17.5 | 15 | M6 | 40 | 2.38        |

**SUPPORT UNIT FF**



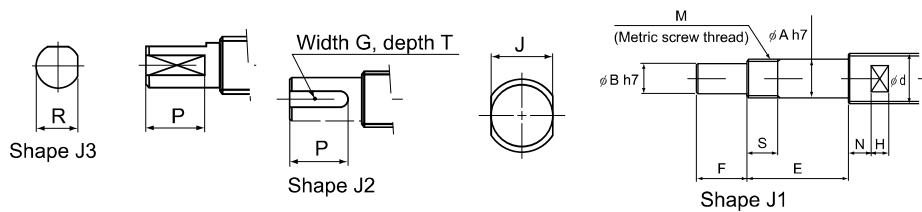
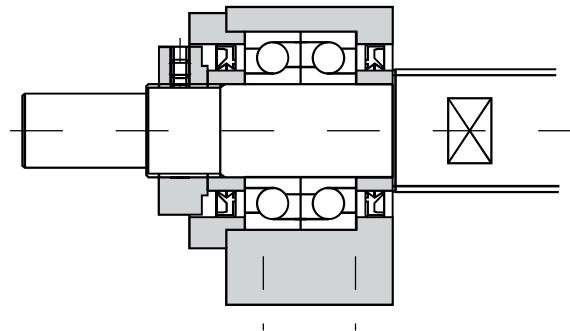
| Specification | Main dimensions (mm) |    |    |    |               |     |     |    |     |     |     |         |           |             |
|---------------|----------------------|----|----|----|---------------|-----|-----|----|-----|-----|-----|---------|-----------|-------------|
|               | d1                   | L  | H  | F  | D<br>(Note 1) | A   | PCD | B  | X   | Y   | Z   | Bearing | Snap ring | Weight (kg) |
| FF06          | 6                    | 10 | 6  | 4  | 22            | 36  | 28  | 28 | 3.4 | 6.5 | 4   | 606ZZ   | S06       | 0.08        |
| FF10          | 8                    | 12 | 7  | 5  | 28            | 43  | 35  | 35 | 3.4 | 6.5 | 4   | 608ZZ   | S08       | 0.1         |
| FF12          | 10                   | 15 | 7  | 8  | 34            | 52  | 42  | 42 | 4.5 | 8   | 4   | 6000ZZ  | S10       | 0.15        |
| FF15          | 15                   | 17 | 9  | 8  | 40            | 63  | 50  | 52 | 5.5 | 9.5 | 5.5 | 6002ZZ  | S15       | 0.22        |
| FF17          | 17                   | 20 | 11 | 9  | 50            | 77  | 62  | 61 | 6.6 | 11  | 6.5 | 6203ZZ  | S17       | 0.35        |
| FF20          | 20                   | 20 | 11 | 9  | 57            | 85  | 70  | 68 | 6.6 | 11  | 6.5 | 6204ZZ  | S20       | 0.45        |
| FF25          | 25                   | 24 | 14 | 10 | 63            | 98  | 80  | 79 | 9   | 14  | 8.5 | 6205ZZ  | S25       | 0.66        |
| FF30          | 30                   | 27 | 18 | 9  | 75            | 117 | 95  | 93 | 11  | 17  | 11  | 6206ZZ  | S30       | 1.05        |

### Recommended Shapes of Shaft Ends - Shape H (H1, H2, and H3) (For Support Unit Models FK and EK)



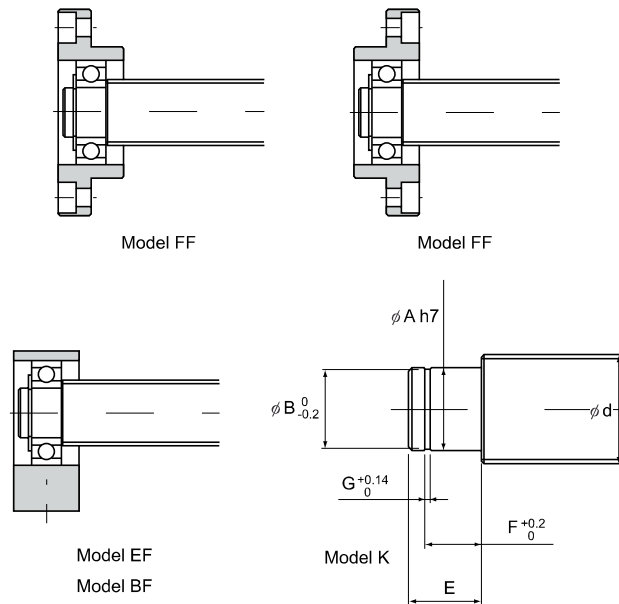
| Support Unit model No. |          | Ball screw shaft outer diameter | Shaft outer diameter of the bearing |    |    | Metric screw thread |         |    |    |    | Shape H2 Keyway |   |      | Shape H3 Cut flat on two side |      | Support Unit position |     |                |                |
|------------------------|----------|---------------------------------|-------------------------------------|----|----|---------------------|---------|----|----|----|-----------------|---|------|-------------------------------|------|-----------------------|-----|----------------|----------------|
| Model FK               | Model EK |                                 | d                                   | A  | B  | E                   | F       | M  | S  | J  | N               | H | G N9 | T +0.1 0                      | P    | R                     | P   | K <sub>1</sub> | K <sub>2</sub> |
| FK4                    | EK4      | 6                               | 4                                   | 3  | 23 | 5                   | M4×0.5  | 7  | 4  | 4  | 4               | — | —    | —                             | 2.7  | 4                     | 1.5 | 0.5            | 1.5            |
| FK5                    | EK5      | 8                               | 5                                   | 4  | 25 | 6                   | M5×0.5  | 7  | 5  | 4  | 4               | — | —    | —                             | 3.7  | 5                     | 2   | 0.5            | 2              |
| FK6                    | EK6      |                                 | 6                                   | 4  | 30 | 8                   | M6×0.75 | 8  | 5  | 4  | 4               | — | —    | —                             | 3.7  | 6                     | 3.5 | 0.5            | 3.5            |
| FK8                    | EK8      | 12                              | 8                                   | 6  | 35 | 9                   | M8×1    | 10 | 8  | 5  | 5               | — | —    | —                             | 5.6  | 7                     | 3.5 | 0.5            | 3.5            |
| FK10                   | EK10     | 14                              | 10                                  | 8  | 36 | 15                  | M10×1   | 11 | 10 | 5  | 7               | 2 | 1.2  | 11                            | 7.5  | 11                    | 0.5 | -0.5           | -0.5           |
| FK10                   | EK10     | 15                              | 10                                  | 8  | 36 | 15                  | M10×1   | 11 | 10 | 5  | 7               | 2 | 1.2  | 11                            | 7.5  | 11                    | 0.5 | -0.5           | -0.5           |
| FK12                   | EK12     | 16                              | 12                                  | 10 | 36 | 15                  | M12×1   | 11 | 13 | 6  | 8               | 3 | 1.8  | 12                            | 9.5  | 12                    | 0.5 | -0.5           | -0.5           |
| FK12                   | EK12     | 18                              | 12                                  | 10 | 36 | 15                  | M12×1   | 11 | 13 | 6  | 8               | 3 | 1.8  | 12                            | 9.5  | 12                    | 0.5 | -0.5           | -0.5           |
| FK15                   | EK15     | 20                              | 15                                  | 12 | 49 | 20                  | M15×1   | 13 | 16 | 6  | 9               | 4 | 2.5  | 16                            | 11.3 | 16                    | 4   | 2              | 5              |
| FK15                   | EK15     | 25                              | 15                                  | 12 | 49 | 20                  | M15×1   | 13 | 18 | 7  | 10              | 4 | 2.5  | 16                            | 11.3 | 16                    | 4   | 2              | 5              |
| FK20                   | EK20     | 28                              | 20                                  | 17 | 64 | 25                  | M20×1   | 17 | 21 | 8  | 11              | 5 | 3    | 21                            | 16   | 21                    | 1   | -3             | 1              |
| FK20                   | EK20     | 30                              | 20                                  | 17 | 64 | 25                  | M20×1   | 17 | 24 | 8  | 12              | 5 | 3    | 21                            | 16   | 21                    | 1   | -3             | 1              |
| FK20                   | EK20     | 32                              | 20                                  | 17 | 64 | 25                  | M20×1   | 17 | 27 | 9  | 13              | 5 | 3    | 21                            | 16   | 21                    | 1   | -3             | 1              |
| FK25                   | —        | 36                              | 25                                  | 20 | 76 | 30                  | M25×1.5 | 20 | 27 | 10 | 13              | 6 | 3.5  | 25                            | 19   | 25                    | 5   | -2             | —              |
| FK30                   | —        | 40                              | 30                                  | 25 | 72 | 38                  | M30×1.5 | 25 | 32 | 10 | 15              | 8 | 4    | 32                            | 23.5 | 32                    | -3  | -9             | —              |

## Recommended Shapes of Shaft Ends - Shape J (J1, J2, and J3) (For Support Unit Model BK)



| Support Unit model No. | Ball screw shaft outer diameter | Shaft outer diameter of the bearing | B  | E  | F  | Metric screw thread | S  | Width across flat |    |    | Shape J2 Keyway |          |    | Shape J3 Cut flat on two side |    |
|------------------------|---------------------------------|-------------------------------------|----|----|----|---------------------|----|-------------------|----|----|-----------------|----------|----|-------------------------------|----|
|                        |                                 |                                     |    |    |    |                     |    | J                 | N  | H  | G N9            | T +0.1 0 | P  | R                             | P  |
| BK10                   | d                               | A                                   | 8  | 39 | 15 | M10×1               | 16 | 10                | 5  | 7  | 2               | 1.2      | 11 | 7.5                           | 11 |
| BK10                   | 14                              | 10                                  | 8  | 39 | 15 | M10×1               | 16 | 10                | 5  | 7  | 2               | 1.2      | 11 | 7.5                           | 11 |
| BK12                   | 16                              | 12                                  | 10 | 39 | 15 | M12×1               | 14 | 13                | 6  | 8  | 3               | 1.8      | 12 | 9.5                           | 12 |
| BK12                   | 18                              | 12                                  | 10 | 39 | 15 | M12×1               | 14 | 13                | 6  | 8  | 3               | 1.8      | 12 | 9.5                           | 12 |
| BK15                   | 20                              | 15                                  | 12 | 40 | 20 | M15×1               | 12 | 16                | 6  | 9  | 4               | 2.5      | 16 | 11.3                          | 16 |
| BK17                   | 25                              | 17                                  | 15 | 53 | 23 | M17×1               | 17 | 18                | 7  | 10 | 5               | 3        | 21 | 14.3                          | 21 |
| BK20                   | 28                              | 20                                  | 17 | 53 | 25 | M20×1               | 15 | 21                | 8  | 11 | 5               | 3        | 21 | 16                            | 21 |
| BK20                   | 30                              | 20                                  | 17 | 53 | 25 | M20×1               | 15 | 24                | 8  | 12 | 5               | 3        | 21 | 16                            | 21 |
| BK20                   | 32                              | 20                                  | 17 | 53 | 25 | M20×1               | 15 | 27                | 9  | 13 | 5               | 3        | 21 | 16                            | 21 |
| BK25                   | 36                              | 25                                  | 20 | 65 | 30 | M25×1.5             | 18 | 27                | 10 | 13 | 6               | 3.5      | 25 | 19                            | 25 |
| BK30                   | 40                              | 30                                  | 25 | 72 | 38 | M30×1.5             | 25 | 32                | 10 | 15 | 8               | 4        | 32 | 23.5                          | 32 |
| BK35                   | 45                              | 35                                  | 30 | 83 | 45 | M35×1.5             | 28 | 36                | 12 | 15 | 8               | 4        | 40 | 28.5                          | 40 |
| BK40                   | 50                              | 40                                  | 35 | 98 | 50 | M40×1.5             | 35 | 41                | 14 | 19 | 10              | 5        | 45 | 33                            | 45 |
| BK40                   | 55                              | 40                                  | 35 | 98 | 50 | M40×1.5             | 35 | 46                | 14 | 20 | 10              | 5        | 45 | 33                            | 45 |

**Recommended Shapes of Shaft Ends - Shape K**  
(For Support Unit Models FF, EF and BF)



| Support Unit model No. |          |          | Ball screw shaft<br>outer diameter | Shaft outer diameter<br>of the bearing | E       | Snap ring groove |               |      |
|------------------------|----------|----------|------------------------------------|--|---------|------------------|---------------|------|
| Model FF               | Model EF | Model BF |                                    |  |         | B                | F             | G    |
| FF6                    | EF6      | —        | 8                                  | 6                                      | 9       | 5.7              | 6.8           | 0.8  |
| —                      | EF8      | —        | 12                                 | 6                                      | 9       | 5.7              | 6.8           | 0.8  |
| FF10                   | EF10     | BF10     | 14                                 | 8                                      | 10      | 7.6              | 7.9           | 0.9  |
| FF10                   | EF10     | BF10     | 15                                 | 8                                      | 10      | 7.6              | 7.9           | 0.9  |
| FF12                   | EF12     | BF12     | 16                                 | 10                                     | 11      | 9.6              | 9.15          | 1.15 |
| FF12                   | EF12     | BF12     | 18                                 | 10                                     | 11      | 9.6              | 9.15          | 1.15 |
| FF15                   | EF15     | BF15     | 20                                 | 15                                     | 13      | 14.3             | 10.15         | 1.15 |
| FF15                   | EF15     | BF15     | 25                                 | 15                                     | 13      | 14.3             | 10.15         | 1.15 |
| —                      | —        | BF17 *   |                                    | 17                                     | 16      | 16.2             | 13.15         | 1.15 |
| FF20                   | EF20     | BF20 **  | 28                                 | 20                                     | 19 (16) | 19               | 15.35 (13.35) | 1.35 |
| FF20                   | EF20     | BF20 **  | 30                                 | 20                                     | 19 (16) | 19               | 15.35 (13.35) | 1.35 |
| FF20                   | EF20     | BF20 **  | 32                                 | 20                                     | 19 (16) | 19               | 15.35 (13.35) | 1.35 |
| FF25                   | —        | BF25     | 36                                 | 25                                     | 20      | 23.9             | 16.35         | 1.35 |
| FF30                   | —        | BF30     | 40                                 | 30                                     | 21      | 28.6             | 17.75         | 1.75 |
| —                      | —        | BF35     | 45                                 | 35                                     | 22      | 33               | 18.75         | 1.75 |
| —                      | —        | BF40     | 50                                 | 40                                     | 23      | 38               | 19.95         | 1.95 |
| —                      | —        | BF40     | 55                                 | 40                                     | 23      | 38               | 19.95         | 1.95 |